

ECONOSCITECH INTEGRATION

ISSUE
8

INTERNATIONAL SCIENTIFIC
ELECTRONIC JOURNAL



**TASHKENT STATE
UNIVERSITY OF ECONOMICS**



**American University
of Technology**

Powered by Arizona State University®

ISSN: 3060-5075



Acceptance of articles

PUBLISHED EVERY MONTHLY



ARTICLE CONTRIBUTORS

**PROFESSORS-TEACHERS, SPECIALISTS
AND SCIENTIFIC RESEARCHERS.**



Google
scholar

OpenAIRE

ISSN

INTERNATIONAL
STANDARD
SERIAL
NUMBER
DENMARK

CONTACT:



+998 94 3540880



<https://econoscitech-integration-journal.uz>



2026

**EDITOR-IN-CHIEF:**

Zufarova Nozima Gulamiddinovna
DSc., Dean of Tourism Faculty, TSUE

DEPUTY EDITOR-IN-CHIEF:

Makhmudov Nosir Makhmudovich
DSc., Prof., Academician

DEPUTY EDITOR-IN-CHIEF:

Suyunov Dilmurod Xolmurodovich
Doctor of Economics (DSc), Professor,

DEPUTY EDITOR-IN-CHIEF:

Allayarov Shamsiddin Amanullayevich
doctor of economics (DSC), professor

RESPONSIBLE SECRETARY:

Otaboyev Axmed Maxsudbek o'g'li
TSUE independent researcher

THE SCIENTIFIC-POPULAR
ELECTRONIC JOURNAL
"ECONOSCITECH-INTEGRATION"
HAS BEEN REGISTERED UNDER
THE NUMBER C-5669651 BY THE
AGENCY FOR INFORMATION AND
MASS COMMUNICATIONS (AOKA)
OF THE REPUBLIC OF UZBEKISTAN,
EFFECTIVE FROM OCTOBER 9, 2024.

In accordance with Resolution No. 384/6 dated April 10, 2026, issued by the Presidium of the Supreme Attestation Commission under the Ministry of Higher Education, Science and Innovation of the Republic of Uzbekistan, this journal is included in the list of recommended international scientific publications for publishing the primary research findings of doctoral dissertations in the field of Economic Sciences.

Partners: Tashkent State University of Economics / American University of Technology in Tashkent (AUT)

Electronic publication. Issue 8. 374 pages.
Approved for publication in August 2026.

Editorial Board Members:

Sharipov Kongratbay Avezimbetovich,
Doctor of Technical Sciences (DSc), Professor



Teshabayev To'liqin Zakirovich,
Doctor of Economic Sciences (DSc), Professor



Said Irandoust,
Doctor of Chemical Engineering Sciences,
Professor



Abdurakhmanova Gulnora Kalandarovna,
Doctor of Economic Sciences (DSc), Professor



Khudoykulov Sadirdin Karimovich,
Doctor of Economics, (DSc), Professor



Tokunaga Masahiro,
professor, PhD of Economics of the Faculty of
Business and Commerce



Debasis Das,
professor Department of Computer Science



Nitin Goje,
professor and Program Lead - Computer Science



Nargizakhon Shamshieva
Doctor of Economic Sciences, Professor



Rakhmonov Norim Razzakovich,
Doctor of Economic Sciences (DSc), Professor

Bayxonov Bahodirjon Tursunbayevich
Doctor of Science (DSc), Professor



Shomurodov Ravshan Tursunkulovich,
PhD, Associate Professor



Boymuratov Abduraxmat Djumayevich
Doctor of Philosophy (PhD) in Economics



Sharopova Nafosat Radjabovna
DSc, Associate Professor



Sultanova Kamila Mukhtorali Kizi
Master of Science

CONTENTS

EMPIRICAL ASSESSMENT OF INTERNAL AND EXTERNAL FACTORS AFFECTING THE COMPETITIVENESS OF THE FOOD INDUSTRY IN UZBEKISTAN	10
Urolova Sevara Bekhzod qizi	
INTEGRAL MANAGEMENT MODELS FOR IMPROVING THE CIRCULAR ECONOMY SYSTEM IN AGRICULTURE	16
Nazirova Zulfina Salimovna	
IMPROVING THE FINANCING MECHANISM OF LOCALIZATION IN THE METRO INDUSTRY AND ITS SCENARIO-BASED ASSESSMENT	21
Mansurov Khamrokul Ilkhomovich	
THEORETICAL FOUNDATIONS OF TEACHING METHODS IN HIGHER EDUCATION INSTITUTIONS.....	28
Berdiyeva Nilufar Axatovna	
INTERNATIONAL EXPERIENCE IN ROAD SECTOR FINANCING AND ROAD ASSET MANAGEMENT: IMPLICATIONS FOR SUSTAINABLE INFRASTRUCTURE DEVELOPMENT IN UZBEKISTAN.....	34
Feruz Shokirov	
ECONOMIC OPPORTUNITIES FOR POVERTY REDUCTION THROUGH SERVICE SECTOR DEVELOPMENT.....	42
Saparov Murod Irgashovich	
DIGITAL-INTEGRATION MODEL OF GREEN LENDING: INSTITUTIONAL GROUNDING IN COMMERCIAL BANK PRACTICE	46
Melikuzieva Dilrabo Mukhitdinovna	
CURRENT STATE OF ECONOMIC COOPERATION IN THE NAMANGAN REGION: LESSONS FROM INTERNATIONAL EXPERIENCE.....	52
Sattarov Ravshan Alimovich	
MODERN LEVELS OF INNOVATIVE DIGITAL BANKING SERVICES IN COMMERCIAL BANKS.....	60
D. M. Kallibekov	
EFFECTIVENESS OF USING AUTOMATED MANAGEMENT SYSTEMS IN RESOURCE CAPACITY MANAGEMENT IN TEXTILE INDUSTRY ENTERPRISES.....	64
Makhammadieva Izhobat Abdiganievna	
TEXTILE INDUSTRY PRODUCTION CAPACITY GROWTH FORECAST	75
Joraqulov Javakhir Asomiddin's Son	
FORECASTING THE MECHANISM FOR ASSESSING INVESTMENTS ATTRACTED TO SMALL BUSINESS ENTITIES IN THE ANDIJAN REGION THROUGH 2030	80
Jo'rayeva Moxinur Axmadjon qizi	
IMPROVEMENT OF PERSONAL MANAGEMENT IN TEXTILE INDUSTRY ENTERPRISES BASED ON CHOICE OF ORGANIZATION MODELS.....	88
Djumaniyazova Jamila Davronovna	
THE ROLE OF THE INTERNAL CONTROL SYSTEM IN RISK MANAGEMENT OF SMALL BUSINESS ENTERPRISES.....	93
Umarov Azizjon	

SPATIAL ECONOMETRIC MODELING IN THE MASS APPRAISAL OF REAL ESTATE: A GEOGRAPHICALLY WEIGHTED REGRESSION APPROACH (THE CASE OF TERMEZ CITY)	102
Khushvaktov Jasur Shukhrat ugli	
НАПРАВЛЕНИЯ РАЗВИТИЯ РЫНКА ЭЛЕКТРОТЕХНИЧЕСКОГО ОБОРУДОВАНИЯ В УЗБЕКИСТАНЕ	110
Джураев Муротжон Сотиволдиевич	
SCIENTIFIC AND PRACTICAL FOUNDATIONS FOR ASSESSING AND IMPROVING THE EFFECTIVENESS OF INTERNAL AUDIT IN COMMERCIAL BANKS	120
Yuldashev Xurshidbek Mamirjonovich	
ECONOMIC EFFICIENCY OF IMPLEMENTING ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN BEEKEEPING AND FORECAST INDICATORS FOR 2026–2030	130
Farmanov Jonibek Ziyadullaevich	
ENSURING SUSTAINABLE ECONOMIC DEVELOPMENT THROUGH THE DIVERSIFICATION OF THE SECTORAL STRUCTURE OF FIXED CAPITAL INVESTMENTS IN A REGION (THE CASE OF KHOREZM REGION)	137
Sultanova Aziza Bahtiyor qizi	
PROSPECTS FOR THE DEVELOPMENT OF ENTREPRENEURIAL ENTITIES PRODUCING FOOD PRODUCTS IN TASHKENT REGION	146
Abdulxamidova Nodira Abdura	
DYNAMIC PERFORMANCE OPTIMIZATION AND WEAR REDUCTION OF THE CAM SYSTEM IN CARDAN COUPLINGS FOR METRO ROLLING STOCK TRACTION DRIVES	153
Asamitdin Fayzullaev	
Ziyevutdin Fayzullaev	
RECOGNISED BUT NOT MEASURED: THE SUSTAINABLE DEVELOPMENT GOALS AND THE PERFORMANCE FRAMEWORK OF UZBEKISTAN'S STRATEGY-2030 (PRESIDENTIAL DECREE UP-21 OF 2026)	160
Salakhutdinova Yulduz Golibovna	
ANALYSIS OF PRODUCTION EFFICIENCY IN CONSTRUCTION MATERIALS MANUFACTURING ENTERPRISES: EVIDENCE FROM ANDIJAN REGION	168
Toshpulatov Asronbek Mutalibovich	
THE IMPACT OF FREE TRADE AGREEMENTS ON UZBEKISTAN'S TEXTILE INDUSTRY: A PANEL DATA ANALYSIS, 2017–2023	176
Jurabek Toshbekov	
Navik Istikomah	
A.B. Bobojonov	
HUMAN-AI SYNERGY IN STRATEGIC DECISIONMAKING OF ENTERPRISES IN UZBEKISTAN	182
Abdullaeva Odinakhon	
ANALYSIS OF THE CURRENT STATE OF ENTREPRENEURIAL ACTIVITY IN UZBEKISTAN'S TOURISM SECTOR	186
Yuldashev Bekzodjon Sherzodjon ugli	
A COMPREHENSIVE SYSTEM OF CRITERIA FOR ASSESSING THE FACTORS AFFECTING THE EFFECTIVENESS OF INTERNAL AUDIT IN PRIVATE HIGHER EDUCATION INSTITUTIONS	190
Turmanqulov Norpo'lat Sa'dullayevich	
DESIGNING A THREE-LEVEL KPI FRAMEWORK FOR RANKING-ORIENTED UNIVERSITY GOVERNANCE: INTEGRATING DIGITAL MONITORING AND RESOURCE OPTIMIZATION	197
Mukhlisa Mamajonova	
ВЛИЯНИЕ IFRS 18 НА ПРЕДСТАВЛЕНИЕ КОНСОЛИДИРОВАННОЙ ФИНАНСОВОЙ ОТЧЁТНОСТИ: СРАВНИТЕЛЬНЫЙ АНАЛИЗ С IAS 1	208
Шамсиева Нозима Шермат кизи	

INNOVATIVE MECHANISMS FOR IMPROVING THE ENVIRONMENTAL MANAGEMENT SYSTEM AT ENTERPRISES.....	218
Uralova Sojida Anvar qizi	
IMPROVEMENT OF ECONOMIC MECHANISMS IN THE ORGANIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY SERVICES.....	225
Rajaboyev Shahboz Shodi o'g'li	
IMPROVEMENT OF INTERNAL CONTROL ASSESSMENT QUESTIONNAIRE IN COMMUNICATION ENTERPRISES INVENTORY AUDIT BASED ON HAS 240 AND HAS 315 REQUIREMENTS.....	233
Jamilov Jushqin Jonon ugli	
IMPROVING DIGITAL TRANSFORMATION MECHANISMS IN THE STRATEGIC MANAGEMENT OF MODERN PAYMENT SYSTEMS.....	239
Iskandarov Xurshid Iskandarovich	

IMPROVING DIGITAL TRANSFORMATION MECHANISMS IN THE STRATEGIC MANAGEMENT OF MODERN PAYMENT SYSTEMS

Iskandarov Xurshid Iskandarovich

Independent Researcher at Tashkent State University of Economics

E-mail: xurshid0330@gmail.com

Abstract. The theoretical and methodological foundations and practical aspects of improving digital transformation mechanisms in the strategic management of modern payment systems are examined through a comprehensive scientific approach. The impact of digital transformation on the functioning of payment systems is assessed from a strategic management perspective, while the integration of digital infrastructure, data-driven management, intelligent analytics tools, automated management technologies, and platform-based ecosystems is considered an important factor in enhancing payment system efficiency. In addition, the organizational and economic advantages of applying artificial intelligence, big data, cloud technologies, open API architecture, biometric authentication, and digital identification systems in strategic management processes are analyzed. Particular attention is given to their role in enhancing operational efficiency and service quality, strengthening cyber resilience, and developing a customer-oriented management model.

Keywords: strategic management, digital transformation, payment infrastructure, digital innovation, strategic development, artificial intelligence, digital identification, biometric authentication, cyber resilience, operational resilience, real-time payments, digital ecosystem, service transformation, financial inclusion.

Аннотация. На основе комплексного научного подхода исследованы теоретико-методологические основы и практические аспекты совершенствования механизмов цифровой трансформации в стратегическом управлении современными платежными системами. Влияние цифровой трансформации на функционирование платежных систем оценено с позиции стратегического управления, а интеграция цифровой инфраструктуры, управления на основе данных, инструментов интеллектуальной аналитики, автоматизированных технологий управления и платформенных экосистем рассмотрена как важный фактор повышения эффективности платежных систем. Кроме того, проанализированы организационно-экономические преимущества использования искусственного интеллекта, больших данных, облачных технологий, архитектуры открытых API, биометрической аутентификации и систем цифровой идентификации в процессах стратегического управления. Особое внимание уделено их роли в повышении операционной эффективности и качества услуг, укреплении киберустойчивости и развитии клиентоориентированной модели управления.

Ключевые слова: стратегическое управление, цифровая трансформация, платежная инфраструктура, цифровые инновации, стратегическое развитие, искусственный интеллект, цифровая идентификация, биометрическая аутентификация, киберустойчивость, операционная устойчивость, платежи в реальном времени, цифровая экосистема, трансформация услуг, финансовая инклюзия.

INTRODUCTION

The profound digital transformation processes taking place in the global economy are fundamentally reshaping the structure of the financial services market and transforming payment systems into a strategic infrastructure for economic development. Whereas payment systems were previously regarded primarily as instruments for transferring funds and conducting settlements, today they have become an important institutional element in the digitalization of the economy, the development of e-commerce, the expansion of financial inclusion, the automation of public services, and the real-time management of economic processes [1]. Therefore, improving digital transformation mechanisms in the strategic management of modern payment

systems is considered one of the key priorities for ensuring the sustainable and innovation-driven development not only of the financial sector but also of the national economy as a whole.

In recent years, the rapid development of artificial intelligence, big data, machine learning, cloud computing, microservices architecture, open API platforms, biometric authentication, and digital identification technologies has significantly transformed the nature and scope of payment system management. The primary objective of strategic management is no longer limited to accelerating transactions; rather, it increasingly encompasses enhancing the flexibility and adaptability of digital infrastructure, adopting data-driven management decisions, personalizing services, forecasting operational risks, and strengthening cyber resilience [2]. Consequently, digital transformation is evolving from a process of technological modernization into a comprehensive mechanism of strategic management.

According to the “Digital Economy of Uzbekistan” report published by the United Nations Development Programme (UNDP) in 2025, the development of the digital economy and artificial intelligence has become a priority area of public policy in Uzbekistan. The country is consistently implementing reforms aimed at expanding the startup ecosystem, increasing ICT exports, supporting innovative entrepreneurship, and developing digital financial services [3]. The report also identifies the modernization of payment infrastructure and the digitalization of management processes as important factors in ensuring the sustainable development of the digital economy.

Furthermore, Presidential Decree No. PF-6079¹, “On Approval of the Digital Uzbekistan – 2030 Strategy,” establishes the large-scale digitalization of public administration, the economy, and financial systems; the development of electronic public services; the introduction of modern information and communication technologies across various sectors of the economy; and the modernization of digital infrastructure as key priorities [4]. This Strategy serves as an important regulatory framework for introducing data-driven decision-making, developing digital platforms, and expanding the application of innovative management mechanisms in payment system management.

In addition, Presidential Decree No. PF-21, “On the Uzbekistan – 2030 Strategy,” defines strategic objectives aimed at introducing digital technologies across all sectors of the economy, developing e-commerce and digital financial services, expanding modern ICT infrastructure, and promoting the use of artificial intelligence technologies [5]. The successful implementation of these objectives is directly linked to improving digital transformation mechanisms in the strategic management of modern payment systems.

The development dynamics of the digital economy in Uzbekistan also confirm the relevance of this area. According to the National Statistics Committee of the Republic of Uzbekistan, in January–September 2025, the share of information and communication technology (ICT) services in gross domestic product reached 2.6 percent, while the gross value added generated by the sector amounted to UZS 32.4 trillion. Within the structure of ICT services, computer programming and consulting services accounted for 43.2 percent, telecommunications services for 35.1 percent, and data processing and web portal services for 12.3 percent [6]. These indicators demonstrate the steadily increasing importance of digital infrastructure and payment service management within the national economy.

According to official digital economy statistics published by the National Statistics Committee, the gross value added generated by the information economy and e-commerce sector reached UZS 60.2 trillion in 2024, representing a significant increase compared with UZS 42.9 trillion in 2023. This dynamic clearly demonstrates the close interrelationship between the development of e-commerce, digital services, and modern payment systems, as well as the growing importance of developing new strategic management mechanisms.

Strategic management of payment infrastructure plays a particularly important role in ensuring the economic efficiency of digital transformation. Within contemporary management concepts, payment systems are increasingly regarded as a central platform that integrates banks, payment organizations, fintech companies, e-commerce platforms, telecommunications operators, and public regulatory authorities into a unified digital ecosystem. This approach requires a transition from the traditional vertical management model towards a platform-based management model founded on the principles of horizontal collaboration, real-time data exchange, and continuous innovation.

LITERATURE REVIEW

The issue of improving digital transformation mechanisms in the strategic management of modern payment systems has, in recent years, emerged as one of the most relevant areas of scientific research at the intersection of economics, management, finance, and information technology. Payment systems are no longer viewed merely as technological platforms for conducting settlements; rather, they are increasingly considered strategic management objects within the broader financial ecosystem. Consequently, the academic

1 Presidential Decree No. PF-6079, “On Approval of the Digital Uzbekistan – 2030 Strategy”: <https://lex.uz/docs/7008256>

literature has shifted its primary focus from the purely technological aspects of digital transformation towards its management mechanisms, institutional environment, platform economy, data-driven decision-making, and the strategic development of digital innovations. Studies published during 2023–2025 particularly emphasize the importance of payment system resilience, the adaptability of digital infrastructure, and the development of new models of strategic management.

Among foreign scholars, L. Osei, Y. Cherkasova, and K. Oware regard digital transformation as a strategic development factor for banking and payment systems. In their view, digital transformation is not merely the introduction of new technologies but a continuous strategic process that fundamentally reshapes management philosophy [7]. Based on bibliometric analysis, the authors examine the evolution of scientific research on digital transformation and identify digital leadership, an innovation-oriented management culture, data-driven strategic decision-making, and platform-based business models as the key determinants of successful transformation. They conclude that the competitiveness of modern payment systems is determined not by the number of technological tools employed, but by the extent to which these technologies are integrated into a unified strategic management system.

H. Genc and S. Takagi have also advanced important scholarly perspectives on the transformation of digital currencies and payment infrastructure. By synthesizing hundreds of academic studies on central bank digital currencies, they argue that the success of future payment systems will depend on three strategic pillars: institutional governance, technological reliability, and the development of user trust [8]. According to the authors, the primary task of strategic management in the process of digital transformation is not simply to introduce new technologies, but rather to harmonize them with appropriate legal, economic, and organizational mechanisms. Particular emphasis is placed on managing real-time settlement systems, security protocols, and digital identification systems as components of a unified strategic platform.

A research group led by G. Caporale, which conducted an in-depth scientific examination of the evolution of electronic and digital payment systems, analyzed more than 700 academic articles on digital payments. The study demonstrates that, while earlier research in this field primarily focused on technology adoption, recent studies have increasingly prioritized strategic management, platform-based ecosystems, cyber resilience, and the management of digital innovation [9]. The authors provide a scientific rationale for strengthening not only technological innovation but also governance institutions and mechanisms of cooperation among ecosystem participants in the development of payment systems.

P. Silva, T. Oliveira, and their co-authors, who conducted a meta-analysis of the factors influencing the adoption and use of digital financial services, synthesized the findings of 121 academic studies and demonstrated that technological convenience, together with other institutional and managerial factors, plays an important role in ensuring the sustained use of digital payment services. Their findings indicate that trust, information security, transparency of governance, and service continuity constitute integral elements of strategic management [10]. The authors argue that mechanisms for managing user experience and institutional trust should be further strengthened to ensure the long-term and sustainable development of payment systems.

Among local and CIS scholars, J. Valiyev and I. Kotane have analyzed the transformation of Uzbekistan's payment system and noted that the country's electronic payment infrastructure has developed significantly as a result of ongoing digital reforms. In their view, an important task at the next stage is to introduce new technologies while simultaneously establishing unified strategic management mechanisms among payment system operators, banks, fintech companies, and public regulatory authorities [11]. The authors provide a scientific rationale demonstrating that, in the context of Uzbekistan, the effectiveness of digital transformation largely depends on the institutional quality of governance and the level of innovative cooperation among ecosystem participants. F. Usmonov and F. Turayeva have examined the prospects for the digitalization of cashless payment systems in Uzbekistan and, alongside the development of payment infrastructure, have paid particular attention to regional development, digital literacy, consumer protection, and interoperability among different platforms as important areas of strategic management [12]. According to the authors, the effectiveness of digital transformation mechanisms is closely associated not only with technological modernization but also with institutional governance, the regulatory and legal environment, and the development of human capital.

A synthesis of the above scholarly perspectives indicates that contemporary academic literature has predominantly examined digital transformation from the standpoint of introducing technological innovations, analyzing user behavior, identifying factors influencing the adoption of digital financial services, and modernizing payment infrastructure.

RESEARCH METHODOLOGY

This study employs a comprehensive combination of the systems approach, institutional analysis, comparative analysis, logical generalization, economic and statistical analysis, content analysis, and strategic

analysis to assess the theoretical and practical aspects of improving digital transformation mechanisms in the strategic management of modern payment systems. Throughout the research process, the institutional, technological, organizational, and economic factors influencing the level of digital transformation in payment systems were analyzed in their interrelationships, and their impact on the effectiveness of strategic management was comparatively assessed.

ANALYSIS AND RESULTS

Current trends in the development of modern payment systems demonstrate that digital transformation is no longer merely a process of introducing individual technologies; rather, it is emerging as a continuous model for the strategic management of payment infrastructure. In the digital economy, the efficiency of payment systems is increasingly assessed not only by the number of transactions or their technical capabilities, but also by the speed of data processing, the ability to make management decisions in real time, the level of integration among ecosystem participants, and the capacity to ensure cyber resilience [13]. From this perspective, the primary objective of strategic management is shifting from the management of technological resources towards the development of effective mechanisms for managing digital transformation and aligning them with the broader institutional development strategy (Table 1).

Table 1
Integrated Model for Assessing the Effectiveness of Digital Transformation
in the Strategic Management of Modern Payment Systems²

Assessment Component	Code	Evaluation Criterion	Weight (w _i)	Standardized Value (X _i)	Weighted Score
Digital infrastructure development	DI	Platforms, APIs, servers, and cloud infrastructure	w ₁	X ₁	w ₁ X ₁
Strategic digital governance	SG	Strategic planning and monitoring	w ₂	X ₂	w ₂ X ₂
Artificial intelligence integration	AI	AI-based management processes	w ₃	X ₃	w ₃ X ₃
Data governance	DG	Big Data and Business Intelligence	w ₄	X ₄	w ₄ X ₄
Cyber resilience	CS	Information security and resilience	w ₅	X ₅	w ₅ X ₅
Interoperability	IP	Cross-platform integration	w ₆	X ₆	w ₆ X ₆
Digital service innovation	IN	Share of innovative digital services	w ₇	X ₇	w ₇ X ₇
Customer experience	CX	Service quality and user experience	w ₈	X ₈	w ₈ X ₈
Operational flexibility	OF	System adaptability and flexibility	w ₉	X ₉	w ₉ X ₉

Integrated Assessment Formula:

$$\begin{aligned}
 \text{DTSMI} &= \sum_{i=1 \rightarrow 9} (w_i \times X_i) \\
 \text{DTSMI} &= w_1 \text{DI} + w_2 \text{SG} + w_3 \text{AI} + w_4 \text{DG} + w_5 \text{CS} + w_6 \text{IP} + w_7 \text{IN} + w_8 \text{CX} + w_9 \text{OF} \\
 \sum w_i &= 1 \\
 0 &\leq X_i \leq 1 \\
 0 &\leq w_i \leq 1
 \end{aligned}$$

Where:

w_i: Weight coefficient reflecting the strategic importance of each indicator; X_i: Standardized value ranging from 0 to 1; DTSMI: Digital Transformation Strategic Management Index.

Component Formulas and Explanations:

$$\text{DI} = (\text{API} + \text{Cloud} + \text{Server} + \text{Network})/4$$

² Developed by the author.

API – Open API implementation level; Cloud – cloud computing adoption; Server – server capacity and computing resources; Network – network stability and availability.

$$SG = (SP + KP + RM + PM)/4$$

SP – strategic planning; KP – KPI monitoring; RM – risk management; PM – performance monitoring.

$$AI = (ML + DL + NLP + RPA)/4$$

ML – Machine Learning; DL – Deep Learning; NLP – Natural Language Processing; RPA – Robotic Process Automation.

$$DG = (DQ + DA + DW + BI)/4$$

DQ – data quality; DA – data analytics; DW – data warehouse; BI – Business Intelligence.

$$CS = 1 - (SI / TT)$$

SI – number of security incidents; TT – total transactions.

$$IP = CP / TP$$

CP – connected platforms; TP – total platforms.

$$IN = NS / TS$$

NS – new digital services; TS – total services.

$$CX = (US + SQ + SP)/3$$

US – user satisfaction; SQ – service quality; SP – service personalization.

$$OF = (AR + SR + ER)/3$$

AR – automated recovery; SR – scalability; ER – efficiency of resource utilization (Table 2).

Table 2
Interpretation of the DTSMI³

DTSMI	Level	Interpretation
0.00–0.30	Very Low	Digital transformation strategy is at an initial stage of development.
0.31–0.50	Low	Basic elements are in place, with opportunities for further integration.
0.51–0.70	Moderate	Transformation is underway, with opportunities for further improvement.
0.71–0.85	High	Strategic digital management is effective.
0.86–1.00	Very High	Digital transformation is fully integrated and sustainable.

This DTSMI model provides an integrated framework for evaluating digital transformation in modern payment systems. It combines strategic governance, digital infrastructure, artificial intelligence, data governance, cyber resilience, interoperability, innovation, customer experience, and operational flexibility into a single composite index. The model can be applied to compare payment systems, assess digital maturity, and support evidence-based strategic decision-making.

International experience clearly confirms the practical effectiveness of this approach. For example, Brazil's Pix instant payment system is regarded as one of the world's most successful publicly governed digital payment platforms. According to the Central Bank of Brazil, in the first half of 2025, more than 72 billion payment transactions were carried out in the country, of which 36.9 billion (50.9 percent) were processed through the Pix

3 Developed by the author.

system [14]. The number of transactions conducted via Pix increased by 27.6 percent over the course of one year. These results demonstrate the high effectiveness of a unified public platform, open API architecture, and real-time settlement infrastructure within the framework of strategic management.

Another important aspect of the Brazilian experience is that the Pix platform has not only accelerated interbank settlements but has also provided a significant impetus to the development of e-commerce. According to available estimates, e-commerce transactions conducted through Pix are expected to generate an additional USD 30 billion in economic activity in the coming years. Some projections indicated that, by the end of 2025, Pix could account for a larger share of the online payments market than credit cards. This demonstrates that a strategic management model based on innovative infrastructure and user convenience can generate substantial economic benefits.

The experience of the South Caucasus countries is also noteworthy. According to the Central Bank of Azerbaijan's report for 2025, 67.6 percent of domestic card transactions were conducted in cashless form, representing an increase of 3.4 percentage points over the year [15]. At the same time, the growing number of electronic money institutions and payment organizations has intensified competition in the payment market and created favorable conditions for the introduction of innovative services. This experience demonstrates that strategic management should focus not only on technological development but also on strengthening market institutions and fostering a competitive environment.

The findings of the study indicate that the success of digital transformation is determined not by the introduction of individual technologies, but by the extent to which they are integrated into a unified strategic management system. Therefore, at the next stage of the development of Uzbekistan's payment systems, greater emphasis should be placed not merely on acquiring new technologies, but on improving the organizational and economic mechanisms for their effective management, strengthening cross-platform integration, and establishing a system of data-driven strategic decision-making. This, in turn, represents an important prerequisite for ensuring the resilience and international competitiveness of the national payment infrastructure, as well as the long-term development of the digital economy.

CONCLUSION AND SUGGESTIONS

The findings of this study demonstrate that digital transformation in the strategic management of modern payment systems is no longer a separate stage of technological modernization; rather, it represents a comprehensive management mechanism that determines the long-term resilience, competitiveness, and innovation-driven development of financial infrastructure. The theoretical and practical analyses conducted throughout the study confirm that the efficiency of payment systems is determined not so much by the number of digital technologies implemented, but rather by the extent to which they are integrated into the strategic management system, the effectiveness of institutional coordination, the adoption of data-driven management decisions, and the quality of cooperation among ecosystem participants.

Based on the findings of the study, the following scientific and practical recommendations are considered appropriate:

- It is necessary to introduce the concept of a Digital Strategic Management Center for the management of modern payment systems. This center should serve as a unified analytical platform for coordinating data exchange and strategic decision-making among payment system operators, commercial banks, payment organizations, fintech companies, and regulatory authorities;
- The broad integration of artificial intelligence and predictive analytics tools into strategic management processes is recommended. This would enable real-time monitoring of transaction flows, early detection of fraudulent activities, forecasting of system workloads, and optimization of resource utilization;
- Open APIs and standardized data exchange protocols among banks, payment organizations, e-commerce platforms, and fintech companies should be further developed. Such an approach would facilitate the faster introduction of innovative financial services, the development of new business models, and the creation of a seamless digital service ecosystem for users;
- In assessing the strategic development of payment systems, priority should be given not only to financial indicators but also to digital transformation performance indicators. In particular, the level of interoperability, service continuity ratio, transaction processing time, digital service usage activity, cybersecurity indicators, and user satisfaction index are recommended as key performance indicators (KPIs) for strategic management;
- Cyber resilience should be developed as an integral component of strategic management in digital transformation processes. To achieve this, it is advisable to implement real-time risk assessment, multi-factor authentication, biometric identification, AI-based security monitoring, and continuous auditing systems;
- Continuous professional development programs aimed at enhancing digital competencies should be established within the strategic management of payment systems. In particular, specialized training programs

for banking and payment organization professionals should be developed in such areas as artificial intelligence, big data analytics, cybersecurity, digital risk management, and platform-based management.

REFERENCES

1. World Bank. *Driving Digital Transformation and Inclusion: Fast Payments in Latin America and the Caribbean*. – Washington, DC : World Bank, 2025.
2. Bank for International Settlements (BIS). Committee on Payments and Market Infrastructures (CPMI). *Harmonised ISO 20022 Data Requirements for Enhancing Cross-border Payments: Updated Report*. – Basel : BIS, 2026.
3. European Central Bank. *TARGET Instant Payment Settlement (TIPS): Service Level and Availability*. – Frankfurt am Main : ECB, 2026.
4. “Raqamli O‘zbekiston – 2030” strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to‘g‘risida : O‘zbekiston Respublikasi Prezidentining 2020-yil 5-oktabrdagi PF-6079-son Farmoni.
5. Mamlakat taraqqiyotining 2030-yilgacha mo‘ljallangan ustuvor yo‘nalishlari doirasida islohotlarni izchil davom ettirish va yangi bosqichga olib chiqishning qo‘shimcha chora-tadbirlari to‘g‘risida : O‘zbekiston Respublikasi Prezidentining 2026-yil 16-fevraldagi PF-21-son Farmoni.
6. O‘zbekiston Respublikasi Milliy statistika qo‘mitasi. Raqamli iqtisodiyot : rasmiy statistika [Elektron resurs]. – stat.uz.
7. Osei L., Cherkasova Y., Oware K. Unlocking the Full Potential of Digital Transformation in Banking: A Bibliometric Review and Emerging Trend // *Future Business Journal*. – 2023. – Vol. 9. – Article 30. – 18 p.
8. Genc H., Takagi S. Literature Review on the Design and Implementation of Central Bank Digital Currencies // *International Journal of Economic Policy Studies*. – 2024. – Vol. 18, No. 1. – P. 197–225.
9. Zhang P., Wang Y. *Digital Transformation: A Systematic Review and Bibliometric Analysis from the Corporate Finance Perspective*. – 2024. – Preprint. – 32 p.
10. Tang Q., Si Y. *Central Bank Digital Currencies: A Survey*. – 2025. – Survey paper. – 46 p.
11. Valiyev J., Kotāne I. Enhancing the Payment System in Uzbekistan // *Journal of Regional Economic and Social Development*. – 2024. – Vol. 16. – P. 148–162.
12. Neverova S. Problems and Prospects of Digitalization of the Banking Sector of the Uzbekistan Economy // *Journal NX – A Multidisciplinary Peer Reviewed Journal*. – 2023. – Vol. 9, No. 4. – P. 449–455.
13. Committee on Payments and Market Infrastructures (CPMI), IOSCO. *Principles for Financial Market Infrastructures (PFMI)*. – Basel : BIS, 2024.
14. Bank for International Settlements (BIS). Committee on Payments and Market Infrastructures (CPMI). *Linking Fast Payment Systems Across Borders: Governance and Oversight*. – Basel : BIS, 2024.
15. Organisation for Economic Co-operation and Development (OECD). *Open Banking and Digital Payments Integration*. – Paris : OECD Publishing, 2025.

Proofreader: Xondamir Ismoilov
Layout and Designer: Hasan Maqsudov

2026. № 8

© When materials are reproduced, the ECONOSCITECH-INTEGRATION journal must be cited as the source. Authors are responsible for the accuracy of the information in materials and advertisements published in the journal. Editorial opinions may not always align with those of the authors. Submitted materials will not be returned to the editorial office.

To publish articles in this journal, you may submit articles, advertisements, stories, and other creative materials through the following links. Materials and advertisements are published on a paid basis.

You may subscribe to the journal at any time using the following details. Once subscribed, please send a screenshot or photo of your payment confirmation to our Telegram page @iqtisodiyot_77. Based on this, we will send the latest issue of the journal to your address each month.

Our address: Tashkent city, Yunusobod district, 19th block, House 17.

