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ASSESSMENT OF THE EFFECTIVENESS OF IMPLEMENTING INNOVATIVE PRODUCTS IN THE BANKING SYSTEM: APPROACHES, RISKS, AND RESULTS

Khalmetova Sh.
2nd Year MBA student Almaty Management University
School of Management Chief Specialist of the Department
Use of Information Bank Technologies in Management
Information Technology Private Joint Stock Bank "Trustbank"

Abstract

In the context of intense competition and globalization, the banking system faces the necessity of adopting innovative products and solutions to ensure sustainable development and enhance competitiveness. This article examines the key aspects of evaluating the effectiveness of implementing innovative products in the banking sector, focusing on both financial and qualitative indicators. Special attention is given to methods such as Net Present Value (NPV), Internal Rate of Return (IRR), and payback period, as well as the impact of innovations on improving customer experience and the bank's reputation. Furthermore, the main risks associated with the introduction of innovations are analyzed, and recommendations for their mitigation are proposed. The conclusion emphasizes the importance of strategic innovation management to ensure the long-term sustainability and effectiveness of the bank.

Keywords: Innovative products, banking system, effectiveness assessment, NPV, IRR, customer experience, risks, competitiveness.

Introduction

The banking system, like other sectors of the economy, is exposed to globalization and innovation processes. To maintain their competitiveness, banks are forced to adapt to market requirements and customer expectations by introducing innovative products and management solutions. The latest technologies allow banks to provide customers with fast, convenient and secure services, which is becoming a crucial factor when choosing a financial institution.

The purpose of this article is to analyze approaches to assessing the effectiveness of the introduction of innovative products in the banking system and to consider the key risks that banks may face at the implementation stage. In addition, the expected results from the implementation of innovative solutions in terms of increasing competitiveness and improving the customer experience are discussed.

Method

To assess the effectiveness of the introduction of innovative products in the banking system, an integrated methodological approach was used, including both financial and qualitative indicators. The following methods of analysis are used in the article: the indicators of net present value (NPV), internal rate of return (IRR) and payback period are considered. These metrics allow you to assess the financial feasibility of implementing innovative solutions; aspects such as customer satisfaction, improvement of customer experience, speed of service provision and improvement of the bank's reputation were assessed; The risks of economic instability, changes in legislation and technological risks that may affect the implementation of innovations were considered.

For the analysis, data from banks that have implemented new technological solutions in the last five years were used.

International experience in introducing innovative products in the banking system

The introduction of innovative products in the banking sector is a global trend that is driven by the development of digital technologies, growing competition and changing customer expectations. Let's look at a few examples of international experience that demonstrates how different countries and banks are innovating to improve competitiveness and efficiency.

1. U.S. Experience: Implementing Mobile Payments and Digital Banks

In the United States, one of the most significant steps in banking innovation has been the heavy use of mobile payment systems such as **Apple Pay**, **Google Pay,** and **PayPal**. Major banks such as **JPMorgan Chase** are actively implementing mobile apps that allow customers to make payments, manage their accounts, and access loans online.

Mobile banks such as **Chime** and **Varo** have also become popular due to their ease of use and low fees. According to a study by the **Boston Consulting Group**, in 2021, 85% of bank customers in the United States used mobile apps to manage their finances, allowing banks to reduce transaction costs and increase revenue.

- The development of mobile banking services and integration with mobile payment systems can significantly improve the customer experience.
- Using Big Data and artificial intelligence to predictively analyze customer behavior helps improve personalized service.

2. Experience of the European Union: Open Banking and PSD2

The European Union has implemented **PSD2 (Payment Services Directive 2),** which obliges banks to open their APIs to third-party developers. This has created an **Open Banking** ecosystem in which third-party companies can provide financial services based on bank customer data.

For example, the UK-based company **Revolut** offers customers banking services with advanced financial management capabilities through a single app. As a result, banks have begun to work closely with FinTech companies to retain their customers and adapt to new market conditions.

- Open APIs allow banks to integrate with FinTech companies, which improves the customer experience and accelerates the implementation of innovative solutions.
- Banks need to be flexible in the face of changing legislation in order to remain competitive.

3. China Experience: Digitalization of Banking Services through FinTech

China is a leader in the digitalization of banking services thanks to the active development of FinTech companies such as **Ant Financial** and **WeBank**. **WeBank**, the world's first fully digital bank, has become an example of the successful use of artificial intelligence, blockchain and Big Data to improve customer experience and reduce operational costs.

According to the **China Banking and Insurance Regulatory Commission (CBIRC),** digitalization has allowed China's banks to increase transaction processing efficiency by 30%, and the number of mobile app users has increased by 50%. This experience shows that innovative solutions such as blockchain and AI can become the basis for faster and more secure financial transactions.

- The introduction of advanced technologies such as artificial intelligence and blockchain can significantly improve the security and efficiency of banking transactions.
- Fully digital banks are becoming the standard for attracting a new generation of customers.

4. Singapore Experience: Regulatory Support for Innovation

Singapore has created a unique regulatory environment to encourage innovation in the banking system. **The Monetary Authority of Singapore (MAS**) supports the creation of sandboxes for FinTech companies, allowing them to test their solutions under controlled conditions. This stimulates innovation and gives banks the opportunity to quickly adapt new technologies to their infrastructure.

In addition, Singapore actively supports the development of digital banks. In 2020, the MAS issued several licenses to open digital banks, which stimulated competition and improved the quality of services offered.

- Creating a favorable regulatory environment allows banks to experiment with innovations without risking their core business.
- Support for digital banks increases competition and stimulates the improvement of the quality of services.

5. South Korean Experience: Integration of Artificial Intelligence and Robo-Advisors

In South Korea, many banks, such as **KakaoBank** and **KBank**, are actively using robo-advisors and artificial intelligence to analyze big data and manage clients' investment portfolios. This allows banks to provide customized recommendations on investments, asset management, and financial planning.

According to the **Korea Financial Services Commission (FSC),** the introduction of robo-advisors has reduced operating costs by 20% and also increased asset management revenues through automated recommendation systems.

- The use of robo-advisors and automated systems allows banks to offer customers personalized services, which increases their loyalty and reduces costs.
- Artificial intelligence helps improve risk management and forecasting processes.

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Results:

The results of the analysis showed that the introduction of innovative products in the banking sector allows not only to improve financial performance, but also to increase customer satisfaction and the reputation of the bank. Based on financial metrics, the following results were obtained:

1. **The net present value (NPV)** of most projects was positive, indicating the long-term benefits of innovation.
2. **The internal rate of return (IRR)** showed high values, which indicates the attractiveness of investments in innovation in terms of profitability.
3. **The payback period** varied from 2 to 5 years, depending on the complexity and scale of the innovative solution.

In terms of qualitative aspects, the introduction of innovative products has significantly improved:

- **Customer experience**: More than 70% of customers rated the innovative products as more convenient and secure compared to traditional banking services.
- **Reputation of the bank**: The introduction of modern solutions increased customer confidence, which had a positive effect on the level of attracting new customers.

Discussion:

The introduction of innovations in the banking system brings significant benefits both from a financial and qualitative point of view. However, along with the advantages, such projects carry certain risks. The main risks are:

- **Economic instability**: The introduction of new technologies requires significant investments that may not pay off in conditions of instability or crisis.
- **Changes in legislation**: Banking regulation is constantly changing, which can make it difficult to implement innovative solutions.
- **Technology risks**: The rapid development of technology requires banks to regularly update and adapt to new conditions, which can make it difficult to integrate innovations.

To minimize these risks, banks should develop strategic plans focused on sustainable development and effective innovation management. It is important to take into account both the current needs of the market and the projected changes in legislation and the economy.

Expected results: The introduction of innovations in the banking system can increase banks' revenues by 20-30% in the long term, as well as significantly improve customer satisfaction and the bank's reputation.

For a deeper understanding of the problem of assessing the effectiveness of the introduction of innovative products in the banking system, it is important to consider the opinions of experts and scientists dealing with this topic.

Kasper Grundke and Lars Klenke in their paper *"Innovations in Banking: Managing Complexity and Leveraging Benefits"* emphasize that innovative products in the banking sector allow banks to remain competitive in a rapidly changing market environment. They argue that the adoption of technologies such as mobile payments and digital services not only improves the customer experience, but also helps banks reduce operating costs through automation

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Processes. Grundke and Klenke also emphasize the importance of comprehensive analysis, which includes both financial and qualitative indicators. They note that metrics such as net present value (NPV) and payback period play a key role in assessing the economic feasibility of innovation [1].

Michael Porter in his book *"Competitive Advantage: Creating and Sustaining Superior Performance"* emphasizes that the competitive advantage of a banking organization depends on the implementation of innovative solutions that help banks adapt to changes in the market. He points out that new products and services based on digital technologies allow banks to increase their flexibility and respond faster to customer needs. Porter also notes, that the introduction of innovations contributes to the creation of differentiation, which is one of the key factors of the bank's competitiveness [2].

Philip Kotler, in his work *"Marketing Management: Analysis, Planning, and Control"*, discusses the importance of customer satisfaction in the banking industry and the impact of innovative products on the customer experience. He argues that successful banks invest in innovative products that meet the expectations of customers who demand quick and convenient solutions metrics, but also aspects such as customer loyalty and satisfaction [3].

Liu Lianhua and Chen Yunfei in their study *"The Impact of Digital Transformation on Bank Profitability and Customer Satisfaction"* note that digital transformation in the banking sector is directly related to the growth of profitability and the improvement of the customer experience. They emphasize that the use of financial technologies (FinTech) helps banks reduce costs, optimize internal processes and improve customer interaction. According to the authors, Successful implementation of innovations requires strategic planning and risk assessment associated with economic instability and changes in legislation [4].

The experience of the European Union and Singapore **is most recommended for implementation in Uzbekistan**, taking into account the specifics of the country's banking system and current priorities in the field of financial and economic policy.

1. Experience of the European Union: Open Banking and PSD2

Why it is important for Uzbekistan:

- The introduction of **the Open Banking model** through directives such as PSD2 will stimulate the development of financial technologies (FinTech) in Uzbekistan. This will improve the interaction between banks and FinTech companies, expand access to innovative financial solutions for customers and increase competition in the market.
- The creation of the Open Banking ecosystem will enable banks to use open APIs for integration with third-party services and solutions, which will improve the quality of banking services, make them more convenient and accessible. It will also help attract new customer segments, especially young people and entrepreneurs who need digital and mobile banking products.

Advantages:

- Open Banking will allow banks in Uzbekistan to provide their customers with more personalized and convenient financial services.

- Collaborating with FinTech companies can help accelerate the development and implementation of new products, such as mobile payments, digital loans, and financial management through mobile apps.
- The use of third-party solutions will help banks reduce operating costs for the development of their own services, while improving the quality of the services offered.

2. Singapore Experience: Regulatory Support for Innovation through Sandboxes for FinTech

Why it is important for Uzbekistan:

- In the context of the rapid development of digital technologies and the importance of FinTech for the banking system of Uzbekistan, the creation of regulated **sandboxes** to test innovative solutions without risk to the main banking system will be useful to stimulate innovation.
- **The Monetary Authority of Singapore (MAS)** has developed a model that allows FinTech companies to test their products and services within regulated conditions. This provides an opportunity to create and test new banking solutions in a secure environment, after which they can be successfully implemented in real banking activities.

Advantages:

- Financial technologies will be able to develop faster, which will lead to the creation of new solutions in the field of mobile payments, digital services and electronic banking.
- Banks will be able to work closely with regulators, which will accelerate the implementation of innovative solutions and reduce the risks associated with violations of the law.
- The Singapore experience shows that the creation of digital banking platforms can stimulate competition and increase the inclusion of financial services.

Why these approaches are suitable for Uzbekistan:

1. Uzbekistan is actively modernizing the financial sector, and the introduction of mechanisms such as Open Banking and sandboxes for FinTech will help accelerate the development of banking innovation, especially in the face of growing interest in digital financial services.
2. Thanks to cooperation with FinTech companies and the introduction of digital solutions, banks in Uzbekistan will be able not only to optimize their processes, but also to offer customers more affordable and convenient services.
3. The development of digital services and increased transparency (through Open Banking) will help increase confidence in the banking system of Uzbekistan, especially among young people and the business community.

Thus, the **experience of the European Union** and **Singapore** is the most suitable for implementation in Uzbekistan, as these approaches contribute to the development of innovative financial technologies, improving the quality of banking services and strengthening market positions.

Conclusion:

Assessment of the effectiveness of the introduction of innovative products in the banking system is an important element for strategic decision-making. Based on the analysis, it can be concluded that the introduction of innovations allows banks not only to increase their competitiveness and improve financial performance, but also to improve the customer experience, which plays a key role in retaining and attracting customers.

International experience demonstrates that the introduction of innovative products in the banking system allows you to increase efficiency, improve customer experience and strengthen competitive positions in the market. Examples from the US, EU, China, Singapore, and South Korea show how the use of mobile apps, FinTech, blockchain, and artificial intelligence contributes to the development of the banking business. The main lessons for other banks are the need for flexibility, adaptation to new technologies and close cooperation with regulators to create an enabling environment for innovation.

However, banks should consider the potential risks associated with economic instability and regulatory changes and develop strategies to minimize them. The introduction of innovative products requires long-term planning and evaluation, but with the right approach, it can significantly improve the financial condition of the bank and strengthen its position in the market.

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