

## DIGITAL INFRASTRUCTURE OF THE FINANCIAL SECTOR: DEVELOPMENT TRENDS

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**Abstract.** The article discusses the use of digital infrastructure in the financial sector, its advantages and disadvantages, development features, indicates the main directions for the development of digital infrastructure in the financial sector and directions for modernizing financial technologies for 2024–2025.

**Keywords:** digital infrastructure, financial sector, digital technologies, digital currency, cloud technologies.

Software is one of the keys to entering new markets. The technology sector is up more than 40 % in 2023 compared to the same period in 2022. In 2024, analysts expect a 17 % share of the up-and-coming technology sector's revenue, compared with 10 % for Morgan Stanley Capital International World Index companies as a whole.

The adoption and use of digital finance could increase the GDP of all emerging economies by 6 %, or a total of nearly \$4 trillion, by 2025, which could help create up to 95 million new jobs across all economic sectors (Figure 1).

The use of digital infrastructure in the financial sector creates a number of advantages, for example: individuals, businesses and governments are able to conduct cheap and efficient transactions, in turn small businesses and individuals have easier, wider and often cheaper access to credit. The benefits also include providing financial services providers with access to a completely new customer base and saving on costs as... digital accounts are 80–90 % cheaper to maintain.

Digital finance helps reduce losses in tax collection, government service delivery and subsidy transfer. Service providers such as telecommunications companies, payment providers, fintech startups, retailers and others are given more or less equal opportunities to establish dominance.



Figure 1 – Impact of digital finance on the economies of developing countries

It is customary to distinguish three main structural blocks of the digital infrastructure of the financial sector:

- 1) broad mobile and digital infrastructure;
- 2) dynamic business environment for financial services;
- 3) digital finance products that meet the needs of individuals and small businesses.

Currently, only 5% of financial activities can be fully automated using technology. These areas of development of the digital infrastructure of the financial sector, which contribute to the growth of investor income, include:

- development of the Internet of Things, big data, cloud computing and electronic payments;
- technologies to ensure the security of the growing flow of data and global communications;
- digital technologies and automation;
- cryptocurrency technologies, bitcoin, blockchain.

Let us consider in more detail the features of the development of the digital infrastructure of the financial sector in the listed areas.

#### 1. Cryptocurrency and cryptotechnology.

Bitcoin is a digital currency that is available exclusively online and consists of number codes. The first Bitcoin was created in 2009, at first this technology was seen as an opportunity to revolutionize the global payment system. In 2017, the first Bitcoin futures contracts were traded on the Chicago Stock Exchange, and the price of the cyber currency has risen more than 2,000 % since the beginning of the year.

Many people ask the question: “Can Bitcoin perform monetary functions?” Theoretically, yes. For example, you can express the cost of a car in bitcoins. Bitcoin can hardly be considered a means of payment, but since April 2017, cyber currency has been regulated and allowed as a legal tender in Japan. Because Bitcoin currently does not fulfill the requirements for a means of payment, and therefore it should not serve the function of money as holding value.

The Bitcoin system was designed from the beginning so that there could only be 21 million “coins” in circulation. Therefore, value is the result of a supply that cannot be expanded at will. In addition, Bitcoin does not offer a real material equivalent and its value is maintained solely by investors themselves.

The technological basis of digital currency is blockchain technology. Blockchain is a decentralized database, data storage devices are not connected to a common server, encrypts and publicly documents all transactions.

Blockchain can be used for various applications, the system is mobile, secure, because... no one can falsify or replace the information recorded in the database; accordingly, the anonymity of transactions with cryptocurrencies is guaranteed.

In December 2016, in the Russian Federation, under the auspices of the Central Bank, the Fintech association was created for the development of financial technologies, which carries out work on projects for remote identification of Russians, distributed registry technology (MasterChain platform), open APIs and fast payments platforms. Based on blockchain technology, in 2017 a joint project between Sberbank and the Federal Antimonopoly Service of the Russian Federation “Digital interaction of the FAS of Russia with banks and business entities” was launched in the Russian Federation.

2022 has been a tough year for the blockchain industry, as well as for the entire world, but as a technology, blockchain has proven to be effective in at least some areas, and governments will implement more blockchain projects, such as voting systems and digital identity management.

The most attractive area of application of blockchain for states is CBDC, which allows you to “program” money, that is, flexibly regulate its parameters and emission, as well as better track the movement of funds.

#### 2. Cloud technologies, cloud computing is a method of providing information technology (IT) services in which resources are retrieved remotely via the Internet. The files are stored in a remote database and can be accessed from any computer, mobile phone or tablet connected to the Internet.

The sector is very promising. By 2025, 85 % of companies plan to use cloud technologies. Currently, 55 % of companies already use clouds to host IT systems, 80 % of them choose a hybrid format – combining public and private clouds for different tasks.

Along with the advantages of cloud technology (saving disk space and time, simplified procedure for updating software, saving money for companies, since there is no need to invest millions in huge server centers and complex global IT departments), the disadvantages of cloud computing are revealed: confidentiality data, risk of information loss, Internet access speed.

Large companies in the field of corporate computing using cloud technologies include: Google Cloud, Microsoft Azure, IBM Bluemix, Aliyun, Amazon Web Services (AWS).

#### 3. Digital chatbot is digital financial services using artificial intelligence, i.e. the ability to provide clients with personalized recommendations, without human intervention.

According to statistics in Russia, chatbots are used by 24 % of enterprises, 15 % of medium-sized companies and 16 % of small enterprises. This year we expect to communicate with bots more than with human partners. The most common applications for chatbots are sales (41 %), customer service (37 %) and marketing (17 %). According to the information provided, in 2023, the

economic benefit from banking chatbots worldwide was \$7.3 billion.

The well-known online service “SberBusinessBot” allows you to organize the exchange of text messages between chat users and a chatbot using Partner software. Using the Jivo platform, operators process customer requests from the website, instant messengers and social networks in a single workspace.

The use of digital technologies enables a more flexible and dynamic financial management process and allows you to quickly and timely provide useful information to decision makers.

The main directions for the development of the digital infrastructure of the financial sector for the coming period (2024–2025) include:

- updating the operating model to promote the use of new digital technologies and increased efficiency of business processes;

- new methods and technologies of interaction with clients in order to increase the efficiency of interaction with clients to obtain more reliable information about their needs;

- updating cybersecurity technologies, because Over the past few decades, information security risks have changed significantly and this requires the improvement of relevant technologies.

Considering the directions of modernization of financial technologies for 2024–2025, the following can be noted:

- Blockchain will become an integral part of the technology and operational infrastructure of financial institutions;

- FinTech will develop new business models;

- digital technology is becoming mainstream in payments, retail banking, insurance and wealth management, as well as in institutional areas such as capital markets and commercial banking;

- advances in robotics and artificial intelligence necessary to address key issues of cost reduction and risk reduction;

- the public cloud will become the dominant infrastructure model, because cloud applications (SaaS) are used for business processes such as CRM, HR and financial accounting, core service infrastructures in areas such as consumer payments, credit ratings, etc. also use cloud technologies;

- cybersecurity will become one of the main areas of financial institutions in the fight against risks;

- Regulators will turn to technology – Using sophisticated analytical tools on large volumes of data, regulators can compare scenarios and address potential problems before they become full-blown market problems.

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## ОСОБЕННОСТИ УПРАВЛЕНИЯ ТОРГОВЛЕЙ В УЗБЕКИСТАНЕ

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Реферат. В статье рассматривается сущность и значение торговли, нормативно-правовая база, регулирующая деятельность в сфере торговли в Узбекистане, сделаны выводы и предложены рекомендации по эффективному управлению деятельностью торгового предприятия.

Ключевые слова: торговля, торговая организация, эффективность торгово-экономических процессов, управленческие решения.