

FINANCIAL TECHNOLOGIES IN THE UKRAINE'S BANKS: FEATURES AND PROSPECTS OF DEVELOPMENT

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Abstract. *The article is devoted to the study of the global banking market of FinTech and current trends in international investment in FinTech companies. The study presents the analyses of the banking FinTech-market of Ukraine and its main segments in which Ukrainian banks operate. Modern fintech products of cooperation between Ukrainian banks and fintech companies are presented. The factors that contributed to the emergence of Fintech have been identified, as well as their features for the Ukrainian market.*

For further promotion and identifying prospects of banking business development SWOT analysis was made and was formed the adaptation scheme of introducing FinTech innovations into banking.

The main trends in FinTech industry development are also identified, which should be taken into account when forming key factors of banking sector transformation to implement the new Ukrainian banking business models and indicated positive factors for the introduction of new financial services and products.

Keywords: *FinTech; FinTech companies; Banks; Financial Services; Digital Banking; Open Banking; Blockchain.*

Modern innovative technologies are actively penetrating the world's financial sector and the individual country. This is directly related to the fact that consumers and customers want to get more convenient and mobile financial services. The last decade's trend in the global market is the active development of non-physical service channels, alternative payment products based on innovative technologies, the introduction of new ways of interacting with potential customers. The forecast of the BCG consulting group (Boston Consulting Group) indicates that in the next 5 years, 30% of the world's corporate banking will go through digital channels. Banks as active market participants must meet today's conditions. The banking business in Ukraine is no exception. Therefore, the practice of monitoring financial technologies in the banking sector of Ukraine and outlining their features is the basis for forecasting the main directions of the development of banking services in the new digital competitive environment.

The peculiarities of the fintech services development in the banking business of Ukraine are directly connected with world tendencies in the market. A study of the current state of the global FinTech market in the banking sector shows an increase in requirements for bank capital, risk management systems, and for the implementation of KYC (Customer Identification, known as «Know Your Customer») and AML programs (anti-money laundering procedure) [1].

It is determined that from the standpoint of the banking business, such financial technologies as digital and peer-to-peer payments, peer-to-peer lending, crowdfunding and crowd investing, risk management, BigData analysis, and predictive modeling, security technology are actively developing in the world. Studies of global investments in the fintech industry found that despite the growing importance of financial resources of private investors, angel investments and venture funds, the main source of funding for FinTech companies is still their funds [10].

Banks can integrate their fintech solutions through partnerships, contract acceleration, and acquisitions. It is proven that the most effective strategy of relations between commercial banks and fintech companies is not competition, but the use of various mutually beneficial options of cooperation. This is confirmed by the latest research conducted by MasterCard, which shows that about 90% of banks and 75% of fintech companies in the world seek to cooperate in the future, 58% of bankers consider the possibility of introducing fintech innovations, 71% of banks intend to buy ready-made fintech solutions [3].

Some examples of successful cooperation between fintech companies and the banking business are also given in the research. For instance, the introduction of financial and innovation program ING Fintech Village and the creation of an investment fund for the development of start-ups for 300 million euros from ING, The Village by CA – an investment fund for start-ups for more than 100 million euros from Credit Agricole, own business incubator, an accelerator Fintech Boost of L'Atelier and an investment hub called We Are

Innovation from BNP Paribas, business start-up programs called Elevator Lab partnership program, Elevator Lab Challenge and Elevator Lab Bootcamp from Raiffeisen Group, Citi FinTech Open Innovation Challenge, Global API Developer Hub, Innovation Lab from Citi bank [3].

The analysis of fintech segments of the global financial market determined that digital payments are in the first place by the value of transactions, followed by personal finance management and lending [11,12]. It is proven that the development of Open Banking technology is radically changing the ecosystem of financial markets; banks are becoming new operators of financial services. The level of readiness of banks and fintech companies to implement open banking is influenced by such factors as human resources, adequacy of financing, adequacy of security tools, technological responsibility, and compliance with regulatory rules [2].

The trend in the global financial market is the transition of the world's largest banks to 'Open X Banking' (Open X). It is found that the new technology will contribute to the creation of a sharing economy, the formation of an integrated market with specialised roles for each participant, the organisation of an uninterrupted exchange of data and services, the improvement in service quality and customer satisfaction, the reduction of fraud and an increase in scalability [5].

Studies of the prospects for further fintech development of the global banking business indicated that competition with fintech companies might lead to a loss of traditional transaction revenues, a customer base, and the redistribution of liquidity. All these changes can cause monopolisation and fragmentation of the market by large companies that have significant budgets for fintech development. The main segments of the banking market that will suffer as a result of such changes are corporate, retail, investment banking, infrastructure projects, banking transactions, and payments. The forecasts for the next 10 years suggest that banks may lose up to 60% of profits in favour of new players in the financial market [14].

The analysis of the Ukrainian banking fintech market revealed that the development of the banking business in Ukraine differs radically from the world banking business and it contradicts global trends. This is because Ukrainian banks do not accept digital transformation as an opportunity, but they regard it as a 'parallel reality'. The reasons for this statement are that banks have a very low level of participation in the capital of fintech companies (87% of banks do not have shares of fintech companies), the experience of board members in the fintech industry is limited, half of the banks do not even have a devised innovative strategy. In their activities, banks, first of all, improve IT areas to increase the level of protection of customer data and the bank itself from cyberattacks and minimise operating costs, and only then, they implement other fintech capabilities [13, 14].

It is established that the absence of a sustainable fintech ecosystem, a small number of specialists in the market, a small share of the financially literate population, insufficient coverage of the country by broadband Internet access, inflexible regulation in certain areas, low investment attractiveness for foreign investors and capital outflows in the conditions of the pandemic due to the recession hinder the development of the banking business in Ukraine.

Card payment services and back-office software development and maintenance are in the greatest demand among fintech solution services provided to banks. The main trend of 2020 in the Ukrainian card market was the active transition of Ukrainians to contactless payments and payments on the Internet. Both in the global market and Ukraine most banking institutions are actively involved in joint projects with fintech companies or plan to cooperate in the future. Such models of cooperation enable banks to reduce investment costs and minimise risks.

A study carried out by the National Bank of Ukraine and the Association of Financial Technologies of Ukraine on the extent to which domestic banks are involved in cooperation with financial technology companies indicated that all bank respondents cooperate with fintech projects or are preparing to launch them. In most cases, they set up joint projects rather than create personal innovation centers, although such a strategy is present in the market. It is established that almost all respondents avoid investing in start-ups [6,7].

The active development of the FinTech-environment in Ukraine is evidenced by the interaction of large Ukrainian banks, including Oschadbank, Ukrgasbank, Raiffeisen Bank Aval, Alfa-Bank, Ukrsibbank, FUIB (PUMB), OTPbank, and Megabank with FinTech companies. It is worth noting that 63% of projects are financed by banks with their resources and all of them have passed the break-even point. These banking institutions have their acceleration programs (Alfa Digital, POPCOR, Raiffeisen Digital HUB, Open Banking Lab) and are actively developing banking fintech products (Airplay, IPay, LigPAY, QR-

PAYMENTS, Privat24, Chat-bot 'Online Assistant', Oschad PAY, Oschad 24/7, Alfa-mobile, PUMB online, PUMB mobile, UKRSIB online, Raiffeisen Pay, Raiffeisen Online, OTP Smart) [13, 14].

It is found that the most successful and potential areas of introducing FinTech into the banking sector in Ukraine are artificial intelligence, open banking, blockchain, mobile banking. It is proven that artificial intelligence is one of the promising directions of further development of information systems and financial technologies of Ukraine. Estimates suggest that by 2030, the banking industry will be able to save about 1 trillion dollars through the use of artificial intelligence [6]. An example of the successful implementation of projects with the use of artificial intelligence is the collaboration of Raiffeisen Bank Aval and VISA – a chatbot 'Concierge Service Business Banking', the main purpose of which is to offer advice on legal and organisational issues.

It is determined that the development of artificial intelligence for the banking business of Ukraine minimises costs, increases efficiency and income, productivity and quality of services provided. Furthermore, artificial intelligence provides an opportunity to move to more personalised service delivery. One of the most popular areas of artificial intelligence is robo-consulting, because, in addition to the fact that it can be used for various purposes, such as fraud prevention or risk management, this type of service is much cheaper compared to traditional financial counselling.

The open banking system has a similar goal in terms of greater customer orientation. Given the peculiarities of the banking sector of Ukraine (a complicated ownership structure, transactions with related parties, lending to business beneficiaries), Ukrainian banks are not ready to disclose data, so fintech companies still find it difficult to work with them. However, taking into account the fact that open banking is a global trend, further collaboration between banks and fintech start-ups in this direction is inevitable [6,7].

Blockchain is considered one of the most important innovative technologies in various industries. In Ukraine, banking institutions are in the early stages of blockchain adoption. They either focus on developing their blockchain strategy or work on proof of the effectiveness of blockchain technology as a whole. An example of the use of blockchain technology in Ukraine was the fact that in 2018 the National Bank of Ukraine issued a limited amount of its own digital currency based on blockchain technology – electronic hryvnia [6].

It is established that the Ukrainian banking business, like the world one, is transforming and moving to a digital format. The paper identifies the main growth factors in this trend, such as convenience, time savings, availability, the reduction of cost items, and cheaper transaction processes [4]. It is determined that there are 6 digital banks in Ukraine: O. Bank, Monobank, Todobank, Izibank, Sportbank, Neobank.

To identify prospects for the promotion of the banking business, a SWOT analysis of the development of digital banking in Ukraine was conducted. Increased profitability of operations and the expansion of the client portfolio are among the key advantages for banks. The main disadvantage of the digital transformation of banks is its significant cost. The process of digital banks development entails such risks as loss of personal data, fraud risks, technological and operational risks. It is established that further development of digital banking will primarily depend on the improvement in IT technologies that reduce the cost of digital transformation of banking institutions, on the search for new ways to protect data in the face of cyber attacks, as well as on bridging the digital divide between urban and rural areas [8, 9].

Generalisations of scientific and practical research provided an opportunity to form an adaptation scheme for the development of fintech innovations in banking and to describe the features of the procedure for developing innovative banking products and services.

The main advantages of integrating fintech solutions into banking services are identified. They are the convenience of obtaining a banking service without being tied to branches and business schedules; the speed of operations due to automation and reduction of the human factor; the prospect of rapid scaling without the need to expand the branch network, the gradual transition from offline to the Internet and digital banking; uniqueness, the reduction of costs for banks, an increase in economic efficiency; an increase in sales; comprehensive competitive advantages in the long run [15]. These advantages serve as a trigger for the development of potential opportunities for the banking business in the fintech market of Ukraine: the development of a cashless economy, a rise in digital and financial literacy of consumers and business, an increase in investment potential, and an increase in the degree of the FinTech development, the integration of the Ukrainian FinTech ecosystem into the global financial space, further development of the digital infrastructure of the financial market.

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