

## Цифровизация в банковской сфере

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### Аннотация

Вступление мира в четвертую промышленную революцию затронуло все сферы жизни общества, включая и банковский сектор. Активная цифровизация в банкинге, выражаясь в успешном внедрении новейших технологий в операционную деятельность финансово-кредитных организаций, не только несет несомненное благо обществу, но также вызывает и ряд проблем.

**Ключевые слова:** банкинг, банковский сектор, цифровая экономика, цифровая трансформация, интеграция.

### Digitalization in banking industry

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## Abstract

The world's entry into the fourth industrial revolution affected all spheres of society, including the banking sector. Active digitalization in this sphere, expressed in the successful introduction of new technologies in the operating activities of financial and credit institutions, not only brings undoubted benefit to society, but also causes a number of problems.

**Key words:** banking, banking sector, digital economy, digital transformation, integration.

The gradual entry of the world into the fourth industrial revolution has a huge impact on all spheres of society and enhances the dominance of information services and the digital industry in the economies of developed countries.

The acceleration of the pace of life leads to an increase in the cost of one of the most difficultly measured resources in finance - time, as a result of which the value of services provided remotely increases. Therefore, many companies have chosen digitalization as their main direction of development.

The banking industry is not an exception. Since customer focus is the main factor in long-term growth of the banking sector, the largest representatives of this sector could not fail to take into account the wishes and preferences of people.

The growing competition in the market, where a second of delay in the innovation race can cost several hundreds of users and even the life of a company, is forcing banks to prioritize flexibility (agile software development) as a priority area of work and development. However, the development of a dynamic response to the needs and demands of people, carried out on the basis of the analysis of a huge amount of data, cannot become a competitive advantage in the absence of the possibility of its instant implementation into an existing system. Hence, the second goal of any company arises – reduction of the time-to-market - the time of product entry to the market.

In addition, to the main intentions of banks can also be attributed creation of a user-friendly interface with the ability to customize, improve security, and, consequently, increase people's confidence in online services, as well as further personalize the offered products.

It is impossible not to mention the already existing achievements of domestic banks in the foregoing areas. Applications with colorful and visual iconography, along with basic services that have the functions of budget planning, viewing expenses statistics, creating auto payments and templates for transactions, the "moneybox" service, which helps to postpone a certain amount from each cash receipt, have already become a reality.

The introduction of artificial intelligence into the operational activities of banks has also ceased to be something unimaginable. Using it, banks will be able to create highly intelligent

mechanisms capable of providing answers to most of the customer's questions. They can relate to both standard and general topics, as well as individual strategies for accumulating or compiling an investment portfolio for different degrees of risk. This is achieved by creating a well-established system with a unified comprehensive information about clients and the principles and rules of the bank itself. So, back in 2016, Sberbank launched a pilot program "Iron Lady" - a robot that calls individuals who have credit card debt, a distinctive feature of which is the ability to self-learn and form follow-up questions based on responses received from customers. In addition, in the future it is planned to endow the "iron lady" with the ability to recognize the main emotions of the interlocutor in order to make the service even more effective.

Already, there already exist almost completely digital banks, for example, Tinkoff, offering unique services, such as an investment robot advisor that can compose a diversified portfolio of shares that meets user-defined criteria.

It is also possible to order cards and leave an application for a loan online by filling in all the necessary data in your personal account on the website and uploading scanned documents. The finished card (in the case of a loan - a card with an agreed amount) is delivered to the client by a courier. This technology is called click-to-meet. However, with the development of new payment systems that carry out transactions using special applications, it will soon be possible to completely abandon the physical presentation of the card and pay using a mobile device, which will remove the need for courier services and introduce "click-to-get" technology in the banking sector. This will be a huge step towards creating fully virtual banks.

Nevertheless, now the process of transition to financial institutions towards a new, digital example is not yet possible, as it is hampered by several factors. First, the imperfect systems, most of which are still under development. Frequent failures in their work and inability to resolve emergency or unusual situations does not allow to completely supplant a person from the process at this stage and leads to a decrease in the level of people's trust in remote banking services. Therefore, some clients still prefer face-to-face communication over virtual, especially in the "elite" sector, where people most actively believe that only a person can understand a person and provide him with proper service. Moreover, in order to perform certain operations, modern legislation requires confirmation of a person's identity, that is, his physical presence, which again requires banks to have an office. It should be noted that the problem lies in the pace of change in legal regulation, which lags behind the speed of scientific thought and impedes the successful implementation of the latest technologies in the country's economy.

However, the development of society is very rapid. Currently, the largest banks are considering the prospects of introducing video into the field of consulting and insurance services to

create the effect of a client's presence in the office and communication with a real specialist. Further integration of chat bots, self-learning virtual consultants and robot assistants will provide support to customers 24 hours a day, as well as minimize system disruptions and costs for service and call centers, and the latest biometric data analysis systems will help improve program security and increase trust of people to remote banking services and stimulate changes in the current legislation.

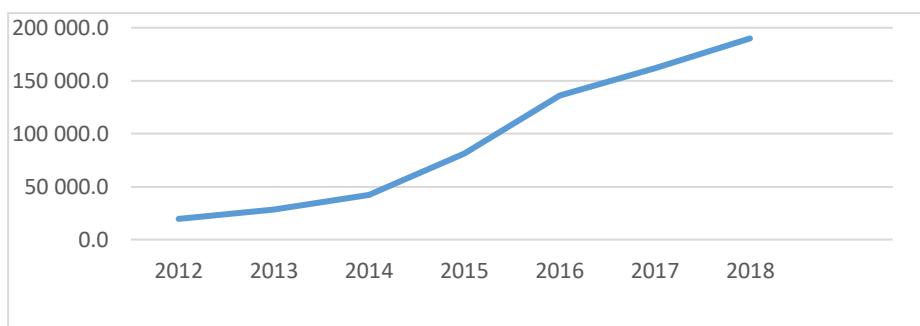
Russia has a huge potential in the field of digital technologies. Therefore, overcoming all the main obstacles is only a matter of time, because the creation and further training of robots with artificial intelligence will also make it possible to personify the range of goods provided and to diversify the existing range of services. Strong competition in the market significantly changes the approach of banks in relation to innovation and the introduction of new non-standard products. They are forced to constantly update the range of services, for example, buying up young companies and startups and adapting their technologies for their own. However, of course, not all companies in the banking sector are ready for such decisions at the moment. Together with the previous problem, this creates a threat of a significant reduction in the number of banks due to increased competition and the inability of some companies to timely implement modern trends in the market.

Probably, the further introduction of biometrics into ATMs and mobile devices will forever eliminate the need for a person to be present in the bank office, making it possible to confirm the identity of the client using retinal analysis, fingerprints, facial images or voice timbre. Such confirmation nullifies the possibility of hacking and fraud through mobile applications of banks, as well as a personal account on the site. Therefore, most clients will accept biometrics as one of the main steps towards digitalization in a positive way.

Thus, the fourth industrial revolution is already becoming a reality for the modern generation. However, it cannot be considered as an absolute blessing, since, along with a huge number of positive aspects, it causes serious problems in society. One of them is lack of qualified personnel. In Russia, there is already a shortage of qualified personnel to maintain the efficiency of online systems, from the one side, and an increase in unemployment due to the partial replacement of people with robots, from the other one. Furthermore, in the near future, medium and small banking organizations that have not been able to withstand in the innovation race will be acquired or will exit the market, which will also contribute to an increase in the unemployment rate. This problem appeared with the development of the scientific and technological revolution and continues to exist and intensify with its progress in many areas of our life, including banking. Of course, in the long term, innovation brings invaluable benefits and reduces time and labor costs. But in the short term, during testing periods, companies face difficulties.

Just as employees of companies may face problems of using new technologies, users also need time to adapt to them. Especially in Russia, there is a strong attachment to the old, but proven methods. This can be referred to all areas of life, thus causing distrust with regard to new products on the market. It is significantly aggravated by the fact that banking sector is most directly related to money and savings, where people are more conservative and distrustful than anywhere else.

Costliness and long-term return on investment in digitalization deprives such campaigns of the chance of winning, leading to a situation of oligopoly - dominance on the market of giant banks. Nevertheless, high costs are also affecting large organizations, where digitalization is far below the level of technology development. Relatively low demand for innovative digital solutions from them



**Fig 1. Number of accounts with remote access opened within credit institutions via the Internet, pcs**

limits the progress of Russian firms in technology segments, which makes them less competitive and leads to the displacement of domestic IT companies from the market by foreign players. Moreover, "the main component of a bank's efficiency is its employees, or rather, their work and the effectiveness of their actions". In order to maximize it, all processes in the company must be optimized and automated. However, with the introduction of new technologies, especially when it happens quite rapidly, staff often do not have time to adapt to innovations. This situation creates the risk of difficulties in introducing innovations, and, accordingly, lagging behind general trends. Without proper training and advanced training of employees, the digitalization process in banking can lead to lower than expected results.

In most Russian banks, analysis of customer behavior is based on information about their operations. Which means the absence of an individual profile for each client and the associated missed segmentation opportunities, the launch of loyalty programs, the identification of personal needs and high-quality tracking of fraud and illegal withdrawal of funds. To successfully operate in a highly competitive and rapidly evolving environment, it will be necessary to rely on additional sources of data, such as open Internet sources. Without this, there is a significant risk of loss of customer loyalty and, as a result, the position in the banking sector. Professional assistance in this area can provide Fintech companies that collect and analyze information about users obtained through the Internet.

The introduction of such technologies into their daily activities will allow banks to obtain comprehensive information about customers and improve services.

The last equally important risk associated with the digitalization process is the loss of control over the system. When the system is already running smoothly and the initial problems have not risen, another risk, unexpected at first glance, appears - uncontrollability. A person cannot always predict the operation of the system and its failures. Therefore, the threat of losing control over a lot of data, including strictly confidential, really exists.

The pace of life of people is growing from year to year, their habits are changing, they increasingly prefer speed and ease to established patterns of behavior. These are the main factors in the growing popularity of remote banking services among the population. Over the past five years, the number of mobile bank users has increased (more than 90% of all Internet users have remote access to their bank), as has the number of accounts with remote access (figure 1).

Over the past five years, the number of deposits opened via the Internet has increased in 4.5 times. This allows us to assert with confidence that the high level of digitalization in the modern world is synonymous with the competitiveness and prospects of companies, industries and national economies. Russian banks are aware of this, therefore they are successfully introducing the latest technologies into their operations. However, it should always be taken into consideration that along with a positive effect, digitalization also generates a number of problems, the solution of which will require great efforts from the state in the field of legislation, employment policy, education, whereas from people it will require patience, because a lot will depend on how the population will perceive obstacles: as insurmountable obstacles or as new opportunities.

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