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«Fintech» in digitalization of banking services

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Abstract **— The article analyzes the approaches to the definition of «fintech», which is one of the main trends in the banking market. The authors analyze the semantics of this term using a systemic methodology and give an interpretation based on an in-depth analysis of internal and external factors and trends in the digital economy. The conclusion of the article provides information about the main directions of financial technology development and the main components of banking services digitalization are described.**

Keywords — banking services, fintech, digital economy, financial technologies, banks, financial services.

I. Introduction

The beginning of the XXI century can be called the period of implementation of new financial technologies into banking life, which radically changed all traditional banking technologies and business processes. This required urgent renovations in the global financial system. The synergistic amount of information technologies and technologies for the provision of financial and banking services fundamentally changed the architecture of the global financial system and led to the emergence of the new term «fintech».

The concept of «fintech» is associated with digital financial technologies and has no clear-cut interpretation yet.

Next, we analyze some of the most common definitions.

Organizations that develop banking standards such as the Basel Committee on Banking Supervision give the word fintech the following definition: «technology-generated financial innovations that can lead to the creation of new business models, applications, processes or products for financial markets, institutions or the production of financial services» [[1]].

The largest audit and consulting companies (for example, Ernst & Young, PwC, etc.) define financial technologies («fintech») as a special term denoting the use of innovative technologies in the provision of financial and banking services by companies that are usually startups and involve in competition with traditional institutions (banks) [6]. PwC gives the following definition of the fintech phenomenon: «financial technology is a dynamically developing segment at the intersection of the financial services and technology sectors in which technology startups and new market participants apply innovative approaches to the products and services currently provided by the traditional financial services sector» [Ошибка! Источник ссылки не найден.].

«Fintech» – computer programs and other technologies used to support or provide banking and financial services [2].

An analysis of the definitions showed that different players in the financial market and science representatives understand «fintech» differently, associating it with different elements of financial activity in the digital economy. Therefore, the aim of the article will be an attempt to determine the place of «fintech» taking into account current trends in the transition to a digital economy in the banking sector.

II. Fintech market analysis

The importance of fintech as a new innovative sector is very high, as evidenced by the increasing investment flows in this area: the funding of fintech startups amounted to $ 4 billion in 2012, $ 12.2 billion in 2013, $ 29 billion - 2014. Investments in this segment, according to the KPMG report on global fintech trends, amounted to a record $ 46.7 billion in 2015. Funding for fintech startups, however, has fallen to $ 24.7 billion already in 2016 (Figure 1), as investors need strong evidence that innovative solutions can be scaled and commercially successful.

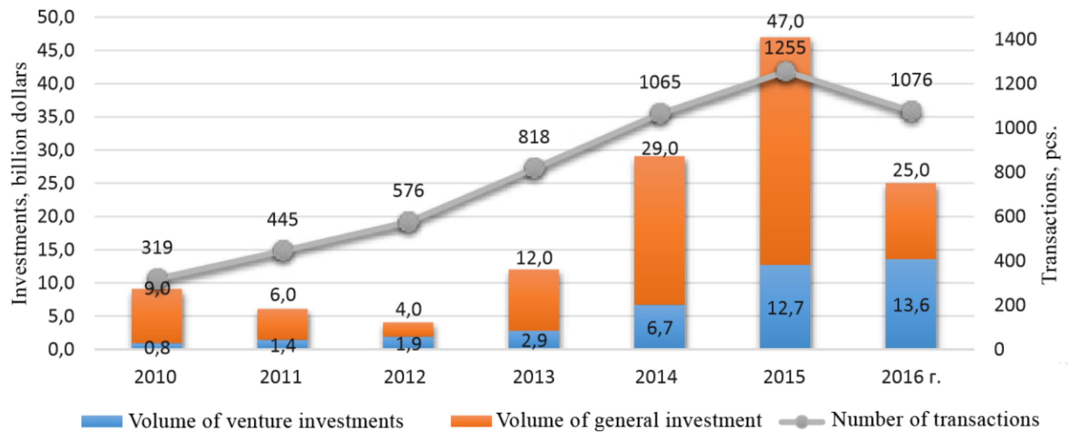

Fig 1. Investments in fintech companies according to KPMG [[2]]

The most popular investments in financial technology are payments and transfers, as well as investments and asset management (figure 2). These segments are the main sources of income for traditional banks, bringing about 46% of total revenue.

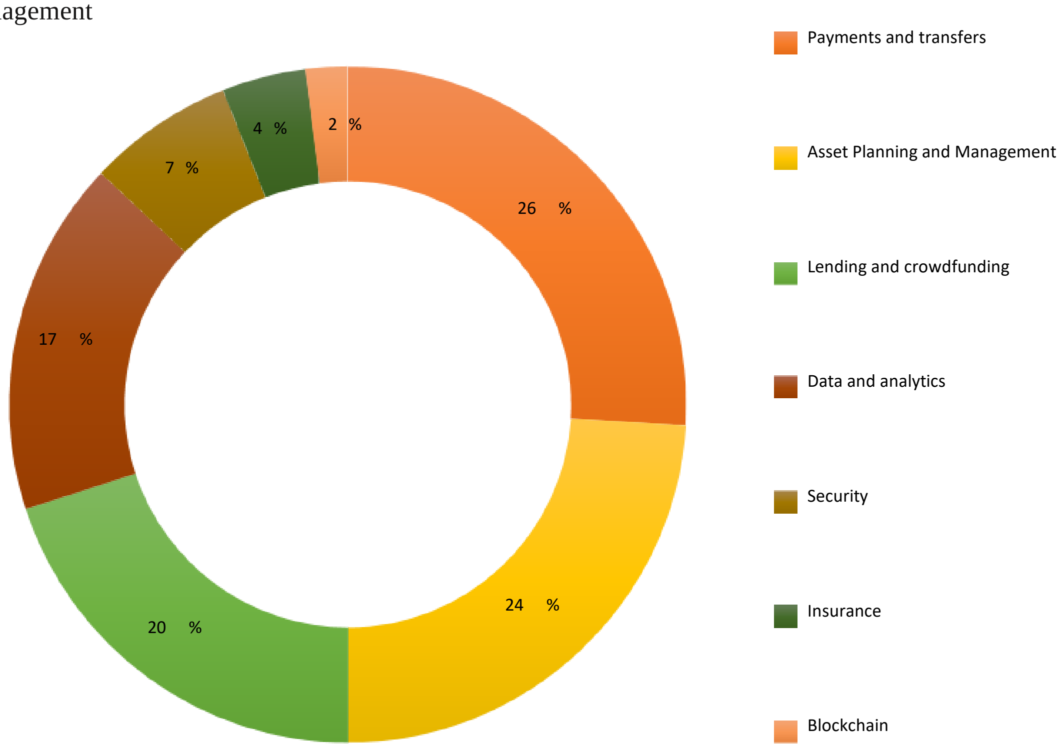

Fig 2. Distribution of investments in the financial services industry in the world in 2010–2016 by sector according to KPMG [[2]],%

A KPMG study [2] mentions that global investments in fintech companies amounted to $ 19.1 billion in 2015, reaching the highest level in history. Of this amount, $ 13.8 billion, which is more than six times more than in 2011, was allocated to fintech enterprises supported by venture investors.

Despite the rapid growth in global direct investment in the industry, the current share of fintech companies in the financial services market remains small. By the end of 2015, only 1.1% of revenue in the US banking sector was from digital banking solutions, and the share of loans issued in 2015 by P2P platforms in China's largest market in this sector was 0.5% relative to the total amount of newly issued debt. [3].

III. ECONOMY TRENDS INFLUENCING THE FINTECH MARKET DEVELOPMENT

The following global trends contributed to the rapid development of the fintech market:

1. The development of data processing technologies, it has led to the emergence of fundamentally new services, and to a significant improvement of existing ones, such as P2P lending, online scoring, algorithmic trading, and others.

2. A decrease in consumer confidence in traditional banks and stricter regulation of the banking sector that arose after the global financial crisis of 2007–2008 led consumers to become interested in the easily accessible services offered by fintech startups.

3. The growing popularity of social networks, which made it possible to offer new types of financial services based

on the exchange of information between users, for example, crowdfunding, P2P transfers and financing, social trading, etc.

4. 4. Changes in consumer behavior that are noticeable from the growing penetration of mobile phones, the desire to share experiences with a wide range of people, increasing requirements for ease of use of services, quality and speed of information.

5. The emergence of the economy of joint consumption - the provision of excess assets for temporary consumption due to the simplification of the search process both for people with free resources and for people in need.

6. The success of technology companies in other sectors of the economy (retail, entertainment, etc.), which led to the emergence of companies such as Airbnb, Uber, which significantly changed traditional markets and offered more competitive solutions.

7. The emergence of electronic public services has led to the emergence of a segment of society that is able to implement modern technology at the user level, and understands how effective it is.

The emergence of such trends is a natural process associated with the needs of new generations Y and Z, as well as older generations which accustomed to using modern information technologies and want to receive various services (not only state ones) in digital format.

The banking sector has always been a leader in the implementation of technological innovations, so the emergence of the fintech market contributed to a rapid increase in the speed of innovation in the financial sector.

Another reason for the interest in the fintech market can be related to solving business problems in the financial sector during the transition to a digital economy. Among these business tasks can be identified:

1. Increased competition in the banking market. Modern information technologies and IT market opportunities have created a huge number of startups in the financial sector, which for a successful existence had to occupy a specific market niche and compete with traditional market participants = banks.

2. Reducing the cost of banking services. The implementation of new information and mobile technologies can reduce the cost of customer service due to the rejection of a wide network of offices and the transition to digital interaction with participants in the banking services market.

3. Increasing the availability of banking services to satisfy consumers through the introduction of cloud services, remote service procedures, and lowering the threshold for organizations to enter the financial market.

4. Reducing corruption and money-laundering. New technologies such as in-depth analysis of operations, collection of information about customer activity (for example, the purpose of payments, place of transactions) allow counteracting illegal activities more specifically and precisely, without additional costs for financial institutions and consumers of banking services.

After analyzing the trends and business tasks related to the development of fintech in the digital economy, it can be argued that fintech companies are redrawing the competitive global financial market, eroding the boundaries established among players in the financial services sector. The most popular technologies that fintech companies are introducing into the banking sector are computer technologies of payment systems. For example, plastic card aggregators and P2P transfers, acquiring services, including mobile POS-terminals, online payment gateways, and applications for websites and mobile devices. Fintech solutions operate in the most cost-effective part of the banking chain: at the so-called last-mile stage - stage of interaction with the end consumer. The cost of servicing the last stage of the production chain of banking services, as a rule, is 40% of the cost of servicing the entire chain. All this leads to significant savings in operating costs. [4].

Now we are ready to define the concept of «fintech» in view of the transition to the digital economy.

In the narrow sense, fintech is innovative financial services by small firms that dramatically increase the efficiency of banking activities, in the broad sense, these are financial innovations based on trends in the development of the digital economy, contributing to a long-term effect on the banking market.

Financial technologies are digital technologies based on the use of big data technologies, the Internet of things, artificial intelligence, blockchain technology, and machine learning, which can improve the quality of banking and financial services for the end consumer and provide a long-term competitive effect in the banking market.

IV. Trends of use of financial technologies

The main areas of application of fintech in the banking sector are:

- instant lending operations, such as “payday loans” that are not practiced by banks.
- P2P lending as an alternative to bank retail lending, which provides the opportunity for people to borrow from other individuals and provide loans themselves.
- digital banking as the implementation of banking services using mobile and online platforms, which saves time and costs, increases the security of personal data, increases the speed and quality of services.
- electronic payment systems taking a percentage or commission from the seller of goods (borrower) who used the platform of this payment system.

The development of financial technologies changes the foundations of the banking system and raises the question of the need for the digital transformation of the banking industry, after which banks can offer customers new technologies and modern digital products. Distribution of innovative technological solutions developed by companies of the financial and technical sectors on the market creates new opportunities for banks.

The implementation of new technologies helps to make qualitative changes in both the functional and infrastructural content of a classic bank.

V. Conclusion

The influence of fintech has led to the emergence of a new generation of banks that do not have physical offices and use mobile applications and sites to provide services. The list of banking services through the use of digital technology will increase. The quality and safety of services will increase, and the cost will decrease.

The development of the fintech market will lead to the digitalization of banking services, which involves the use of biometrics to control access to information, automate sales using machine learning, advanced analytics based on big data in the cloud, and robo-advising based on artificial intelligence.

References

[1] Sound Practices: Implications of fintech developments for banks and bank supervisors. Consultative Document // Basel Committee on Banking Supervision. — [Electronic resource]. — Mode of Access: https://www.bis. org/bcbs/publ/d415.pdf. — Date of access: 22.10.2019.

[2] The Internet Economy in the G-20. The $ 4.2 Trillion Growth Opportunity // The Boston Consulting Group. — [Electronic resource]. — Mode of Access: https://www.bcg.com/documents/file100409.pdf. — Date of access: 22.10.2019.

[3] Pertseva, S. Yu. Fintech: functioning mechanism / S. Yu. Pertseva // Innovations in management. - 2017. No. 12. - S. 50-53.

[4] Border washing: as a financial services sector. World FinTech segment overview. March 2016 // PwC. - [Electronic resource]. - Access mode: https://www.pwc.ru/ru/ banking / publications / fintechglobal-report-rus.pdf. - Date of access: 10.24.2019

[5] Network economy // Glossary. - [Electronic resource]. —Access mode: http://www.glossary.ru/. - Access date: 10/19/2019.

[6] Yatsenko, B. Overview of the financial technology industry / B. Yatsenko, I. Prutov, Yu. Gusev. - M.: Ernst & Young, 2016 .-- 158 p. 158. A comparative analysis of e-government: a global perspective - an assessment of UN member states, p. 54–55, http: // www. unpan.org/egovernment2.asp.

[7] Gabor, D., Brooks, S. (2017). The digital revolution in financial inclusion: international development in the fintech era. New Political Economy, 22 (4), pp. 423-436.

[8] Gomber, P., Kauffman, R.J., Parker, C., Weber, B.W. (2018). On the Fintech Revolution: Interpreting the Forces of Innovation, Disruption, and Transformation in Financial Services. Journal of Management Information Systems, 35 (1), pp. 220-265.

[9] Gomber, P., Koch, J.-A., Siering, M. (2017). Digital Finance and FinTech: current research and future research directions. Journal of Business Economics, 87 (5), pp. 537-580.

[10] Gai, K., Qiu, M., Sun, X. (2018). A survey on FinTech. (2018) Journal of Network and Computer Applications, 103, pp. 262-273.

[11] Lee, I., Shin, Y.J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. Business Horizons, 61 (1), pp. 35-46.

[12] Shim, Y., Shin, D. H. (2016). Analyzing China's Fintech Industry from the Perspective of Actor-Network Theory. Telecommunications Policy, 40 (2-3), pp. 168-181.

[13] Leong, C., Tan, B., Xiao, X., Tan, F.T.C., Sun, Y. (2017). Nurturing a FinTech ecosystem: The case of a youth microloan startup in China. International Journal of Information Management, 37 (2), pp. 92-97.

[14] Kim, Y., Choi, J., Park, Y.-J., Yeon, J. (2016). The adoption of mobile payment services for “fintech”. International Journal of Applied Engineering Research, 11 (2), pp. 1058-1061.

[15] Mackenzie, A. (2015). The fintech revolution. London Business School Review, 26 (3), pp. 50-53.

[16] Puschmann, T. (2017). Fintech. Business and Information Systems Engineering, 59 (1), pp. 69-76.

[17] Gai, K., Qiu, M., Sun, X., Zhao, H. (2017). Security and privacy issues: A survey on fintech. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 10135 LNCS, pp. 236-247.

[18] Buchak, G., Matvos, G., Piskorski, T., Seru, A. (2018). Fintech, regulatory arbitrage, and the rise of shadow banks. Journal of Financial Economics, 130 (3), pp. 453-483.

[19] Gozman, D., Liebenau, J., Mangan, J. (2018). The Innovation Mechanisms of Fintech Start-Ups: Insights from SWIFT’s Innotribe Competition. Journal of Management Information Systems, 35 (1), pp. 145-179.

[20] Zavolokina, L., Dolata, M., Schwabe, G. (2018). The FinTech phenomenon: antecedents of financial innovation perceived by the popular press. Financial Innovation, 2 (1), pp. 33-38.