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Информационные технологии в таможенном деле

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Аннотация: Внедрение информационных технологий в систему таможенных органов РФ является одним из приоритетных направлений в процессе её совершенствования. В данной статье описаны основные направления применения информационных технологий в таможенном деле, изучены вопросы, связанные с электронным декларированием, автоматической регистрацией деклараций и автоматическим выпуском.

Ключевые слова: информационные технологии, электронное декларирование, таможенный контроль, автоматическая регистрация, автоматический выпуск.

Information Technologies in Customs

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Annotation: The introduction of information technologies into the system of customs authorities of the Russian Federation is one of the priority areas in the process of its improvement. This article describes the main directions of applying information

technologies in customs. Some issues related to electronic declaration, automatic registration of declarations and automatic release are studied.

Keywords: information technologies, electronic declaration, customs control, automatic registration, automatic release

Information technologies (IT) have successfully entered all spheres of human life and business activities, including customs. One of the main tasks of using information technologies in customs is to accelerate and improve the quality of interaction between customs and the people engaged in international economic activity. IT increases the control efficiency over participants in activities related to the international economy and simplifies customs registration.

A considerable acceleration of work at checkpoints and reduction of the time for distributing goods made it possible to receive electronic declarations. The first electronic applications were submitted in 2002. Initially, the procedure was associated with high costs, which would have reduced application. It has become possible to provide information about transported goods over the Internet since 2008.

The E-declaration has been obligatory since 2014. The E-declaration is the first and one of the most important stages of applying IT to the customs field. The E-declaration is a traffic document that includes declarations submitted to the customs authorities, as well as preliminary information on goods transported by all transport means. Thanks to the E-declaration, any person involved in international economic activity has the ability to send documents from any electronic device with Internet access.

It is possible to send the electronic declaration to any customs post, communication with the customs officer takes place in real time. The reliability and security of information is ensured by an electronic signature and a secure communication channel. The electronic archive contains documents that accompany the declaration. These factors speed up the process of checking the submitted information, then it helps to quickly send goods through customs.

The next stage is the automation of such customs operations as declaration registration and release. Automatic registration is the change in the registration mode from manual to automatic. The task and the advantage in this case will be saving the time spent on declaring goods.

Auto-registration of a declaration is a verification technology for fulfilling the conditions for declaration registration provided no interference from customs officers occur. The declarations that meet the relevant criteria and do not involve risk can be automatically registered. Automatic registrations for the export and import of goods were first carried out in 2015 [1].

It should be noted that the uniqueness of automatic registration is that the customs officer does not take part in all the necessary actions. Everything is checked by the program, including the presence of the required documents in the register, electronic signature, as well as the payment of customs duties. If all conditions are met, the declaration will be registered. After registration, the document is sent to the customs officer for control. The average time spent on auto-registration does not exceed sixty seconds, while there are two hours normatively allocated for this procedure [2].

In addition to automatic registration, the obligatory electronic declaration has led to an improvement in the automatic release process. Schematically, the automatic release process looks like this:

1) The declaration is sent to the customs authority.

2) The possibility of using automatic release is determined.

3) The payment of all duties is verified.

4) The declaration is verified using a risk management system.

5) The documents are requested in case there are no risks.

6) The documents are provided by the participant of foreign economic activity.

7) The bank's database is requested by transaction passports.

8) The payments are debited.

9) The declaration is issued [3].

The first automatic declaration was launched in 2015. The procedure from registration to release now takes no more than two minutes.

This technology can be used for the least risky deliveries, or deliveries that do not require additional verification of paper documents. Customs authorities may spend more time and attention on risky supplies.

As a result of using technologies for auto-registration and issuance of declarations, electronic declaration centers were created. The main qualities of such centers should be accessibility, speed and transparency.

Certainly, such technologies cause the reduction in the time for performing customs operations and optimize work with paper documents, which reduces the possibility of corruption risks [4].

In addition, the E-declaration determines the progress of remote customs payment processes. Payment methods that use customs payment cards have been actively used since 2001. The development of Internet payments allows future development of methods and means of payment [5]. Using an electronic terminal, it is possible to make customs payments at a local location of a workplace. The main thing here is to indicate the remote payment.

Hardware or software installed by the payment operator on the payer's electronic device can act as an electronic terminal. This function can also be implemented by the services of a personal account.

Modern technologies of customs payments have several obvious benefits:

- Reducing the time spent on customs operations;
- Providing remote customs operations;
- Ensuring customs duties payment without applying anticipation payment;
- Ensuring correct information required to identify the payer and payments [6].

Applying the described information technologies when filling declarations in the electronic form, automatic registration and release, remote payments, makes it easier to perform customs operations. However, still there are possible risks associated with accessing single databases. In this case, it is necessary to increase the requirements for information protection. In general, the use of IT improves the speed and quality of

customs operations. All this increases the speed and accuracy of customs administration and interaction between business and customs authorities.

3. The concept and idea of Neural networks

A neural network is a series of algorithms that endeavors to recognize underlying relationships in a set of data through a process that mimics the way the human brain operates. In this sense, neural networks refer to the systems of neurons, either organic or artificial in nature.

Neural networks can adapt to changing input; so, the network generates the best possible result without needing to redesign the output criteria.

The concept of neural networks, which has its roots in artificial intelligence, is swiftly gaining popularity in the development of trading systems.

The basic idea behind a neural network is to simulate (copy in a simplified but reasonably faithful way) lots of densely interconnected brain cells.

In a neural network, there's an input layer, hidden layers, and an output layer. The input layer consists of one or more feature variables (or input variables or independent variables) denoted as x1, x2, …, xn. The hidden layer consists of one or more hidden nodes or hidden units. Similarly, the output variable consists of one or more output units. As well, neural network can have many layers. Generally, more nodes and more layers allow the neural network to make much more complex calculations.

References

1. Matveeva E. S. Reference of the system of automatic registration of declarations for goods , January 2017. [Электронный ресурс]. — URL: https://moluch.ru/archive/137/38360/ (Reference date: 07.01.2022).

2. Barkova N. N. Automatic registration of customs declaration form , 2017. [Электронный ресурс]. — URL: https://moluch.ru/archive/147/41397/ (Reference date: 09.01.2022).

3. Ermilov I. S., Ignatyeva G. V. Advanced information technologies in customs , 2016. [Электронный ресурс]. — URL:

https://elibrary.ru/download/elibrary_25776385_24515359.pdf (Reference date: 09.01.2022).
4. Malakhova A. A., Benchmarks for improving customs administration , 2020. [Электронный ресурс]. — URL: https://cyberleninka.ru/article/n/orientiry-sovershenstvovaniya-tamozhennogo-administrirovaniya (Reference date: 07.01.2022).
5. Alekhina O. V., Kashcheev V. V., Poroshin Y. B. Organization of the system of administration of customs payments in the conditions of the EAEU , 2017. [Электронный ресурс]. — URL: https://elibrary.ru/download/elibrary_26362813_99622018.pdf (Reference date: 07.01.2022).
6. Lyamin D. M. Prospects for carrying out customs operations without the participation of customs officials. [Электронный ресурс]. — URL: http://www.eurasiancommission.org/ru/act/tam_sotr/edinoe_okno/Documents/EDConf/2_9_Lyamin.pdf (Reference date: 10.01.2022).

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