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BANK INNOVATIONS AND THEIR IMPACT ON THE ECONOMY

Abduraximova Dilora Karimovna, DSc
Tashkent Institute of Finance

ABSTRACT

In the current century, the penetration of financial technologies in banking has widely changed the architecture of the banking service market of the world. Their appearance affects not only the banking systems of countries but also the economies of countries. The article analyzes the influence of the implementation and use of innovative banking technologies on the financial sector and economies of the different regions and countries of the world.

Keywords: banking innovations, financial technologies, banking services market, remote banking services, digital banks.

Introduction

Banking practice in the world shows that the main innovation of the current century in banking, supplying banking products with financial technologies, is very effective. In particular, these bank products allow banks to provide cheap, high-quality services to clients without any restrictions in terms of time and geographical location. For instance, China's Ant Group bank has become the world's largest bank in terms of financing and number of users, despite being only 6 years old. However, giant banks with a long history such as JP Morgan, American Bank or Berenberg Bank do not get the same phenomenal results.

From this point of view, studies have been initiated in the field of finance and information systems to analyze these changes and the impact of digital development on the financial sector and economy at hole. This article examines the implementation of new and innovative banking products by banks and their resulting impact on countries.

LITURATURE REVIEW

A number of scientists have different definitions of the term "innovation".

For example, the anthropologist H.G. Barnett calls innovation "the basis of cultural change" and defines innovation as "any thought, action, or thing that is new because it is qualitatively different from existing forms."[1].

J. Sinki, who focused his activities mainly on studying the activities of digital banks, defines innovation as the implementation of new ideas, the introduction of new methods, the use of new instruments, including digitization tools.[2]. This definition focuses on digitization processes that have become popular in banks in recent years. The process of digitization of banking products and services has led to the emergence of digitally enhanced banking products, i.e. financial technologies.

There are also a number of definitions of the concept of "financial technologies".

According to H. Baber, "financial technology (fintech) is defined as the application of technology in the provision of various financial services"[3]. If we look at H. Baber's definition of "financial technologies" from

[1] H. G. Barnett, Imiovation: The Basis of Cultural Change (New York: McGraw-Hill Book Company, 1953), p. 7.

[2] Sinki, J.: Finansovyy menedzhment v kommercheskom banke i v industrii finansovykh uslug (Financial Management in a Commercial Bank and in the Financial Services Industry). Al'pina Biznes Buks, Moscow (2007)

[3] Baber, H. FinTech, Crowdfunding and Customer Retention in Islamic Banks. Vision 2020, 24, 260–268.

the point of view of H. G. Barnet's definition of "innovation", then the formation of qualitatively new banking products will occur by transferring traditional banking services to digital form through technologies.

K. Leong and A. Sung give this definition: "financial technology is defined as an interdisciplinary discipline that combines finance, technology management and innovation management"[4]. In this, K. Leong and A. Sung consider the concept of financial technologies not only as financial products, but as an interdisciplinary science that studies the management of their implementation processes and their impact on the internal and external system.

R. Rupeika-Apoga, E.I. Thalassinos defined that "Fintex is a new technology that offers new ways of providing financial services that cannot be provided through traditional channels.[5]. R. Rupeika-Apoga, E.I. The definition of Thalassinos mainly emphasized that the offer of banking services is delivered through digital channels.

Digitization of banking products and remote banking services led to the emergence of "neobanks".

"Neo bank offers a new concept of simplifying banking services with the help of information technology and artificial intelligence," says Tinesh Basin. [6].

In general, the innovation process is a continuous development process, and the innovation process of banks undoubtedly leads to the improvement of their products and services.

A. Faster, M. Ploser and others, "from the point of view of risk control, financial technology can use advanced technologies such as biometrics and voice recognition to reduce labor, capital and time costs to increase data accuracy, which in turn reduces the risk of internal fraud and systematic can reduce the risk[7]. In our opinion, the definition of these authors more fully reflected the benefits that banks receive from the introduction of financial technologies.

This, in turn, leads to economic development as a result of the expansion of the banking services market, the increase of financial inclusion and the acceleration of economic processes.

RESEARCH METHODOLOGY

This study explores two methodological approaches: a systematic review of relevant scientific literature and analysis of data from some governments` Central Banks and, as well as Meltwater, Forbes company, Deloitte. E&Y and Boston Consulting Group data's on the development of financial access and economic development. The research methodology differs from others in that it combines international and national indicators of financial access and economic development. This allows comparing criteria from different sources.

ANALYSIS AND RESULTS

Financial markets around the world are undergoing far-reaching changes, driven by new technologies, consumer behavior and new regulatory approaches.

When it comes to financial technology, we can see that its emergence has changed the architecture of not only the countries, but also the world economy. Since 2019, fintechs have attracted roughly 20 percent of global

[4]Leong, K. and Sung, A. (2018) 'FinTech (Financial Technology): What is It and How to Use Technologies to Create Business Value in Fintech Way?', International Journal of Innovation,Management and Technology, vol. 9, no. 2, pp. 74-78.

[5] Rupeika-Apoga, Ramona, and Eleftherios I. Thalassinos. 2020. Ideas for a Regulatory Definition of FinTech. International Journal of Economics and Business Administration VIII: 136–54.

[6] Tinesh Bhasin, "What do neo banks offer and should you try them?" dated June 01, 2020, Available at: https://www.livemint.com/money/personal-finance/what-do-neo-banks-offer-and-should-you-try-them11591032340062.html

[7] Fuster A. et al. The role of technology in mortgage lending //The Review of Financial Studies. – 2019. – T. 32. – №. 5. – C. 1854-1899.

venture capital spending, which means they've attracted large amounts of capital from universal, tech private equity investors and hedge funds, in addition to financial services professionals who have consistently funded these ventures.

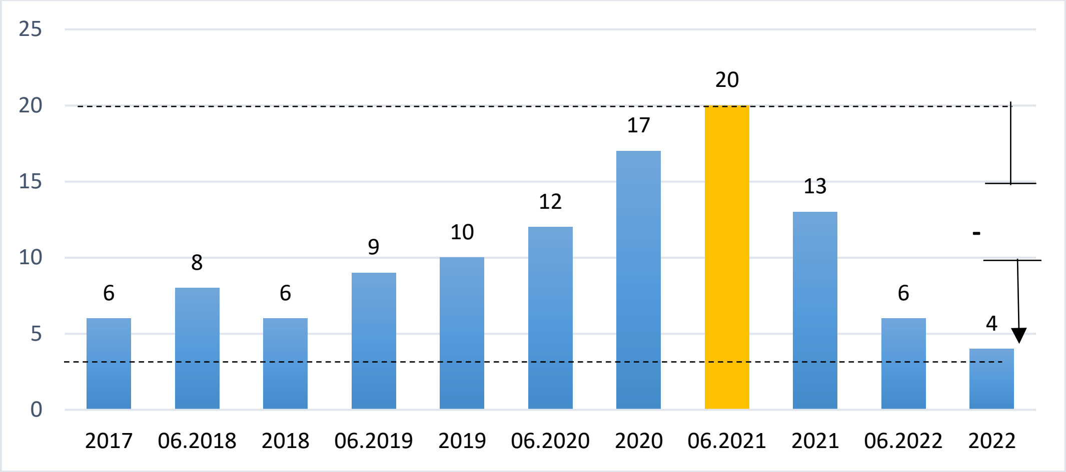

Figure 1. The dynamics of changes in financial technology funding levels in 2017-2022 [8]

The data in Figure 1 shows that financial technology, which reached the peak of financing in 2021, accounted for about 9% of all financial services in the world and a total of 1.3 trillion. amounted to US dollars. Due to this, this sector is 20 times higher than the investment made before 2017. Compared to the historical value before 2017, it was more than 6 times the annual rate. In this, the figures achieved in 2021 were caused by events such as the increase in market capitalization of the world's largest mega financial technology giants PayPall and Ant Financial. Due to the increase in the level of capitalization of these enterprises in 2021, they were among the ten largest financial companies in the world.

But the dynamics of the sharp decline in the last 2022 indicators is due to the increase in interest rates in the countries where the largest financial markets are located, which increased the cost of capital and caused a decrease in the supply of financing.

Despite the emerging instability in the global economy, the continued development of the Financial Services sector, particularly the demand for financial technology, remains strong. A number of factors influence this. First, the financial services sector is one of the largest and most profitable segments of the global economy, with an annual income of 12.5 trillion. US dollars and as one of the highest indicators of the average rate of return, the annual net profit or added value is about 2.3 trillion. It is US dollars.

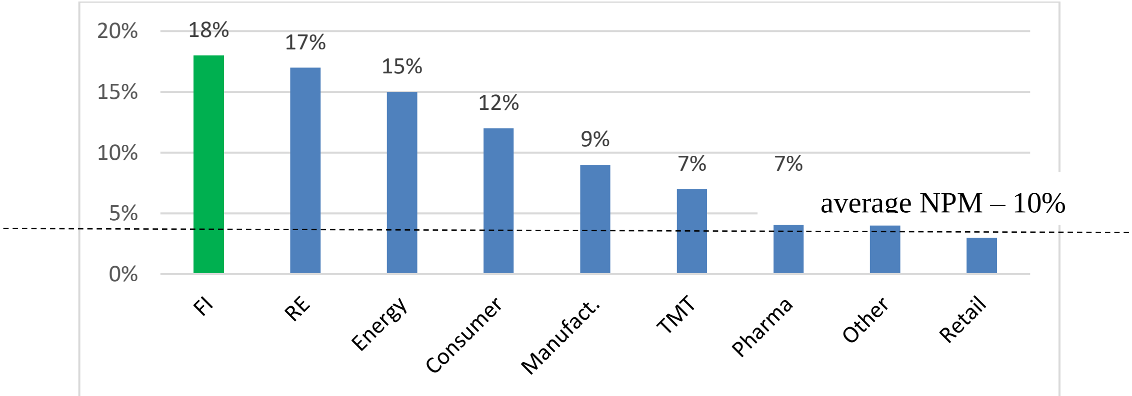

Figure 2. The level of profitability of the global economy by sectors [9]

[8] The graphic was compiled by the author after studying research from Fintex control tower, Capital IQ and BCG.
[9] The chart was created by the author based on the results of the Fintech Control Tower, Capital IQ, BCG company research.

The data of Figure 2 shows that the highest indicator of profitability (18%) is occupied by the financial sector in relation to all sectors. It can be seen that the average global rate of return of the industries is 10 percent. In second place, one of the primary targets worldwide, the renewable energy production sector is only 1 percent smaller than the financial sector (17%), and the rate of return in the traditional energy sector is 2 percentage points lower than the renewable energy sector at 15%.

Although the data in Figure 2 shows that it is the financial sector that has the highest global profitability, the emergence of financial technology has changed the way financial services consumers perceive financial services.

According to research by the World Bank, 1.5 billion of the world's elderly population are unbanked, and about 2.8 billion adults are unbanked (defined as not having a credit card), the basis of remote banking. the project on expanding access to financial services of the World Bank). This is more than half of the world's adult population. Additionally, while 89% of adults worldwide use a mobile phone or smartphone, nearly 44% of the adult population still relies heavily on cash for payment transactions[10].

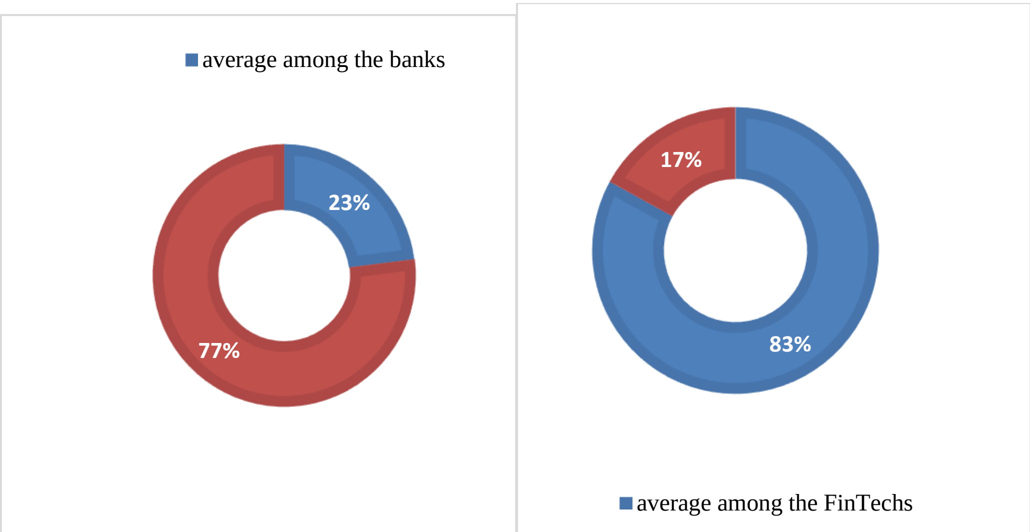

Figure 3. Analysis of the gap between financial technologies and bank loyal customers [11]

The data in Figure 3 shows that the average customer loyalty rate, or percentage of repeat customers, for US banks is 23 percent. Compared to some financial technology companies in the United States, this figure is 90 percent for companies based on financial technology, and the majority of their customers are regular customers.

However, the development of financial technology has increased the importance of financial fraud and cyber security.

The dynamics of cyberattacks detected by Kaspersky Lab's special program in 2016-2021 show that over 40 percent of all operations during these years were determined to be digital financial fraud (Figure 4).

[10] Note: The data is based on the statistics provided on the official website of the World Bank. https://www.worldbank.org

[11] The chart was compiled by the author based on the data of Forrester's The US Net Promoter Rankings, 2022/Customer Gauge Benchmarks in Financial Services 2022 report.

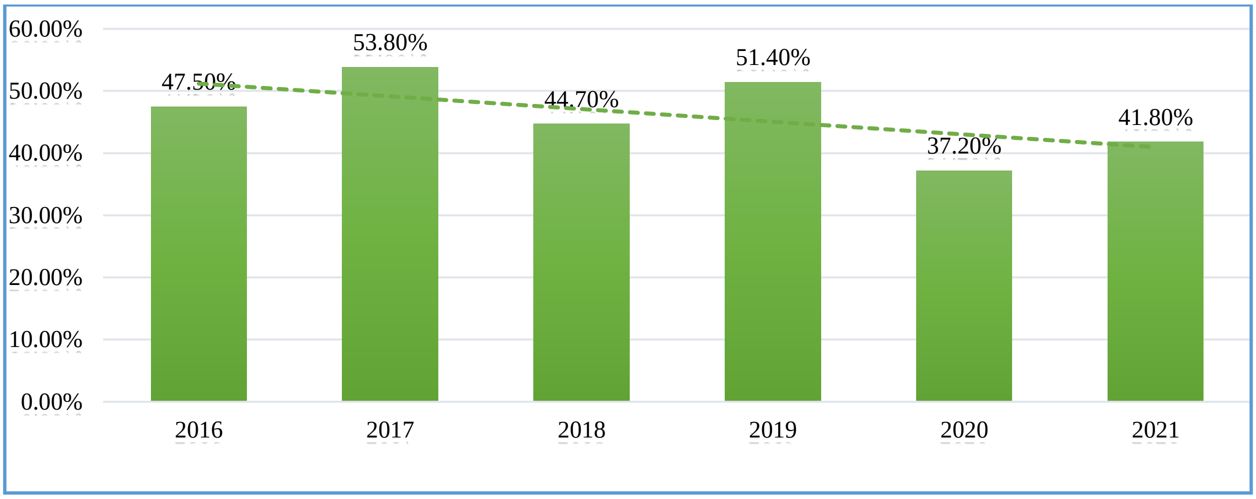

Figure 4. Share of cyber attacks detected by Kaspersky Lab's special software corresponding to digital financial fraud [12]

Figure 4 also shows that 11 percent of users who were victims of financial Internet fraud within the scope of this study were bank customers, and this indicator is the smallest share.

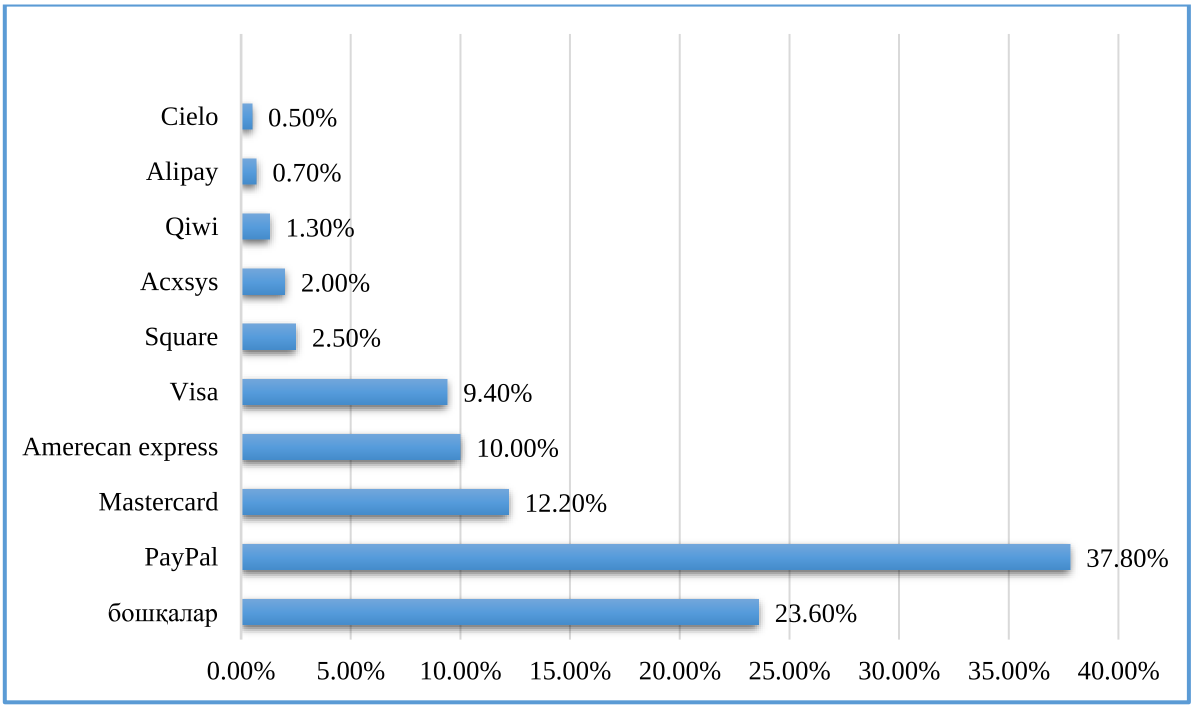

Figure 5. Payment systems used in financial internet fraud schemes in 2021 [13]

According to Figure 5, the analysis of global financial internet fraud in 2021 shows that it is the users of the largest payment systems that are most likely to be cyberattacked. For example, PayPal users lead the way, accounting for 37.8% of all financial cyberattack schemes. Its share is more than 3 times larger than that of the following systems, such as Mastercard, American express and Visa.

[12] Created by the author based on Kaspersky Security Bulletin 2022 report of Kaspersky Lab. https://securelist.ru
[13] Created by the author based on Kaspersky Security Bulletin 2022 report of Kaspersky Lab. https://securelist.ru

Table 1.Users most affected by financial internet fraud in 2022 [14]

No.	Country name	Share of users
1	Turkmenistan	6,60%
2	Afghanistan	6,50%
3	Tajikistan	4,90%
4	China	3,30%
5	Uzbekistan	3,30%
7	Yemen	3,30%
8	Sudan	2,90%
9	Mauritania	2,80%
10	Egypt	2,50%

The data presented in Table 1 shows that according to the analysis of the geography of financial Internet fraud, the highest percentage of affected users is from Turkmenistan (6.60%), Afghanistan (6.50%) and Tajikistan (4.9%). Uzbeks are in 5th place, their share is 3.3 percent, like users in China and Yemen (Table 1).

DISCUSSION

J.L. Bauer and S.M. Christensen's theories about "disruptive innovations" also apply to the impact of financial technologies on the economy, and their creation may lead to the loss of relevance of a number of traditional financial services. At the same time, it is described as "a process by which a small company with fewer resources (usually a start-up/new entrant) can successfully challenge existing enterprises."[15]. Мазкур таърифда бугунги кундаги долзарб масалалардан бири, яъни кичик FinTech refers to companies operating as competitors to large financial conglomerates, not just banks, reminiscent of Schumpeter's theory of "creative destruction." [16].

Effective technological solutions that meet the advanced analytical requirements of digital transformation allow financial organizations to fully exploit the potential of unstructured and large-scale data, unlocking competitive advantages and new market opportunities.[17]. This definition shows the impact of financial technologies on the banking services market. It is this issue that makes it possible to choose a customer-oriented business model for banks today. This, in turn, increases the level of use of financial services by customers and has a positive effect on their financial activity.

CONCLUSION

Studying the impact of the development dynamics and trends of innovative banking products on the global and some regional and country economies, in particular on the level of financial inclusion, allows us to draw the following conclusions:

- financial technologies are radical innovations that significantly change financial services and the financial services market in general;

[14] Created by the author based on Kaspersky Security Bulletin 2022 report of Kaspersky Lab. https://securelist.ru
[15] Bower J. L., Christensen C. M. Disruptive technologies: catching the wave. – 1995.
[16] Schumpeter J. A. Capitalism, socialism and democracy. – routledge, 2013. – 438 p.
[17] Strijenko A.A., Karpuxina O.M. Texnologicheskaya revolyutsiya: osnovnye napravleniya va effekty // Rossiya ekonomycheskiy internet-jurnal. – 2018. – № 3. – S. 58.

- under the influence of the unstable geopolitical and economic situation in the global economy in recent years, financing of financial technologies is slowing down, but the creators of financial technologies are focusing on income;
- the development of financial technologies leads to an increase in the level of financial inclusion due to their characteristics of not meeting any network, border or time barriers;
- in international practice, the level of customer loyalty to financial technology companies is higher than the level of bank customer loyalty;
- the development of financial technologies has increased the importance of financial fraud and cyber security.

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11. The Fintech Control Tower, Capital IQ, BCG company research.
12. the World Bank. https://www.worldbank.org
13. Tinesh Bhasin, "What do neo banks offer and should you try them?" dated June 01, 2020, Available at: https://www.livemint.com/money/personal-finance/what-do-neo-banks-offer-and-should-you-try-them11591032340062.html