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DIGITAL TRANSFORMATION OF UZBEKISTAN'S FOREIGN TRADE AND THE EFFECTIVENESS OF PROSPECTS FOR INTEGRATION INTO INTERNATIONAL MARKETS

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Abstract. This thesis examines the digital transformation of Uzbekistan's foreign trade, the electronic modernization of customs and logistics processes, and the prospects for deeper integration into international markets. The study analyzes foreign-trade dynamics in 2021-2025 and assesses the channels through which digital customs infrastructure, data exchange, electronic declarations, automated risk management, and e-logistics can improve trade efficiency. According to national statistics, Uzbekistan's foreign trade turnover increased from USD 42.2 billion in 2021 to USD 82.8 billion in 2025 [1]. Although this growth cannot be attributed to digitalization alone, reduced document-processing time, faster customs clearance, and integration of logistics information systems are important factors in lowering transaction costs [4; 5]. The paper proposes aligning digital trade infrastructure with international standards, widening SME access to export platforms, strengthening cross-border data exchange, and coordinating these reforms with Uzbekistan's WTO accession process [3; 6].

Keywords: digital transformation, foreign trade, electronic customs, e-logistics, exports, imports, trade costs, international integration, WTO, digital platform.

INTRODUCTION

The rapid adoption of digital technologies in global trade is fundamentally changing the speed, transparency, and traceability of export-import operations. Electronic declarations, single-window systems, automated risk analysis, electronic certificates, real-time cargo tracking, and integrated interagency data exchange have become important determinants of trade competitiveness. For Uzbekistan, a double-landlocked country, reducing time and logistics costs is particularly important in assessing the practical effectiveness of digital transformation.

In recent years, Uzbekistan has pursued reforms aimed at liberalizing foreign trade, simplifying and digitalizing customs procedures, modernizing transport and logistics infrastructure, and aligning domestic trade rules with international practices. The World Bank identifies streamlined customs procedures, wider use of digital solutions, and improved multimodal connectivity as priorities for deeper integration into global value chains [3]. Accordingly, the purpose of this thesis is to identify the main efficiency channels of digital transformation in Uzbekistan's foreign trade and assess the prospects for integration into international markets.

1. Digital transformation mechanisms in foreign trade

Digital transformation in foreign trade means more than replacing paper documents with electronic files. It involves redesigning the entire trade process so that customs, transport, certification, banking, and control agencies can exchange reliable data quickly and securely. The key objective is to reduce repetitive procedures and allow trusted information to move across institutions with minimal delay.

Electronic declarations enable firms to submit customs information remotely before goods reach a border point. Automated risk-management systems can then classify shipments by risk level and direct inspection resources toward operations that require greater scrutiny. This approach can reduce unnecessary checks for low-risk traders while strengthening control over higher-risk transactions.

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Likewise, single-window systems can reduce the need to submit the same information repeatedly to different public agencies.

The effectiveness of such reforms should be evaluated through measurable indicators: clearance time, border waiting time, number of documents, transaction costs, frequency of physical inspections, predictability of delivery, and the ability of firms to access foreign markets. Uzbekistan has already reported major reductions in export procedures and customs-clearance time, indicating operational gains from ongoing reforms [4].

Table 1. Digital foreign-trade mechanisms and their expected effects

Digital mechanism	Practical function	Efficiency indicator	Integration effect
Electronic declaration	Remote submission of trade documents	Clearance time	Faster border crossing
Automated risk analysis	Risk-based selection of inspections	Share of unnecessary inspections	More reliable trade flow
Single window	Interagency data exchange	Number of duplicate documents	Standardized procedures
E-logistics	Tracking of cargo and documents	Delivery time	Cross-border traceability
Electronic certificates	Origin and quality verification	Approval time	Compliance with market requirements

As Table 1 shows, digital mechanisms influence foreign trade in three main ways: they shorten administrative processing time, improve the quality and controllability of data, and increase technical compatibility with international systems. Therefore, the most meaningful outcome of digitalization is not simply "more trade," but a reduction in the time and cost required for each trade operation. These indicators directly affect final export prices, delivery reliability, and the competitiveness of domestic firms in foreign markets.

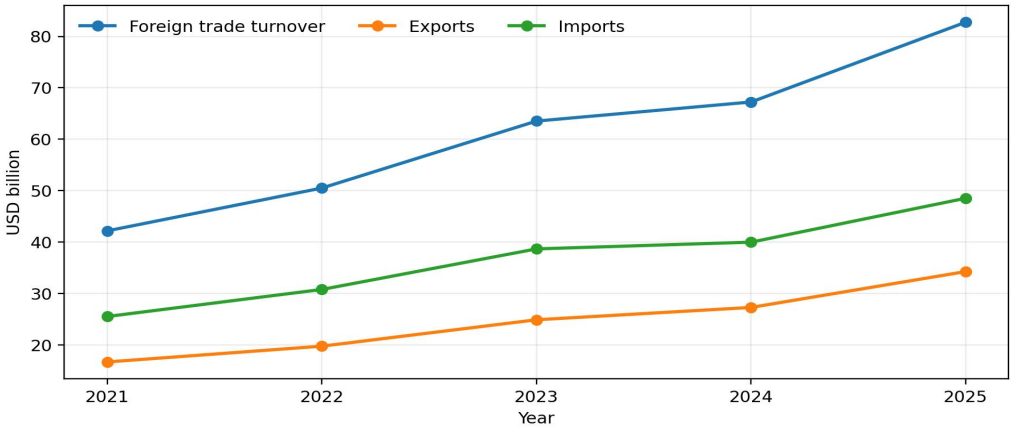
The next stage for Uzbekistan is to transform separate information systems into an interconnected data architecture. Customs, transport, veterinary and phytosanitary control, banking, and certification systems should increasingly follow the principle of "enter data once, use it many times." This would reduce repeated submissions by exporters and allow state agencies to conduct control procedures more efficiently in real time.

2. Foreign trade dynamics and the economic basis for digital transformation

According to updated annual data from the National Statistics Committee, Uzbekistan's foreign trade turnover rose from USD 42.17 billion in 2021 to USD 82.76 billion in 2025 [1]. During the same period, exports increased from USD 16.66 billion to USD 34.25 billion, while imports rose from USD 25.51 billion to USD 48.52 billion [2]. Thus, total trade turnover almost doubled, exports grew by more than 105 percent, and imports increased by about 90 percent. The expansion of trade means that the number and complexity of transactions are increasing, placing greater demands on the capacity and quality of digital trade infrastructure.

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Figure 1. Dynamics of Uzbekistan's foreign trade, 2021-2025



Source: Compiled by the author based on data from the National Statistics Committee of the Republic of Uzbekistan [1; 2].

Table 2. Main indicators of Uzbekistan's foreign trade, USD billion

Year	Exports	Imports	Total turnover	Trade balance
2021	16.66	25.51	42.17	-8.84
2022	19.73	30.77	50.50	-11.04
2023	24.87	38.66	63.53	-13.79
2024	27.27	39.97	67.24	-12.70
2025	34.25	48.52	82.76	-14.27

The negative trade balance shown in Table 2 reflects the larger value of imports. However, because imports include machinery, technologies, and intermediate goods used in production, the trade balance should not be treated as the sole measure of performance. A more important question is the extent to which imported capital and intermediate inputs contribute to domestic production and future export capacity. Digital customs data can support a more detailed and timely structural analysis of these flows.

The geography of foreign trade is also expanding. This increases the need to comply with different certification systems, rules of origin, technical standards, and electronic data formats. Therefore, digital transformation should move beyond internal automation toward international interoperability - secure data exchange with the customs and trade systems of partner countries. This can create an institutional foundation for deeper participation in global value chains [3].

3. Digital logistics and mechanisms of integration into international markets

Logistics occupies a central place in the digital transformation of foreign trade. Uzbekistan's double-landlocked position results in longer transport routes, multiple border crossings, and relatively high logistics costs. Therefore, customs digitalization alone cannot generate the full expected effect unless it is integrated with transport and warehousing systems. A digital trade chain should cover the movement of goods from declaration to final delivery.

Figure 2. Digital integration chain of Uzbekistan's foreign trade

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Digital foreign-trade process: from document flow to cross-border integration

The national "E-Logistics" digital platform announced in 2026 is designed to digitalize freight documents, enable automatic data exchange with customs and transport control bodies, and track cargo from dispatch to final delivery through a unified platform [5]. If fully implemented, such a system can reduce information gaps, repeated document checks, and uncertainty about cargo status across the logistics chain.

A second important dimension of international integration is alignment of digital trade infrastructure with international trade rules. Uzbekistan reaffirmed its goal of completing the WTO accession process in 2026 [6]. WTO integration concerns not only tariff commitments but also transparency and predictability of trade procedures, standards, customs valuation, and publication of trade-related information. Digital systems can make compliance with these requirements more consistent and efficient.

Table 3. Priority digital directions for strengthening international integration

Direction	Current problem	Digital solution	Expected result
Cross-border data	Different data formats	APIs and standard protocols	Faster verification
Certification	Paper-based repeated approvals	E-certificates and verification	Faster market access
Logistics	Limited cargo visibility	Real-time tracking	More reliable delivery
SME exports	Limited information and channels	B2B/B2C export platforms	Access to new buyers
WTO alignment	Fragmented procedures and information	Open digital trade portal	Transparency and predictability

World Bank recommendations indicate that Uzbekistan's global integration requires a combination of streamlined customs, wider use of digital solutions, expanded trade linkages, and improved multimodal transport networks [3]. Digital transformation should therefore be viewed not as an isolated IT project, but as an institutional platform connecting trade policy, transport infrastructure, and business-environment reforms.

4. Evaluation of effectiveness and prospective directions

The effectiveness of digital foreign-trade systems should not be assessed solely through growth in exports or total trade turnover. Trade values are influenced by global prices, external demand, gold and commodity markets, exchange rates, investment activity, and geography. Therefore, performance should be measured at three levels: operational indicators such as declaration processing time, border waiting time, document requirements, and transaction costs; business indicators such as the number of exporting firms, delivery reliability, and time needed to enter new markets; and macro-level indicators such as the share of higher-value-added exports, market diversification, and participation in global value chains.

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Official information reporting that export procedures were reduced from nine stages to three and that clearance of export cargo fell to around 20 minutes provides concrete evidence of operational improvements [4]. The next task is to extend comparable service standards across all border points and control agencies. Faster customs processing alone will not create an efficient trade chain if firms still face long delays in certification, transport permits, or banking procedures.

The first priority is the principle of "single data submission." Firms should not repeatedly provide identical information to separate agencies; verified data entered once should be reused by authorized systems. Such a model must be accompanied by clear rules for cybersecurity, data protection, legal consent, access rights, and data ownership.

The second priority is expanding digital export opportunities for small and medium-sized enterprises. Large firms usually have better access to logistics, certification, and financial services, while smaller firms are more sensitive to information and transaction costs. A unified digital trade portal that combines information on market requirements, tariffs, certificates, logistics routes, payment instruments, and potential buyers could broaden the export base and lower entry costs for SMEs using international B2B and B2C channels.

The third priority is deeper use of data-driven customs control. Risk models can integrate trader history, commodity codes, price anomalies, routes, carriers, and certificate information to identify high-risk operations more accurately. This can speed up low-risk shipments while concentrating inspection resources on transactions that warrant greater scrutiny. Transparency of algorithmic decisions and the right of traders to appeal should remain essential safeguards.

The fourth priority is the integration of e-logistics with multimodal transport-corridor data. Because Uzbekistan relies on several transit countries, real-time information on transport documents, cargo status, and border queues can improve route selection and delivery forecasting [5]. Such systems can also help exporters compare logistics operators and reduce warehousing, insurance, and delay-related costs.

The fifth priority is to synchronize digital reforms with the WTO accession process. The stated objective of completing accession in 2026 [6] creates additional institutional incentives to standardize trade procedures. The legal validity of electronic documents, cross-border electronic signatures, data protection, and compatibility with international standards require particular attention.

Accordingly, the most useful performance model combines four dimensions: speed, cost, reliability, and international compatibility. Regular publication of open indicators in these areas would make it possible to monitor the real outcomes of digital trade reforms, incorporate private-sector feedback, and provide clearer signals to investors and foreign partners.

CONCLUSION

The digital transformation of Uzbekistan's foreign trade is becoming an important institutional factor supporting the country's integration into international markets. The increase in foreign trade turnover from USD 42.17 billion in 2021 to USD 82.76 billion in 2025 has created new demands for the capacity and quality of trade-support infrastructure [1]. Simultaneous growth in exports and imports strengthens the need for digital customs, electronic documentation, automated risk management, and integrated logistics information [2].

The analysis shows that the effectiveness of digitalization should not be equated directly with growth in trade volumes. A more rigorous assessment is based on operational indicators. The reduction in export procedures, shorter clearance times, and introduction of multiple information systems provide an important basis for lowering administrative costs [4]. Initiatives such as the "E-Logistics" platform can further support a fully digital logistics chain by linking customs and transport systems [5].

Future priorities should include single data submission, cross-border electronic certificates, real-time cargo tracking, a unified digital export portal for SMEs, risk-based customs control, and publication of transparent performance indicators. These measures are likely to be most effective when

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coordinated with multimodal transport infrastructure and policies aimed at deeper participation in global value chains [3]. The continuing WTO accession process also provides an important opportunity to align trade procedures with international rules and strengthen digital transparency [6].

Overall, the strategic objective of digital foreign trade in Uzbekistan should go beyond customs automation. The goal should be to create a fast, reliable, internationally compatible, and user-oriented trade environment in which exporters can access services through integrated digital channels. Such a model can reduce administrative and logistics costs, shorten time to market, broaden the range of exporting firms, and strengthen international competitiveness.

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