CUSTOMS CONTROL USING ARTIFICIAL INTELLIGENCE TECHNOLOGIES

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ABSTRACT

The relevance of this article is due to the high importance of customs control procedures for the development and expansion of international trade, as well as the need to improve the efficiency of customs authorities through the use of digital technologies. The purpose of the article is to substantiate the need for the development and implementation of the digital tool “Customer Declarant Map” based on artificial intelligence in the processes of customs control in order to increase its efficiency. Methods of a systematic approach were used as research methods, a comparative method to clarify the elements of using artificial intelligence to improve the efficiency of customs control, a qualitative content analysis method to justify the importance of forming a “Customer Declarant Map” was implemented using a descriptive analysis, a review of literary sources and acts international law. Achieving this goal required the solution of certain tasks. Based on the results of the analysis of theoretical approaches to the essence of customs control, its significance for the competitiveness of business was clarified due to the increase in volumes and facilitation of international trade, since customs services act as an external factor in competitiveness and the characteristics of individual decisions within the framework of customs control intended for entrepreneurs, which can be considered positive in terms of enterprise competitiveness. The further active introduction of digital technologies, in particular, artificial intelligence in the activities of customs authorities for the processing and analysis of various information from numerous data sources, is justified. The formation of a "Customer Declarant Map" - a map of the path of the customs declarant, is proposed, the advantages of artificial intelligence in this process are highlighted. It has been substantiated that the introduction into practice of a new digital path map tool for the customs declarant "Customer Declarant Map" will improve the efficiency of customs control, facilitate international trade, and reduce customs risks.

KEYWORDS:
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The relevance of this article is due to the high importance of customs control procedures for the development and expansion of international trade, as well as the need to improve the efficiency of customs authorities through the use of digital technologies. The purpose of the article is to substantiate the need for the development and implementation of the digital tool "Customer Declarant Map" based on artificial intelligence in the processes of customs control in order to increase its efficiency. Methods of a systematic approach were used as research methods, a comparative method to clarify the elements of using artificial intelligence to improve the efficiency of customs control, a qualitative content analysis method to justify the importance of forming a “Customer Declarant Map” was implemented using a descriptive analysis, a review of literary sources and acts international law. Achieving this goal required the solution of certain tasks. Based on the results of the analysis of theoretical approaches to the essence of customs control, its significance for the competitiveness of business was clarified due to the increase in volumes and facilitation of international trade, since customs services act as an external factor in competitiveness and the characteristics of individual decisions within the framework of customs control intended for entrepreneurs, which can be considered positive in terms of enterprise competitiveness. The further active introduction of digital technologies, in particular, artificial intelligence in the activities of customs authorities for the processing and analysis of various information from numerous data sources, is justified. The formation of a "Customer Declarant Map" - a map of the path of the customs declarant, is proposed, the advantages of artificial intelligence in this process are highlighted. It has been substantiated that the introduction into practice of a new digital path map tool for the customs declarant "Customer Declarant Map" will improve the efficiency of customs control, facilitate international trade, and reduce customs risks.
1. INTRODUCTION

1.1. Background of Study

In the era of globalization and new technologies, businesses are facing increasing competition. Competition can be defined as an act or process of actions of individuals striving for such benefits that others simultaneously strive for, under the same conditions and rules. In order to survive, grow and win in the market competition, enterprises must be competitive, that is, competitiveness is currently the main condition for a company to exist in the market (Yan, Qi, 2021). The ability of a company to take action to improve its competitiveness depends largely on environmental factors, while customs services can be considered an external factor, since customs services are provided by customs authorities. The list of customs services is very wide, and activities carried out within the framework of customs control occupy an important place in it (Magee, 2016).

Increasing the efficiency of customs control means ensuring that a product crosses borders without any problems, this is not an easy task given the variety and almost infinity of existing products (Hansen-Addy et al., 2023). On the other hand, more than a hundred thousand customs rules need to be applied, and the use of artificial intelligence (hereinafter referred to as AI) can help here, which, unlike the human brain, has the ability to analyze hundreds of thousands of data in seconds (Nguyen et al., 2021). However, artificial intelligence in itself is not a solution, because if it is fast, it is not able to replace people and serves primarily to help the customs declarant, allowing him to work more efficiently, increasing the scale of cross-border trade. Ultimately, like a human, the orientation of an AI is related to what it has learned: when well trained, AI will indeed be incorruptible, but at the same time impartial, since it does not have the ability to experience human feelings (Russel, Norving, 2013). In connection with the foregoing, the main goal of this article is to study the possibilities of artificial intelligence in improving the efficiency of customs control by generating a map of the path of the customs declarant “Customer Declarant Map”. To achieve this goal, the following tasks were set and solved: studying theoretical approaches to the essence of customs control and clarifying its significance for increasing the volume and facilitating international trade; analysis of the possibilities of using digital technologies, in particular, artificial intelligence in the activities of customs authorities; highlighting the advantages of artificial intelligence in the formation of a map of the path of the customs declarant “Customer Declarant Map”, which is proposed to be introduced into the processes of customs control. Thus, the topic of this article is very relevant, the introduction into practice of a new digital path map tool for the customs declarant “Customer Declarant Map” will improve the efficiency of customs control, facilitate international trade, and reduce customs risks.

The hypothesis of the study was formulated as follows: customs authorities, using the digital path map of the customs declarant “Customer Declarant Map” based on artificial intelligence, will act as services with full competence in the field of supervision and control of all goods moving across the customs border, meeting expectations and the needs of entrepreneurs, acting in accordance with the law and ready to adapt their methods and bear the necessary costs to enforce the right to import or export, to implement solutions that lead to the streamlining of control activities and, therefore, also support economic activity and positively influence the competitiveness of enterprises. The state of research on the relationship between the introduction of digital technologies in customs control processes and business competitiveness is not widespread. Therefore, the considerations presented are an attempt to fill an existing research gap.

2. LITERATURE REVIEW

Digitization encourages companies and public authorities to use ever more advanced IT tools, not only in terms of realizing the mission of sustainable development. The flow of information, as well as the explosive growth of digital data, shows that the control of human data may not be effective, if at all possible (Pfeiler, 2022). Since e-skills and technology have become the backbone of the digital economy, Customs cannot function without advanced systems that support process and operational management. Simply confronted with the volume of surrounding data, they lose the ability to optimize operations, choose efficient business models, and, above all, control operations or control the execution of plans, including relatively stable growth (Hathikal et al., 2020). Therefore, it is worth noting that AI in customs authorities has become the basis of an electronic state operating on the basis of the assumptions of the digital economy, and the digital economy itself has become the basis for the use of advanced IT systems. Here it is worth seeing a peculiar perspective of implementing the sustainable development of international trade through the introduction of artificial intelligence tools into the processes of customs control.

According to M. Arnold, the concept of customs control should be understood as all the activities of the customs services or other competent authorities, provided for by the law on international trade, in order to ensure compliance with legal norms (Arnold, 2012). Customs control must be balanced with the facilitation of legal trade, so the effectiveness of customs administration is widely recognized as one of the key elements that can affect the facilitation of international trade. It should be emphasized that the contacts of entrepreneurs involved in international trade with the customs authorities are actually
everyday, since the customs authorities are the only service with full competence in the field of supervision and control of all goods moving across the customs border. Based on this, the customs authorities, protecting the security of trade in goods, play a fundamental role in the supply chain and are a catalyst for the competitiveness of enterprises (Grudina, 2022; Han, Ireland, 2014; Izotov, Tochkov, 2020). Therefore, entrepreneurs who comply with the law expect modern and consistent decisions, the effect of which is, on the one hand, in streamlining control activities, and on the other hand, in ensuring the security of the flow of goods and, as a result, a positive impact on the competitiveness of enterprises.

According to Vanhoeyveld et al., customs control is a tool to verify that entrepreneurs are correctly complying with, among other things, the provisions of customs laws and other regulations in the field of control over the exchange of goods (Vanhoeyveld et al., 2020). Each entrepreneur (importer or exporter), when making a transaction, must comply with the formalities provided for by the customs legislation, including taking into account the fact that the customs authorities will carry out control measures in relation to him. While customs controls have many positive aspects, especially in terms of securing and facilitating legitimate trade; provides protection against uncontrolled influx of goods from abroad, especially goods dangerous to life and health; moreover, it contributes to the implementation of budget revenues from customs duties and taxes collected by the customs authorities, and is often perceived by the entrepreneur through the prism of negative qualities (Vorobyova O. et al., 2020). Control activity usually causes unwillingness and discontent in the entrepreneur. They are often associated by the audited person as an obstacle or barrier in the performance of a particular operation.

Burden some customs control can affect the choice of a customs post by entrepreneurs when importing goods, and unscrupulous entrepreneurs can take advantage of differences in approaches to control, which, as a result, can jeopardize the competitiveness of those enterprises for which compliance with the law is not only a prerequisite and obligation, but a priority (WTO, 2021; (Medin, 2021). From the point of view of competitiveness, it is important for an entrepreneur through the prism of negative qualities (Vorobyova O. et al., 2020). Control activity usually causes unwillingness and discontent in the entrepreneur. They are often associated by the audited person as an obstacle or barrier in the performance of a particular operation.

In order to increase the competitiveness of enterprises, states must create a favorable environment for economic operators, so customs control should be the lowest possible burden and, of course, should not hinder business by creating additional costs in trade.

At the international level, trade facilitation agreements are of great importance, within the framework of customs control, agreements should include simplification of border clearance procedures, which positively affect the time of transactions in trade, accelerate the movement of goods in international supply chains and thus positively affect the competitiveness of enterprises (EU customs control, 2022; (Christensen et al., 2016)). In terms of customs control standards, the agreements require the use of a risk management system with particular emphasis on high-risk cargo. Another act is the International Convention on the Simplification and Harmonization of Customs Procedures (Revised Kyoto Convention) of 1975, which introduced an approach to the necessary, minimum customs control in the field of customs control, with special attention paid to risk analysis and post-import control. The effect of the introduced provisions is to facilitate trade; development of international cooperation; improving the efficiency and effectiveness of customs services, which consequently also contributed to the overall increase in the competitiveness of the economy. The 1982 Convention on the Harmonization of Frontier Controls in Goods also plays an important role, its provisions emphasizing the harmonization of controls, common controls carried out by the customs services of neighboring countries, as well as common customs controls with other types of controls required in international trade. The standardization of control activities is considered in this study as the efficiency and effectiveness of customs control (Goncharov, Inshakova, 2021). As a consequence, this leads to the improvement of international freight transport, in particular, to the facilitation of the movement of goods across borders. by simplifying formalities and reducing the duration of numerous checks (customs, health, veterinary, phytosanitary, compliance with technical standards, quality), as well as by coordinating their methods and interaction between different authorities.

Customs checks can include, for example (James, 2019; Urciuoli, Hintsa, 2021; Agrawal et al., 2019):
- checking goods, taking samples, verifying the correctness and completeness of the information specified in the declaration or notification, as well as the availability, authenticity, correctness and validity of documents,
- checking: accounting and other documentation, vehicles, luggage and other goods carried by or on persons, as well as conducting official investigations and other similar activities.

Full knowledge of who and what is sent, to whom and from where - is very important, but this does not
mean that customs control is "absolute control of everything." Most developed countries have a system of selective customs control based on risk analysis, eligible entities selected using electronic data processing techniques (excluding spot checks) (Brian, 2020). The purpose of the applied solutions is, first of all, the identification and assessment of risks, the essence of using this method lies in the assumption that since it is impossible to cover all persons, all vehicles and goods crossing the customs border, it is necessary to single out those where there is suspicion of illegal behavior.

The use of risk analysis in customs control ensures the effective use of available resources in areas where threats are greatest and most serious, and also allows to eliminate and avoid interference in the legal sphere. In practice, customs control means selective actions aimed at specific areas. It should be noted that in addition to the main customs control (security control, control on request, control of the customs declaration), which is carried out before the release of goods, control measures can be carried out after the release of goods. The purpose and subject of both checks are the same, however, the difference concerns the scope, since, unlike the check before the release of goods, the checks after the release of goods are usually missing, and the purpose of the check is, first of all, the completeness and correctness of the declarations data.

The main rules and forms of customs control are defined at the level of each state/customs union, and the scope, structure and tasks of national authorities, as well as the control procedure are determined in the regulations of individual authorities. Most often, customs control is subject, in particular: compliance with tax and customs legislation and other rules related to the import and export of goods in circulation between the customs territory of the state / customs union and third countries. Verification activities are carried out when they are required by law or the results of the risk analysis clearly indicate the need for them. The current regulations give customs inspectors broad powers, and the persons being inspected are subject to numerous obligations, which apply not only to the controlled person, but also to persons associated with him (UN/CEFACT, 2020). It should also be noted the diverse nature of the duties, they concern, for example:
1) documentation (allowing access to controlled documents, even if they are confidential);
2) goods, devices, means and products (ensuring the availability and possibility of inspection of goods, as well as the possible taking of their samples);
3) conditions for conducting an inspection (a separate room, a place for storing documents, giving explanations).

The costs of activities that ensure verification (for example, unloading, presentation and reloading of goods) are borne by the holder of the goods being checked.

Customs control is important for the Eurasian Economic Union in connection with the functioning of the customs union and the common market, especially in the context of the free movement of goods. This freedom, which means that every product that crosses the customs border of the Eurasian Economic Union and is put into circulation can freely circulate on this market, contributes to violations and increases the requirements for customs authorities in the field of control. Procedures that facilitate customs services in terms of control depend on the fulfillment of certain conditions, as well as on the quality of the data that is at the disposal of the customs authorities. These data can be obtained from various sources, which are diverse and large in number (Table 1).

**Table 1. Data Sources for Customs Control**

<table>
<thead>
<tr>
<th>Data sources for customs control</th>
<th>132 countries or territories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
</tr>
<tr>
<td>Customs declarations - the main source of data</td>
<td>87,9</td>
</tr>
<tr>
<td>Additional data sources:</td>
<td></td>
</tr>
<tr>
<td>Reporting of postal services for the delivery of parcels and letters</td>
<td>31,1</td>
</tr>
<tr>
<td>Administrative reporting related to taxation</td>
<td>30,3</td>
</tr>
<tr>
<td>Documents on currency exchange or documents of monetary authorities</td>
<td>28</td>
</tr>
<tr>
<td>Enterprise Surveys</td>
<td>29,5</td>
</tr>
<tr>
<td>Registers of aircraft and ships</td>
<td>25</td>
</tr>
<tr>
<td>Foreign cargo manifests</td>
<td>15,2</td>
</tr>
<tr>
<td>Commodity Council Reports</td>
<td>10,6</td>
</tr>
</tbody>
</table>

As we can see, the number of data sources for customs control can be huge, so any tools that affect its standardization and simplification are important. Among the general advantages that positively affect the competitiveness of enterprises involved in international trade in goods, the following should be noted: saving time (waiting for customs clearance can be up to several hours), reducing costs (for example, customs); minimizing overall transportation costs by eliminating the cost of stopping, storage and parking); expenses for administrative and office services (the goods are
delivered to the destination and are awaiting registration there); faster access to the goods, greater efficiency of customs clearance (the company accepts the procedure for processing individual shipments); optimization of work (the possibility of rational planning of deliveries and shipments, including through the possibility of submitting customs declarations during non-working hours of customs); the possibility of faster execution of orders and, as a result, increased confidence of contractors. Increasingly complex supply chains, as well as current economic and technological conditions, mean that the practical use of digital technologies is not only a privilege of customs authorities, but also a necessity.

3. RESEARCH METHODOLOGY

The purpose of this article was achieved using the methods of a systematic approach, as well as a comparative method to clarify the elements of using artificial intelligence to improve the efficiency of customs control. The task of substantiating the importance of forming a "Customer Declarant Map" was implemented using the method of qualitative content analysis. The content analysis method was chosen to study the effectiveness of customs control, as we believe that this is the most appropriate research method to achieve the objectives of this work. This is due to the fact that the customs authorities that carry out audit and control of customs operations must be competent and qualified to assess the actions of participants in international trade, with the help of the formed path of the customs declarant based on artificial intelligence, including risk assessment, it is possible to objectively increase the productivity of these processes.

4. RESULTS AND FINDINGS

4.1. Findings

Over the past years, the ways of organizing customs control have changed significantly. Traditional forms of control based on stopping vehicles, checking documents and physically inspecting cargo are increasingly being replaced by less invasive methods based on the collection and exchange of information using information technology. The growing number of commercial transactions and the nature of threats to the integrity of the supply chain in international trade mean that the customs authorities do not have the ability to check every customs declaration, therefore, when making customs control decisions, they take into account the measures taken by the entrepreneurs themselves and direct their activities to areas where there is an increased risk goods flows carried out contrary to applicable regulations. It should be emphasized that the authorities constituting the customs law have taken many actions that ensure the freedom of doing business in international trade and create a friendly environment for development, not only by eliminating violations of the basic principles of free competition in exports and imports, but also guaranteeing transparent and fair rules competition in the free market (WTO, 2022).

I must say that when importing or exporting goods, it must be classified according to the nomenclature, which has more than twenty thousand items. Therefore, two areas have been identified that affect the productivity and efficiency of customs operations and are the result of applying the right rules:

- knowledge of the product;
- access to and control over the data used for classification.

Both directions are indeed key, and sometimes you can also see information about mandatory tariffs, the classification of which may be unexpected. This classification is carried out by the customs authorities of different countries, so it can be said that when it comes to data access and control, the use of AI can provide many advantages. However, customs officials and related authorities who interact in these processes often have to classify products that they have never seen, and this creates difficulties.

The advent of AI will affect all manual and well-defined tasks: at the customs level, the process of completing customs declarations can also be simplified: moreover, many companies are currently working on this topic, which seek to automatically extract data from documents generated by all participants in international trade (Chen, 2022). However, care must be taken when following the data validation steps in this process so that automated processes do not send erroneous data to Customs (Alstyne et al., 2016). This is the real role of the customs declarant: he should not be a data entry agent, but an informed professional, able to detect errors and inconsistencies in documents. Fortunately, many are already working with some of the contributors to ensure the quality of the data in this automation and to keep the place of the person who owns it: to make their intelligence shine, not to enter the data. The use of AI is especially relevant in a wider area, especially in the choice of supply and inventory management strategies, where companies are changing the rules of the game thanks to artificial intelligence (García, Caballero, 2023).

Importers, on the other hand, know their products very well, but understanding and applying the rules is a different story, since there are many sources through different institutions and sometimes in different languages: customs and economic operations, explanatory notes, notes to the unified nomenclature, classification decisions, court decisions, etc.

AI is based on a set of data, the quality and completeness of which must be constantly checked, including a description of the user in training, and through an intuitive interface, provide him with suggestions and highlight elements that allow him to make a decision. In the customs classification, not everything is "white" or "black", the main thing is to
be able to explain and justify the choice of classification. In this case, AI can help mitigate risk by providing multiple options in seconds that can be compared and answered to the right questions asked. Reliability is difficult to assess, since it is difficult to establish a classification that allows you to test the system, that is, you must also take into account the entire path of the customs declarant Customer Declarant Map (hereinafter referred to as CDM) by analogy with the Customer Journey Map or CJM (“customer journey map”).

Through machine learning, we can capture consumer intent. His behavioral tendencies are captured and constantly optimized according to his own actions. Thus, machine learning underlies ad optimization algorithms or product recommendation mechanisms. In particular, this refers to their history of actions and results, allowing you to "learn" and optimize creations, campaigns or recommendations to be followed. CDM, thanks to artificial intelligence, will be able to identify useful data for customs declarations in documents, digitize, analyze and format them for integration directly into their customs clearance solutions, exactly where it is needed by declarants. In combination with the competence of the customs operator, he gains the ability to use all his powers after processing only a few documents by the declarants, has the ability to adapt to all types and formats of documents, invoices, packing slips, etc., and also speeds up and protects the entry of all data into the tools of the customs declarant without the risk of error. By reducing the task of data entry at the initial stage, CDM will increase productivity, safety and comfort of work.

CDM is proposed to be used to centralize the entry and management of master data for all clients of the customs authorities, within this path, you can do the following:

1. Request permissions and roles:
   - the role of the beneficiary of electronic documents;
   - the main role in the distribution of goods (for Import / Export and / or National Transit);
   - the role of the authorized consignee and consignor;
   - The role of the authorized economic operator (AEO);
   - the role of principal and guarantor;
   - the role of the service provider (suppliers of software for customs clearance);

2. Manage registrants
3. Change communication data
4. Manage certificates
5. Check the data provided to the customs authorities

**4.2. Discussion**

Today we are observers of the intensive development of information technologies. These technologies affect almost all spheres of life, including the functioning of enterprises. At the same time, in recent years we have seen an increase in the importance of information technologies related to the functioning of public administration, and new channels of communication between citizens and public authorities play a special role. Therefore, it is of key importance to address issues related to the development of modern technologies in the context of changes in the ways of communication between business entities and public authorities that this development entails. At the same time, the emergence of new communication channels makes it necessary to create common exchange formats that allow this communication to be carried out. These questions will be the subject of this work. It should be noted that they are extremely important, as they affect extremely important areas of the functioning of enterprises.

Big data analytics, artificial intelligence and machine learning are used in some form by about half of Customs, with the other half planning to use them in the future. Most of the members surveyed see clear benefits to this type of technology, chief among which are risk management and risk profiling, fraud detection, and improved compliance. A data strategy needs to be developed to better manage and manage data and achieve the required quality. Barriers and challenges to the adoption of this type of technology include cost and lack of expertise and best practices. There is a strong demand for highly skilled technical human resources that are often difficult to hire, such as data architects and engineers, as well as software and machine learning developers. Data protection laws may limit how data can be used. Insufficient guidance on the interpretation of this legislation for the analysis of data for customs purposes often leads to excessive caution in designing a project and limits the exchange of data between organizations and customs authorities. However, there are significant benefits for customs authorities, including: data extraction for intelligence and risk management purposes; audits and post-clearance control; development of models based on artificial intelligence for the interpretation of x-ray images; improving the use of financial and tax data more broadly and strategically to improve compliance and results in tax collection and anti-smuggling; develop interactive robots capable of answering questions from the public; classify customs duties; Identify possible anomalies in high-yield industries (including excisable goods); identify underestimation and overestimation anomalies.

With the growth of cross-border movement of people and goods, it has become important for customs administrations to increase productivity and help employees perform their duties effectively. AI can be applied in several areas and to various customs professions. This can be done with software or special hardware. There are several use cases:

1. Classification of products in the TN VED to simplify the tasks of economic entities and ensure greater compliance and reliability for both customs and the private sector;
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2. Analysis of x-ray images of shipping containers and improving the efficiency of cargo inspection;
3. Customs control allows faster detection of anomalies and allows controllers to focus on cases of non-compliance;
4. Improved targeting of dangerous commercial goods screening by analyzing real-time data during the screening of goods to detect smuggling or counterfeiting;
5. Methods of collection of revenues, ensuring the correct calculation and collection of duties and taxes at the border.

The basics of customs control within the "Customer Declarant Map" are based on a triptych: tariff classification, origin and customs value. Simplified, tariff classification consists in assigning a customs code to a product or product. The task is to automatically find the tariff position of a product or product. With its deep understanding of customs tariffs, classification notices and explanatory notes, and its ability to analyze vast amounts of international freight data, AI will provide faster and more reliable answers than a human. "Customer Declarant Map" will be able to solve this problem with an automatic search engine that translates the common language (product description or keywords, etc.) into customs language using artificial intelligence to decode the tariff classification by deciphering the customs regulations.

It is the use of a technological layer of natural language processing and deep learning to determine the best fare classification based on the information received.

In addition to implementing customs control within the "Customer Declarant Map", artificial intelligence can be used to develop a tool that will analyze work data and employee behavior in order to find ways to reduce the time required to complete a task, while improving the quality of work and maximizing staff productivity. Similar tools are already in use in selected countries and have the following features:

- a calculator to determine the "ideal time" to complete the task; the ideal time is determined after analyzing data collected over three years, and is constantly adjusted;
- the system can calculate the time required for each of the existing combinations of tasks and determine whether employees are following the schedule;
- a tool for analyzing data with time stamps, which allows you to determine individual and collective patterns of work, as well as indicators of efficiency and productivity;
- performance forecasting tool;
- sending incentives from management to employees, for example, indirect offers or reminders aimed at influencing people's behavior;
- A time manager that highlights productive and downtime and notifies decision makers of performance metrics for each department and employee.

Also, AI can be used to evaluate the performance and effectiveness of customs control based on four indicators:

1. Compliance with ideal time - calculates the average time required to complete a task or combination of tasks. The higher this parameter, the closer it comes to the ideal time.
2. Task Consistency - This setting determines if employees work the same way every time or if their way of working changes frequently. The higher the consistency value, the less the way employees work varies and therefore the more predictable their performance will be.
3. Impact on quality - whether the quality of an employee's work leads to the fact that other employees work more or less. The goal is to ensure that the pursuit of perfect timing does not come at the expense of quality, which could negatively impact productivity down the line.
4. Capacity utilization - shows how many times a day employees work at an ideal pace. Failure to meet the ideal time has a negative impact on performance and may give the impression that employees are not necessarily making efficient use of their time.

Using risk management within the Customer Declarant Map will provide important benefits related to risk reduction and profiling, fraud detection and compliance, customs checks and anomaly detection. Anticipating future trends, improving trade facilitation, and improving revenue collection are also important. AI capabilities are also highlighted to improve container images and visual search for undeclared goods. AI can provide a significant improvement in data quality, when multiple trade data sources are combined with customs data, it is possible to improve confidence results in transaction selection both during and after processing. Similarly, by adopting improved selection models, results can be more efficiently interpreted and then fed back into selection mechanisms, further improving results. Models reduce the errors that result from decisions based solely on expert judgment.

The introduction of artificial intelligence to support the productivity-enhancing functions of customs inspectors is transformative. When it comes to evaluating an employee's performance, senior managers can not only rely on their personal experience and what they know about the person, but also refer to the metrics provided by the tool. They can also predict with greater accuracy what the completion of a task will entail in terms of human resources.

The vast majority predict that AI will destroy jobs, but nothing scientifically proves this reality. Indeed, some jobs will disappear and others will appear, so customs officers will have to acquire skills to meet
changing conditions, new know-how will be required for a long existence in the labor market. Thus, some positions will no longer be relevant, as the technology will be able to complete long and repetitive tasks faster. The challenge for Customs is the enthusiasm that will be generated by the introduction of this new, cutting-edge technology. The changes required by the advent of AI in the customs sector, as elsewhere, will collide with the inertia of modern practice.

But one must remain optimistic, as innovations have always had to face the debate necessary for their acceptance by society. Historically, it is not the technology that creates the breakthrough, but the technological trajectory of the product or service towards the traditional market. Machine learning or deep learning technologies will fundamentally change the position of customs authorities in international trade.

The introduction of the "Customer Declarant Map" will force economic actors to develop, which will affect the software used to register economic events, which in turn may contribute to further changes in the functioning of the customs authorities. Through the proposed changes to the customs control processes, the customs authorities will be able to perform the following functions more effectively: changes, 2. economic - this includes the introduction of new digital solutions in the form of specific tools in the economic sphere, 3. innovative - the introduction of new processes that should affect the productivity and efficiency of customs authorities, as well as the creativity and entrepreneurship of international trade participants, 4. protective - aimed at ensuring security in various areas, including in relation to the safety of goods transported across the customs border; 5. regulatory - creating an appropriate environment that affects the development of modern technologies, while minimizing the occurrence of phenomena that may have a negative impact on this development. The Customer Declarant Map will reduce the data entry process and minimize the possibility of error, it can become a tool that supports the exchange of data between customs departments.

5. CONCLUSIONS

The digital tool "Customer Declarant Map", based on artificial intelligence, will improve the efficiency of customs control, increase revenue from customs payments and help reduce fraud. The customs system should form a completely dematerialized environment that avoids a lot of communication between different authorities. In this case, we will get a result in which performance is improved and data integrity standards are raised. The "Customer Declarant Map" should cover all stages of the customs clearance process, from manifest management to customs release, including declaration processing and accounting. This should include the management of suspensive regimes, logistics zones and processing of goods at customs, which will also allow the filing and amendment of manifests and bills of lading electronically. In addition, it is important to provide for cost control using weighted averages, dynamic risk management for licenses, customs declarations, using econometric criteria and selection criteria to identify potentially fraudulent declarations. This tool should guarantee transit control from vehicle exit to arrival through guarantee management and predictive location on the customs corridor map.

Summing up the study, we can conclude that AI is not ready to replace experts in the customs area, and this will be the case for many years to come. However, its use can bring many benefits, so it is extremely important to properly use new technologies and develop the idea of the "Customer Declarant Map", as is the case with every field that encounters technological innovations.

6. RECOMMENDATION

The introduction of a new tool for the digital path of the customs declarant "Customer Declarant Map" into the practice of customs authorities will improve the efficiency of customs control, facilitate international trade, and reduce customs risks. The risk management system within the "Customer Declarant Map" should develop and assess the relevance of the criteria for selecting declarants for customs control, model the impact of new criteria on the workload of inspectors and, thanks to artificial intelligence fraud detection algorithms, automatically propose new criteria based on the latest fraud trends. Artificial intelligence machine learning will make it possible to compile lists of customs declarants by compliance levels and, using machine learning models, to predict with high accuracy any fraud associated with a customs operation.

In conclusion, it is worth noting that the actions taken to facilitate customs control are the right direction and further efforts should be made to ensure that customs control is based primarily on knowledge of international trade entities, phenomena or procedures. This approach allows you to focus on especially harmful areas and in practice leads to minimization of physical intervention in the supply chain. A competitive company must flexibly adapt to changing working conditions and receive concrete benefits from this. Therefore, the "Customer Declarant Map" offered by us will allow you to use all the simplifications of the customs control process introduced for companies involved in international trade. In addition, Customer Declarant Map developers must anticipate how e-commerce will develop, observe what new trends are emerging between e-sellers and e-shoppers, and what problems all this leads to when goods cross borders. They also need to understand new import models and build closer relationships with stakeholders in the supply chain, and be given the opportunity to use new technologies (artificial intelligence, blockchain).
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