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Digitalization of Financial Processes in the Banking Sector: Trends and Modern Ways to Optimize Them

Olga Mamatelashvili[1], Yana Gareeva[2], Elvira Mukhamadieva[3] and Tsiala Khisamova[4]
Ufa State Petroleum Technological University, Russia, Ufa, 450064, Ufa,. Kosmonavtov st, 1

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Abstract: The article examines the trends of digitalization of processes in the banking sector of the economy, based on the application of blockchain technologies, artificial intelligence (AI) and data analytics. Trends in the use of digital technologies and their development at the present stage are considered. Digital transformation is an inevitable process of changing the structure of economic relations of business entities, and the banking sector cannot be ignored, since online banking is now in high demand. It was concluded that the digitalization of the banking industry is not only a technological transformation, but also a change in business models and strategies for doing banking business based on the concept of process management.

[1] https://orcid.org/0000-0002-7150-8237
[2] https://orcid.org/0009-0000-2729-1811
[3] https://orcid.org/0000-0001-6826-0018
[4] https://orcid.org/0000-0003-0254-3511

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1 INTRODUCTION

Nowadays, innovation in technology has become an integral part of different areas of human life. The banking industry has largely succeeded in using digital technologies, as the concept of "digitalization" covers a wide range of changes. In itself, "digitalization" as a phenomenon is the process of integrating digital technologies into various aspects of a company or industry, which involves digitizing traditional processes and services. At the moment, in the banking sector, these changes include not only convenient entry points for customers in the format of online services, mobile applications and sites, but also affect the internal processes of the bank that are not visible to the client's eye, such as automatic credit scoring, risk analysis, transactions and asset management.

These changes significantly improve operational efficiency and reduce costs. For example, automating routine processes using robotic process automation (RPA) allows banks to process transactions and customer requests faster and with fewer errors.

2 METHODS

The article uses general scientific research methods, such as comparison, analysis, generalization, classification. A review of scientific articles and literature in the field of digitalization of the economy was carried out.

3 RESULTS

The most striking and memorable technologies today are blockchain, artificial intelligence (AI) and data analytics. For example, blockchain in the financial sector provides a high level of security and transparency of processes, eliminating intermediaries in the process of exchanging funds. This can significantly reduce the time and cost of transactions, as well as reduce the risk of fraud.

Artificial intelligence automates decision-making processes, which allows you to improve the quality of customer service, generate new initiatives to attract and retain them, and optimize the bank's internal activities. For example, AI-based chatbots can provide real-time advice to customers, which greatly improves the usability of banking services. AI is also used for predictive analytics that help banks anticipate customer needs and offer them personalized products and services.

Data analytics allow banks to better understand the behavior of their customers and the state of financial processes. It helps to identify trends in certain aspects of the company's activities, predict financial results and make informed management decisions. The information obtained is used to increase efficiency, optimize operational activities and develop new products and services, which ultimately contributes to the growth of banks' competitiveness.

Technological innovations and digitalization are becoming an integral part of banks' operating activities and contribute to their competitiveness and the development of new products and services.

The adoption of digital technologies also contributes to the expansion of financial inclusion, allowing banks to offer their services to a wider range of customers, including those groups of the population that previously did not have access to banking products. For example, the use of mobile applications and online banking allows customers in remote and rural areas to easily access financial services, which contributes to increased economic activity and improved quality of life.

According to the Bank of Russia report for 2023, the share of customers who prefer to use online banking and mobile applications for financial transactions increased from 25% in 2011 to 75% in 2023. This is a significant increase that confirms that online banking is becoming standard in the banking sector. Most banks are actively implementing digital technologies to optimize processes and improve customer experience, which can reduce operating costs and increase efficiency.

In 2024, the key trends were the digital currencies of central banks, the development of super applications and ecosystems, as well as the hyper-personalization of services for customers. For example, the digital ruble is undergoing active testing with the participation of 13 banks and many customers, and is planned for widespread implementation in 2025. Large banks such as Sberbank and T-Bank are actively developing their own contactless payment systems, such as SberRau and Tinkoff Pay, which became especially important after the termination of ApplePay and GooglePay in Russia.

Today, Sberbank and other large banks continue to develop biometric identification technologies and introduce new methods of authentication, such as voice assistants and automated systems based on

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artificial intelligence, which improves user experience and security.

In 2024, Alfa-Bank and other banks continue to expand access to financial services using mobile applications and partner networks, allowing customers to make transactions anywhere and anytime. This is especially important for regions with limited Internet access, where such technologies help narrow the digital divide and improve financial inclusion.

In 2023, cybersecurity remained one of the key challenges. For example, more than 23 thousand cyber incidents related to banking institutions were recorded, including phishing, attacks on systems and customer data leaks. Strengthening security measures, such as multi-level authentication and the use of modern encryption technologies, has become a priority for banks.

Such incidents highlight the need for continuous improvement of security systems and rapid response to new types of threats. Banks are implementing automated monitoring and analysis systems to more quickly identify and prevent cyber-attacks.

Thus, the digitalization of the banking industry represents not only a technological transformation, but also a change in business models and strategies for doing banking business. This process requires careful analysis, understanding of the main trends and deep knowledge about modern information technologies so that banks can effectively adapt to the changing banking landscape and successfully compete in the financial services market.

Thus, financial processes play a decisive role in the functioning of the banking sector. They determine the efficiency and competitiveness of banks, and their optimization and analysis are key aspects to ensure the stability and success of the banking business.

Let's consider the process of optimizing the issuance of loans and borrowings, credit cards. Optimizing the process of issuing loans and borrowings is an important aspect of the activities of financial institutions such as banks and credit organizations. With an ever-changing economic environment and growing customer expectations, effective credit management is becoming a key success factor. In our opinion, strategies for optimizing this process should include:

1. Automation. The use of modern information technologies and software solutions makes it possible to automate many stages of the loan issuance process, from filling out an application and checking the client's credit history, to making a decision on issuing a loan. Automation reduces application processing time and increases efficiency throughout the process.

2. Data analytics. The use of analytical tools and methods makes it possible to more accurately assess the credit risk and the ability of the borrower to repay the loan. Big data analysis reveals hidden patterns and factors that affect customers' creditworthiness, which helps to make more informed decisions about issuing loans.

3. Personalization. Given the variety of customer needs and characteristics, personalization of services is becoming an important element in optimizing the loan process. Using previous transactions, financial transactions, and customer preferences, you can create individual quotations.

4. Risk-based approach. Applying a risk-based approach allows banks to effectively manage credit risks and minimize losses. This approach includes assessing credit risk based on borrower data, setting appropriate interest rates and credit conditions, and monitoring and managing risk in the loan repayment process.

5. Innovation and development. The constant introduction of new technologies, analysis methods and approaches to issuing loans is a key element in optimizing the process. Banks and credit institutions must be prepared for constant changes in the economic and technological environment, adapting their strategies and methods of work to the new conditions.

In order to expand the scope of analysis and optimization of financial processes in the banking sector, as well as to highlight the specifics of the above methods, it is necessary to identify possible existing methodologies that are actively used by modern banks and large companies.

The analysis of existing theoretical approaches to optimizing financial processes is an important stage in the study and development of digitalization strategies for the banking sector. These approaches are based on a wide range of theories and concepts that cover both general management principles and specific methods for optimizing financial transactions.

One of the key theoretical approaches is the concept of process control. According to this approach, the optimization of financial processes is carried out by analyzing and improving each stage of the business process. Quality management methods and tools such as BPM (Business Process Management), Six Sigma and Lean Management are used for this. These approaches make it possible to identify bottlenecks and inefficiencies in financial processes and develop measures to optimize them.

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The Russian banking sector also applies the above methods in practice. So, Sberbank in 2018 introduced the BPM system to optimize the processes of issuing loans. Thanks to this system, it was possible to reduce the time for consideration of applications for loans from several days to several hours, which allowed the bank to significantly increase the speed of financial services and improve customer satisfaction. Alfa-Bank used the Six Sigma methodology to streamline its payment processing process. By analyzing and eliminating defects in the process of processing transactions, the bank was able to reduce the number of errors and delays in payments, which increased operational efficiency and reduced the risks of operational losses. T-Bank applied Lean Management methodology to improve the customer onboarding process. Thanks to this methodology, the bank was able to simplify and speed up the process of registering new customers, which led to an increase in the number of new customers and an increase in the bank's competitiveness in the financial services market.

Integration of information systems is also an important aspect. Optimization of financial processes requires effective integration of various information systems and technologies, such as CRM (Customer Relationship Management), ERP (Enterprise Resource Planning), and BI (Business Intelligence). The integration of these systems allows banks to provide a single data warehouse, increase the availability and accuracy of information, and improve coordination between different departments and processes.

Now more than 70% of the banking sector uses CRM systems, about 50% use high-tech ERP systems, about 50% of banks in Russia use BI systems to analyze data and make management decisions.

Digital transformation, as a phenomenon and process, is also a theoretical approach to optimizing financial processes. It involves the use of modern information technologies to change and improve financial processes. Digital transformation includes the automation of operations, the introduction of digital platforms and services, and the use of data analytics to make management decisions. This approach allows banks to improve their efficiency, reduce costs and improve the quality of customer service.

Thus, an analysis of existing theoretical approaches to optimizing financial processes reveals key principles and methods that can be applied in the digitalization of the banking sector. These approaches provide a fundamental basis for developing strategies and implementing projects to optimize financial processes in commercial banks of the Russian Federation.

Business Intelligence (BI), or business intelligence, plays a key role in optimizing financial processes in commercial banks in the Russian Federation. This approach is a set of methods, technologies and tools aimed at analyzing data, identifying patterns and trends, as well as making informed decisions based on the information received.

One of the key advantages of using BI in the banking sector is the ability to analyze large amounts of data quickly and accurately. Banks collect a huge amount of information about their activities, customers, transactions, risks and much more. BI allows you to efficiently process this data, identify important patterns and make forecasts based on analytics.

One of the main components of BI in banking is reporting and dashboards. They provide bank managers and executives with important information about financial performance, customer activity, operational efficiency and more. These tools help you quickly assess the current state of the bank and make timely decisions.

Another advantage of BI is its ability to predict and model. With the help of analytical models, banks can predict future trends and results, as well as assess possible risks. This helps banks make more informed and effective decisions given the potential consequences.

BI also helps improve customer experience management. Analysis of customer behavior data enables banks to better understand their needs, preferences and behavior. Based on this information, banks can personalize offers, improve service and create more effective marketing campaigns.

Thus, Business Intelligence is a powerful tool for optimizing financial processes in the Russian banking sector, which allows banks to effectively manage data, make informed decisions and increase their competitiveness.

In today's world, where digital transformation is becoming increasingly important for the success of commercial banks, the use of Business Intelligence (BI) is becoming an integral part of the strategy for optimizing financial processes. In this context, it is important to consider examples of existing BI solutions that are used in commercial banks to analyze and optimize financial processes.

1. SAP Business Objects: This is one of the most widely used business intelligence tools, providing reporting, dashboards, analytics, and more.

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Commercial banks can use SAP BusinessObjects to analyze customer activity, monitor financial performance, and optimize operations.

2. Tableau: This is a powerful data visualization tool that allows you to create interactive dashboards and reports. Banks can use Tableau to analyze transactions, identify fraud patterns, and monitor and optimize financial processes.

3. QlikView/QlikSense: These BI tools provide capabilities for fast and flexible data analysis. Commercial banks can use QlikView or QlikSense to research the customer base, identify potential risks, and predict market trends.

4. MicrosoftPower BI: This is a data analytics and visualization tool integrated with other Microsoft products. Banks can use Power BI to generate financial reports, analyze customer activity, and monitor transactions.

5. IBM CognosAnalytics: This is a business intelligence solution that provides reporting, dashboards, analytical models, etc. Banks can use IBM CognosAnalytics to analyze customer data, manage risk, and streamline financial processes.

These tools provide banks with opportunities to analyze and optimize financial processes in the context of digitalization. They enable banks to effectively manage data, identify important patterns and make informed decisions to improve their operations.

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