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ANALYSIS OF THE DEVELOPMENT OF DIGITAL INNOVATIONS IN THE FINANCIAL SERVICES MARKET IN UKRAINE IN 2010-2024

АНАЛІЗ РОЗВИТКУ ЦИФРОВИХ ІННОВАЦІЙ НА РИНКУ ФІНАНСОВИХ ПОСЛУГ В УКРАЇНІ В 2010-2024 РОКАХ

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The relevance of the study is driven by the rapid digital transformation of the financial sector, the growing demand for technological solutions, and the need to increase the sustainability of the financial sector of Ukraine. The purpose of the study is to analyze the development of digital innovations in the financial services market in Ukraine in 2010–2024. The study uses methods, including comparative analysis, logical analysis, generalization, case studies of key digital financial solutions. The results of the study show significant progress in the introduction of online banking, mobile applications, fintech startups, blockchain technologies and AI in financial transactions. Attention is paid to the impact of external factors, in particular the COVID-19 pandemic and the full-scale war that began in 2022. The role of government initiatives that affected the digitalization of financial services also is studied. The findings contribute to understanding of the prospects for the development of digital financial instruments as a element of Ukraine's economy.

Keywords: digital innovations, Ukraine fintech, fintech trends, financial market, digitalization, digital transformation.

У статті проаналізовано розвиток цифрових інновацій на ринку фінансових послуг України у 2010–2024 роках. Актуальність дослідження зумовлена швидкою цифровою трансформацією фінансового сектору, зростанням попиту на технологічні рішення, зміною поведінки споживачів та необхідністю підвищення стійкості фінансового сектору. Метою дослідження є аналіз розвитку цифрових інновацій на ринку фінансових послуг в Україні у 2010–2024 роках. У дослідженні використано комплекс методів, серед яких порівняльний аналіз, логічний аналіз, узагальнення та кейс-стаді ключових цифрових фінансових рішень. Також розглянуті законодавчі та регуляторні зміни, які вплинули на діджиталізацію фінансових послуг, виділені і проаналізовані ключові цифрові інновації на певних історичних етапах розвитку ринку фінансових послуг в Україні. Результати дослідження свідчать про значний прогрес у впровадженні онлайн-банкінгу, мобільних додатків, фінтех-стартапів, блокчейн-технологій та штучного інтелекту у фінансові операції. Приділено увагу впливу зовнішніх факторів, зокрема пандемії COVID-19 та повномасштабної війни, яка розпочалася у 2022 році, що прискорило перехід до цифрових фінансових рішень. Досліджено роль урядових ініціатив, регуляторних змін: зокрема інтеграції цифрових послуг і фінансових сервісів через платформу «Дія», у розбудові довіри до цифрових фінансів, розширення доступу до фінансових ресурсів у кризових умовах, при міграції населення через війну в межах України і закордон. Дії Уряду допомогли підвищити доступність фінансових послуг для громадян України у віддалених і прифронтових регіонах країни. Окрему увагу приділено захисту даних і кібербезпеці, чия роль зростає при діджиталізації фінансових послуг. Для забезпечення безпеки на фінансовому ринку впроваджуються: багаторівнева автентифікація, системи штучного інтелекту для виявлення шахрайства. законодавчі ініціативи щодо захисту персональних даних. Отримані результати сприяють розумінню перспектив розвитку цифрових фінансових інструментів на ринку України, як важливої складової економіки України.

Ключові слова: цифрові інновації, фінтех України, фінтех тренди, фінансовий ринок, цифровізація, цифрова трансформація.

Statement of the problem. The rapid development of digital technologies significantly transformed Ukraine's financial sector in 2010–2024. The implementation of digital innovations has increased the availability, speed, and security of financial services, but at the same time created new challenges for financial institutions, government regulators, and users. Therefore, a comprehensive analysis of the development of digital innovations in the Ukrainian financial services market, their impact on the economy, and the prospects for further digital transformation in the face of global and national challenges is needed.

Analysis of the latest research and publications. Aspect of analysis of the development of digital innovations in the financial services market have been studied in the works of ukrainian scientists: I. Chugunov [15], S. Mishchenko [13], T. Hirchenko [7], L. Dudynets, M. Duchenko, T. Pavlenko [9], A. Mazaraki, S. Naumenkova [14], P. Rubanov, and others.

The aim of the article: to analyze the development of digital innovations in the financial services market of Ukraine in 2010–2024, to assess their impact on the efficiency, accessibility and security of financial transactions, and to identify key trends and prospects for digital transformation of the financial sector

Summary of the main research material. Over the past decades, Ukraine has come a long way in developing digital innovations in the financial market. From traditional banking services to full-fledged digitalization of processes, the country's financial institutions are actively adapting to new technologies and changing the way they interact with customers. Analyzing the periods of development of digital innovations, it is advisable to distinguish the following stages, as shown in Figure. 1.

In this article we will analyze the development of digital innovations in 2010–2024:

2010–2020 – Emergence of fintech startups and mobile banking.

The period of 2010–2020 was an important stage in the development of digital innovations in the Ukrainian financial services market. This period was marked by the rapid proliferation of fintech startups, the introduction of modern banking technologies, and the digitalization of the financial infrastructure. Thanks to access to high-speed Internet, the proliferation of smartphones and government initiatives, Ukraine has become one of the countries that actively integrate digital technologies into the economy [6; 7]. The key digital innovations at this stage of financial services market development were:

- the proliferation of fintech startups. Ukraine has become a place of rapid development for fintech companies offering innovative services for consumers and businesses. The most successful startups of this period include: monobank – the first fully mobile bank in Ukraine that provides services without physical branches. SettlePay is a platform for electronic payments using blockchain technologies. Finmap is a service for small business financial management. As of 2018, more than 80 Ukrainian companies are developing technologies and introducing innovations to compete with banks and intermediaries in the financial market [8]. Fintech companies have been actively using technologies such as artificial intelligence, Big Data, and blockchain, which has allowed them to offer innovative solutions such as payment automation, personalized financial advice, and mobile lending services.

- the boom in mobile banking. One of the key trends of this period was the spreading of mobile banking applications. Banks such as PrivatBank, UKRSIBBANK, and Oschadbank introduced applications that allowed customers to manage their accounts remotely, make instant money transfers, pay utility bills, loans, and other obligations. Mobile banking has become



2020-present 	The current stage: integration of innovations into the financial ecosystem 
2010-2020 years	Emergence of fintech startups and mobile banking
2000-2010 years	Active implementation of Internet banking
1990-2000 years	The first stages of digitalization

Figure. 1. Stages of development of digital innovations in the financial services market in Ukraine

Source: developed by the author

a convenient and affordable tool for most Ukrainians, which has led to a decline in the popularity of visiting bank branches.

– development of contactless payments. Contactless payment technologies became widespread in 2010–2020 due to the introduction of NFC technologies. Customers were able to pay for purchases using smartphones and smartwatches. Google Pay and Apple Pay played an important role in this: Google Pay and Apple Pay, which became available in Ukraine. Massive installation of POS terminals in retail chains. PrivatBank, together with Visa, launched digital wallets and tokenized cards for online payments. This allows processing personal information and financial transactions exclusively in encrypted form. This technology is much safer for entrepreneurs running online stores. These innovations have significantly accelerated the development of cashless payments. In 2019, Ukraine ranked 10th in Europe in terms of NFC technology use [16].

– implementation of blockchain technologies. In 2010–2020, Ukraine became one of the leading countries in the implementation of blockchain technologies. The main areas of their use included: financial transactions: the blockchain ensured transparency and security of transactions. Digital assets and cryptocurrencies: Ukrainians have been actively using cryptocurrencies such as Bitcoin and Ethereum for investing and making payments. [9] Government initiatives: The Ukrainian government has experimented with using blockchain to ensure transparency in public procurement and document management. In 2017, the State Land Cadastre switched to Blockchain technology [10].

– artificial intelligence and Big Data technologies. Artificial intelligence (AI) and big data analysis have become an integral part of financial services. Banks and fintech companies used these technologies to personalize financial products, optimize risk management, and detect fraud in financial transactions. These innovations have improved the quality of customer service and reduced operating costs.

– growing popularity of online lending. During this period, online lending services such as Moneyveo and MyCredit became widespread. They allowed customers to apply for loans without visiting banks, to perform quick credit history checks through integration with state registries, and receive funds on their cards within minutes. This simplified access to financial resources for many Ukrainians, especially in times of crisis.

– government support for digital innovations. The Ukrainian government has actively supported the digitalization of the financial sector. In 2020, it adopted the Law on Payment Services, which stimulated competition in the market and simplified the implementation of innovative solutions. In addition, Ukraine: developed the Diia project, which included digital financial services; Diia was first presented in 2019 and officially launched in 2020 [11]; harmonized the regulatory environment with European standards. In 2019, Ukraine developed the Strategy for the Development of the Financial Sector of Ukraine until 2025, which was approved in 2020 [2]. The strategy defined five strategic areas: financial stability, macroeconomic development, financial inclusion, financial market development, and innovative development [14]. Each area has its own strategic goals and performance indicators. The goal of the Strategy was to ensure further reform and development of Ukraine's financial sector in line with the best international practices and implementation of the measures envisaged by the European-Ukraine Association Agreement and other international obligations of Ukraine. The Strategy became invalid due to the approval of the new Strategy for the Development of the Financial Sector of Ukraine (2023), focused on resistance of Russian aggression and restoring the country [3].

The challenges in the financial services market during this period were: cybersecurity: the growth in the number of online transactions led to an increase in the risk of cyberattacks; internet access: in remote regions, insufficient infrastructure limited the use of digital services; financial literacy: many citizens did not have sufficient knowledge to fully use innovative services. The period of 2010–2020 was a stage of rapid development of digital innovations in the financial sector of Ukraine. The introduction of mobile banking, contactless payments, blockchain technologies, and online lending made financial services more accessible and convenient for citizens and therefore became a solid foundation for the further transformation of Ukraine's financial sector in the digital age.

Modern stage: integration of innovations into the financial ecosystem

The period of 2020–2024 was marked by the intensive introduction of digital technologies in Ukraine's financial sector. Global challenges, such as the COVID-19 pandemic, the economic crisis, and martial law, accelerated the transition to digitalization. At this time, innovations have

become the basis for adapting financial services to new conditions and ensuring the stability of the financial system. In 2020, the National Bank of Ukraine released the Strategy for the Development of Fintech in Ukraine until 2025 [2]. The main objectives of the Strategy were sustainable development of innovations, development of the cashless economy, and improvement of financial literacy of consumers and businesses. The main goal is to build an innovative financial market with large-scale financial inclusion (of citizens and businesses) and convenient and safe services and products that are affordable and accessible through distribution channels. In our opinion, the key digital innovations of this period are:

- the introduction of government digital initiatives. The state has become an active participant in the digital transformation of the financial sector. The main platform combining digital services for citizens and businesses was Diia, which made it possible to integrate financial services into the app, such as paying taxes, receiving social benefits, insurance, introducing an electronic signature that simplifies financial transactions, and digitalizing social benefits, which allowed for quick assistance to victims of military operations. Government initiatives have helped to increase the availability of financial services even in remote regions [14].

- development of Open Banking. In 2021, Ukraine adopted the Law on Payment Services [4], which opened up new opportunities for financial institutions and fintech companies. The Open Banking technology allows banks to provide access to their APIs, which contributes to the creation of innovative services and the emergence of joint products, such as mobile applications for managing accounts in different banks. Experts expect the active growth of fintech startups that will use bank data to create personalized solutions. The concept determines that the NBU will develop and approve the regulations necessary for the implementation of open banking. According to the Law of Ukraine “On Payment Services” [4], open banking is expected to start operating in Ukraine in August 2025.

- digitalization of payments and currencies. In 2020–2024, digital payments became the main form of transactions in Ukraine: contactless payments via NFC technologies, Google Pay, and Apple Pay became popular among Ukrainians. QR codes are widely used for quick payments in retail and public services. In 2023, the National Bank of Ukraine began testing the

digital hryvnia (e-hryvnia), which will become a tool for cashless payments and increased transparency of financial transactions. The main purpose of the e-hryvnia is to effectively perform all the functions of money, complementing the cash and non-cash forms of the hryvnia, and not to replace existing forms of money [5].

- innovations in lending. Online lending has undergone a significant transformation due to digital innovations [12]. Big Data and artificial intelligence (AI) algorithms are used to analyze customer creditworthiness. Automated platforms and mobile banking applications allow customers to get loans in a few minutes without visiting banks. Integration with state registers simplifies customer verification and reduces fraud risks. These services have greatly simplified access to financial resources for individuals and businesses [13].

- data protection and cybersecurity. The growth of digital financial services has been accompanied by an increase in the risks of cyberattacks. To ensure security, the following are being implemented: multi-level authentication, including biometric data. Artificial intelligence systems for real-time fraud detection. Legislative initiatives to protect personal data that are harmonized with European standards. Cybersecurity has become a priority for banks and financial institutions.

Despite significant achievements, digital innovation in Ukraine has faced the following challenges at this stage: martial law. Large-scale population migration and destroyed infrastructure have complicated access to financial services in certain regions. Cyber threats: the number of attacks on financial systems has increased significantly, requiring further strengthening of security technologies. Unequal access to the Internet: Rural areas still have limited infrastructure for using digital services. The period of 2020–2024 has become a stage of large-scale digital transformation of Ukraine's financial sector. The introduction of Open Banking, the launch of the digital hryvnia, the development of mobile applications, and the strengthening of cybersecurity have created the basis for innovative development of the industry.

Conclusions. Analyzing the development of digital innovations in the financial services market in Ukraine, we can conclude that they have significant potential and continue to develop rapidly. They provide access to convenient and safe financial products, increase financial literacy, and facilitate the integration of the Ukrainian

financial market into the European space. Further development requires constant support from the government, as well as investments in cybersecurity and training of highly qualified

personnel. The prospects for digital innovation in Ukraine's financial market are positive, making this sector an important element of the country's economic growth.

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