THE IMPACT OF DIGITAL TRANSFORMATION INVESTMENTS ON THE FINANCIAL RESULTS OF ENTERPRISES

Tohirova Nigora Zokirjon kizi
Lecturer, Department of Economics
Karshi State University
ORCID: 0009-0007-8490-6027
E-mail: nigora.takhirova@gmail.com
https://doi.org/10.5281/zenodo.22601240

Abstract. Digital transformation requires enterprises to allocate financial resources to information technologies, digital infrastructure, software and organizational change. Because the economic return from such investments may emerge gradually, their efficiency should be assessed over the investment life cycle rather than through one-year profit alone. This study develops a practical framework for evaluating digital transformation investments using the dynamics of small-business participation in fixed capital investment and the development of information and communication services in Kashkadarya region. Official statistical indicators for 2020–2025 are analyzed. During the period, the share of small business in fixed capital investment increased from 46.0% to 61.4%, while information and communication services increased from 574.6 billion to 1,802.7 billion soums. The study proposes an integrated assessment based on total cost of ownership (TCO), return on investment (ROI), and payback period.

Keywords: digital transformation, digital investment, investment efficiency, ROI, TCO, payback period, small business, information and communication services.

INTRODUCTION

Digital transformation has become an important factor in improving enterprise competitiveness and operational efficiency. The implementation of enterprise resource planning systems, customer relationship management platforms, cloud technologies, data analytics and other digital solutions requires financial resources not only for acquisition but also for implementation, integration, employee training and maintenance.

The economic effect of digital transformation is often delayed. Initial investment can increase costs, whereas expected benefits may appear through lower operating expenses, higher labor productivity, reduced processing time, additional sales and improved resource allocation. Therefore, assessing a digital project only through short-term profit may produce an incomplete conclusion.

This issue is particularly relevant for small and medium-sized enterprises because their investment resources are relatively limited. At the same time, the expansion of the regional digital-services market creates greater access to technologies and specialized digital services.

The purpose of this study is to develop a practical framework for assessing the economic efficiency of digital transformation investments in regional enterprises by combining macro-level statistical analysis with enterprise-level financial evaluation.

RESEARCH METHODOLOGY (METHODS)

The study uses statistical, comparative and analytical methods. Official indicators for Kashkadarya region for 2020–2025 were used to examine two dimensions of the digital investment environment: the share of small business in fixed capital investment and the volume of information and communication services.

To analyze dynamics, absolute changes, annual growth rates and the compound annual growth rate (CAGR) were calculated. The annual growth rate is determined as: Growth rate

= (X_t / X_{t-1} − 1) × 100%. The CAGR for 2020–2025 is calculated as: CAGR = (X_{2025} / X_{2020})^(1/5) − 1.

At the enterprise level, the study applies three financial indicators. ROI = (Net economic benefit − Digital investment cost) / Digital investment cost × 100%. Payback Period = Initial investment / Annual net cash benefit. TCO = Initial acquisition costs + implementation + training + integration + maintenance + subscription and other operating costs over the selected period.

The expected economic benefit should be separated into operating cost savings, additional revenue, labor-time savings, reduction of errors and other measurable financial effects.

A methodological limitation is that regional macrostatistics do not identify the digital investment and financial return of individual enterprises. Therefore, the statistical analysis characterizes the investment environment but does not establish a direct causal relationship between digital investment and enterprise profitability.

RESEARCH RESULTS (RESULTS)

The analyzed indicators demonstrate a simultaneous expansion of small-business participation in fixed capital investment and the regional information and communication services market.

Year	Share of small business in investment, %	Information and communication services, billion soums	Annual growth of services, %
2020	46.0	574.6	—
2021	45.6	703.1	22.4
2022	47.9	902.0	28.3
2023	49.6	1,083.5	20.1
2024	52.4	1,364.9	26.0
2025	61.4	1,802.7	32.1

Source: compiled by the author based on official statistical indicators of the National Statistics Committee of the Republic of Uzbekistan (SIAT).

The share of small business in fixed capital investment increased from 46.0% in 2020 to 61.4% in 2025, an increase of 15.4 percentage points. The most pronounced increase occurred in 2025, when the indicator rose by 9.0 percentage points compared with 2024.

Information and communication services increased from 574.6 billion soums in 2020 to 1,802.7 billion soums in 2025. The absolute increase was 1,228.1 billion soums, while the total volume became approximately 3.14 times higher than in 2020. The calculated CAGR was approximately 25.7% per year. Annual growth remained positive throughout the period and reached 32.1% in 2025.

The parallel dynamics indicate an expanding regional environment for digital technologies and investment. However, these indicators should not be interpreted as proof that digital-service growth directly caused increased small-business investment. They describe the broader economic context in which enterprises make technology investment decisions.

DISCUSSION

The results show that the economic environment for digital transformation in Kashkadarya strengthened during 2020–2025. The information and communication services market more than tripled, while the participation of small business in fixed capital investment increased substantially.

Nevertheless, a growing digital market does not mean that every digital investment will be profitable. The central managerial challenge is to distinguish ordinary technology

expenditure from economically justified investment. A digital project should be considered an investment when its future benefits can be identified, measured and compared with the full cost of ownership.

ROI is useful for evaluating overall return, but it should be combined with the payback period. A project may have a positive ROI while still creating short-term cash-flow pressure because benefits are realized slowly. TCO is particularly important for cloud and subscription-based technologies, where long-term subscription, integration, maintenance, cybersecurity and training costs can significantly exceed the initial acquisition cost.

For regional enterprises, the proposed mechanism can be implemented in five stages: (1) diagnose the business process requiring digitalization; (2) calculate the full cost and expected benefits; (3) evaluate ROI and payback; (4) implement the solution gradually and monitor KPIs; and (5) compare actual results with the original business case.

The main limitation of the study is the aggregated nature of regional statistics. They cannot measure the causal effect of digital investment on individual enterprise profitability. Future studies should use enterprise-level longitudinal data on digital investment, TCO, labor productivity, revenue, operating costs and profitability before and after implementation.

CONCLUSION

The analysis demonstrates that the environment for digital transformation investment in Kashkadarya expanded considerably during 2020–2025. The share of small business in fixed capital investment increased from 46.0% to 61.4%, while information and communication services increased from 574.6 billion to 1,802.7 billion soums. The latter represents a 3.14-fold increase and a CAGR of approximately 25.7%.

These macro-level indicators provide an important context for digital investment but cannot substitute for enterprise-level financial analysis. The final investment decision should therefore be based on TCO, ROI and payback period, with expected benefits clearly separated into cost savings, additional revenue, labor-time savings and other measurable effects.

The proposed framework connects regional statistical conditions with practical enterprise investment decisions and can be used as a basis for more detailed firm-level assessment. Further empirical research should quantify the relationship between digital investment and enterprise productivity and profitability.

REFERENCES

1. Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. MIS Quarterly, 37(2), 471–482.
2. Vial, G. (2019). Understanding digital transformation: A review and a research agenda. The Journal of Strategic Information Systems, 28(2), 118–144.
3. OECD. (2020). OECD Digital Economy Outlook 2020. OECD Publishing.
4. World Bank. (2016). World Development Report 2016: Digital Dividends. Washington, DC: World Bank.
5. O‘zbekiston Respublikasi Milliy statistika qo‘mitasi. Kichik tadbirkorlik subyektlarining asosiy kapitalga investitsiyalari. SIAT.
6. O‘zbekiston Respublikasi Milliy statistika qo‘mitasi. Axborot va aloqa xizmatlari hajmi. SIAT.
7. O‘zbekiston Respublikasi Milliy statistika qo‘mitasi. Qashqadaryo viloyatining ijtimoiy-iqtisodiy rivojlanishiga oid statistik ma’lumotlar.