



THE IMPACT OF DIGITAL PAYMENT SYSTEMS ON THE OPERATIONAL EFFICIENCY OF SMALL BUSINESS ENTITIES: THE CASE OF TASHKENT CITY

Davronova Parvinabonu Jasur qizi

is a second-year student majoring in Economics at the Tashkent University of Information Technologies.

parvineaa@gmail.com

Orcid id: 0009-0002-5753-9018

Abstract. *This article examines the impact of digital payment systems on the operational efficiency of small business entities in Tashkent City. The study focuses on the economic effects of bank cards, mobile payment applications, QR-code payments, and other cashless payment instruments on transaction costs, payment processing time, sales revenue management, financial control, and customer service. Particular attention is paid to the relationship between the expansion of digital payment infrastructure and the actual efficiency of small businesses. The study also considers potential constraints, including transaction fees, technical disruptions, and the level of digital skills among business owners and employees. Statistical indicators and official data are used to assess the growing role of digital payments in Uzbekistan's economic environment. The findings indicate that digital payments can improve operational efficiency by reducing certain cash-handling costs, accelerating settlements, and improving the recording and monitoring of business revenues. However, the economic effect depends on the relationship between transaction volumes, service costs, and the resulting financial benefits for individual businesses.*

Keywords: *digital payment systems, small business, operational efficiency, cashless payments, financial technology, transaction costs, Tashkent City.*

INTRODUCTION

The rapid development of digital payment systems is becoming an increasingly important factor influencing the financial operations, cost structure, and customer service mechanisms of small businesses. According to the Central Bank of the Republic of Uzbekistan, the number of bank cards in circulation increased from 61.99 million as of January 1, 2025, to 63.83 million as of June 1, 2025. During January–June 2025, the volume of

transactions conducted through payment terminals reached 175.7 trillion Uzbek soums, demonstrating the expanding role of electronic payments in the national economy. However, the growth of digital payment infrastructure does not automatically mean that the profitability or operational efficiency of every small business has increased by the same proportion. For small businesses operating in trade, catering, and service industries in Tashkent City, digital payments can



reduce the time required for settlements, facilitate revenue recording, decrease certain cash-handling costs, and provide customers with more convenient payment options. At the same time, transaction commissions, technical interruptions, cybersecurity risks, and insufficient digital competencies may reduce the economic benefits obtained from these technologies. Therefore, the objective of this study is to examine the relationship between the adoption of digital payment systems and the operational efficiency of small business entities in Tashkent City. The study considers transaction processing time, payment-related costs, sales revenue monitoring, financial control, and customer convenience as key analytical indicators. The scientific relevance of the research lies in evaluating digital payments not merely as a technological innovation, but as an economic instrument whose effectiveness depends on the balance between additional costs and measurable operational benefits. The findings are intended to provide an analytical basis for improving payment management and strengthening the efficiency of small businesses operating in an increasingly digital economic environment.

Literature Review. The economic impact of digital payment systems on small businesses has increasingly attracted attention in research on financial technology, transaction costs, financial inclusion, and enterprise productivity. Existing evidence suggests that the expansion of digital payment

infrastructure can influence business efficiency through several interconnected mechanisms, including faster settlement, improved transaction records, lower cash-handling requirements, and greater access to formal financial services. The World Bank's Enterprise Survey data for Uzbekistan provide an important empirical basis for examining this issue. The 2024 Enterprise Survey covered 1,008 firms and included indicators related to the use of electronic payments by businesses. The available evidence indicates that less than 30% of firms' sales were conducted electronically, suggesting that the development of payment infrastructure does not necessarily translate into equally high levels of digital adoption among enterprises. At the same time, the World Bank's assessment of Uzbekistan's financial sector emphasizes that the country has developed important digital financial infrastructure, while the cost of certain financial services remains a relevant consideration for users. According to the Central Bank of Uzbekistan, the total volume of payments processed through banks reached 1,075 trillion soums in 2025, representing a 28% increase compared with the previous year, while the share of terminal and mobile payments in trade and services reached 48%. These figures demonstrate the growing importance of digital payment instruments in economic activity, although they should not be interpreted as direct evidence of increased profitability among individual small businesses. From an economic perspective, the literature



therefore suggests that the effectiveness of digital payments should be assessed by comparing measurable benefits with associated costs. Transaction fees, technological infrastructure, internet reliability, employee digital skills, and customer payment preferences can all influence the final economic outcome. Consequently, the present study focuses on the enterprise-level mechanisms through which digital payments may affect operational efficiency, rather than treating the growth of digital transactions itself as evidence of improved business performance.

Research methodology. This study applies statistical, comparative, and economic analysis methods to examine the relationship between digital payment adoption and the operational efficiency of small business entities in Tashkent City. The research framework is based on official statistical information from the Central Bank of the Republic of Uzbekistan, international enterprise-level data, and relevant academic and analytical sources. The World Bank's 2024 Enterprise Survey for Uzbekistan contains information from 1,008 firms and provides indicators related to electronic payment usage, allowing the broader relationship between digitalization and business activity to be examined. However, these observations do not constitute a complete representative sample of all small businesses operating in Tashkent City; therefore, national and international indicators are used primarily as contextual evidence rather than as direct estimates for

every Tashkent-based enterprise. Operational efficiency is assessed through several measurable indicators, including the proportion of digital payments in total sales, transaction-related costs, settlement time, operating expenses, revenue monitoring, and the availability of financial records. Comparative analysis is used to examine differences between businesses with relatively intensive use of digital payments and those relying more heavily on cash transactions. Particular attention is given to the cost side of digital payment adoption. For example, the Central Bank's published tariff for merchant payments through the Unified QR-online system is 0.65%. At this rate, a business processing 100 million soums in QR-based payments would incur a calculated transaction cost of 650,000 soums, assuming the tariff applies to the entire amount. Similarly, a monthly digital payment turnover of 500 million soums would generate a calculated commission expense of 3.25 million soums at the same rate. These calculations demonstrate why payment volume alone cannot serve as a measure of economic efficiency. The methodology therefore evaluates digital payments through the relationship between transaction costs and operational benefits, including time savings, improved revenue monitoring, and reduced dependence on cash-handling procedures. This approach makes it possible to distinguish the expansion of digital payment infrastructure from its actual economic contribution to small business performance.



Results. The analysis of available statistical indicators demonstrates that digital payments are becoming an increasingly significant component of business transactions in Uzbekistan, creating a relevant economic environment for small enterprises in Tashkent City. According to the Central Bank of the Republic of Uzbekistan, the total volume of payments processed through banks reached 1,075 trillion soums in 2025, representing a 28% increase compared with the previous year. During the same period, the share of terminal and mobile payments in trade and service activities reached 48%. This expansion indicates a substantial shift toward electronic settlement mechanisms, although the aggregate growth of digital transactions cannot by itself be interpreted as an equivalent increase in business profitability. From the perspective of operational efficiency, digital payments can generate economic benefits by accelerating settlement procedures, reducing the resources required for cash collection and handling, and providing businesses with more systematic information about incoming revenues. Nevertheless, these benefits must be considered alongside transaction-related expenses. The Central Bank's tariff for merchant payments through the Unified QR-online system is 0.65%. Accordingly, if a business receives 100 million soums through QR-based payments and the 0.65% tariff is applied to the full amount, the calculated commission expense equals 650,000 soums. At a monthly turnover of

500 million soums, the corresponding calculated expense would reach 3.25 million soums. These examples demonstrate that the economic effect of digital payments depends not only on transaction volume but also on the cost of processing those transactions. In addition, World Bank Enterprise Survey evidence indicates that less than 30% of firms' sales in Uzbekistan were conducted electronically, revealing a difference between the availability of digital payment infrastructure and the extent of its actual use by enterprises. For small businesses, this difference may be associated with technological costs, limited digital capabilities, customer preferences, and differences between business sectors. Therefore, the results indicate that digital payment systems can improve operational efficiency through faster settlements and improved financial monitoring, while their net economic effect depends on whether these benefits outweigh transaction and implementation costs. For Tashkent-based small businesses, the economically relevant indicator is consequently not simply the volume of digital payments, but the relationship between digital payment intensity, associated costs, and measurable improvements in business operations.

Discussion and Conclusion. The findings indicate that the economic effect of digital payment systems on small business efficiency is multidimensional and depends on the relationship between transaction benefits and associated costs. The increase in Uzbekistan's total bank-mediated payment volume to 1,075 trillion



soums in 2025, together with the 48% share of terminal and mobile payments in trade and services, demonstrates the growing role of electronic settlements in economic activity. However, these aggregate indicators should not be interpreted as direct evidence that the profitability of every small business has increased. The evidence from the World Bank Enterprise Survey, according to which less than 30% of firms' sales were conducted electronically, further demonstrates that the availability of digital infrastructure and its actual use at the enterprise level are not identical phenomena. For small businesses in Tashkent City, digital payments may generate efficiency gains by reducing the time required for settlement, improving revenue records, facilitating cash-flow monitoring, and reducing certain costs associated with handling physical cash. At the same time, transaction commissions represent a measurable cost that should be incorporated into business decisions. For example, at a 0.65% merchant commission, processing 500 million soums in digital payments would correspond to a calculated commission expense of 3.25 million soums. Consequently, the economic value of digital payments should be evaluated through their net contribution to business

performance rather than through transaction volume alone. Small businesses can improve this assessment by monitoring the share of digital payments in total sales, monthly transaction fees, average settlement time, operating expenses, and changes in revenue-recording accuracy. It is also important to strengthen employees' digital competencies and establish regular comparisons between different payment channels in order to identify the most cost-efficient combination for each business model. In conclusion, digital payment systems constitute an important instrument for improving the operational organization of small businesses, but their economic effectiveness is conditional rather than automatic. The final impact depends on transaction costs, payment volumes, technological reliability, customer behavior, and the ability of businesses to integrate digital payment information into financial management. A more precise assessment for Tashkent City would require a dedicated enterprise-level survey containing data on digital payment shares, transaction costs, revenue, operating expenses, and profitability, which would allow the relationship between digitalization and business performance to be tested empirically.



REFERENCES:

1. Central Bank of the Republic of Uzbekistan. Statistics of Payment Systems. Tashkent, 2025–2026.
2. Central Bank of the Republic of Uzbekistan. Tariffs for Payment Services. Tashkent, 2026.
3. Central Bank of the Republic of Uzbekistan. Unified National QR Code System (UzQR): Transparent Commission Structure and Its Economic Rationale. Tashkent, 2026.
4. World Bank. Enterprise Surveys: Uzbekistan 2024. Washington, D.C.: World Bank, 2025.
5. World Bank. Uzbekistan Country Economic Memorandum: Fostering Private Sector Growth and Digital Transformation. Washington, D.C.: World Bank, 2025.
6. World Bank. The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. Washington, D.C.: World Bank, 2022.