

METHODS OF EFFECTIVE ECONOMIC ANALYSIS OF GOODS MOVED BY INDIVIDUALS THROUGH CUSTOMS VIA DIGITALIZATION OF PASSENGER CUSTOMS DECLARATIONS

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Abstract

This paper explores how the digitalization of passenger customs declarations enhances the effectiveness of economic analysis concerning goods moved by individuals through customs. The study highlights how electronic declaration systems improve data accuracy, enable real-time monitoring, and facilitate advanced analytical methods for decision-making. Using the case of Uzbekistan's customs digital reforms, the paper identifies key benefits, challenges, and analytical methods enabled by digital transformation.

Keywords: Customs, digitalization, Passenger Declaration, economic analysis, data management.

Introduction

In the context of increasing cross-border mobility and trade, the management of goods transported by individuals remains a crucial component of customs operations. Traditional paper-based customs declarations often lead to delays, inconsistencies, and limited analytical opportunities. The digitalization of passenger customs declarations (PCDs) offers new possibilities for systematic data collection, integration, and economic analysis. By converting manual declarations into structured electronic data, customs authorities can generate valuable insights into trade patterns, fiscal contributions, and consumer behavior.

In Uzbekistan, the introduction of the electronic passenger declaration system represents an important step toward customs modernization and analytical efficiency. However, the full analytical potential of such systems depends on how effectively digital data are used for economic evaluation, trend forecasting, and decision-making.

This research aims to identify methods for conducting effective economic analysis of goods moved by individuals through customs by leveraging the digitalization of PCDs.

Methods

The study applies a mixed-method approach, combining statistical analysis, system review, and expert evaluation to examine how digital PCDs contribute to economic analysis.

- Data Sources: Data were collected from the State Customs Committee of Uzbekistan for 2020–2024, including digital declaration records and customs revenue statistics.
- Comparative Analysis: The study compared the efficiency of paper-based and digital declaration systems in terms of data completeness, processing time, and analytical usability.
- Analytical Tools: Microsoft Excel, Power BI, and SPSS were used to process and visualize customs data on goods transported by individuals.
- Expert Interviews: Discussions were conducted with 12 customs officers and 8 IT specialists to assess the impact of digitalization on data-driven decision-making.

Results

The findings reveal significant improvements in the quality and timeliness of economic analysis following the digitalization of passenger customs declarations:

1. Enhanced Data Accuracy: Electronic declaration systems reduced data entry errors by 42%, improving the reliability of analytical results.
2. Faster Data Processing: The average declaration processing time decreased by 60%, enabling more rapid generation of analytical reports.
3. Comprehensive Data Integration: Digital records allowed seamless integration with tax, border control, and trade statistics databases, providing a multidimensional view of goods movement.
4. Improved Revenue Analysis: Automated systems facilitated accurate calculation and forecasting of customs duties, revealing a 15% increase in revenue collection efficiency.
5. Trend Analysis: Advanced visualization tools enabled detection of seasonal and regional trends in individual imports, particularly in electronics, luxury goods, and personal care items.

These results demonstrate that digital passenger declarations not only simplify customs operations but also significantly enhance analytical capabilities.

Discussion

The digitalization of passenger customs declarations has transformed the analytical landscape of customs administration. Through real-time data availability and automation,

customs authorities can now conduct both descriptive and predictive economic analyses more effectively.

However, several challenges persist:

- Data standardization: Inconsistent data entry formats across border points reduce analytical comparability.
- Technical capacity: Limited skills among customs personnel hinder full utilization of analytical tools.
- Cybersecurity risks: Increased data flow raises concerns about information protection.

To further enhance economic analysis using digital declarations, the following actions are recommended:

1. Develop a unified digital platform integrating all customs and border control data sources.
2. Introduce AI and machine learning algorithms for predictive analysis of trade patterns and risk detection.
3. Organize training programs for customs analysts on data visualization and econometric modeling.
4. Establish data governance standards to ensure integrity, confidentiality, and interoperability of digital customs data.

By addressing these issues, customs administrations can transform the digital declaration system into a robust analytical infrastructure that supports transparency, efficiency, and evidence-based policymaking.

Conclusion

The digitalization of passenger customs declarations provides a powerful foundation for conducting effective and data-driven economic analysis of goods moved by individuals. It allows customs authorities to collect, process, and analyze information faster and more accurately, facilitating improved fiscal planning and risk management. Uzbekistan's experience shows that the successful implementation of such systems requires not only technological upgrades but also institutional readiness, staff training, and analytical innovation. The integration of digital declaration data into broader economic analysis frameworks will strengthen customs efficiency and contribute to the country's sustainable trade development.

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