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FINANCIAL DIGITALIZATION: ROLE AND SIGNIFICANCE FOR BANKING SERVICES

ФІНАНСОВА ДІДЖИТАЛІЗАЦІЯ: ЇЇ РОЛЬ ТА ЗНАЧЕННЯ ДЛЯ БАНКІВСЬКИХ СЕРВІСІВ

This article is devoted to summarizing information about the opportunities that arise as a result of the implementation and improvement of financial digitalization, its role and significance in the field of banking services. It describes a number of transformations of the financial sphere due to the influence of digital technologies on it, which are designed to form an efficient and convenient system of services for its participants. During the work on these materials, it was discovered that the banking sector, despite the negative external influence, adapted to the realities of today, taking advantage of all the advantages of digitalization, and provided round-the-clock access to all services for customers, enabling the implementation of everyday transactions. These materials also reveal some priority areas of banks' work in the direction of strengthening digitalization, which are currently seen in the digital optimization of back-office processes aimed at reducing costs and saving products, accelerating their implementation and modification, as well as improving interaction with clients; the use of predictive analytics that allows for more accurate credit scoring and more effective risk management, reducing costs and increasing lending profitability; development of electronic payment technologies and investment in digitalization of corporate payment systems. These materials describe innovative models of banks that implement further development, improvement and implementation of digitalization in customer services, affecting the change in business models and the development of the bank's open ecosystem. The article also reveals the principles of AI in the work of banks and describes a number of threats that may arise when working with digital services. Special attention is paid to cyber security, as a key element of data and information protection. In the end, the priority areas of both scientific and practical research were identified in such areas as determining the need for banks to become more competitive in the digital environment, providing clear and high-quality online services, as well as taking into account global trends in the banking sector. In this context, emphasis is placed on the need to increase investment in the latest technologies, the rapid implementation of innovative services, and taking into account the impact of the pandemic and geopolitical events on the banking sector.

Keywords: digitalization, digital services, digitalization, mobility, bank, banking market, technologies.

Значні трансформації які відбуваються через вплив цифрових технологій сформувати ефективну та зручну систему сервісів для її учасників. Вивчення можливостей, які виникають внаслідок впровадження та удосконалення фінансової діджиталізації, її ролі та значення у сфері банківських сервісів. У ній описано ряд трансформацій фінансової сфери через вплив на неї цифрових технологій, які покликані сформувати ефективну та зручну систему сервісів для її учасників. Під час роботи над даними матеріалами виявлено, що банківський сектор, попри негативний зовнішній вплив, пристосувався до реалій сьогодення, скориставшись якраз усіма перевагами діджиталізації, та забезпечив цілодобовий доступ до усіх сервісів для клієнтів уможливаючи здійснення повсякденних операцій. Дані матеріали також розкривають деякі пріоритетні напрямки роботи банків у напрямку посилення діджиталізації яка станом на тепер вбачаються у цифровій оптимізації бек-офісних процесів що спрямовані на зменшення витрат і економію продуктів, прискорення їх впровадження і модифікацію, а також на поліпшення взаємодії з клієнтами; використання предиктивної аналітики яка дозволяє більш точно проводити кредитний скоринг і ефективніше управляти ризиками, зменшуючи витрати і підвищуючи прибутковість кредитування; розвитку технологій електронних платежів та інвестування в цифровізацію систем корпоративних платежів. Дані матеріали описують інноваційні моделі банків які реалізують подальший розвиток, вдосконалення і впровадження діджиталізації у сервіси роботи з клієнтами впливають на зміну моделей бізнесу і розвитку відкритої екосистеми банку. У статті також розкрито принципи роботи ШІ у роботі банків та описано ряд загроз які можуть виникати при роботі із циф-

ровими сервісами. Особливу увагу приділено кібербезпеці, як ключовому елементу захисту даних та інформації. На останок виявлено пріоритетні напрями як наукових так і практичних пошуків у таких напрямках як визначити необхідність для банків стати більш конкурентоспроможними в цифровому середовищі, надавати зрозумілі та якісні онлайн-послуги, а також враховувати світові тенденції в банківській сфері. В цьому контексті акцент робиться на необхідності збільшення інвестицій у новітні технології, швидкому впровадженні інноваційних послуг та урахуванні впливу пандемії та геополітичних подій на банківський сектор.

Ключові слова: діджиталізація, діджитал-сервіси, цифровізація, мобільність, банк, банківський ринок, технології.

Statement of the problem. The financial sphere is undergoing significant transformations due to the influence of digital technologies, which are designed to form an efficient and convenient system of services for its participants. The impact of these changes is particularly noticeable in Ukraine, particularly in the banking system, where (according to the latest Findex data) a significant increase in the share of the adult population with bank accounts has been found, from 41% to 84% over the last decade. Ukrainian banking institutions are actively introducing innovative products and services to improve work with clients for all financial offers.

Despite modern difficulties and challenges, the Ukrainian people and the banking sector have demonstrated extraordinary resilience. Banks quickly adapted and provided round-the-clock access to their accounts for everyday transactions.

Recently, there has been rapid positive development in the field of banking financial technologies. Introduction of new products and services specially designed to implement certain functions within the banking ecosystem, such as Reg-tech, insurtech and roboadvice are among the most important changes. Technologies such as digital banking, artificial intelligence, Open Banking, micro-services, mobile wallets and Blockchain continue to improve in practice.

Analysis of recent research and publications. A number of scientific works, which are devoted to the specified problem, testify to the considerable interest in this topic. Such domestic scientific authors as R. Bezpaly, T. Havrylko, L. Dudynets, V. Kovalenko, A. Semenog, L. Sloboda, I. Trots, S. Cyrulyk, S. Scarlet, O. Shevchenko and others to some extent highlighted some aspects that are relevant in this article as well.

Varga V., Dubina M., Kozlyanchenko O., Semylitko D. separately addressed issues of the formation and development of digitalization. Gurenko A., Gashutina O., Domanskyi A., Ligonenko L. also explored the definition of the role and essence of digitalization in ensuring the transformation of business processes, Solosich O., Tulchynska S., Chornii V.V.

However, constant transformational processes require the search for new approaches to the development of digitalization, particularly in the work of banking services.

Formulation of the research task. The purpose of the article is to summarize the materials and study the opportunities that arise as a result of the implementation and improvement of financial digitalization, its role and significance in the field of banking services.

Summary of the main research material. Digital services – in translation, this term is defined as a digital service and includes everything related to the transmission of data through or other means of communication.

This definition became relevant due to the rapid development of communication and information technologies. Therefore, life today can be characterized as an interconnected digital world characterized by increased mobility and timely access to information.

At the same time, the issue of sustainable development, which pursues the triple goal of achieving economic, social, and environmental goals, is being updated. A new challenge for the whole world is a new era called the fourth technological revolution, in which new rules are introduced, new problems are revealed and new technologies are born [3].

Various categories can be attributed to the main characteristics of the fourth technological revolution, but among the most progressive and indicative are the mobile Internet, robotics, 3D printing, blockchain technology, the Internet of Things, artificial intelligence, RegTech technologies (regulation), cryptocurrency, big data (Big Data) and investment attraction mechanisms through ICO (Initial Coin Offering).

Of course, all these technologies contribute as much as possible to the development of the banking market, the sphere of services for legal entities and individuals – the bank's clients.

The direct impact of digital technologies on the bank's activities is manifested in changes in sales and communication channels of banking services, offering key advantages in the form of convenience and security.

The main directions of digitization of banks today can be seen in the following:

- digital optimization of back-office processes aimed at reducing costs and saving products, accelerating their implementation and modification, as well as improving interaction. Some of the applications are developed precisely taking into account local regulations from one program, which allows for centralized processing and management of international transactions, but such applications are regional character;
- use of predictive analytics. This allows for more accurate credit scoring and more effective risk management, reducing costs and increasing lending profitability. There is an opportunity to use the services of specialized and professional companies that analyze large volumes of data from various sources to assess the risks and creditworthiness of potential borrowers;
- development of electronic payment technologies. This requires banks to invest in the digitalization of corporate payment systems. The focus is on the standardization of corporate payments, their intelligent processing and fully functional service payment hubs for flexible real-time payment processing. The real-time corporate payments project is being piloted by BNP Paribas, as well as DBS,

which has introduced mobile payment solutions (Ideal) for its clients.

The development, improvement and implementation of digitization in customer service services affect the change in business models and the development of the bank's open ecosystem. Among the innovative models of banks, the following can be distinguished.

The multi-channel banking service model is based on: multi-channel integration of digital channels and integrated architecture; thorough analytics and effective collection of customer information, micro-segmentation and predictive modeling; real-time management to increase the conversion rate of incoming calls; progressive advisory services that use digital channels and personal analytics; financial offers and associated pricing schemes based on micro-segments and optimized for channel features [2].

For the full interaction of the bank with customers, it is important to use all the possibilities of social digital services, in particular, communication networks, social media and information and monitoring of media interests. Here it is important to add the following components to the bank model:

- mobile transactions using mobile wallets, which strengthen the bank's competitiveness in the field of payments;
- improved mobile commerce tools with a focus on financial and non-financial offers, as well as initiatives in mobile marketing, mobile loyalty and mobile analytics;
- conclusion of alliances and partnerships with non-banking institutions [2].

Digital banking services arouse the interest of market participants in such financial digital services as the introduction of contactless payments, global transfers, commission-free P2P transfers and the creation of platforms for the exchange and purchase of Cryptocurrencies, such as Bitcoins, Ethereum and others.

Digital banks enjoy significant advantages, as customers no longer have to visit the bank in person, avoid long queues and a lot of paperwork. According to CACI (California Analysis Center, Inc.), with the increase in the number of digital banks from 2017 to 2023, the number of physical visits to banking institutions will decrease by 36%, which will lead to a significant reduction in

administrative costs. Other benefits include instant bill payments, real-time analytics, expense management, quick balance viewing and PIN setup from the comfort of your home. According to Eurostat and other European agencies, more than half of EU citizens have already switched to digital banking [4].

This is partly due to the tendency to create a cashless society. It is predicted that this trend towards exclusively digital banking will continue to grow, as according to surveys, two-thirds of the bank's customers intend to switch exclusively to a digital service format (Figure 1).

Digital banks are developing all over the world as can be seen from the figure above and this is one of the main reasons why visits to bank branches continue to fall. This process was facilitated by the pandemic and the introduction of quarantine restrictions. As a result, roughly a quarter of all bank branches are expected to close in the next three years.

Currently, banks around the world are adapting their strategies to implement artificial intelligence (AI), which will lead to a significant spread of this technology in the field of banking business. According to independent research, AI is expected to reduce banks' operational costs by approximately 22% by 2030.

Artificial intelligence is highly structured and ready to reduce the threat of fraud in the rapidly growing financial sector, fight the increase in cybercrime and solve numerous other security challenges of the banking sector [8].

In addition, credit risk assessment based on artificial intelligence (AI) and machine learning (ML) is more qualitative and effective. From regulatory technologies to robo-advisors, AI/ML systems allow companies to better monitor customer behavior and identify opportunities for growth and anomalies. ABI Research estimates that spending on AI and cybersecurity analytics will reach \$96 billion by the end of 2021. By the end of 2024, banks are predicted to save approximately \$447 billion due to the development and implementation of AI applications [5].

In this regard, new challenges have arisen regarding the application of financial digitalization, which will contribute to solving the outlined tasks. It is worth paying attention to the fact that digitization is a revolutionary direction of information technologies that strengthens

Global Neobank Value, Users, And Accounts

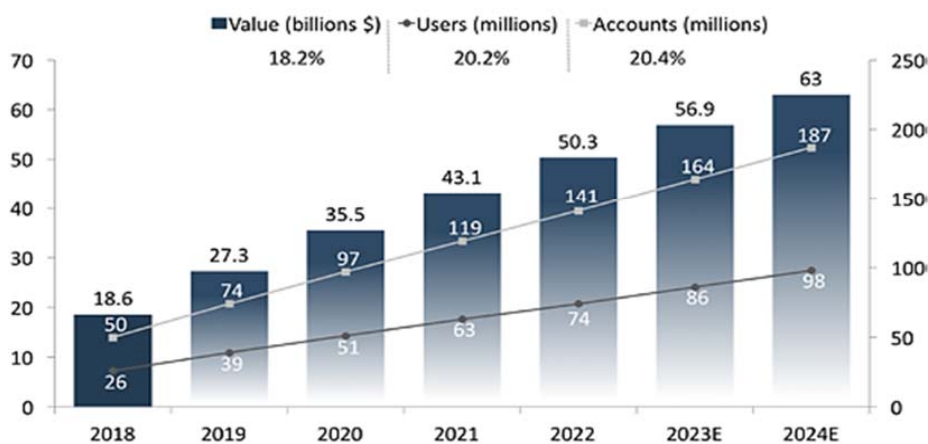


Figure 1. The number of assets, users and accounts of nonbanks

Source: <https://www.businessinsider.in/finance/news/articleshow/73783093>

competitive advantages in all areas of its application and use. Also, digitalization processes are under close study by both scientists and practitioners and are constantly updated to meet the latest conditions of digital development.

Digitization is a necessary process of information technology development, but some disadvantages can be identified:

- costs for the implementation of the digitization project at the enterprise, which prompts a revision of the price policy;
- the need for high-quality technical equipment and timely updating of data;
- provision of high-quality IT personnel [9].

It is worth emphasizing that the need for the development of digitalization is a key strategy for increasing the level of innovative development of technical and technological innovations, which will ensure the effectiveness of the financial results of enterprises, as well as the innovative potential in general.

Conclusions. Thus, researching the concept of digitalization, it was established that the transformational

processes taking place in the economy, the introduction of information technologies will increase the competitiveness of business processes at the enterprise. It is the development and implementation of digital innovations that will ensure the effectiveness of strategic actions and further changes in the activities of enterprises.

Evaluating the role of financial technologies in the development of banking business in Ukraine, it is important to note the need for banks to become more competitive in the digital environment, to provide clear and high-quality online services, as well as to take into account global trends in the banking sector.

In this context, emphasis is placed on the need to increase investment in the latest technologies, the rapid implementation of innovative services, and taking into account the impact of the pandemic and geopolitical events on the banking sector. The transition to online business and the relationship with electronic platforms require banks to actively adapt and improve digital services to respond to the growing demand of users through mobile applications and other digital tools.

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