

Consequences of the differences in digitalization between customs and business

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Abstract. The existence of differences in the digitalization of customs and business creates difficulties for harmonized and effective interaction between them, which in turn makes it difficult to build a meaningful partnership between them. This issue was identified in a survey conducted among employees of the Bulgarian Customs Agency and representatives of economic operators. The lack of synchronization could lead not only to the inefficient execution of customs formalities but also to difficulties in ensuring the smooth conduct of international trade. Addressing this problem requires significant efforts, coordination, and investments to adapt to new digital realities and to ensure the effective implementation of customs control.

Key words: customs control, digitalization, digital transformation, New European Customs Reform.

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1. Introduction

Digitalisation is one of the key factors in modernising customs and business, playing a crucial role in optimising customs formalities, enhancing transparency, and ensuring the smooth operation of international supply chains. However, disparities in digital transformation between customs administrations and economic operators create challenges in their interaction.

While customs authorities implement electronic systems for control, declaration processing, and risk management, the private sector often adapts to these changes at varying speeds and capacities. Differences in technological infrastructure, resource availability, and strategic priorities result in misalignments that can lead to delays, increased costs for businesses, and difficulties in effective customs control.

This study aims to outline the main aspects of the digitalisation gap between customs and businesses, highlighting its impact on the efficiency of customs procedures and exploring possible directions for addressing these discrepancies.

2. Differences in digitalization between customs and business

The digitalisation of customs processes and business operations is a key factor in the efficiency of international trade. However, the lack of synchronisation between digitalisation in customs and business creates significant challenges. This imbalance often results in delays, documentation errors, and increased administrative costs.

Businesses, particularly large multinational corporations, tend to be far more digitalised than customs administrations. This is driven by competitive pressure and the need to optimise supply chains and reduce costs. Companies invest in advanced technologies such as enterprise resource planning (ERP) systems, e-commerce platforms, and automated processes, enabling them to manage their operations quickly and efficiently. In contrast, customs administrations, as part of the public sector, face significantly more obstacles in adopting new technologies. Budget constraints and lengthy, complex public procurement procedures often delay the implementation of innovations. Additionally, public institutions must adhere to strict security and transparency requirements, further complicating the digitalisation process.

A survey conducted among employees of the Bulgarian Customs Agency revealed that a significant portion (57.74%) consider customs control activities in Bulgaria to be sufficiently digitalised, while 31.55% hold the opposite view, and 10.71% are undecided (see Figure 1) (Antov, Kostova, Zhelev, Peycheva, & Zheleva, 2025).

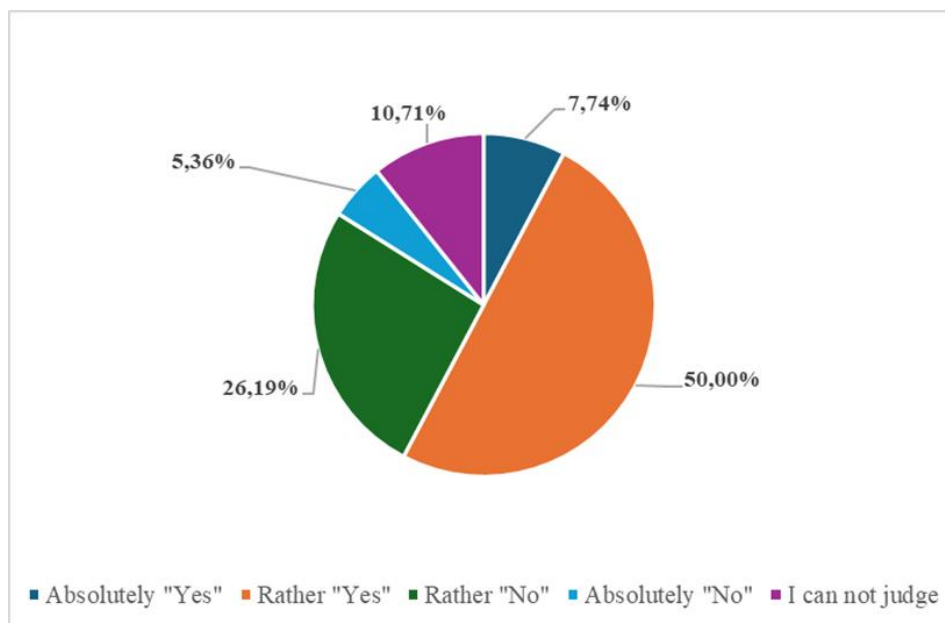


Figure 1. Answer to the question - Customs Agency: "Do you consider that the processes in customs control activities are currently sufficiently digitised?"

Only 37.5% of economic operators believe that customs processes are sufficiently digitalized, whereas more than half (57.74%) of surveyed customs officials confirm this view. Conversely, 52.78% of economic operators hold the opposite opinion, considering *that customs processes are not sufficiently digitalized*, a stance supported by only 31.55% of the surveyed customs officials. These results indicate that *the current stage of digitalization within customs does not meet business needs, suggesting that innovation in this direction must continue*. At the same time, customs authorities perceive themselves as optimally digitalized. This *discrepancy in perspectives between the two sides may lead to imbalanced relationships and communication issues*. Additionally, the data reveal that the private sector adapts to digitalization at a significantly faster rate than the public sector, including customs. In practice, the disparities in digitalization between businesses and customs could result in the following consequences:

- Deterioration of partnerships between economic operators and customs authorities;
- Customs authorities further hindering the functioning of international supply chains;
- Increased administrative burden for businesses, among others.

3. Development of Digitalization in Customs and Business

The digitalization of customs formalities and associated business processes is crucial for optimizing and enhancing the efficiency of international supply chains. Therefore, it is essential for customs authorities and economic operators to *synchronize the digitalization of their operational activities*, which are directly linked to:

- Import, export, and transit of goods;
- Post-clearance audits conducted by customs;
- The provision of additional services to businesses (e.g., application and granting of Authorized Economic Operator - AEO status).

The conducted survey reveals that only 31.55% of customs officials and more than half of the economic operators (52.78%) believe that *customs is not sufficiently digitalized*, leading to significant disparities in their digital transformation. Large enterprises and corporations, which are key drivers of foreign trade, exhibit significantly greater flexibility in adopting innovative digital tools compared to customs authorities. *This creates a serious imbalance in the seamless operation of global supply chains, potentially leading to various weaknesses, vulnerabilities, and problems*, including:

- **Increased Administrative Burden on Economic Operators** – The lack of synchronization in digitalization between customs authorities and economic operators primarily results in:
 - **Multiple and repetitive inspections** – disparities in digitalization between customs and businesses lead to duplicate document and goods inspections that are not automated (e.g., risk

- analysis conducted upon entry of goods into the Union's customs territory and separately upon importation).
- **Repeated submission of identical data** – the absence of a unified European customs information system necessitates the submission of data multiple times in different formats (e.g., electronic documents at the start of customs procedures, paper documents carried by the vehicle driver, licenses and permits submitted separately for each operation).
 - **Extended time for customs formalities** – some formalities for import, export, and transit are manually processed by customs officials due to the lack of digitalization, slowing down customs clearance procedures.
 - **Barriers to Cost Minimization for Highly Digitalized Enterprises** – Disparities in digitalization between customs authorities and businesses force economic operators to incur additional costs, which they cannot optimize. These costs mainly include:
 - **Human resources**– the inability to exchange data between enterprise ERP systems and customs, along with the lack of automated analysis, requires maintaining staff to prepare and process all customs documentation, including initial applications and ongoing monitoring for AEO status.
 - **Consulting services**– the lack of automatic data exchange and the necessity to submit customs declarations for each procedure compel businesses to rely on external customs brokers.
 - **Material resources (paper documents)** – physical documents such as EUR.1 and A.TR movement certificates, international invoices, and transport documents (CMR) are still required, preventing cost minimization and delaying digitalization.
 - **Time resources** - businesses must allocate significant time to comply with customs processes, which could only be optimized through synchronized digitalization between customs and economic operators.
 - **Inequality in Customs-Economic Operators Relations** – The disparities in the level of digitalization between economic operators (EOs) and customs authorities present significant challenges in establishing a partnership-based relationship. The main issues include:
 - **Lack of Process Synchronization** – The inability to directly exchange data between customs authorities and EOs necessitates the manual input of information by economic operators for customs control purposes. This **duplication of processes** not only **increases operational inefficiencies but also significantly raises the risk of technical errors**. As a result, customs and economic operators face operational difficulties, leading to the need for frequent corrections, repeated submission of declarations, and redundant administrative actions.
 - **Inability to Grant All Available Customs Simplifications to AEOs** – Several facilitation measures, such as Self-Assessment, Green Lanes, and Single Window Services, cannot be fully extended to Authorized Economic Operators (AEOs) due to the uneven digitalization progress between customs authorities and businesses. While customs require EOs to meet high criteria to obtain AEO status, they often lack the capacity to process business data efficiently and provide all available simplifications.
 - **Increased Volatility in the Customs Control System** – The digitalization gap between customs and businesses can create instability within the customs control system itself. A notable example is the sharp increase in e-commerce in 2020, which shifted the focus of imports from B2B (business-to-business) to B2C (business-to-customer). This shift placed significant external pressure on customs authorities, necessitating substantial adjustments in the handling of low-value shipments. As a result, import processes for small consignments became significantly more digitalized, easing customs formalities for importers while also reducing the workload for customs officers.
 - **Insufficient Support for the Development of the European Economy** – The lower level of digitalization in customs operations compared to the business sector leads to delays in customs clearance, disrupting the smooth functioning of international supply chains. Given that numerous participants in each supply chain (exporters, customs authorities, freight forwarders, customs brokers, carriers, other regulatory bodies in both importing and exporting countries, importers, manufacturers, traders, consumers, etc.) operate under strictly defined timeframes, any delay in customs procedures can have severe consequences. For instance, delays in the customs clearance of raw material imports can temporarily halt a company's production processes, making it impossible to meet contractual deadlines with business partners. Such inefficiencies could drive customers towards alternative manufacturers outside the EU who can deliver their products on time.

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4. Potential Measures to Minimize Digitalization Gaps Between Customs and Businesses

Customs authorities should act as equal partners to businesses rather than an additional administrative burden. Achieving digitalization balance is essential for effective customs control and enhancing the competitiveness of European economic operators. However, this is a highly challenging task requiring significant changes in several areas, including:

- **Legal Framework Changes in Customs Control** – The proposed new customs reform aims to replace the current Union Customs Code (UCC). The new regulation should emphasize the importance of maintaining harmonized digitalization between businesses and customs while regulating the adoption of the latest technological advancements in European customs. Responsible entities such as DG TAXUD and the EU Customs Authority should oversee the digital transformation of customs to ensure it becomes an equal partner to economic operators.
- **Organizational Changes in the EU Customs Control System**– These should include fostering flexibility in optimizing and operating the entire customs control system. Currently, these processes are highly complex and slow due to procedural requirements such as:
 - Decision-making on innovation implementation at the EU level;
 - Development of projects and public procurement processes at the national level;
 - Preparation of numerous reports, opinions, and statements for negotiations and discussions.

Once a regulatory act (regulation, directive, or decision) is adopted, its implementation timeline is typically long-term. As a result, some activities require modifications and modernization before their completion. For example, paper documents such as EUR.1 and A.TR are still not fully electronic. Similarly, before the full implementation of the UCC, which began in 2016 and is still ongoing, the Code needs comprehensive amendments and replacement with a new one based on the proposed customs reform. Establishing the EU Customs Authority could contribute to a *more flexible customs control system*, enabling it to quickly adapt to new digital realities.

- **Enhancing Coordination and Interaction Between Customs and Businesses** – The digital development of customs and businesses could be harmonized if both parties work collaboratively towards this goal. Therefore, a structured *public-private partnership* should be established to identify and *implement unified digital solutions* that simultaneously support the comprehensive execution of customs control functions while enhancing business growth and competitiveness. This approach would eliminate the current practice in which businesses are required to adapt their processes to upgraded customs architectures and business models. Instead, it would enable the creation of an equitable partnership between the two sides. Additionally, such cooperation would lead to a clearer understanding and more precise application of existing customs formalities.
- **Implementation of Advanced Technological Solutions in a Unified European Customs Information System** – To achieve *digital harmonization* between businesses and customs authorities, the new unified European Customs Information System (EU Data Hub) must be *designed with an architecture and business processes that are fully compatible* with the Enterprise Resource Planning (ERP) systems used by businesses. This compatibility would facilitate a synchronized and stable real-time data exchange between customs and businesses, without requiring significant additional adaptations of economic operators' IT systems to the EU Data Hub. The integration of blockchain technology in both customs and business systems would ensure *complete transparency and traceability of all processes and relevant documentation*, thereby minimizing the risks of intentional data manipulation. The full automation of customs processes and the increased use of artificial intelligence (AI) would *enable complex data analyses and predictive insights into potential issues that may arise* within trade flows, ensuring full compliance with customs formalities.

5. Conclusion

The lack of synchronization in digitalization between customs and businesses creates obstacles to seamless and effective interaction, thereby hindering the development of strong and mutually beneficial partnerships. This

misalignment can lead to inefficiencies in performing essential customs functions and create challenges in the smooth execution of international trade. Addressing this issue requires significant efforts, coordination, and investments to adapt to new digital realities and to ensure effective customs control.

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