THE IMPACT OF MODERN FINANCIAL TECHNOLOGIES ON THE INTERNATIONAL BANKING MARKET

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The article examines the essence and features of modern financial technologies in the context of digital transformation of the financial market. The main results of the influence of financial technologies on the international banking services market are revealed. Digital banks (not traditional banks) are briefly described. The prospects for the development of the banking sector in the digital economy are analyzed.

Keywords: banking sector; financial technologies; digital transformation; digital services.

Like all branches of the economy, the financial sector is currently undergoing a digital transformation, one of the manifestations of which is the so-called financial and technological revolution, or fintech revolution. The digital transformation of the financial industry is a special case of the digital transformation of the world economy. In finance, the trends that are inherent in digitalization in general are being implemented.

In the digital transformation of the financial industry, two main trends can be distinguished: the first of them is associated with the entry of technology companies into the financial services market, and the second is with the digitalization of traditional financial organizations, their development of innovative digital technologies in order to increase the efficiency of their activities. Together, these two trends gave a synergistic effect, which allowed the introduction of innovative business organization models in the financial market.

Fintech. Let's first consider what innovative financial technologies are and, consequently, how its influence the transformation of the financial services market.

The concept of "financial technologies" or "fintech" is relatively new. The Basel Committee on Banking Supervision defines fintech as "technologically enabled financial innovation that could result in new business models, apps, processes or products with an appropriate significant effect on financial markets and institutions and the provision of financial services".

The term "fintech" is also used in relation to startups which actively use breakthrough technologies in the provision of financial services. Traditional banks and insurance companies are also introducing new technologies, which also makes them players of the fintech market. Therefore, in a strict sense, fintech denotes innovative financial services provided by medium and small enterprises, and in a general sense – all financial innovations integrated in the market by both large banks and small firms.

The following trends contributed to the rapid development of fintech:

1. Changes in consumer behaviour, manifested through the growing penetration of smartphones, the desire to share experience with a wide range of people, increasing

requirements for the convenience of using services, the quality of information and the speed of its receipt.

2. The growing popularity of social networks, which enabled people to offer new types of financial services based on information exchange between users, for example, crowdfunding, peer-to-peer transfers, etc.

3. Development of data processing technologies, which led to the emergence of fundamentally new services: peer-to-peer lending, online scoring based on "big data" technology, algorithmic trading, etc.

4. The rising market competition. The global financial crisis of 2007–2008 caused tougher regulation of the banking sector, which arose consumers' interest in the services offered by fintech start-ups.

5. Reduction in financial services value. ICT introduction has reduced client servicing costs due to elimination of a wide network of physical branches and transition to electronic interaction with both the consumer and the regulator.

6. The increased availability of financial services through introduction of remote service mechanisms and lowering the threshold level of entering the market.

7. The increased transparency of the economy and the enhanced efficiency of measures to combat money laundering and terrorism financing. New technologies, such as in-depth analysis of transactions and customer activity data collection allow more substantial and targeted counteraction against illegal activities.

8. The vigorous growth in the using of fintech services based on smartphones and electronic wallets, which occurred, first of all, in China and India with their low penetration levels of traditional banking services. The number of consumers of fintech services grew at the cost of those who were not covered by traditional banking services.

9. Generation Z increase. According to Facebook and MasterCard research, more than 90% of young people in the United States do not trust the traditional banking system and use new fintech services provided outright by bigtech and fintech companies (most often fintech startups).

10. Therapid growth of investment flows into the fintech sector: if in 2011 the volume of financing for fintech startups was $6 billion, in 2019 investments reached a record $213.8 billion. The results of 2020 are expected to be low, the total volume of investments has decreased to $124.9 billion, but in 2021 there was a rapid recovery of financing to $210.1 billion [1, p. 6].Turning to the situation in 2022, the market has seen a reduction in quarterly financing of fintech companies by 18% to $ 28.8 billion, despite the fact the number of transactions reached a record level of 1,399 transactions – an increase of 7% compared to the 1st quarter of the previous 2021.

The authoritative German website Statista considers the fintech industry as consisting of five segments:

digital payments for goods and services by using credit cards or mobile e-wallets (f.i. PayPal, AliPay, ЯMoney, QIWI, ecoPayz, etc.);

neobanking;

alternative financing of business clients (crowd investing and crowdfunding);

alternative lending to businesses (crowdlending) and private borrowers (peer-to-peer lending);

digital investments and assets and wealth management [2].

Fintech adoption rates vary geographically depending on several factors: firstly, Internet penetration, especially mobile, plays a decisive role; in second place is the degree of trust in technology firms and the ability to access traditional financial services; and finally, it is necessary to take into account the volume of local investments in fintech, which, in turn, depends on many regional variables.

According to Statista, as of the end of 2021, there were 10755 fintech companies in North and South America, 9323 in the EMEA region (Europe, Middle East and Africa), and 6268 in the Asia-Pacific region [2].

Nevertheless, the United States is the leader in the number of fintech companies worldwide. Most of the well-known American fintech companies are located in California and New York, the most prominent of them are: Venmo, Stripe, OnDeck, Lending Club, Prosper, SoFi, Betterment and Wealthfront. The two most actively funded fintech startups in the US are Robinhoodand SoFi ($5.6 billion and $3 billion respectively). Robinhood is supported by key investors – Frontier Tech Ventures, Index Ventures, Ribbit Capital and Social Leverage, while SoFi is supported by DCM Ventures and Discovery Capital. The leaders are followed by Kabbage and Stripe with funding of $2.5 billion and $2.2 billion accordingly.

Several American banks have invested in fintech, with Goldman Sachs leading with 20 projects, CapitalOne (13) and Citigroup (12). In addition, American banks have created innovation centers specializing in mobile banking, blockchain and cryptocurrencies, wearables, the Internet of things, next-generation trading, authentication, biometrics, augmented reality and big data [2].

The authoritative Forbes publication in June 2021 for the sixth time presented the Fintech 50 rating – a list of the most innovative fintech startups in 2021. Many got into it because of the pandemic, as users accelerated the transition to digital payments and online purchases over the past year, as well as actively engaged in trading shares and cryptocurrencies. To qualify for Fintech 50, startups must have a head office or conduct main operations in the US and be private on the publication date. The largest total amount of financing was attracted by the companies: Robinhood – $5600 million, Klarna – $2200 million, Stripe – $2200 million, Chime – $1500 million, Next Insurance – $886 million, Brex – $857 million, Plaid – $745 million, Hippo Insurance – $709 million, Carta – $692 million, Blend – $685 million [3].

Digital Banks (Neobanks). Fintech impact brought about a new generation of banks – neobanks; their popularity has grown rapidly due to the COVID-19 pandemic. The term “neobank” was first used in 2017 to describe FinTech providers of financial services.

Rather often neobanks are also called digital banks, online banks or challenger banks. Digital banks are financial institutions which provide banking services exclusively online. They do not use branches for customer service and are only available through websites on computers or smartphone and tablet applications.

The Massachusetts Institute of Technology describes three innovation waves in digital banking: “fundamentalists”, “digital hybrids” and “fully digital banks”.

Appeared in the 1970s, the “fundamentalists” imitated the digitization of their technological processes, limited themselves to an attractive website, SMS messages to the clients' phones and personal electronic office. But the main financial processes stayed fairly traditional.

Appeared in 1996, "Digital hybrids" used a special ICT infrastructure with an electronic interface, which still relies on centralized information repositories with vulnerable data transfer protocols and a classic bank back-office.

"Fully digital banks" use modern ICTs and are closely integrated into the lives of modern people who constantly use mobile devices on the Internet [4].

MIT experts believe that a digital bank is a bank with a full set of modern facilities (to suit a consumer, an investor and the bank itself). Digital banks have the following advantages:

the client gets access to banking services 24/7 from anywhere in the world;

lack of physical branches cuts costs. Moreover, the reduction of operating costs lowers the charge for banking services;

the clients' time is saved – they perform all operations online at any convenient time, thereby the territorial access of the clients expands;

the bank is forming an image of a modern technologically advanced organization offering a suitable level of service [4].

A clear advantage of digital banks is their low tariffs, high speed and better security of service. Another characteristic feature is integration into social networks and digital marketing on their basis.

The first digital banks began to appear in Europe in 2015. The new fintech sphere was pioneered by financial companies in the UK, Germany, France, and Finland, from where the new trend spread worldwide. According to the Exton portal, in 2018 there were 60 digital banks in the world. And in August 2021, the Boston Consulting Group counted 249 digital banks (operations in which are carried out exclusively in digital format).

The top-5 countries with active digital banking markets include Great Britain, South Korea, Sweden, France and Brazil.

Among the most popular digital ones are: Atom Bank, Coconut, Countingup, OakNorth Bank and Wise (Transferwise) (UK), Chime, Current, Aspiration, Varo and MoneyLion (USA), CurrencyFair (Ireland), Vivid Money and N26 (Germany), Lunar (Denmark), Anytime, Qonto, Shine and Soshop (France), WeBank and MyBank (China), Tinkoff Bank,TouchBank(Russia).

According to the White Sight portal, the five most valuable digital banks in the world for 2021 included: Nubank (Brazil) with market cap of $45 billion, Revolut (UK) – $33 billion, Chime (USA) – $25 billion, Tinkoff (Russia) – $21 billion, SoFi (USA) – $12 billion respectively. As, over the past three years, Latin American fintech Nubank has attracted about 50 million customers, where 72% of them are active users. Having conducted an IPO for $2.6 billion. At the end of 2021, having launched an e-commerce platform, as well as entering the domestic and international markets thanks to the acquisitions of six large firms, such as the American consulting company Cognitect and the Brazilian instant payment platform Spin Pay, Nubank deservedly received the title of the most valuable bank in Brazil and the most valuable independent digital bank in the world [5].

Digitalization of traditional financial organizations. The second trend of the digital transformation of the financial industry is the digitalization of the traditional banking sector. To maintain competitive ability, banks should pay much more attention to digitizing their services in order to stay afloat, expand their business, develop closer interaction with the clients and understand their preferences, reduce operating costs and meet client needs at once, increase competitiveness by providing new digital services to solve the clients' problems.

Therefore, let us highlight the main directions of digital transformation of traditional banks:

digital banking – rendering financial services through mobile and online platforms. This issue will be discussed in more detail in the following question;

electronic payment systems which charge a percentage or commission from the goods seller (borrower) for using the platform of this payment system;

instant online lending which provides payday loans to customers;

remote identification of customers by fingerprints. Other biometric data are also used: voice sample, vessel pattern of a finger, identification by selfie. Remote identification facilitates launching a full-fledged electronic document circulation;

processing of natural human speech, which includes speech recognition, understanding and speech generation;

using the bank's AI. Basing on the bank's own data and the information from external sources the bank's AI system creates a detailed image of the company, its subsidiaries, owners, customers, and jurisdictions., the AI conducts a thorough client verification instead of the security department;

roboadvising is an automatic service providing robot advisors which select investment assets and manage a portfolio [6, p. 52].

The Banking Sector Development Prospects in the Digital Economy. The development and spread of digital financial technologies in the market creates both new opportunities and new risks for banks.

Experience shows that the introduction of financial technologies into the key processes of a traditional bank enables their cost reduction by 40–60%. The customer service of the bank is improved by shortening the time of delivery of a product or service, reducing in the number of documents and contacts of the client with the bank. As a result, customer loyalty increases, and the customer base expands.

The digital banking market leaders are already applying new approaches to the organization of big data based on a single platform. The methods of in-depth analysis of large amounts of data allows the largest banks to improve the accuracy of credit scoring, form individual offers to customers and allocate resources effectively. Additionally, major banks are quickly re-formatting their branches, cutting down their number, installing equipment for clients to carry out most operations independently, and focus the efforts of the staff on consulting and sales.

Digital technological diffusion in the financial sector also accompanied by certain risks. According to the results of a PwC survey, 83% of respondents from traditional financial services organizations believe that they are at risk of losing part of their business. In the case of banks, the indicator is even more impressive – 95%. PwC analysts named the financial services sector segments which are most exposed to revolutionary changes in 2020. They include up to 28% of the banking and payments market and up to 22% of the insurance, asset management and private capital management market.

According to Citigroup, in the next 10 years, about 800 thousand employees of the banking services sector will lose their jobs due to the introduction of new technologies. In addition to bank employees, the commercial real estate sector will also be affected when banks start an overall branch closing in different cities.

According to McKinsey, traditional depository and credit services are most vulnerable: by 2025, banks may lose from 40% to 60% of income in this sphere.

Mobile payments is a separate problem. Up to 35% of this sphere can be taken over by such big-tech companies as Apple and Google, because their payment services make paying for purchases in stores quick and easy.

According to a McKinsey study, in the context of further growth of fintech sector and digital technologies, traditional banks have several possible ways of development. The most universal option is to turn traditional banks into digital ones which provide a wide range of financial products and services. Another one is to switch from the classical bank format to building up partnership with other companies. Finally, the third option for banks is to focus on providing basic services, such as balance managing and transactions [7, p. 252].

Therefore, the banking sector is currently undergoing a digital transformation, within the framework of which two main trends can be distinguished: the entry of technology companies into the financial services market and the digitalization of traditional financial institutions, which are actively introducing new modern financial technologies into their work. There is a formation and development of a banking business model completely different from the traditional one, where the key aspect is flexibility and adaptation to rapidly changing market conditions of both traditional industry players and fintech companies.

REFERENCES

1. The Pulse of Fintech H2'21 // KPMG International Cooperative [Electronic resource]. 2022. URL: https://assets.kpmg/content/dam/kpmg/xx/pdf/2022/02/pulse-of-fintech-h2-21.pdf.

2. In-depth Report: FinTech 2021. Statista Digital Market Outlook // Statista [Electronic resource]. URL: https://www.statista.com/study/45600/statista-report-fintech/ (accessed: 24.05.2021).

3. Kauflin, J. (2021). The most innovativefintech companies in 2021. // Forbes [Electronic resource]. URL: https://www.forbes.com/fintech/2021/#3e7b557c31a6 (accessed: 24.05.2021).

4. Lipton, A. (2016). Digital Banking Manifesto: The End of Banks? // Massachusetts Institute of Technology [Electronic resource]. URL: https://www.getsmarter.com/blog/wp-content/uploads/2017/07/mit_digital_bank_manifesto_report.pdf (accessed: 25.05.2021).

5. Kumar, S. (2021). 2021 FinTech Roundup: Stacking the Neobanking Stakes // WhiteSight [Electronic resource]. URL: https://www.whitesight.net/post/stacking-the-neobanking-stakes (accessed: 24.05.2021).

6. Kovalev, M. M. (2018). Digital transformation of banks. In: Bankauskivesnik. 2018. No. 11. P. 50–60.

7. Golovenchik, G. G. (2019). Digital Economy. Minsk. Publishing House of the BSU Center. 395 p.