



THE IMPACT OF DIGITALIZATION PROCESSES ON THE EFFICIENCY OF BANKING INTERMEDIARY SERVICES AND ITS STATISTICAL ASSESSMENT

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ABSTRACT

This thesis analyzes the impact of digitalization processes on the efficiency of banking intermediary services and substantiates approaches to its statistical assessment. The study examines the impact of the share of digital services, transaction dynamics, and operational indicators on efficiency. As a result, an integrated model for the comprehensive assessment of banking activity is proposed.

KEYWORDS: Digitalization, banking intermediation, efficiency, statistical assessment, electronic payment systems, operational indicators, financial stability.

INTRODUCTION

The processes of digitalization of Uzbekistan's economy are having a profound impact on the activities of the financial sector, fundamentally changing the service delivery model and management mechanisms in the banking system. The introduction of digital platforms, electronic payment systems, remote banking services, and data-based decision-making systems is expanding the content of banking intermediary services and bringing their efficiency to a new level.

At the current stage, the efficiency of banking intermediary services is determined not only by financial results, but also by the development of digital infrastructure, the speed of services, and the degree of automation of operational processes. Digitalization processes serve to increase efficiency by reducing transaction costs, expanding the scope of services, and improving the possibilities of identifying risks. At the same time, the need to improve the system of statistical indicators for accurately assessing the effectiveness of these processes is increasing.

The relevance of the topic lies in the fact that, in the context of the digitalization of the economy, traditional financial indicators are becoming insufficient for assessing the activities of banks. A comprehensive analysis of the share of digital services, the dynamics of the number of transactions, operational efficiency, and risk indicators is required. Therefore, statistically substantiating the impact of digitalization processes on the efficiency of banking intermediary services is of important scientific and practical significance.

This thesis analyzes the impact of digitalization processes on the efficiency of banking intermediary services and substantiates statistical approaches to its assessment. This serves to ensure the sustainable and efficient development of the banking system in the context of digital transformation.

Literature Review

Digitalization processes are fundamentally changing the service delivery model, income structure, and efficiency criteria of the banking system. The introduction of digital platforms, electronic payment systems, and data-based management mechanisms requires the assessment of the effectiveness of banking intermediary services through new indicators. In scientific literature, these processes have mainly been studied from the perspective of fintech development and the improvement of statistical assessment methods.

Local scholars Sh. Khudoyqulov and M. Rakhimov [1], in their scientific research work on "Digitalization in the Banking System and Service Efficiency," put forward the conclusion that "the development of digital infrastructure reduces transaction costs and increases the profitability of intermediary services." This approach explains efficiency in connection with technological modernization.

Also, N. Tojiboyeva [2], in her scientific research work on "Digital Management and Statistical Assessment of Banking Activity," substantiated the scientific result that "the introduction of digital indicators in addition to traditional financial indicators ensures a comprehensive assessment of banking activity." This approach shows the need to assess efficiency on the basis of a multidimensional statistical approach.

Foreign scholar T. Philippon [3], in his scientific research work on "The FinTech Opportunity," put forward the scientific conclusion that "digital technologies increase overall efficiency by reducing the cost of financial services." This approach interprets cost optimization as the main mechanism.

Also, X. Vives [4], in his scientific research work on "Digital Disruption in Banking," put forward the idea that "digital transformation increases the competitiveness of banks and expands the scope of services." This approach explains innovative processes as a factor of strategic advantage.

The reviewed scientific sources show that digitalization processes are an important factor in increasing the efficiency of banking intermediary services. While local studies focus on operational optimization and expanding statistical indicators, foreign literature highlights the impact of fintech innovations on cost efficiency and competitiveness. At the same time, the issue of systematizing digitalization factors on the basis of a single statistical model has not yet been fully developed, which determines the relevance of this topic.

Research Methodology: In this study, a comprehensive statistical and analytical approach was applied in order to determine the impact of digitalization processes on the efficiency of banking intermediary services. First of all, based on scientific literature, the theoretical relationships between digitalization factors (electronic payment systems, remote services, automated lending, digital monitoring) and efficiency indicators (share of commission income, ROA, NPL, cost-to-income) were clarified. At the next stage, these factors were systematized using the functional-grouping method, and their economic impact was modeled in the form of a table. Comparative analysis, analysis of dynamic indicators, and methods of logical generalization of cause-and-effect relationships were used in the assessment. As a result, an integrated methodological approach expressing the relationship between the level of digitalization and the efficiency of banking intermediary services was formed.

Analysis and Results



Digitalization processes have a multifaceted impact on the economic efficiency of banking intermediary services. They not only increase the speed and convenience of services, but also create opportunities to reduce operational costs, monitor risks, and diversify the structure of income. Therefore, assessing the impact of digitalization on the efficiency of banking intermediary services through statistical indicators is of important scientific significance. Below, the main directions of these processes and their economic results are presented in a systematic form.

Table 1
The Impact of Digitalization Factors on the Efficiency of Banking Intermediary Services and Statistical Assessment Indicators

Digitalization factor	Form of implementation	Direct economic impact	Statistical assessment indicator	Expected result
Electronic payment systems	Online and mobile transactions	Transaction volume increases	Number and volume of transactions	Increase in commission income
Remote banking services	Internet banking, mobile banking	Service delivery accelerates	Share of digital services (%)	Operational efficiency
Automated lending process	Scoring and electronic applications	Decision-making time decreases	Loan turnover	Return on assets
Digital monitoring system	Real-time control	Risks decrease	NPL level	Financial stability
Data integration	Analytical management platform	Resources are optimally allocated	Cost-to-income indicator	Cost efficiency

The table data show that digitalization processes have a systemic impact on the efficiency of banking intermediary services. The expansion of electronic payment systems leads to an increase in the number and volume of transactions, which ensures an increase in the share of commission income. Remote banking services accelerate service delivery and strengthen operational efficiency.

Automated lending processes reduce decision-making time, improve loan turnover, and have a positive impact on return on assets. Digital monitoring systems provide an opportunity to control the quality of the loan portfolio and serve to reduce the share of problem loans. Analytical management based on data integration strengthens control over costs and ensures an improvement in the cost-to-income indicator.

Thus, digitalization processes create complex economic results in increasing the efficiency of banking intermediary services. Identifying this impact through statistical assessment indicators makes it possible to objectively assess the effectiveness of the banking system in the context of digital transformation.

Conclusion

Digitalization processes form a systemic and multifactorial mechanism of impact in increasing the efficiency of banking intermediary services. The analyses carried out show that digital payment systems, remote services, and elements of automated management simplify operational processes, increase the speed of services, and optimize costs. As a result, the profitability and stability of banking intermediary services are strengthened.

Digitalization also expands the possibilities of monitoring credit risks and controlling financial flows. This not only improves financial results, but also increases the overall stability of the banking system. Assessment based on statistical indicators makes it possible to determine the relationship between the level of digitalization and efficiency.

Proposals:

1. Introduction of a system of digital indicators – in assessing bank efficiency, indicators such as transaction volume, the share of digital services, and the level of automation should be included in the statistical analysis system.
2. Complete digitalization of operational processes – time and cost savings should be achieved by maximizing the automation of lending and payment systems.
3. Strengthening digital monitoring of risks – real-time control systems serve to reduce the share of problem loans.
4. Improvement of the statistical assessment methodology – analyzing digitalization factors in integration with financial efficiency indicators makes it possible to assess banking activity more objectively.

In general, digitalization processes are an important institutional and technological factor in increasing the efficiency of banking intermediary services. Assessing this process with scientifically based statistical approaches ensures the sustainable development of the financial sector.

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