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Abstract: *This article explores the relationship between fintech and the development of the banking industry. The author analyzes how innovative technologies in financial services are influencing the transformation and evolution of the banking sector. The article examines key fintech technologies, such as blockchain, artificial intelligence, digital platforms, and mobile applications, and discusses the benefits and challenges these technologies pose for the banking industry. The results and conclusions obtained may be useful for banking and management professionals, as well as researchers interested in the impact of innovative technologies on the banking sector.*

Keywords: *financial technology, banking sector, knowledge economy, innovation, digitalization, challenges, development prospects.*

INTRODUCTION

In recent years, new financial technologies (FinTech) have become an important driver of change in financial systems worldwide, including Uzbekistan. These technologies, such as blockchain, artificial intelligence, mobile payments, and digital currencies, open up new opportunities to improve the efficiency and security of financial transactions and promote financial inclusion. However, the successful integration of FinTech into the national financial system requires not only innovation but also the development of a legislative and regulatory framework. The introduction of new technologies requires adaptation to international experience and consideration of local conditions, which helps ensure the sustainable development of the financial system. The impact of new FinTech on the financial system of Uzbekistan has been the subject of active discussion in recent years. In particular, the development of FinTech startups has had a significant impact on the banking sector and the efficiency of Uzbekistan's financial markets, contributing to the improvement of their structure and stability.

Modern FinTech innovations are being actively implemented in the banking system of Uzbekistan, contributing to improved operational efficiency and expanded financial inclusion. Particular attention is being paid to the use of mobile payments and online banking technologies, which have become an important tool for improving access to financial services for the general population, especially in remote areas of the country. Research shows that banks can significantly enhance their competitiveness and resilience by actively implementing digital solutions such as QR online transactions, which contribute to improved customer service and reduced operating costs. In Uzbekistan, the government is actively promoting innovation in the financial system through various legislative initiatives. Specifically, tax holidays and financial incentives are being offered to



banks operating in priority sectors of the economy, helping to develop new forms of lending and financing through the use of market instruments such as securitization.

International experience in implementing financial technologies demonstrates significant potential for improving the efficiency and security of financial systems. The application of such technologies in Uzbekistan, taking into account international practices, requires active legislative support, improved cybersecurity, and the creation of conditions for the sustainable growth of FinTech startups. New financial technologies are having a positive impact on Uzbekistan's financial system, contributing to improved financial inclusion, increased operational efficiency of banks, and the modernization of the financial market. However, the successful integration of these technologies requires further legislative reforms aimed at strengthening the legal framework and protecting the interests of users.

LITERATURE REVIEW. The introduction of new FinTech is significantly transforming financial systems both in Uzbekistan and abroad. International experience shows that the use of technologies such as blockchain, artificial intelligence, and digital currencies contributes to increased efficiency and security of financial transactions. However, the successful development of FinTech requires not only technological innovation but also appropriate legislative regulation, data protection, and improved financial inclusion. It is important to consider both positive experiences and challenges associated with cybersecurity and regulatory support for the successful integration of these technologies into financial systems.

According to Abramov, FinTech brings innovation to the banking sector, improving the customer experience, increasing efficiency, and ensuring safer and more flexible use of financial services. This evolution is an important factor in the development of the banking industry in the context of the modern information society [1]. According to I.V. Baranov, M.N. Gapon, and E.E. Golovykh, "Overall, FinTech technologies represent enormous potential for innovation in the banking sector". They help banks improve the quality of services, streamline processes, and reduce transaction costs. FinTech is thus becoming an integral part of the modern banking sector, and its role will only increase in the future [2].

In their research, a number of scholars adhere to the following opinion: "In fact, the services provided by modern FinTech largely eliminate from value chains and interactions many tasks that were previously performed only by individuals. Where the exchange of financial information is fully automated, human intervention (the operator required for interaction, human-machine interaction) is not required" [3,4].

RESEARCH METHODOLOGY.

This study utilizes a comprehensive scientific and theoretical approach based on a systems analysis of current trends in the digitalization of the financial sector and a comparative study of international experience in implementing FinTech solutions. The study is based on a deductive method, which allowed us to determine the specifics of the transformation of the banking system in Uzbekistan by studying global practices in the application of artificial intelligence, blockchain, and mobile platforms. In addition, the article applies statistical and logical generalization methods to assess the level of digital



services penetration and identify prospects for the development of national financial infrastructure in the context of the formation of a knowledge economy.

ANALYSIS AND RESULTS.

FinTech plays a vital role in the banking sector and is bringing significant changes to traditional banking processes. Here are some of the key roles FinTech plays in today's banking sector:

1. Improving customer experience: FinTech helps banks provide innovative services and products that simplify and enhance the customer experience. For example, mobile apps, digital wallets, online banking, and instant messaging help customers conveniently manage their finances.

2. Developing digital payments: FinTech companies play a key role in expanding digital payment capabilities. They offer innovative solutions such as mobile payments, online cards, and e-wallets that simplify and speed up the payment process.

3. Improving process efficiency: FinTech helps automate and optimize banking processes such as application processing, credit scoring, and regulatory compliance. For example, the use of artificial intelligence and machine learning can automate the process of identifying clients or analyzing their creditworthiness.

4. Development of alternative funding sources: FinTech companies provide alternative funding sources, such as peer-to-peer (P2P) platforms, crowdfunding, P2P lending, and blockchain technologies. This allows companies and individuals to obtain financing without the involvement of traditional banks.

5. Fraud prevention and security: FinTech helps banks more effectively combat fraud and ensure the security of financial transactions. The use of biometric data, big data analytics, machine learning and blockchain technology helps reduce the risk of financial crime and ensure the security of client data.

FinTech brings innovation to the banking sector, improving the customer experience, increasing efficiency, and ensuring a safer and more flexible use of financial services. This evolution is an important factor in the development of the banking industry in the context of the modern information society [5].

Currently, the competitiveness of modern national FinTech is limited not only by domestic but also by foreign economic and foreign policy factors. However, given the Bank of Uzbekistan's forecasts, a post-crisis recovery of the national economy and financial sector is expected in 2024–2025. Consequently, modern FinTech will not cease to evolve. However, for commercial banks, modern FinTech simultaneously presents both new opportunities and new risks, the management of which is institutionally regulated by macroregulators. Therefore, unlike FinTech companies, commercial banks cannot quickly transition to modern FinTech, as this could lead to increased financial risks.

The spread of FinTech in the global economy is objectively uneven, with developed countries characterized by greater access and more intensive exploitation of modern FinTech and all the benefits it provides to both economic actors and the social and public sector.

However, according to various data (which depends on the methodology used to collect and process the incoming data), the penetration rate of FinTech services varies, for



example, in China from 69% to 93%, in India from 52% to 80% and in Russia from 43% to 75%. More developed countries are less likely to utilize the opportunities of modern FinTech in both the economy and society [6].

For example, the penetration rate of FinTech in Germany ranges from 35% to 60%, with similar figures for the United States, Spain, South Korea, and South Africa. The penetration rate of modern FinTech is somewhat higher (from 40% to 65% or 70%) in Brazil, Australia, the United Kingdom, and Mexico. Clearly, statistical data does not allow for definitive conclusions about developed economies incorporating modern FinTech to a greater extent than developing economies.

On the contrary, prior to the COVID-19 pandemic, developed countries were not actively seeking to integrate modern FinTech into their real, financial, and social sectors. There are objective reasons for this state of affairs [7].

CONCLUSION.

The role of FinTech is becoming increasingly important in the modern world. FinTech is innovative solutions and technological tools that transform the traditional delivery of financial services.

It combines finance and technology to improve the accessibility, efficiency, and convenience of financial transactions. FinTech's primary role is to make financial services more accessible to all segments of the population.

It reduces barriers to loans, investments, and other financial services, especially for people who previously had difficulty accessing traditional banking services.

FinTech also facilitates the expansion of the geographic reach of financial services, particularly in developing countries where large populations lack access to traditional banking services. Furthermore, FinTech contributes to the increased efficiency of financial transactions.

It automates routine processes, simplifies and accelerates procedures, and reduces paperwork. For example, mobile payments and e-wallets allow people to make payments and transfers with less time and effort.

FinTech also helps stimulate innovation in the financial sector, creating new business models, services, and products.

For example, the emergence of digital currencies, crowdfunding, robo-advisors, and blockchain opens up new opportunities for investment and financing. FinTech startups and entrepreneurs are actively applying innovative approaches to providing financial services and solving financial problems. Finally, FinTech drives competitiveness in the financial industry.

It brings new players to the market and forces traditional financial institutions to adapt and improve. Banks and other financial institutions are beginning to implement technological innovations to meet customer expectations and remain competitive in the market.

Thus, FinTech plays a key role in the development of the financial industry, making financial services more accessible, efficient, and innovative. It is a driving force in the modern digital economy, leading to the transformation and improvement of the financial sector.