

# Application of digital technologies in the banking system

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**Abstract:** Currently, no industry can be imagined without digital technologies. Digitization plays an important role in our evolving lives. We can't even imagine our daily lives without digital technologies. As a result of the digitization process, great changes have taken place in human life. We use in our daily lives transactions such as remote payments, online loan processing, which previously seemed to be impossible. Digitalization of the banking system is one of the key factors of development. This article discusses the advantages of using digitalization in the banking system and some drawbacks of this are also explained below.

**Key words:** Digitalization, artificial intelligence (AI), mobile banking.

One of the main factors in the development of the banking system of our country is digitalization. Although digitalization is important for the development of any industry, it can be said that in the banking sector this figure is twice as high. This is due to the fact that it is very important to conduct banking operations on accurate accounts without making mistakes, and efficiency issues are closely related to digitalization. Digitalization of the banking system has a number of advantages. For example:

- Due to the fact that banks today have to work with large amounts of data, all such information is stored using digital technologies, and their effective use in the future will not cause any problems.;
- In our modern life, the speed of banking needs to be increased as everyone tries to solve the problems they face in their daily life as quickly as possible. And thanks to digital technologies, operations that could be completed in a few hours can now be completed in a second;
- One of the most visible benefits of digitalization is the achievable transparency. Since digital technology takes into account any transactions that are carried out promptly and cooperates with any client using special identification methods, the probability of transparency problems during the course of the business process is very small.

The digitization process can be divided into several areas:

- Big data;
- artificial intelligence;
- blockchain;
- quantum technologies;
- production technologies;
- robotics;
- wireless communication;
- virtual reality<sup>1</sup>

Artificial intelligence is also one of the most widely used digital methods in banking. For example, one of the most useful aspects of artificial intelligence is its ability to answer customer calls. Sometimes, due to an increase in the number of calls, bank employees cannot answer calls on time. In such cases, with the help of an answering machine, many customers will be able to get answers to their questions. For example, if the autoresponder is set to answer the simplest questions, most requests can be solved without employee

<sup>1</sup>Blockchain technologies in the digital economy: Textbook / SS Gulyamov, RH Ayupov, OM Abdullayev, GR Baltabayeva; - T.: "Economy-Finance", 2019, - 22 p.

intervention. If the customer has some other question in mind, a properly programmed AI answering machine can connect the customer to the person in charge.

From the above, it can be seen that in one process, the tasks of several workers are performed by an answering machine. This, in turn, will lead to job losses.

In addition, «Tesla» company's founder Elon Musk described artificial intelligence in his talk at the Massachusetts Institute of Technology.: "I think we should be very careful about artificial intelligence. If I were to guess like what our biggest existential threat is, it's probably that. So we need to be very careful with the artificial intelligence. Increasingly scientists think there should be some regulatory oversight maybe at the national and international level, just to make sure that we don't do something very foolish. With artificial intelligence we are summoning the demon. In all those stories where there's the guy with the pentagram and the holy water, it's like yeah he's sure he can control the demon. Didn't work out".<sup>2</sup> But, on the other hand Artificial intelligence development has seen an "amazing renaissance" and is beginning to solve problems that were once seen as science fiction, according to Amazon CEO Jeff Bezos.<sup>3</sup>

Today, most banks are trying to introduce AI into their systems, because the use of artificial intelligence can reduce costs, reduce risks, and improve the quality of customer service.

According to some studies, banks could save \$447 billion by 2023 if they use AI. At the same time, the larger the bank's assets, the more willingly it will implement solutions based on artificial intelligence. Business Insider cites data from the UBS Evidence Lab, which polled 203 IT professionals at 175 US banks. According to the survey, 75% of banks with assets of more than \$100 billion are implementing strategies using AI, compared to only 46% of banks with assets of less than \$100 billion. In addition, 15% of banks with assets less than \$100 billion do not plan to implement AI-based solutions at all, in a sample of banks with assets over \$100 billion, this share is only 5%.<sup>4</sup>

The use of artificial intelligence has several advantages:

- Simplify interaction with customers and improve service, which allows you to increase customer loyalty
- The use of AI leads to the creation of a modern internal bank infrastructure based on machine learning
- Creation of a strategy that includes internal projects based on AI, as well as partnerships with other companies.

In addition, mobile banking services are now widely used. For example, mandatory payments that used to take hours to queue up can now be made using mobile banking in less than a second.

Mobile banking is an Internet bank with reduced functionality, as well as an interface adapted to gadget screens. To use the application, you need to download and install it on your device. At the first start, the system will prompt you to enter a login and password (or otherwise confirm your identity), after which access to your personal account will open.

Internet banking first appeared in the late 90s, and ten years later, users could manage their finances through the bank's website, enter into conversations with the support service, block cards, make transfers and payments.<sup>5</sup>

Mobile banking has a number of advantages:

- ✓ It will be easier for people to control their income and expenses. For example, when calculating expenses at the end of a month or a week, you do not need to remember why how much money was spent, just open the expense history from mobile banking applications.

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<sup>2</sup> Elon Musk: 'With artificial intelligence we are summoning the demon.'

URL: <https://www.washingtonpost.com/news/innovations/wp/2014/10/24/elon-musk-with-artificial-intelligence-we-are-summoning-the-demon/>

<sup>3</sup> A.I. is in a 'golden age' and solving problems that were once in the realm of sci-fi, Jeff Bezos says URL: <https://www.cnbc.com/2017/05/08/amazon-jeff-bezos-artificial-intelligence-ai-golden-age.html#:~:text=Amazon%20CEO%20Jeff%20Bezos%20said,science%20fiction%2C%20according%20to%20Bezos.>

<sup>4</sup> Research: large banks often use artificial intelligence [Electronic resource].

URL: <https://frankrg.com/12651>

<sup>5</sup> Mobile bank: new technologies on guard of finance [Electronic resource].

URL: <https://bilderlings.com/ru/blog/mobilnyj-bank/>

- ✓ Cashback will be provided to customers upon payment
- ✓ Payments such as taxes, credit transactions, money transfers to transport cards, donations, insurance can be made instantly using mobile banking.

While digitalization has many benefits, some risks can also be found. For example, one of the most dangerous crimes today is cyberattacks. In the past few years, headlines about new bank robberies have regularly appeared in the media. The names of criminal gangs that appear in them are usually known to every security specialist, and some of these criminals are responsible for a number of multi-million dollar thefts. High fees and today's relatively low risk of detection contribute to the active development of cybercrime: despite the fact that individual groups cease their activities, and their members are detained by law enforcement agencies, they are replaced by others using more advanced attack techniques. Criminals quickly adapt to a changing environment, relentlessly follow the publication of new vulnerabilities and manage to exploit them much faster than bank security services install the appropriate updates. On underground forums on the Internet, anyone can freely purchase attack software with detailed instructions for its use, enlist the support of unscrupulous bank employees and criminal communities specializing in laundering illegally obtained money. There is a situation in which an attacker with minimal technical knowledge can steal millions of dollars by penetrating the bank's network, which, it would seem, should have a high level of protection. For example, in the fall of 2017, cybercriminals attacked a bank in Taiwan, making transfers to accounts in Cambodia, Sri Lanka, and the United States.<sup>6</sup>

In conclusion, just as everything has pros and cons, so does digitalization have its pros and cons. It is logical to assume that digitalization has many advantages, and because of its shortcomings, artificial intelligence technology cannot be completely abandoned.

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<sup>6</sup> Report: Malware-Wielding Hackers Hit Taiwanese Bank

Using SWIFT, Attackers Routed \$60 Million to Sri Lanka, Cambodia, United States

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