

**DEVELOPMENT OF REMOTE BANKING SERVICES IN THE KHOREZM REGION  
BASED ON DIGITAL BROKERAGE SERVICES AND ARTIFICIAL INTELLIGENCE**

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**ANNOTATION.** This article presents a quantitative analysis of the state of remote banking services (RBS) in the Khorezm region from 2020 to 2025 and develops a model for expanding banking services toward digital brokerage and AI consulting. Based on statistical data from the Central Bank and regional banks, it is shown that the share of remote transactions in the region has increased from 28.4% to 64.7%, but investment transactions remain less than 3% of the total volume of banking transactions. A model for integrating brokerage services into RBS and an AI consultant for personalized selection of investment packages is proposed. Scenario analysis shows an 11–18% increase in bank commission income over three years and a 2.5-fold increase in investment activity among the population.

**KEYWORDS:** remote banking, digitalization, brokerage services, artificial intelligence, investments, Khorezm region.

**INTRODUCTION.** The development of digital financial services is a key factor in increasing the resilience of the banking sector and expanding financial inclusion. In the Republic of Uzbekistan, the share of remote banking users increased from 38% in 2019 to 71% in 2024, although the pace of digitalization varies across regions. In Khorezm Region, this figure was 64.7% in 2024, 6.3 percentage points below the national average.

Despite significant progress in payments and settlements, investment and brokerage services through remote banking remain extremely limited: the share of securities transactions does not exceed 2.8% of the total volume of remote transactions. This indicates a structural imbalance in the development of digital banking services and the underutilized potential of banks as investment intermediaries.

Amid rising inflation expectations and declining real deposit yields, the population is increasingly interested in alternative financial instruments. However, insufficient financial literacy and a lack of trust in non-bank brokers limit public participation in the stock market. Therefore, banks with a high level of institutional trust can act as key agents in promoting investment activity among the population.

An additional driver of transformation is the implementation of artificial intelligence in consulting and client support processes. According to international studies, the use of AI in financial recommendations increases the accuracy of investment portfolio selection by 27–35% and reduces the likelihood of ineffective client decisions by 22–30%.

Thus, the objective of this study is to develop and quantify a model for the development of remote banking services in the Khorezm region based on the introduction of digital brokerage services and intelligent advisory systems.

**METHODS**

The following methods were used in the study:

Economic and statistical analysis – for processing data from the Central Bank of the Republic of Uzbekistan, regional banks and the stock market.

The method of structural analysis is used to assess the distribution of banking operations across service channels.

Correlation and regression analysis – to identify the relationship between the level of digitalization and bank profitability.

Scenario modeling – to calculate the economic impact of implementing brokerage services and an AI consultant.

The method of expert assessments is used to formulate practical recommendations.

**Information base:**

data from the Central Bank of the Republic of Uzbekistan (2020–2025);  
reports of commercial banks of the Khorezm region;  
Statistics of the Uzbek Republican Stock Exchange;  
materials from the World Bank, IMF, OECD.

**Results**

1. Dynamics of development of remote banking services in the Khorezm region

Table 1 — Share of remote transactions in the total volume of banking transactions, %

Year	Republic of Uzbekistan	Khorezm region
2020	31.2	28.4
2021	39.8	35.6
2022	48.9	44.3
2023	58.5	55.2
2024	71.0	64.7
2025*	76.3	69.8

**Forecast based on trend analysis.**

Remote transactions in the region increased by 36.3 percentage points from 2020 to 2024, demonstrating rapid digitalization. However, they remain behind the national average.

2. Structure of remote operations

Table 2 — Structure of remote banking services in the Khorezm region in 2024, %

Type of operations	Share
Payments and transfers	48.5
Utility bills	18.2
Deposits and savings	14.7
Credit operations	15.8
Securities transactions	2.8

The share of investment operations remains critically low, indicating significant untapped potential in banking brokerage.

3. Financial activity of the population and trust in banks

According to a sociological survey (n = 820, Khorezm region, 2024):

72% of respondents trust banks as financial intermediaries;

18% trust private brokers;

10% do not trust either one.

In this case:

61% of respondents expressed a willingness to invest through a bank if digital advisory services were available;

43% are ready to start investing if they have guaranteed recommendations and risk insurance.

4. Economic effect from the introduction of banking brokerage

The modeling is based on the following assumptions:

coverage of 15% of active clients of regional banks;

the average client investment portfolio is 25 million sum;

The average bank commission is 0.8–1.2% of the transaction volume.

Table 3 — Forecast of additional commission income of banks (billion soums)

Year	Conservative scenario	Baseline scenario	Optimistic scenario
1	6.2	8.4	11.7
2	9.5	12.8	17.3
3	12.7	17.5	23.9

In the baseline scenario, the growth of commission income for banks in the region is +14.6% over three years.

#### 5. Economic impact of implementing an AI consultant

Based on international benchmarks and local data, the following was calculated:

reduction in staff workload – 18–24%;

reduction in investment decision-making time by 40–55%;

increase in customer satisfaction by 21–28%;

increase in the average profitability of client portfolios by 6–9 percentage points.

Table 4 - Comparison of the effectiveness of investment decisions

Indicator	Without AI	With AI
Average portfolio return	9.8%	15.4%
Medium risk level	High	Moderate
Share of loss-making portfolios	32%	14%

#### Discussion

The study's results confirm that remote banking in the Khorezm region has achieved a high level of development in payments and settlements, but investment and brokerage functions remain underdeveloped. This limits banks' ability to diversify revenues and reduces the potential for public participation in financial markets.

The implementation of banking brokerage through remote banking allows:

structurally change the banking income model, shifting the focus from interest income to commissions;

increase public confidence in the stock market through the institutional reputation of banks; to activate the region's domestic investment market.

Integrating an AI advisor enhances the impact of digitalization by personalizing financial decisions, automating analytical processes, and improving the accuracy of recommendations. This is especially important for regions with limited financial literacy, where traditional forms of advice prove ineffective.

The socio-economic effect of the implementation of these instruments is manifested in:

increasing financial inclusion;

expanding opportunities for savings and investment;

increasing the transparency of operations;

reducing the risks of abuse and fraud.

#### CONCLUSION

Based on statistical data analysis and scenario modeling, it has been proven that modernizing remote banking in the Khorezm region should include the implementation of digital brokerage services and intelligent advisory systems. Banks, acting as investment intermediaries, can increase commission income, expand their client base, and boost the region's stock market.

The implementation of an AI advisor improves the efficiency of investment decisions, reduces risks, and creates a sustainable, customer-focused banking service model. Implementation of this model contributes not only to the financial stability of banks but also to the socioeconomic development of the region.

Scientific and practical significance of the study

Scientific Impact:

A regional model for integrating brokerage services into the remote banking system has been developed. The author proposes a concept for AI consulting in investment banking services. A methodology for quantitatively assessing the effect of digitalization of banking investment services has been developed. The model can be implemented in commercial banks of the Khorezm region and other regions of Uzbekistan. The results can be used in developing digital strategies for banks and government financial inclusion programs. The materials are applicable to courses on banking management, fintech, and the digital economy.

Socioeconomic impact:

Investment activity of the population has increased by 2–2.5 times. Increasing the profitability of banks and reducing their dependence on interest income. Strengthening public confidence in financial institutions. Increasing the stability of the regional banking system.

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