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PRIORITIES FOR DEEPENING DIGITAL TRANSFORMATION PROCESSES AND IMPLEMENTING FINTECH TECHNOLOGIES IN COMMERCIAL BANKS OF UZBEKISTAN

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ABSTRACT

This scientific article explores the issues of accelerating digital transformation processes, widely introducing financial technologies (FinTech), and increasing the accessibility of banking services in commercial banks of the Republic of Uzbekistan. The dynamics of digitalization, neo-banks, and mobile application development in the country's banking system are analyzed, highlighting existing challenges and solutions. Based on the study, scientific and practical recommendations are formulated to develop digital ecosystems and ensure cybersecurity in commercial banks.

Keywords: commercial banks, digital transformation, FinTech, neo-banks, ecosystem, Open API, cybersecurity, financial inclusion, artificial intelligence.

1. INTRODUCTION

The globalization of the world economy and the rapid advancement of digital technologies necessitate a structural transformation of the financial and banking system. In contemporary conditions, the competitiveness and financial stability of commercial banks are determined by how rapidly they can adapt to new digital business models and implement innovative FinTech solutions into practice.



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Decree No. UP-5992 of the President of the Republic of Uzbekistan dated May 12, 2020, "On the Strategy of Reforming the Banking System of the Republic of Uzbekistan for 2020–2025," established priority tasks for digitalizing the banking sector, transforming banking services, and increasing the share of private capital in the industry. Furthermore, the "Uzbekistan – 2030" strategy highlights expanding the scope of digital financial services, supporting the private sector, and ensuring the accessibility of banking services for the population as primary goals.

Achieving these objectives makes transitioning from traditional service delivery channels to remote, continuous, and personalized digital banking models more relevant than ever.

2. LITERATURE REVIEW

Theoretical and practical aspects of innovation and digital transformation in the banking sector have been extensively studied by international and local economists.

In particular, J. Schumpeter, in his theory of innovation, emphasized the role of financial institutions in economic growth and the financing of new technologies. The theory of "disruptive innovations" introduced by C. Christensen explains the transformation of traditional banking models under pressure from FinTech companies.

International researchers such as C. Skinner, P. Gomez, and M. King advanced the concept of "Banking 4.0," demonstrating that future banks will cease to be physical locations and instead become a portfolio of digital services built around the customer.



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Among Uzbek economists, A. Vahobov, Sh. Abdullaeva, O. Olimjonov, and Z. Jumaev have addressed issues concerning the reform of the national banking system, increasing bank capitalization, and improving digital service infrastructure. Nevertheless, issues such as scaling Open API technologies, applying artificial intelligence models to risk management, and strengthening cybersecurity in local commercial banks require comprehensive scientific investigation.

3. RESEARCH METHODOLOGY

The research methodology employs scientific abstraction, hypothetical-deductive analysis, systematic and comparative analysis, statistical grouping, cross-sectional, and comparative assessment methods. Open statistical data from the Central Bank of the Republic of Uzbekistan, financial statements of commercial banks, and analytical materials from international financial institutions (International Finance Corporation, World Bank) form the empirical foundation of this study.

4. ANALYSIS AND RESULTS

The banking system of Uzbekistan has seen a sharp rise in the number of remote banking users and the volume of digital transactions over recent years. According to Central Bank data, remote service adoption continues to grow, with financial transactions by individuals and business entities increasingly executed via mobile applications and online banking platforms.

The digital transformation stages of commercial banks can be categorized into three primary vectors:



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1. Front-Office Digitalization: Enhancing mobile applications, providing online micro-loans, implementing remote identification (Face ID, Biometrics), and opening deposits online.

2. Back-Office Automation: Implementing credit conveyors, applying artificial intelligence algorithms to scoring models, and completely digitalizing document workflows.

3. Ecosystem Development: Integrating both financial and non-financial services (marketplaces, insurance, logistics, automotive services, real estate) into a single bank platform.

A comparative overview of traditional banking versus digital ecosystem-based banking is presented in the table below:

Evaluation Criteria	Traditional Banking	Digital Ecosystem Banking
Customer Contact Channel	Physical branches & service centers	Mobile apps, Open APIs, super-apps
Credit Origination Speed	1 to 5 days (hard-copy documents)	Real-time (automated scoring & biometrics)
Operational Expenses	High (branch network & staff costs)	Low (process automation)
Service Availability	Business hours (09:00 - 18:00)	24/7/365 mode
Risk Management	Subjective & classical statistical analysis	Big Data & AI-driven predictive algorithms

Practical analysis shows that despite progress in digital transformation across commercial banks in Uzbekistan, several obstacles persist:

- **Legacy IT Infrastructure:** Legacy Core Banking Systems (CBS) in several state-owned banks constrain the rapid integration of modern FinTech products.



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- **Cybersecurity & Phishing Risks:** As remote transactions grow, the scale and sophistication of cyber threats increase accordingly.
- **Talent Deficit:** A shortage of highly qualified specialists in IT architecture, Data Science, and cybersecurity.
- **Regional Digital Divide:** Slower internet infrastructure and lower digital financial literacy levels in regional and rural areas.

5. CONCLUSION AND RECOMMENDATIONS

Deepening digital transformation and effectively leveraging FinTech capabilities in Uzbekistan's commercial banks is essential for maintaining the competitiveness of the domestic banking sector. Based on the findings and analysis, the following practical recommendations are proposed:

- 1. Full Implementation of Open API Standards:** Establish open application programming interfaces (Open APIs) under Central Bank frameworks to accelerate integration between commercial banks and FinTech startups.
- 2. Expanding Big Data and AI in Credit Scoring:** Deploy advanced artificial intelligence models utilizing alternative data sources to assess credit risk accurately and mitigate non-performing loans (NPLs).
- 3. Strengthening Cybersecurity and Biometric Authentication:** Enhance multi-factor authentication and biometric security layers across banking applications, accompanied by systematic public campaigns to improve financial literacy.
- 4. Transitioning toward a "Zero-Legacy" Architecture:** Gradually migrate legacy core banking systems to cloud-native and microservices architecture.
- 5. Developing Human Capital:** Expand specialized training programs in "Financial Engineering," "Banking Analytics," and "FinTech Management"



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through collaborations between the Banking and Finance Academy and leading technical universities.

Building an integrated digital ecosystem will improve operational efficiency for commercial banks while significantly boosting financial inclusion across the country.

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