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DIGITALISATION OF CUSTOMS PROCEDURES IN EU

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ABSTRACT

Custom procedure digitalization refers to the process of transitioning traditional, paper-based customs procedures to digital or electronic formats. This transformation involves the adoption of technology and software solutions to automate and streamline customs processes, improving efficiency, accuracy, and compliance. In this paper we are dealing with the process of digitalisation of custom procedures in EU. After defining the legal framework of digitalisation in EU, we are pointing for its key components. The legal framework for the digitalization of customs procedures in the EU provides a comprehensive set of rules and requirements to support customs modernization efforts, enhance trade facilitation, and ensure effective customs control and security. There is detailed explanation given about digital system of transit, import and export, as well as the main obstacles for complete digitalisation.

KEY WORDS: custom, digitalisation, NCTS, export, import, EU

INTRODUCTION

The implementation of customs systems in the European Union (EU) is an ongoing process, and while significant progress has been made in digitalizing customs procedures, it's not entirely completed. Here are some reasons why. Customs administrations in the EU are constantly striving to improve their systems and processes to keep pace with evolving technologies, changing trade patterns, and emerging threats. This requires ongoing investments in technology upgrades, capacity building, and regulatory reforms. The EU regularly introduces new initiatives and regulations aimed at further enhancing customs efficiency, security, and trade facilitation. These may include updates to existing systems, implementation of new digital tools, and alignment with international standards and best practices (Deloitte,2020).

Customs administrations in the EU are working to enhance cooperation and data exchange with external partners, including non-EU countries, international organizations, and private sector stakeholders. Achieving seamless interoperability and data sharing requires ongoing efforts and collaboration.

While digital customs systems have been implemented in many EU member states, there may still be challenges related to adoption and usage by traders, customs brokers, and other stakeholders. Addressing these challenges requires awareness campaigns, training programs, and user support services.

Achieving harmonization and standardization of customs procedures and systems across EU member states remains a priority. This involves aligning national systems with EU regulations, promoting interoperability among different systems, and adopting common technical standards and data formats.

Customs administrations must ensure compliance with EU laws and regulations governing customs procedures, data protection, and security. This may involve updates to systems and processes to meet evolving legal requirements and address emerging risks and challenges.

The EU is undergoing a broader digital transformation across various sectors, including customs and trade. This involves leveraging emerging technologies such as artificial intelligence, blockchain, and big data analytics to further enhance customs operations and regulatory compliance (Ivashova,2019)

While significant progress has been made in digitalizing customs procedures in the EU, achieving full completion requires sustained efforts, investments, and collaboration among EU institutions, member states, and stakeholders.

The goal is to create a seamless, efficient, and secure customs environment that supports economic growth, trade facilitation, and regulatory compliance across the EU and beyond (Lucienne et al.2023).

LEGAL FRAMEWORK OF CUSTOM DIGITALISATION PROCEDURES EU

The legal framework for the digitalization of customs procedures in the European Union (EU) is primarily governed by the Union Customs Code (UCC) and associated regulations and directives. Here are some key aspects of the legal framework:

1. **Union Customs Code (UCC):** The UCC, Regulation (EU) No 952/2013, serves as the cornerstone of EU customs law. It sets out the rules and procedures for customs matters within the EU, including the digitalization of customs procedures. The UCC provides the legal basis for electronic customs declarations, data exchange, risk management, and other aspects of customs modernization.
2. **Customs Delegated and Implementing Acts:** The European Commission has issued delegated and implementing acts to supplement the provisions of the UCC and provide detailed rules on specific customs procedures and processes. These acts cover various aspects of customs digitalization, including electronic submission of declarations, use of electronic seals, customs control systems, and data exchange requirements.
3. **Electronic Customs Declarations:** The UCC and related regulations establish the legal framework for electronic customs declarations in the EU. Traders are required to submit electronic declarations for goods imported into, exported from, or transported through the EU customs territory. The regulations specify the data elements, formats, and procedures for electronic declaration submission and processing.
4. **Single Window Systems:** While the use of Single Window systems is not mandatory under EU law, member states are encouraged to establish and operate such systems to streamline administrative processes and facilitate trade.
5. **Security and Risk Management:** The UCC includes provisions related to customs security and risk management, which are essential components of customs digitalization. Customs authorities are required to implement risk-based control measures to target high-risk shipments for inspection while facilitating the flow of legitimate trade. The legal framework outlines the

requirements for risk assessment, selection criteria, and cooperation between customs administrations.

6. **Data Protection and Security:** The legal framework for customs digitalization includes provisions to ensure the protection and security of personal data and sensitive information exchanged during customs procedures. Customs authorities are required to comply with EU data protection laws, such as the General Data Protection Regulation (GDPR), and implement appropriate security measures to safeguard data confidentiality, integrity, and availability.

THE KEY COMPONENTS OF DIGITALISATION OF CUSTOM PROCEDURE IN EU

Custom procedure digitalization in the European Union (EU) is a key component of the EU's efforts to modernize customs procedures, facilitate trade, and enhance security. The EU has implemented several initiatives and systems to digitize customs processes and promote electronic data exchange among member states and with external partners. Here are some notable aspects of custom procedure digitalization in the EU:

1. **Electronic Customs Declarations:** The EU has established the Union Customs Code (UCC), which provides the legal framework for customs procedures across the EU. Under the UCC, customs declarations can be submitted electronically using the Customs Handling of Import and Export Freight (CHIEF) system for imports and exports, or the Automated Export System (AES) for exports.
2. **Single Window Initiative,** as already mentioned above.
3. **New Computerized Transit System (NCTS):** NCTS is a digital system used for managing transit procedures within the EU and with certain non-EU countries. It enables traders to submit electronic transit declarations and facilitates the movement of goods across borders while ensuring compliance with customs regulations and security requirements.
4. **Electronic Data Interchange (EDI):** EDI is widely used for electronic data exchange between traders, customs authorities, and other stakeholders in the EU. It enables the seamless transmission of customs-related information in standardized formats, improving communication, and reducing the time and cost associated with paper-based processes.
5. **Risk Management and Control Systems:** The EU employs risk management and control systems, such as the Customs Risk Management Framework (CRMF), to analyze trade data and identify high-risk

shipments for inspection. These systems use advanced algorithms and data analytics to target resources effectively and enhance security without unduly delaying legitimate trade.

6. Customs Management Systems (CMS): Many EU member states have implemented customs management systems (CMS) or electronic customs clearance systems to automate customs procedures, including declaration processing, tariff classification, valuation, and payment processing.
7. Integration with EU Trade Policy: Digital customs systems in the EU are aligned with the EU's trade policy objectives, including the promotion of international trade agreements, customs cooperation with third countries, and the implementation of trade facilitation measures to reduce barriers to trade (Ivanuschenko, 2023)

Overall, custom procedure digitalization in the EU is an ongoing process aimed at modernizing customs operations, enhancing trade facilitation, and ensuring the efficient flow of goods across EU borders while maintaining effective customs controls and security measures (Arvis et al, 2020).

DIGITALISATION OF TRANSIT, EXPORT AND IMPORT IN EU

The New Computerized Transit System (NCTS) is a European Union (EU) system designed to streamline customs procedures for goods in transit across EU member states and certain non-EU countries. It aims to facilitate trade by simplifying customs formalities and enhancing security measures.

NCTS allows for the electronic submission and processing of transit declarations, eliminating the need for paper-based documentation. This facilitates the movement of goods through customs territories without the need for additional customs clearance at each border crossing.

NCTS enables the electronic exchange of transit data between customs authorities, traders, and other parties involved in the transit process. This helps reduce administrative burdens and ensures that relevant information is shared quickly and accurately. The system incorporates risk management tools to identify and mitigate potential security threats associated with the transit of goods. By analyzing transit data and applying risk criteria, customs authorities can target high-risk shipments for further inspection, while facilitating the movement of low-risk goods.

NCTS is designed to integrate with other customs and trade-related systems, both within the EU and with partner countries. This interoperability enhances cross-border cooperation and supports the harmonization of customs procedures and standards.

The system helps customs authorities enforce compliance with customs regulations and procedures by providing tools for monitoring transit activities, conducting audits, and addressing non-compliance issues. NCTS represents a significant advancement in customs automation and modernization efforts within the EU. By digitizing transit procedures and promoting electronic data exchange, it contributes to the efficient movement of goods across borders while ensuring security and compliance with customs regulations.

The Automated Export System (AES) is a component of the U.S. Customs and Border Protection (CBP) and is administered by the U.S. Census Bureau. It is an electronic system used by exporters, freight forwarders, and other authorized parties to submit export information to the U.S. government. AES facilitates the electronic filing of export data, including commodity descriptions, values, quantities, and other relevant information, for shipments departing from the United States.

In the European Union (EU), there isn't a single system equivalent to the Automated Export System (AES) in the United States. Instead, export documentation and reporting requirements vary from country to country within the EU. However, the EU has implemented the Export Control System (ECS), which is a centralized electronic system designed to monitor the export of certain goods from EU member states. The ECS primarily focuses on goods subject to export controls, such as dual-use items, military equipment, and other sensitive goods.

The ECS facilitates the exchange of information between EU member states' customs authorities and the European Commission. It helps ensure compliance with export control regulations, including licensing requirements and prohibitions on exporting certain goods to specific destinations.

Additionally, individual EU member states may have their own electronic systems or procedures for collecting export data and facilitating exports. These systems may vary in terms of their functionality, scope, and level of integration with other EU-wide initiatives.(EU,2019)

The Customs Handling of Import and Export Freight (CHIEF) system is a UK-specific customs declaration system used for handling imports and exports to and from the UK. It was replaced by the Customs Declaration Service (CDS) in the UK in phases, with the transition completed in 2023 (GOV.UK,2022). In the European Union (EU), there isn't a single equivalent system to CHIEF, as customs procedures and systems vary among EU member states. However, there are similar electronic customs declaration systems used by customs authorities in different EU countries.

For example, in Germany, the customs declaration system is called ATLAS (Automatisiertes Tarif- und Lokales Zollabwicklungssystem), while in France, it's called DELTA (Déclaration en Douane par Liaison Informatisée et Automatisée) (Larso et al.,2018). Each EU member state typically has its own electronic customs declaration system, which interfaces with the EU's wider customs framework (Gichuki,2021).

These systems facilitate the electronic submission of customs declarations, duties, and taxes, as well as provide a platform for customs authorities to process and control cross-border trade. They play a crucial role in ensuring compliance with customs regulations and facilitating the smooth flow of goods across borders within the EU.

THE MAIN OBSTACLES FOT TOTAL DIGITALISATION OF CUSTOM PROCEDURES

The total implementation of digitalization of customs procedures faces several challenges, some of which include:

1. **Infrastructure and Connectivity:** In some regions, particularly in rural or less developed areas, there may be inadequate infrastructure and connectivity issues such as poor internet access or unreliable power supply. This can hinder the adoption and use of digital customs systems by traders and customs authorities.
2. **Legacy Systems and Compatibility:** Many customs administrations still rely on legacy systems and processes that are not easily compatible with modern digital solutions. Integrating new digital systems with existing infrastructure can be complex and costly, requiring significant investments in technology and resources.
3. **Legal and Regulatory Barriers:** Legal and regulatory frameworks may need to be updated or harmonized to accommodate digital customs

procedures. Issues such as data protection, electronic signatures, and legal recognition of electronic documents may require clarification or revision to facilitate digitalization.

4. **Capacity Building and Training:** Adequate training and capacity building are essential to ensure that customs officials, traders, and other stakeholders have the necessary skills and knowledge to use digital customs systems effectively. Training programs may need to be developed and implemented to address skill gaps and promote digital literacy.
5. **Security Concerns:** Digital customs systems must be robust and secure to protect against cyber threats and unauthorized access. Security breaches or data leaks could compromise sensitive information and undermine trust in digital customs processes. Ensuring the integrity and confidentiality of data is critical for the successful implementation of digitalization.
6. **Interoperability and Standardization:** Achieving interoperability and standardization among different digital customs systems is essential for seamless data exchange and collaboration across borders. Harmonizing technical standards, data formats, and protocols can facilitate interoperability but requires coordination and cooperation among multiple stakeholders.
7. **Change Management and Resistance to Adoption:** Resistance to change from stakeholders accustomed to traditional paper-based customs procedures can pose a significant challenge. Overcoming resistance and promoting buy-in from customs officials, traders, and other stakeholders may require effective change management strategies, communication, and stakeholder engagement (Serbian custom administration, 2023).

Addressing these challenges requires a coordinated effort involving government agencies, private sector stakeholders, international organizations, and technology providers. By overcoming these obstacles, countries can realize the benefits of digital customs procedures, including increased efficiency, transparency, and trade facilitation (Azcárraga et al.2020)

CONCLUSION

The digitalization of customs procedures within the European Union heralds a transformative era, promising efficiency, transparency, and heightened security. By embracing digital technologies, the EU stands to streamline trade processes, reducing bureaucratic hurdles and fostering smoother cross-border transactions. Moreover, this shift holds the potential to enhance competitiveness, bolstering the EU's position in the global market. However,

as with any technological advancement, challenges persist, particularly regarding data privacy, cybersecurity, and ensuring accessibility for all stakeholders. Nevertheless, with robust frameworks, collaborative efforts, and ongoing innovation, the EU can harness the full benefits of digitalization, paving the way for a more agile, interconnected, and prosperous future.

REFERENCES:

- Arvis, Jean-Francois, Lauri Ojala, Christina Wiederer, Ben Shepherd, Anasuya Raj, Karlygash Dairabayeva, und Tuomas Kiiski. kein Datum. "The World Bank." Logistics Performance Index. Accessed on January 14, 2020. <https://datacatalog.worldbank.org/dataset/logistics-performance-index>
- Azcárraga P., Azael A., Matsudaira T., Montagnat- Rentier G., Nagy J., and Clark R.. (2022). Customs Matters: Strengthening Customs Administration in a Changing World. International Monetary Fund, Working Papers
- Gichuki, N. Custom digitalization and deepening intra Comesa trade, COESA, Common Market for Eastern and Southern Africa, December 2021 <https://www.comesa.int/wp-content/uploads/2022/01/CUSTOMS-DIGITALIZATION-AND-DEEPENING-INTRA-COMESA-TRADE.pdf>
- Deloitte, Impact of digitalization on customs service providers | Future of Customs Service Providers, 2020
https://www2.deloitte.com/content/dam/Deloitte/de/Documents/consumer-business/Future_of_Customs_Service_Providers.pdf
- European Union, Customs Procedures and Customs Declarations, 2019, https://taxation-customs.ec.europa.eu/system/files/2019-03/01_taxud_ucc_customs_procedures_and_customs_declarations_quick_in_fo_en.pdf
- GOV.UK., Custom procedures and trade facilitation, 2022, <https://assets.publishing.service.gov.uk/media/61b8591ee90e07043c35f5b2/uk-australia-free-trade-agreement-fta-chapter-5-customs-procedures-and-trade-facilitation.pdf>
- Ivanuschenko, Alevtina. (2023). HOW DOES DIGITALIZATION CHANGE THE ROLE OF CUSTOMS AUTHORITIES AND THE IMPLEMENTATION OF THEIR FISCAL FUNCTION. Jurnal BPPK Badan Pendidikan dan Pelatihan Keuangan. 16. 78-85. 10.48108/jurnalbppk.v16i1.817.
- Ivashova, L. & Kiida, L.. (2019). Digitalization of customs procedures: the current situation and prospects of customs development. Public

administration and customs administration. 3. 218-230. 10.32836/2310-9653-2019-3-218-230.

Larson, Dr. Ulrich, Prof. Dr. Dirk Hartel, Franziska Widmaier, Tanja Finke-Schürmann, und Björn Helmke. 2018. Auf dem Sprung zur digitalen Zollabwicklung. Stuttgart: AEB GmbH, Duale Hochschule BadenWürttemberg. <https://www.aeb.com/de-de/gtm-studie/index.php>.

Lucienne Abrahams, Mark Burke and Trudi Hartzenberg, 2023, Digital Customs Transformation for Effective Trade Facilitation and Revenue Collection, SARChI Industrial Development Working Paper Series WP 2023-02

Serbian custom administration, 2023, Customs procedure in free zones https://www.carina.rs/upload/media/2020/10/25/47854/Customs_procedure_in_free_zones.pdf