

Digitalization of the Financial Sector: Background and Specifics

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ABSTRACT

Digital changes taking place in the economies of different countries are greatly transforming the financial sector. Consumers perceive the ongoing digital changes in the financial industry differently, which is due to different values of generations, the difference in the opportunities for using digital technologies by different age groups. Millennials are the main target audience of the financial sector. The level of digital literacy in the Russian Federation, studied by age criterion, showed a clear advantage in the possession of General digital skills and financial digital skills of the Millennials' generation. The analysis of the level of penetration of financial technologies by countries, including the Russian Federation, was carried out. The main differences in the level of digital literacy of the Russian population are considered. The main global and Russian trends in the development of digital financial technologies were also studied.

Keywords: *Digitalization of the financial sector, digital skills of the population, financial literacy, the financial technology industry, digital banks, digital financial services, digital currencies*

1. INTRODUCTION

The financial sector is actively changing, switching to more complex technologies. Active changes in the financial sphere affect both traditional financial and credit institutions and new types of financial institutions [1]. Digitalization is transforming the financial sector, and innovative activity is becoming a prerequisite for retaining existing customers and attracting new ones. Technological leadership today is not only a key competitive advantage, but also the basis for creating sustainable business systems. Modern convenient and comfortable consumption of banking, payment and insurance services creates new opportunities not only for existing traditional financial areas, but also for related markets, expanding the capabilities of the digital ecosystem and the range of its participants. Social networks help to strengthen relationships between customers, as a result – consumers become more demanding and less loyal. This creates a faster transition to competitors who can offer better financial services [2].

The needs of the consumer of financial services, coming to the fore, become a fundamental factor affecting the development of the financial sector.

Millennials, as the main target audience of the financial sector, plan and distribute finances in a completely different way than the baby Boomer generation and generation X. The baby Boomer generation focuses its actions on basic needs. Their basic values are society and the family. The main financial principle of this generation is to save money, not to buy anything extra. This generation is not very receptive to digital changes.

Generation X, or the lost generation, also takes digital changes quite hard. The values of this generation are family and career. They are quite careful about finances and strive for savings. They are very reluctant to spend money, especially if they have to spend it on themselves.

As for the Millennials, the self-actualization is their main value. They grew up in an era of abundance, information openness, and the rapid growth of financial technologies. It is difficult for them to maintain a financial balance, and they need to make serious efforts not to go into negative territory. This generation is currently the highest priority for FINTECH. Millennials make up 24% of the world's population. The main distinguishing features of financial behavior of Millennials is the lack of ability to plan their expenses, they want to spend their money on impressions, travel, entertainment, and not on large purchases, such as a car or a house. This generation is actively implementing its actions in a digital format. They are attracted by the remote control of the finances [3].

2. METHODOLOGY

The object of this research is the financial sector of the Russian Federation. Purpose of research:

1. Identify the prerequisites for the transformation of the financial sector in the context of digitalization of society and the economy.
2. Explore the main trends in the digital transformation of the financial sector.
3. On the basis of the study to form

The author used logical methods of scientific research, such as analysis, synthesis, induction, deduction, and analogy. It should be noted that the research is multidisciplinary, consisting in the synthesis of a sociological and economic approach. The need for multidisciplinary is based on a change in the social structure that forms new demands of the consumer of financial services. The transition to digitalization generates a "smart» economy", "smart" Finance. The emphasis is shifting. If earlier there was a tendency to respond in a timely manner to an emerging financial problem, now we are working to prevent problems.

3. THE RESULTS OF THE STUDY

The assessment of digital skills of different generations, conducted in Russia in 2020 by the National Agency for financial research, revealed the following points: the differences in the level of digital literacy between generations are extremely large, but the gaps in digital knowledge and skills are the same for all generations. The results of the all-Russian testing of the level of digital literacy in the context of generations showed the following:

Table 1 The level of digital literacy in the Russian Federation by age criteria [4]

Indicator	Average value for the Russian Federation, %	The baby Boomer generation, %	The lost generation and Millennials, %	Representatives of generation Z, %
Have an initial level of digital skills	6	10	6	4
Have a basic level of digital skills	67	78	64	60
Advanced digital users	27	12	30	36

This study examined the knowledge of such components of digital literacy as information literacy, communication literacy, digital content creation, Digital security, and problem-solving skills in the digital environment. The Zoomer generation has insufficient knowledge about personal data protection, working with government, financial and payment services, and e-Commerce. Baby boomers found it difficult to create and edit files in various formats. Generations of zoomers and baby boomers share a low knowledge of how to work with information on the Internet and assess its reliability, the impact of digital devices on physical and mental health, software

configuration, and the lack of installations for obtaining new knowledge in the digital environment.

An assessment of the actual level of financial literacy conducted in 2018 by the National Agency for financial research showed a non-linear relationship with a person's age. Digital financial knowledge, skills, and attitudes grow until approximately 30 years of age. By the age of 30, the Index reaches a maximum (12.5 out of 21 possible points) and remains at this level until about 45 years of age. This is followed by a gradual decline along with an increase in age.

Table 2 Index of financial literacy of the Russian population by age [5]

Age of the population, years	The index of financial literacy score
18-22	11,22
23-27	12,16
28-32	12,51
33-37	12,53
38-42	12,48
43-47	12,51
48-52	12,29
53-57	12,15
58-62	12,05
63-67	11,81
68-72	11,38
73-79	10,74

It was found that the level of financial literacy in women is higher than in men. The study also showed a higher financial capacity of working categories of citizens in comparison with non-working ones. Having a family increases the level of financial literacy. Active users of financial services are more financially literate. Investors were more literate than borrowers. The level of financial

literacy is directly related to the qualification. Than higher the qualification, that higher the level of financial literacy. Financial literacy is higher among users of digital financial services.

A study of the level of penetration of financial technologies by country, conducted in 2019 by Ernst & Young, showed that Russia ranks third, leaving the right of

leadership for China and India. Comparing the level of consumer awareness of the services offered by the FINTECH industry by category is as follows:

Table 3 Consumer awareness of the services offered by the FINTECH industry [6]

Indicator	Level of awareness in the world, %	Level of awareness in Russia, %
Money transfers and payments	96	100
Budgeting and financial planning	71	86
Savings and investments	78	81
Borrowed funds	76	82
Insurance	86	86

The main reasons for contacting FINTECH service providers in the Russian Federation in 2019 were the availability of attractive tariffs (27%), ease of creating an account (26%), creating access to various innovative products and services (24%) and more convenient use, improving the characteristics of the financial product and the quality of service (9%).

The Russian market also offers FINTECH services with minimal penetration, such as investment in securities. The FINTECH segment in Russia reflects the level of development of the country's classic financial market. Users of the FINTECH segment in the world prefer financial products based on online services and applications and are ready to share banking data with other organizations in exchange for the best offers. Russian users are extremely conservative in the use of their personal data and only 18% of customers are ready to share their banking data with other organizations. 33% of users of the FINTECH segment in the world reported that they would prefer to contact another organization to get a new financial product. Russian users are also much more conservative on this issue. Only 8% of respondents would first contact the wrong financial institution where they are currently served.

4. DISCUSSION OF RESULTS

Paying attention to the main global trends in the development of digital financial technologies, the following features should be highlighted:

Strengthening cybersecurity and increasing stability. In 2020, the financial technology sector will undoubtedly take an active part in planning the security system and develop a strategy for responding to cyber threats.

Digital banks as full-fledged competitive subjects of the financial sphere. In 2020, this trend may increase rapidly, with more and more customers beginning to accept banks that use only digital technologies as more efficient and convenient to use. Digital banks are also more likely to offer cheaper services than traditional financial institutions, which attracts customers.

The use of large data bases. Today, unstructured and structured data is used for customer segmentation, fraud detection, and risk management. Data analysis is supplemented with certain algorithms that help optimize forecasts and build diverse models. Predictive Analytics helps customers segment and create opportunities to offer them more personalized financial solutions.

Digital currency and Fintech Blockchain. Digital currency and blockchain are subject to constant optimization in order to increase efficiency and security. Blockchain can significantly speed up transactions between banks via secure and dedicated servers.

Integration of artificial intelligence in financial institutions. Optimization of operating expenses in the financial sector, increasing customer satisfaction by offering them the most optimal way to implement financial actions allow the financial sector to generate efficiency [7].

In connection with the pandemic, another significant trend, the corporate standard, is the remote mode of operation of financial organizations.

Financial organizations have a certain advantage: they have the most protected economic sphere in terms of information security. This is due to the fact that the risks of direct economic losses in cyber attacks can be attributed to direct and observable. It should also be taken into account that financial organizations have sufficient budgets and motivation for the qualitative development of information systems that have sufficient capabilities to protect against possible cyber threats.

Accenture has highlighted the challenges of developing the banking sector in 2020.

At the same time, it is noted that the trends of 2020 are interconnected with each other. Let's look at the key trends.

A rethinking of digital benchmarks associated with an increased focus on revenue, rather than reducing costs, as was previously the case. In 2019, Accenture confirmed that there is a direct correlation between the level of digital equipment and the profitability of banks. At the same time, the gap in indicators between technology leaders and banks that are less digitally equipped is growing.

Only the best digital banks are able to generate profit at the expense of attracted customers. Traditional banks have a special advantage, which are actively increasing their digital potential, while startups, for all their attractiveness, are extremely vulnerable. According to Accenture, today it is impossible to determine with certainty which models will be the most stable in the market: low-cost digital versions of traditional banks or data-centric architecture used by young market players, which allows you to get rid of integration problems and use higher-level analytical tools.

For medium-sized banks, mergers and acquisitions are becoming more and more relevant. In Western markets, 2019 was a year of mergers in the payment segment. The same trend is evident in the brokerage business in the American market. Mergers and acquisitions among traditional banks are expected to continue in 2020. In many markets, medium-sized banks are struggling to grow, and

they do not have the necessary scale or investment to Finance innovation.

Intelligent tools increase the efficiency of employees.

Interpersonal skills such as industry knowledge, empathy, and negotiation skills are complemented by artificial intelligence technologies such as scoring platforms, personalized recommendation development, and diverse Analytics.

Transformation of activity by introducing Open banking. The development of Open Banking technologies creates risks associated with the dissemination of personal data. Banks must not only retain the client's trust in the transfer of personal confidential information to the Bank, but also create additional value for the client by using this data to care for the financial well-being of the consumer.

Prerequisites for the formation of value-based banking (purpose-driven banking).

In 2019, a trend has emerged in developed markets for "conscious" choice of companies that create value for the entire society. Socially oriented companies and "green" companies are increasingly interesting to consumers. Next, it will be clear whether business models will change based on the missions and values accepted by society as a whole. Banks are beginning to minimize Commission income in order to form more trusting relationships with customers. Commission income of the financial sector will continue to decline. In 2004, non-interest income accounted for 46% of all operating income of American banks, in 2020-30%.

Even more focus on the quality of loans. The quality of credit portfolios of the 200 largest banks in the world was recognized as the best in 2014, and then it gradually decreases and the amount of losses associated with the impairment of assets of credit institutions increases by several percent annually. This trend is getting worse.

Changing the role and status of digital currencies. To date, digital currencies are little used in major financial transactions and services, and are used mainly as a speculative asset. However, the situation may change. The people's Bank of China intends to launch its own digital currency in 2020. In most developed economies today, there is cash in circulation and records on Bank accounts. In 2020, a tokenized currency issued by the Central Bank may appear [8].

5. CONCLUSIONS

It should be noted that not all the trends discussed above will work in Russia in 2020. This is due to certain requirements of the regulator (the Bank of Russia) and the specifics of competition in the Russian financial market. The Russian financial industry has been considering the possibility of generating profit through digital advantage for quite a long time. The practical application of artificial intelligence technologies by banks and insurance companies is a significant competitive advantage, and this is already demonstrated by industry leaders. But such trends as shifting the focus to such players as non-banks, the growth of mergers and acquisitions in the Russian

financial market, and the introduction of value-based banking are not yet being considered in Russia.

In 2020, the use of open APIs and Open Banking is also likely to develop. One of the basic key advantages of Open Banking is the "deployment" of the banking service in the client's direction, the ability to offer more services in a more convenient format. Open Banking encourages the development of the financial market, because it minimizes barriers to entry into the financial industry for third-party companies.

Open Banking is based on Open Data and Open API. Open Data refers to certain principles of open access to data. The Open API is a public set of software tools that provide interaction between applications. Due to the existence of an open interface, developers of other companies can access the functionality and content of a particular resource and use it for partial integration.

The emergence of digital currencies issued by Central banks can give a certain incentive to the Central Bank of Russia. The potential of digital currencies is evaluated by many Central banks. The Bank of Russia currently believes that the digital currency itself cannot have a significant impact on the key characteristics of the economy, but the risks of its implementation are extremely high. Since in this case it will be necessary to consider the need for systemically significant changes in the structure of the banking, financial and payment systems of the state, serious negative consequences are possible [9].

Ensuring the security of the state and protecting national interests provides for the unconditional preservation of the Central role of the banking system. The regulator's task is to provide new formats for personal data management, which will lead to the creation of expanded ecosystems of financial and non-financial services that meet the needs of modern consumers [10].

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