IMPROVING THE CYBERSECURITY SYSTEM OF BANK PLASTIC CARDS

Kurbonbekova Mohichehra Turobjonovna
Tashkent State University of Economics
Associate Professor of the Department of Banking,
Doctor of Economic Sciences (DSc)
Email: mohichehra89@list.ru
ORCID: 0000-0002-0779-2632

Maxmudova Muxlisa Qodirjon qizi
Tashkent State University of Economics
Associate Professor of the Department of Banking,
Doctor of Economic Sciences (DSc)
Head of the Department for Commercialization of
Scientific and Innovative Developments, TSUE
Email: m.maxmudova@tsue.uz
ORCID:0000-0002-5777-6606x

Abstract: This article theoretically argues that digital transformation is a strategic necessity for banks to remain competitive with fintech companies as a result of rapid technological advancements in digital transformation. In addition, the theoretical foundations of digital transformation in retail banking are critically examined, and the main principles of diffusion of innovation theory, resource-based view (RBV), institutional theory, service-oriented logic (SDL), technology adoption models, and dynamic capabilities are extensively analyzed. It is argued that digital transformation is not just about implementing digital tools, but also about creating value, delivering services, working with customers, improving efficiency, and increasing interbank competitiveness. By analyzing a large body of scientific literature, the study identifies gaps in existing theoretical frameworks and attempts to identify how banks can adapt to the digital economy, increase investment in innovation, and become digitally mature. Such analyses contribute to the field both scientifically and practically by offering comprehensive development models to understand the systemic and multidimensional dynamics of digital transformation in retail banking.

Keywords: digital transformation, retail banking, Fintech, innovation, institutional theory, SDL, TAM, UTAUT, dynamic capabilities.

Introduction

The rapid growth of electronic payment systems and digital banking services has significantly increased the volume of transactions carried out through plastic cards. Although EMV chip technology and modern authentication protocols have contributed to enhancing transaction security, cyberattacks targeting card data, authentication

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

flows, and payment infrastructures have evolved in both scale and complexity.

Global banking practice demonstrates that the provision of services through financial technologies—one of the key innovations of the 21st century—has yielded highly effective results in offering banking products. In particular, such products enable banks to provide customers with affordable, high-quality services without time or geographical limitations. Over the past decade, unprecedented and sharp transformations have been observed in the global financial services sector. Whereas banks traditionally relied on face-to-face services through physical branches and manual processes, retail banking services today are increasingly transforming into digital ecosystems driven by mobile banking applications, artificial intelligence, big data analytics, cloud computing, blockchain, and platform-based services.

These changes have fundamentally reshaped traditional business models, operational processes, and customer preferences (Vial, 2019; Gomber et al., 2018). Consequently, digital transformation has become not only a necessity for maintaining relevance but also a strategic priority for banks seeking sustainable competitive advantage by enhancing agility, transparency, and the simplification of complexity (Farooq et al., 2025).

Although digital transformation has been widely discussed in industry reports and academic literature, its theoretical foundations in the banking sector have not been comprehensively addressed within a single scholarly work. Existing studies have examined technological adoption (Zachariadis & Ozcan, 2017), organizational strategy (Bharadwaj et al., 2013), customer experience (Marques & Ferreira, 2020), or regulatory factors (Arner et al., 2017) separately. Given that digital transformation is a multidimensional phenomenon influenced by organizational structures, institutional environments, cultural dynamics, technological capabilities, and evolving customer behavior, its complexity requires a comprehensive theoretical framework.

Today, banks face significant competitive pressure from fintech startups, digital banks, technology giants, and platform-based financial service providers (Nicoletti, 2017). Unlike traditional banks, these new financial actors are agile, technology-driven, and innovation-oriented. As a result, conventional banks are compelled to redesign their business processes, adopt new technologies, restructure service models to deliver faster and higher-quality customer experiences, and foster digitally ready organizational cultures (Hess et al., 2016).

However, the digital transformation of retail banking extends beyond the mere adoption of technology. It includes strategic repositioning aligned with digital capabilities, organizational restructuring to enhance agility, the development of personalized financial advisory services, automated credit scoring systems, and instant payment solutions, the creation of data-driven product innovations, and the establishment of legal frameworks supporting PSD2, open banking, and digital data

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

protection (Mamadiyarov, 2020).

Understanding these complexities requires an initial analysis of their theoretical foundations. Certain theories explain how digitalization reconstructs value creation by engaging customers in digital services. Nevertheless, few studies have attempted to integrate these theoretical perspectives into a unified framework specifically applicable to retail banking services. Retail banking differs from other industries due to strict regulatory requirements, high trust expectations, elevated systemic risk, and complex legacy infrastructures.

Therefore, this article aims to identify and analyze the key theoretical perspectives relevant to digital transformation in retail banking, synthesize multidimensional retail service components into an integrated conceptual framework, evaluate the evolution of retail banking services in the digital era, and present an empirical basis concerning digital maturity, customer engagement in digital services, and collaboration between banks and fintech companies in the digitalization of banking operations.

Review of literature on the subject

The digital transformation of banking activities has been most extensively implemented in the retail financial services sector over the past decade. In particular, the digitalization of retail banking has led banks to experience significant technological, operational, and strategic changes.

Early literature on digital banking in the late 1990s and early 2000s focused primarily on the introduction of internet banking (Daniel, 1999; Liao et al., 1999). These studies emphasized technological readiness, infrastructure capabilities, and perceived benefits as key determinants. With the emergence of mobile banking in the 2010s, researchers shifted their attention to mobile platforms, biometric authentication, real-time payments, omnichannel systems, and cloud-based infrastructures (Shaikh & Karjaluoto, 2015).

Contemporary literature highlights the strategic role of advanced technologies such as artificial intelligence (AI), machine learning, big data analytics, robotic process automation (RPA), and open API ecosystems (Gomber et al., 2018). These technologies enable the automation of back-office processes, improve customer behavior analysis, facilitate real-time fraud detection, support personalized services, and accelerate credit decision-making processes (Banafa, 2017; Makridakis, 2017).

Several scholars argue that digital transformation is not merely the adoption of new technologies but the comprehensive integration of digital technologies into all banking functions (Hess et al., 2016; Vial, 2019). This perspective positions transformation as a strategic, bank-wide process rather than a purely technological initiative.

Researchers examining the determinants of internet and mobile banking adoption have frequently applied the Technology Acceptance Model (TAM) and the Unified

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

Theory of Acceptance and Use of Technology (UTAUT) (Pikkarainen et al., 2004; Zhou et al., 2010; Baptista & Oliveira, 2015). Numerous studies have explored key determinants such as perceived usefulness, perceived ease of use, trust, security, perceived risk, service quality, lifestyle compatibility, and social influence. Findings indicate that concerns related to privacy, cybersecurity, and financial loss risks remain major barriers to customer trust in adopting digital technologies (Yousafzai et al., 2003; Litamahuputty et al., 2025; Zokir, 2022; Mamadiyarov & Karimov, 2024; Ravikumar et al., 2026). Recent literature further emphasizes personalized services, seamless user experience, and real-time financial insights as critical drivers of digital engagement (Marques & Ferreira, 2020). Customer expectations have evolved from simple online access toward hyper-personalization, intelligent financial advisory services, and integrated digital customer journeys (Sia et al., 2016).

Digital transformation also significantly affects banks' internal operational processes. Several studies address the automation of banking operations, workflow digitalization, lean management, and process optimization (Hammer & Champy, 2009; Davenport, 2010). RPA, machine learning, and cloud platforms reduce human error, accelerate data processing, and lower operational costs (Willcocks et al., 2015). However, some literature highlights the substantial challenges traditional banks face in achieving full digital transformation (Skan et al., 2014). Legacy banking systems reduce agility, create integration complexities, and slow innovation initiatives. This underscores the importance of modernization efforts, including microservices architecture and API-based system renewal (Puschmann, 2017).

The growing intensity of fintech competition—characterized by speed, flexibility, and customer-centric design—compels banks to digitally transform services such as payments, consumer lending, wealth management, and money transfers (Lee & Shin, 2018; Zokir et al., 2022).

Research methodology

Digital transformation in the retail banking sector is a complex and multidimensional process driven by technological advancements, organizational capabilities and constraints, as well as the need to meet evolving customer preferences. This article argues that frameworks such as the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), Service-Dominant Logic (SDL), and Dynamic Capabilities Theory together provide an integrated intellectual foundation for understanding digital transformation in retail banking services.

The Technology Acceptance Model (Davis, 1989; Mamadiyarov et al., 2024) is one of the most widely applied frameworks in research on digital banking services. TAM assumes that the adoption of information systems primarily depends on two key factors: perceived usefulness and perceived ease of use. These perceptions influence the user's intention to adopt digital services and ultimately lead to actual usage behavior.

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

In the retail banking context, UTAUT explains why customers decide to adopt and continuously use mobile banking applications. Customers are more likely to accept digital banking services when they believe that such services improve task performance, require minimal effort, and are supported by adequate infrastructure, including stable internet access, clear guidance, and continuous support channels provided by the bank (Baptista & Oliveira, 2015). UTAUT also emphasizes the importance of demographic moderators—such as age, gender, and experience—which significantly influence digital adoption patterns.

Analysis and Results

Currently, banks primarily offer the following key financial products and services to individuals:

• deposit services (term deposits, savings deposits, demand deposits, provided both online and offline);

• credit services (mortgage loans, auto loans, consumer loans, microloans, overdraft facilities, and others, some of which are available online);

• bank cards (Uzcard, Humo, credit and debit cards).

Debit cards allow customers to conveniently manage their funds, make payments and transactions, and withdraw cash through ATMs. In addition, many banks now offer credit cards, enabling customers to make flexible expenditures and meet short-term financial needs (Figure 1).

Table: Main Functions of Retail Banking Services

No	Main Functions of Retail Banking Services
1	Safekeeping of funds and providing loans for various needs
2	Supporting financial management
3	Accelerating money circulation in the economy
4	Supporting financial recovery
5	Promoting financial inclusion

These functions ensure economic stability within the banking system, effective financial intermediation, and continuous interaction with the population. By attracting household deposits, banks form passive operations and subsequently channel these resources back into the economy in the form of loans. In this process, banks act as financial intermediaries, serving as a bridge between surplus fund holders and entities in need of financial resources. Through retail lending, banks contribute to improving household welfare, while by safeguarding deposits they enhance the financial security of the population.

In supporting financial management, banks provide individuals and small businesses with services related to financial planning, payments, and cash flow

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

management. Retail banking services such as electronic payments, auto-payments, and online monitoring tools strengthen customers' financial discipline. Currently, extensive efforts are being undertaken in areas such as AI-based "smart financial advisors" (robo-advisors) and real-time transaction monitoring systems.

As key participants in payment systems, banks play a central role in accelerating money circulation within the economy by increasing overall transaction speed. The digitalization of retail payment systems—including QR payments, mobile payments, and online banking—reduces transaction costs across the economy.

Retail lending provided by banks plays a crucial role in restoring the financial stability of households and small businesses.

Retail banking services also promote financial inclusion by expanding access to financial services for all segments of the population, particularly low-income groups and residents of remote areas. Studies by the United Nations, the World Bank, and the IMF identify retail credit as a key factor in poverty reduction through financial inclusion. Retail digital banking services—such as mobile banking, fintech solutions, and NFC payments—further accelerate financial inclusion.

By the end of 2024, out of 69.2 thousand cash registers nationwide, 40.5 thousand, or 60 percent, were enabled to accept payments through social cards. The growing use of remote banking services has, in turn, stimulated increased demand for bank cards. In particular, the number of bank cards issued in 2024 increased by 34 percent, reaching 62.0 million units (Figure 2).

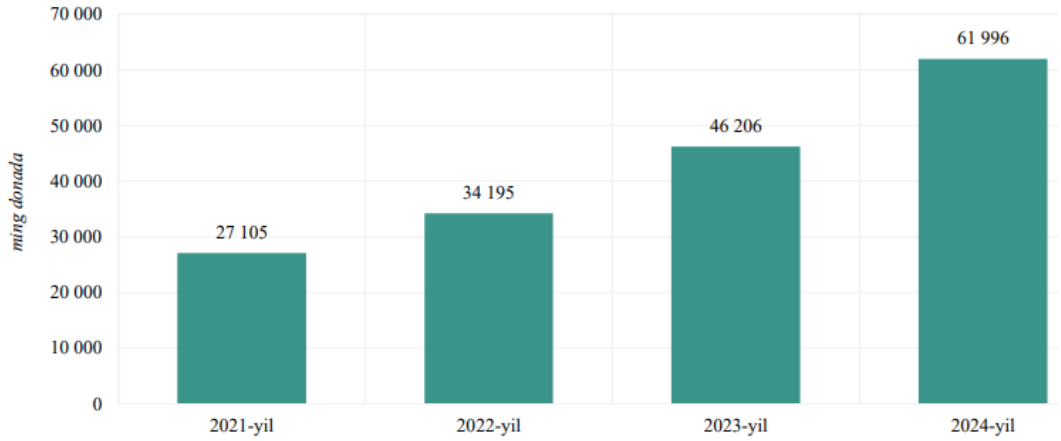

Figure 2. Number of Bank Cards in Uzbekistan[1]

In 2024, the volume of payments accepted through 426 thousand payment terminals increased by 1.2 times compared to 2023, reaching 326.7 trillion UZS. The

[1] **Source:** Compiled based on data from the Central Bank.

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

expansion of the functionality and infrastructure of retail payment systems, along with the formation of a competitive environment in this market, led to structural changes in the transaction volumes processed through terminals by participants of the national payment systems.

In particular, in 2024, Humo terminals accounted for 40.5 percent of the total transaction volume conducted through all terminals, while Uzcard terminals represented 59.5 percent.

To enhance convenience for users of payment services, the number of ATMs and infokiosks installed within banking infrastructure and tourism facilities increased by 12 percent during the reporting year, exceeding 29.9 thousand units as of January 1, 2025. Special attention has been given to the installation of self-service devices (ATMs, infokiosks, and automated deposit machines), particularly in tourist zones, major infrastructure centers, and other significant social infrastructure facilities (Figure 3).

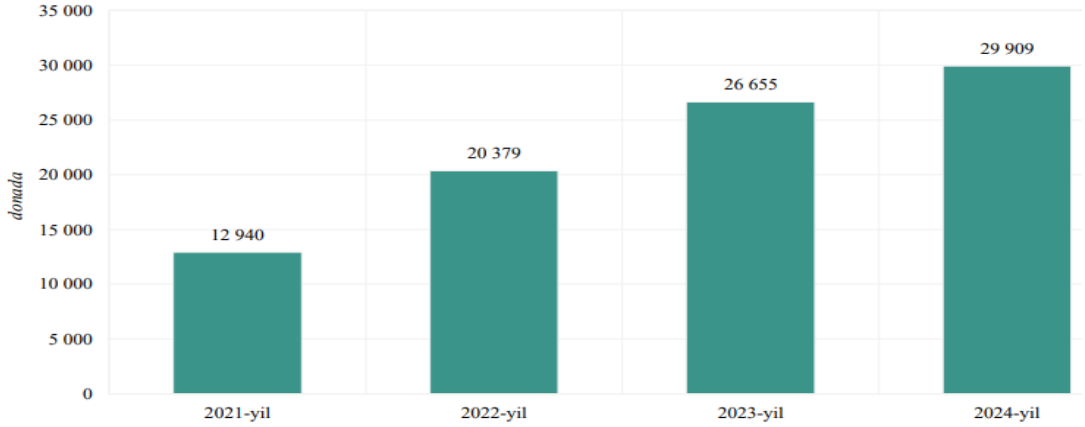

Figure 3. Number of ATMs and Infokiosks in Uzbekistan[2]

In 2024, the integration of the ATM networks between the national payment systems “Humo” and “Uzcard” was fully completed, creating conditions that allow bank card users to access ATMs across both payment system infrastructures interchangeably. During 2024, the total value of transactions conducted through ATMs amounted to 191.7 trillion UZS, while the number of transactions reached 301.3 million.

In 2024, the number of bank customers using remote services increased by approximately 1.2 times, reaching 52.9 million as of January 1, 2025. Of these users, 1.5 million were business entities and 51.4 million were individuals using bank cards. The volume of online remote transactions conducted by individuals through banks’ mobile applications increased by 1.6 times during the reporting year, totaling 396.7 trillion UZS (Figure 4).

[2] Source: Compiled based on data from the Central Bank.

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

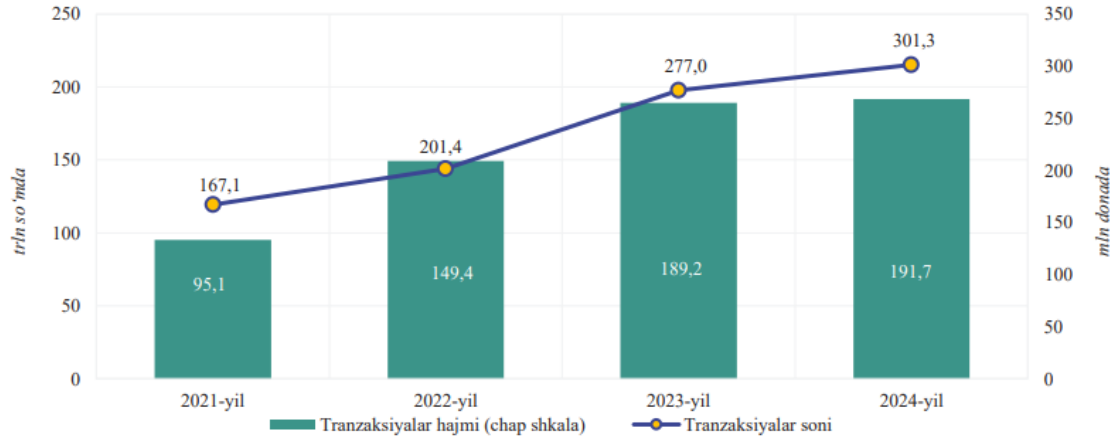

Figure 4. Transactions Conducted through ATMs[3]

In particular, the volume of online deposit transactions conducted through mobile applications amounted to 77.8 trillion UZS, online currency conversion operations reached 36.3 trillion UZS, online microloans totaled 24.4 trillion UZS, and loan repayment transactions accounted for 29.7 trillion UZS.

The availability of basic banking services for individuals—such as deposits, currency conversion operations, microloans, bank card applications, and digital identification—through online channels was further expanded. For business entities, the scope of payment acceptance services was broadened beyond traditional POS terminals to include QR codes, NFC, and other contactless payment technologies.

In particular, in 2024, the number of QR codes issued to business entities through the "QR-online" information system reached nearly 108 thousand units. The transaction volume processed through this system increased by approximately 1.3 times compared to 2023, reaching 441.8 billion UZS (Figure 5).

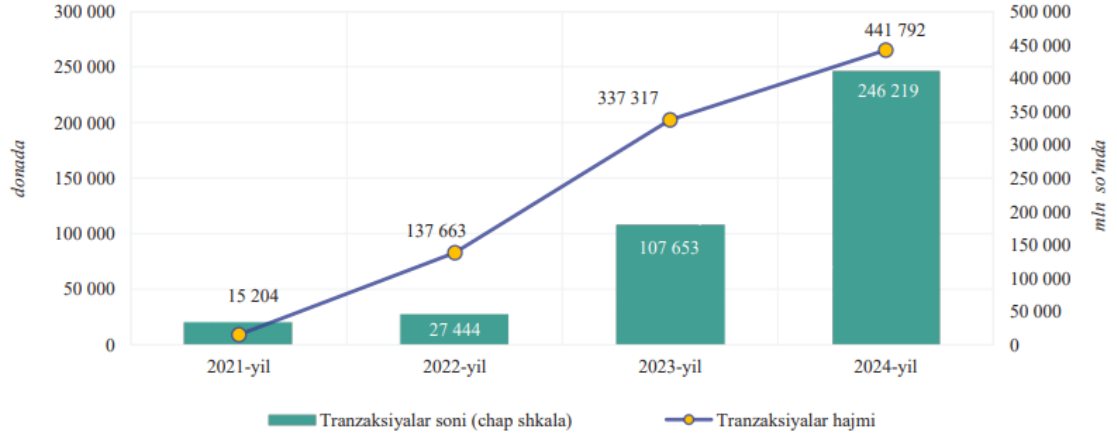

Figure 5. Number and Volume of Transactions Conducted through the QR-Online System[4]

[3] Source: Compiled based on data from the Central Bank.
[4] Source: Compiled based on data from the Central Bank.

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

At the same time, within the framework of expanding contactless payment technologies, the “HUMO PAY” service enables payments for goods and paid services without the direct use of a bank card through the mobile applications of 20 commercial banks. As part of the development of contactless payment services, the number of entities using the Tap-to-Phone system—which allows payments to be accepted similarly to a payment terminal—reached nearly 3.2 thousand as of January 1, 2025. In 2024, the volume of transactions conducted using NFC technology increased by 1.1 times compared to 2023, totaling 41.4 trillion UZS.

Furthermore, as of January 1, 2025, the number of commercial banks utilizing Face ID technology reached 28, while the number of payment organizations implementing this technology increased to 15. The number of customers who underwent digital identification through the mobile applications of banks and payment organizations increased by 5.4 million compared to January 1, 2024, reaching 12.2 million by the end of the reporting year. This upward trend is explained by the expanded opportunities for customers not only to conduct payments online without visiting a bank branch, but also to remotely open bank accounts through the Face ID digital identification system.

Conclusions and suggestions

This study examined the theoretical foundations of digital transformation in retail banking services and proposed an integrated conceptual framework synthesizing insights from TAM/UTAUT, Service-Dominant Logic, and Dynamic Capabilities Theory. The analysis demonstrates that digital transformation in retail banking is not merely a process of technological modernization, but a multidimensional organizational evolution shaped by technological innovation, customer behavior, regulatory forces, and strategic capabilities.

The proposed framework suggests that successful digital transformation requires the convergence of four key dimensions: (1) technological infrastructure, (2) organizational capabilities, (3) institutional and regulatory environment, and (4) customer-centered value co-creation. These dimensions dynamically interact and form a systemic process through which banks evolve from traditional service providers into integrated, agile digital financial ecosystems. The findings indicate that banks must develop strong dynamic capabilities to sense opportunities, seize emerging digital business models, and continuously reconfigure internal processes.

To prevent violations of the interests of commercial banks and banking service consumers, it is advisable to introduce an early-warning digital banking product capable of promptly detecting financial fraud schemes and incidents carried out through financial technologies.

Establishing interbank cooperation aimed at gaining competitive advantage in the intense rivalry between fintech companies and commercial banks—particularly by offering complementary services through mobile applications—will strengthen healthy

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

competition in the financial market and enhance consumer benefits. However, integrating banking systems with external information infrastructures may require substantial additional financial investments and longer timeframes compared to the resources allocated for adapting internal business processes to digitalization. These challenges can be mitigated through an evolutionary-modular approach to digital transformation across the banking sector.

In our view, the banking products market occupies a central position within the economic system. Therefore, digital banking products as innovations serve not only as drivers of transformation in the banking services market but also as catalysts for national economic development, accelerating economic processes through the rapid and efficient reallocation of financial resources.

Overall, the digital transformation of banks is shaped by legacy system constraints, competitive pressures from fintech companies and neobanks, and the institutional characteristics of national financial systems.

List of used literature:

1. Banafa, A. (2017). IoT, AI and blockchain: The future of digital transformation. Institute of Electrical and Electronics Engineers (IEEE).
2. Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. Computers in Human Behavior, 50, 418–430.
3. Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: Toward a next-generation concept. MIS Quarterly, 37(2), 471–482.
4. Daniel, E. (1999). Provision of electronic banking in the UK and the Republic of Ireland. International Journal of Bank Marketing, 17(2), 72–82.
5. Davenport, T. (2010). Process management for knowledge work. Harvard Business Review Press.
6. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340.
7. Farooq, U., Tabash, M. I., Mamadiyarov, Z., Issa, S. S., & Aldawsari, S. H. (2025). Sustainable financial strategies: the role of intellectual capital in shaping corporate cash holdings. International Journal of Organizational Analysis, 1-19.
8. Gomber, P., Koch, J. A., & Siering, M. (2017). Digital finance and fintech: Current research and future research directions. Journal of Business Economics, 87(5), 537–580.
9. Hammer, M., & Champy, J. (2009). Reengineering the corporation. HarperCollins.
10. Hess, T., Matt, C., Benlian, A., & Wiesböck, F. (2016). Options for formulating a digital transformation strategy. MIS Quarterly Executive, 15(2), 123–

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

139.

11. Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. Business Horizons, 61(1), 35–46.

12. Liao, Z., Shao, Y.-P., Wang, H., & Chen, A. (1999). The adoption of virtual banking. International Journal of Information Management, 19(1), 63–74.

13. Litamahuputty, J. V., Amiruddin, E. G., Rahim, R., Rahman, A., & Mamadiyarov, Z. (2025). Cryptocurrency Risk Management through Decision Engineering: Evaluating XRPUSD and ADAUSD Portfolio Performance. Journal of Applied Science, Engineering, Technology, and Education, 7(1), 69-81. https://doi.org/10.35877/454RI.asci3871

14. Makridakis, S. (2017). The forthcoming artificial intelligence (AI) revolution. Futures, 90, 46–60.

15. Mamadiyarov, Z., Hakimov, H., & Askarov, S. (2024). DEVELOPMENT OF RETAIL BANKING SERVICES IN THE CONTEXT OF DIGITAL TRANSFORMATION. Financial and Credit Activity Problems of Theory and Practice, 1(54), 51–67. https://doi.org/10.55643/fcaptp.1.54.2024.4288

16. Mamadiyarov, Z., & Karimov, K. (2024). Tijorat banklarida kredit riski va uni boshqarish usullari. Страховой рынок Узбекистана, 1(6), 57-60.

17. Mamadiyarov, Z. (2020). Prospects for the development of remote banking services in the context of Bank Transformation. The American Journal of Applied Sciences, 2(07), 108-118.

18. Мамадияров, З. Т. (2021). Банкларни трансформация қилиш шароитида масофавий банк хизматлари билан боғлиқ рискларни бошқариш. Экономика и финансы (Узбекистан), (5 (141)), 12-21.

19. Marques, L., & Ferreira, J. J. (2020). Digital transformation in banking: A systematic literature review. International Journal of Innovation Science, 12(3), 215–226.

20. Nicoletti, B. (2017). Digital finance and fintech: Business and finance transformation. Springer.

21. Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking. Internet Research, 14(3), 224–235.

22. Puschmann, T. (2017). Fintech. Business & Information Systems Engineering, 59(1), 69–76.

23. Ravikumar, R. N., Aarthi, S., & Mamadiyarov, Z. (2026). Mitigating Risks Through AI-Powered Fraud Detection Systems in Digital Banking. In Innovating Cost-Efficient and Scalable Business Models in the Digital Era (pp. 343-376). IGI Global Scientific Publishing.

24. Shaikh, A. A., & Karjaluoto, H. (2015). Mobile banking adoption: A literature review. Telematics and Informatics, 32(1), 129–142.

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR

25. Sia, S. K., Soh, C., & Weill, P. (2016). How DBS Bank pursued a digital business strategy. MIS Quarterly Executive, 15(2), 105–121.

26. Skan, J., Dickerson, J., & Gagliardi, G. (2014). The future of banking: A banks' perspective. Accenture Report.

27. Vial, G. (2019). Understanding digital transformation: A review and research agenda. Journal of Strategic Information Systems, 28(2), 118–144.

28. Willcocks, L., Lacity, M., & Craig, A. (2015). Robotic process automation: Strategic transformation. Outsourcing Unit Working Paper Series, 15(3), 1–35.

29. Yousafzai, S. Y., Pallister, J. G., & Foxall, G. R. (2003). A proposed model of e-trust for electronic banking. Technovation, 23(11), 847–860.

30. Zachariadis, M., & Ozcan, P. (2017). The API economy and digital transformation in financial services. SWIFT Institute Working Paper No. 2016-001.

31. Zhou, T. (2011). Understanding mobile payment continuance usage. Industrial Management & Data Systems, 111(2), 213–228.

32. Zokir Toshtemirovich Mamadiyarov. 2022. Risk Management in the Remote Provision of Banking Services in the Conditions of Digital Transformation of Banks. In Proceedings of the 5th International Conference on Future Networks and Distributed Systems (ICFNDS '21). Association for Computing Machinery, New York, NY, USA, 311–317. https://doi.org/10.1145/3508072.3508119

33. Zokir Toshtemirovich Mamadiyarov, Samandarboy Adhambek ugli Sulaymanov, Sarvar Anvar ugli Askarov, and Durdona Bakhtiyor kizi Uktamova. 2022. Impact of Covid-19 Pandemic on Accelerating The Digitization and Transformation of Banks. In Proceedings of the 5th International Conference on Future Networks and Distributed Systems (ICFNDS '21). Association for Computing Machinery, New York, NY, USA, 706–712. https://doi.org/10.1145/3508072.3508211

ISSN 2277-3630 (online), Published by International journal of Social Sciences & Interdisciplinary Research., under Volume: 15 Issue: 02 in February-2026
https://www.gejournal.net/index.php/IJSSIR