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Article

Assessing the Impact of Digital Business Models on the Performance of Commercial Banks

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Abstract: The article assesses the impact of digital business models on the performance of commercial banks. It compares the traditional branch-based banking model with platform, open-banking and ecosystem-based digital models, and identifies the advantages (lower costs, financial inclusion, new revenue streams) and the risks (cyber threats, technology and talent dependence, intensified competition, the digital divide) of the transition. The current state, regulatory framework and potential of digital business models in Uzbekistan's commercial banks are analysed, and recommendations for their development are proposed.

Keywords: digital business model, digital bank, neobank, open banking, banking ecosystem, fintech, financial inclusion, cybersecurity, banking system of Uzbekistan.

1. Introduction

The main arena of competition in the banking services market has moved from branches to the smartphone screen. Today, customers choose a bank not by the number of its branches but by the convenience of its mobile app and the speed and price of its services. This is forcing banks to reconsider their business model, that is, the logic by which they create value, deliver it to customers and earn revenue.

In Uzbekistan this process is particularly rapid. Over the past five years, digital business models have become a real competitor to the traditional branch model in the country's banking system. In 2020, the country's first branchless digital bank, TBC Bank Uzbekistan, obtained a licence; later, digital banks such as Anorbank, Uzum Bank, AVO Bank and Open bank emerged, along with ecosystems such as Kapitalbank's Apelsin, Uzum, Click and Paynet. By the end of 2025, the number of registered users in the TBC Uzbekistan ecosystem had reached 23 million, and the number of monthly users of Uzum services exceeded 20 million[1]. According to the Central Bank, as of 1 October 2025 the number of accounts registered for remote banking services exceeded 74 million, and as of 1 April 2025 the number of bank cards in circulation reached 62.4 million [4]. In 2020, the first digital banks (TBC Bank, Anorbank) began operating in the country and within a short period became major market players. At the same time, cyber fraud has grown sharply: in 2025, UZS 1.9 trillion was stolen from citizens as a result of cybercrime[2].

Thus, the impact of digital business models on banking is not one-sided. They increase efficiency and financial inclusion, but also give rise to new risks. The need to

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assess this impact systematically and to identify directions suited to Uzbekistan's conditions determines the relevance of the topic.

On the other hand, the banking system still relies mainly on state-owned banks: at the beginning of 2026, state-owned banks controlled about 63 per cent of assets (65 per cent a year earlier). The “Uzbekistan-2030” strategy and the banking system reform strategy (UP-5992, 12.05.2020) envisage increasing the share of private and digital banks. Therefore, researching whether digital business models actually increase bank efficiency is of particular importance[3].

In the economic literature, the concept of a business model is interpreted as the logic describing how a company creates value, how it delivers that value to customers and how it earns revenue from it. A. Osterwalder and Y. Pigneur describe the business model through a nine-block "canvas": customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partners and cost structure [5]. D. Teece, in turn, regards business model innovation as a source of competitive advantage no less important than technological innovation [4].

With regard to banking, C. Skinner (2014) and B. King (2018) define a digital bank not as "a mobile channel attached to a branch" but as an organisation whose entire processes are built on digital infrastructure [8]. According to King, banking becomes an “activity” rather than a “place” and is invisibly embedded in the customer's life[5].

X. Vives, analysing the impact of digital transformation on banking competition, shows that fintech and bigtech companies lower barriers to market entry and squeeze the margins of traditional banks, but create new risks for financial stability [6]. T. Philippon argues that the high cost of financial intermediation represents a major opportunity for digital technologies. J. Frost demonstrates that bigtech platforms' use of customer data in lending reduces information asymmetry. The Basel Committee on Banking Supervision identifies five fintech scenarios for banks (the better bank, the new bank, the distributed bank, the relegated bank and the disintermediated bank) and sets out the supervisory implications of each[7].

In domestic research, digital banking services have mainly been studied from the perspective of remote services, payment cards and mobile banking. In particular, M. Maxmudova analyses the relationship between the digital transformation of Uzbek banks and financial stability using the Z-score indicator. However, changes at the level of the business model (revenue structure, ecosystem, platform, open banking) and a comprehensive assessment of their positive and negative consequences have not been sufficiently studied in the domestic literature. This article aims to fill precisely this gap[8].

2. Materials and Methods

The main aim of this research is to assess the impact of digital business models on the performance of commercial banks and to develop scientifically grounded proposals for their implementation in the commercial banks of Uzbekistan.

The study used comparative analysis, a systems approach, monographic observation (case study), grouping of statistical data and SWOT analysis. Traditional and digital banking models were compared according to the elements of the Osterwalder–Pigneur business model canvas. The following criteria were selected to assess the impact: operational efficiency, customer base growth, revenue structure, financial inclusion and level of risk.

The information base comprised official data of the Central Bank of the Republic of Uzbekistan, decrees and resolutions of the President, reports of the International Monetary Fund (IMF) and Fitch Ratings, public reports of commercial banks, and international academic literature.

3. Results and Discussion

The digital business model of a commercial bank can be defined as an operating model in which the bank's value proposition, customer service channels, revenue sources and cost structure are shaped mainly by digital technologies (mobile platforms, APIs, cloud computing, data analytics, artificial intelligence).

The analysis shows that the transition to a digital model changes not only the bank's service channel but also its logic of value creation: revenue shifts from the interest margin towards commissions, ecosystem services and data-driven services[9].

The following main digital models have emerged in international practice:

1. Digitised traditional bank — mobile and internet banking are added while the existing branch network is retained (most large banks).
2. Neobank (fully digital bank) — operates without branches, solely through a mobile app (Revolut, Nubank, TBC UZ).
3. Ecosystem model — the bank combines payments, a marketplace, insurance, buy-now-pay-later and other non-banking services on a single platform (Sberbank, Kaspi.kz, Uzum).
4. Platform / open banking model — the bank offers its own products and those of other providers via APIs.
5. Banking-as-a-Service (BaaS) — the bank offers its licence and infrastructure as a service to fintech and non-bank companies.
6. Embedded finance — a banking service is embedded in another company's product (for example, an online store app).

Open data show that banks with a digital model outperform the system average in profitability, but their asset quality may be weaker than that of traditional banks. Studying the effectiveness of digital business models therefore requires a direct comparative analysis with the traditional banking system. The table below presents a comparative analysis of traditional and digital business models in commercial banks across a number of indicators (Table 1)[10].

Table 1. Comparison of traditional and digital bank business models by key elements

Business model element	Traditional model	Digital model
Value proposition	Reliability, personal relationships, standard products	Speed, convenience, 24/7 access, personalised products
Customer segments	Large enterprises, payroll projects, urban population	Young people, small businesses, residents of remote areas, the previously unbanked
Service channels	Branch, mini-bank, cash desk, ATM	Mobile app, API, chatbot, partner platforms
Customer relationship	Personal manager, paper documents	Remote identification, automated service, artificial intelligence
Revenue sources	Mainly interest margin	Interest margin + commissions, subscriptions, ecosystem services
Key resources	Branches, staff, capital	IT platform, data, developers, brand
Cost structure	Rent, staff salaries, cash handling	IT investment, cybersecurity, marketing

Business model element	Traditional model	Digital model
Decision-making speed	Several days for a loan	A few minutes via automated scoring
Expansion (scale)	A new branch for each new region	Customers added at no additional cost

Source: prepared by the author.

Digital models are rapidly gaining popularity in Uzbekistan's banking system, but the market is still bipolar: although digital banks have risen to the top in terms of customer numbers, the bulk of assets and loans remains with corporate-oriented state-owned banks.

In our view, the digital model reduces the cost of intermediation but changes the structure of competition and risk. Based on Uzbekistan's experience, this is explained by the fact that the ecosystem effect is decisive for banks, that achieving high margins requires taking on high risk, and that the Central Bank's regulatory mechanism can either amplify or limit the impact. The digital banks that quickly became profitable developed not as stand-alone banks but together with a payment or retail platform. TBC moved from a payment service to a bank and a retail platform, while Uzum moved from a marketplace to a bank, yet both arrived at the same model – an ecosystem combining banking, payments, buy-now-pay-later and retail. This is confirmed by the well-known economist Frost's conclusion on data and network effects [11]. In addition, the high NIM and ROE of digital banks rely mainly on unsecured retail lending. When credit quality deteriorates, profitability can fall quickly. Therefore, the effectiveness of the digital model should be assessed not only by ROA/ROE but also by risk-adjusted indicators (together with RAROC and CoR). On the other hand, the Central Bank's macroprudential measures (an income threshold for microloans, debt burden requirements, discussion of a systemic risk buffer) limit the lending volumes of digital banks but increase stability in the long run[12].

In our view, the transformation of commercial banks' business models into digital business models certainly has both positive and negative aspects. Abundant evidence of this can be found in the development histories of the domestic banking systems of developed countries, in particular Germany, France and the United Kingdom. The positive aspects of commercial banks' use of digital business models include lower operating costs, rapid growth of the customer base, financial inclusion, opportunities to diversify revenue, and the introduction of data-driven risk management. For example, financial inclusion arises because remote identification enables residents of remote areas and small entrepreneurs to open accounts and obtain loans without visiting a branch. The introduction of data-driven risk management, in turn, means that scoring based on transaction data speeds up credit decisions and reduces information asymmetry[13].

Moreover, the use of digital business models by commercial banks may give rise to a number of risks. For example, the spread of fraud turns cybersecurity into a pressing problem: as the number of digital channels in banking grows, the attack surface expands. Extensive use of data may come into conflict with the requirements of legislation on banking secrecy and personal data. In Uzbekistan in 2025, almost half of all crimes were cybercrimes, most of them committed via bank cards. A shortage of personnel in this field is also regarded as one of the main problems. Competition for IT, data analytics and cybersecurity specialists is intense, and salary costs are rising. On the other hand, the implementation of digital business models also leads to intensified competition and narrowing margins. This can be explained by the rapidly increasing pace at which fintech and bigtech companies are capturing the most profitable segments, such as payments and consumer loans[14].

Based on the above, a SWOT analysis of the transformation of commercial banks towards digital business models can be presented (Figure 1).

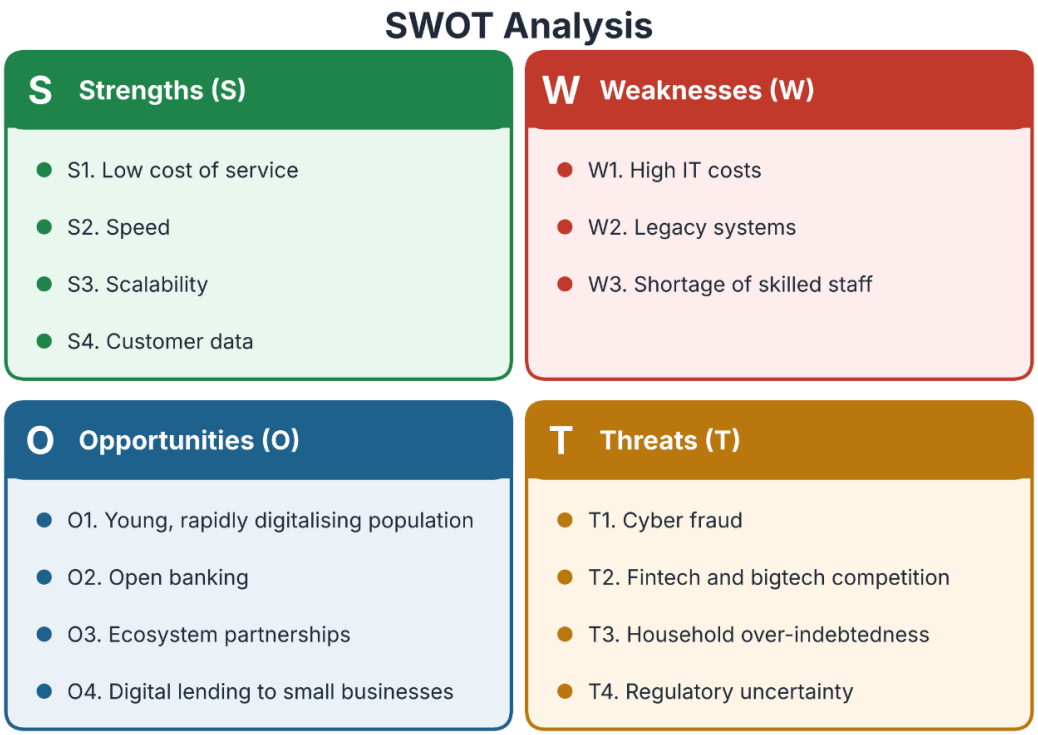


Figure 1. SWOT analysis of the transition to a digital business model

Based on the SWOT analysis above, it can be recommended that the commercial banks of our country develop a strategy for preventing cyber fraud by taking advantage of the opportunity to introduce open banking and digital ecosystems.

According to the Central Bank, as of 1 October 2025 the number of accounts registered for remote banking services exceeded 74 million, of which 97.7 per cent belonged to individuals [15]. The market is highly concentrated: the five largest banks control more than 70 per cent of the remote services market.

Table 2. Leading banks by number of remote banking customers (as of 1 October 2025)

Bank	Form of ownership / model	Remote service users, million people
Xalq Bank	State-owned, traditional	8.19
Aloqabank	State-owned, traditional	6.28
Uzsanoatqurilishbank (SQB)	State-owned, traditional	6.01
Uzum Bank	Private, ecosystem model	5.90
TBC Bank	Private, neobank	5.59

Source: prepared by the author based on Central Bank data.

The table shows that two digital banks founded only a few years ago (Uzum Bank and TBC Bank) are competing on equal terms with state-owned banks that have decades of history in terms of the number of remote service customers.

At the same time, structural problems in the banking system persist. As of 1 December 2025, state-owned banks accounted for 64.53 per cent of banking system assets. As of 1 January 2026, UZS 404.5 trillion of the total loan portfolio of UZS 604 trillion had been issued by state-owned banks. The IMF and Fitch Ratings note the high exposure of state-owned banks to the corporate and public sectors, the dollarisation of the economy and the limited deposit base as key weaknesses[16].

4. Conclusion

The results of the study confirmed that digital business models have a strong but two-sided impact on the performance of commercial banks.

First, the digital model fundamentally changes the bank's value proposition, service channels, and revenue and cost structure: the model based on branches and the interest margin is being replaced by one based on platforms, data and ecosystem services.

Second, the transition to a digital model makes it possible to reduce costs, rapidly expand the customer base, increase financial inclusion and diversify revenue. In Uzbekistan, the experience of TBC Uzbekistan, Anorbank and Uzum Bank shows these advantages working in practice.

Third, the digital model gives rise to serious risks such as cyber fraud, high IT investment, staff shortages, over-lending and the digital divide. The sharp rise in the share of cybercrime in Uzbekistan shows that these risks are real rather than theoretical.

Fourth, Uzbekistan's banking system has favourable conditions for digital transformation: a young population, a broad card base, the Uzcard/Humo API infrastructure and the Fintech Strategy for 2026–2030. However, the high share of state-owned banks, legacy IT systems and legal restrictions on data sharing are slowing the process down.

Thus, the success of digital transformation depends not only on technology itself but also on choosing a business model appropriate to the bank's category, protecting cybersecurity and consumer rights, and creating a sound legal framework for open banking. In future research, it would be advisable to quantify the impact of the share of digital channels on bank profitability and financial stability using econometric methods.

According to the results of the analysis, there is no single "right" digital model for Uzbekistan's commercial banks: each bank should choose a hybrid path suited to its size, form of ownership and customer base. On this basis, the following proposals have been developed.

1. Phased introduction of open banking. Launch account information services (AIS) first, followed by payment initiation services (PIS); clearly define customer consent, the allocation of liability and unified API standards.
2. Aligning legislation on banking secrecy and personal data. Create a legal basis for data sharing based on customer consent while simultaneously strengthening data protection requirements.
3. Proportionate regulation. Licensing and capital requirements for digital banks, ecosystems and BaaS providers commensurate with their level of risk; oversight of abuse of market dominance by large ecosystems.
4. Linking the privatisation of state-owned banks to business model transformation. Before privatisation, make the digital transformation plan one of the key documents presented to investors.
5. Choosing a model appropriate to the bank's category. For large state-owned banks, a "digitised traditional bank" + separate digital subsidiary brand ("neobank within a bank") model; for medium-sized and small banks, joining an ecosystem or partnering through a BaaS model is advisable.
6. Developing human capital. Targeted training programmes in IT, data analytics and cybersecurity in cooperation with higher education institutions.

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