

PROBLEMS AND SOLUTIONS OF DIGITALIZATION OF THE BANKING SYSTEM

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Annotation. Today, the rapid development of the digital economy is considered one of the important conditions for achieving sustainable development. The digital economy and digital technologies are also rapidly entering the banking system. Digitization of banks will further improve the quality of banking services, eliminate various administrative barriers. The article discusses the mechanism of operation of modern innovations in the field of finance and their evolution, analyzes digital solutions for use in the banking sector.

Key words: digital economy, digitization, digital technologies, financial technologies, transformation of banks.

Introduction. Positive changes are taking place in all sectors and industries of the world due to the changes taking place in the world economy due to the acceleration of scientific and technological development, the widespread use of digital technologies, the gradual introduction of new technologies and changes in the structure of production. (Today, the share of the digital economy is 10 percent of world GDP). At the same time, views and approaches to solving various tasks and problems of innovative development are changing. The development of an innovative economy and the introduction of digital technologies will lead to a change and revision of the foundations of the global economy, as the modern economy is a database-based economy. In this regard, one of the world's most influential economic publications, The Economist, called the information – «Fuel of the future» [1].

At the current stage of economic development, the concept of «digital economy» has emerged. The basis of this concept is the specific forms and methods of organization of human activity associated with the development of digital and computer technologies and their consistent introduction into all spheres of public life, which allows the development of large-scale information processing and services (online services, electronic payments, etc.). The development of a modern, intellectual economy, the formation of the digital economy is a complex process that depends on many factors, and their econometric analysis allows for the rational management and regulation of the digital economy.

While the introduction of «digital technologies» in the economy of our country is currently in the process of expanding its potential, factors such as technical base, software imperfections, low level of computer literacy, inability to meet today's requirements of the legal framework for digital technology and the integration of new «digital technologies» into the business environment.

It should be noted that the supportive policy of the state plays a special role in the development of the digital economy. It is necessary for us to acquire digital knowledge and modern information technologies in order to achieve development. This allows us to take the shortest path to ascension. After all, today in the world, information technology is penetrating deep into all areas.

To this end, the Strategy was approved by the Decree of the President of the Republic of Uzbekistan dated October 5, 2020 PD-6079 «On approval of the Digital Uzbekistan – 2030 Strategy and measures for its effective implementation»¹. In this strategy, the development of the digital economy in our country:

Improving the quality of products and services through the introduction of modern information systems and software, reducing their cost, downtime, increasing the transparency of financial and economic activities;

Improving the regulatory framework for the introduction of innovative automated control systems and software products;

gradual automation of workplaces and robotization of production processes, as well as the introduction of artificial intelligence technologies;

Priorities for the digitization of the insurance system, such as the development and implementation of mechanisms for the implementation of digital insurance on the basis of public-private partnership.

In order to develop e-commerce and e-payment systems:

development of remote banking services through the introduction of information and communication technologies, including remote customer identification systems;

increase the capacity and scale of connection from personal digital devices to e-commerce platforms through the development of digital infrastructure, further increase the coverage and speed of the global information network of mobile and wired Internet;

further development of e-commerce and e-payment systems, as well as improvement of information infrastructure in the field of economy and finance, taking into account the possibility of receiving and processing payments in the provision of e-government services;

Creating a business model of financial supermarkets aimed at providing a wide range of banking and non-banking financial services (securities transactions, insurance, etc.) on a single trading platform;

commercial banks provide customers with remote banking services (internet-banking, bank-client, sms-banking, etc.), including improving the scope and quality of services through mobile applications.

At the same time, the Decree of the President of the Republic of Uzbekistan No. PD-5992 of May 12, 2020 approved the «Strategy for the reform of the banking system of the Republic of Uzbekistan for 2020-2025»¹. The strategy also envisages the complex transformation of commercial banks with a state share, the introduction of modern banking standards, information technology and software products, the sale of state-owned shares in banks to investors with the necessary experience and knowledge through competitive bidding. It is also planned to reduce the state's share in the banking sector by simultaneously reforming existing commercial banks and enterprises with a state share.

Materials and Methods.

Nowdays Digitalization processes are rapidly accruing national economies all around the World. The level of digitalization remains an important factor in the active participation of national economies in their integration and not lagging behind the fastest growing regions [2]. The development of a modern, intellectual economy, the formation of the digital economy is a complex process that depends on many factors, and their econometric analysis allows for the rational management and regulation of the digital economy. Among the scientists of our country to develop the theory and practice of modern economic development is R. Ayupov, D. Rasulova, D. Rasulev, Z. Mamadiyurov and others made a great contribution.

In particular, R. Ayupov in his research paid great attention to the use of digital technologies in the economy of the country (2020.36), Z. Mamadiyurov paid special attention to the prospects of using digital banking technologies to increase the efficiency of banks (2019.166).

While the implementation of «digital technologies» in the economy of our country is currently in the process of expanding its potential, factors such as technical base, software imperfections, low level of computer literacy, inability to meet today's requirements of the legal framework for digital technology and the integration of new «digital technologies» into the business environment.

Methods such as statistical analysis, generalization, grouping, classification, comparative analysis and cross-comparison were used in the research process.

Main Findings and Results.

Characteristic indicators of the digital economy include new methods of production, mass cooperation, public ownership of intellectual property, changes in consumer models and an open labor market. However, currently the share of the digital economy (e-commerce, Internet services, content, e-payment, etc.) in the gross national income of the Republic of Uzbekistan is less than 1% [3].

Nonetheless the development trends of our country show that the above-mentioned markets

¹ Decree of the President of the Republic of Uzbekistan dated October 5, 2020 No PD-6079 «On approval of the Strategy of Digital Uzbekistan – 2030 and measures for its effective implementation»

will develop rapidly in the future. In addition, the technological revolution associated with the Fourth Industrial Revolution and 4.0 Industrial Technology, namely mass robotization, auxiliary and virtual reality technology platforms, and 3D printer technology, will further accelerate this process. The aforementioned 4.0 Industry term came into use at the Hanover Fair in 2011 and its meaning is to represent a global chain of value creation. With the global proliferation of technologies such as “smart factories”, “smart technologies” and “smart robots”, the fourth industrial revolution will see the interaction of virtual and physical systems on a global scale. This, in turn, leads to full product flexibility and the creation of new operating models.

The development trends of life clearly show that other services of the digital economy, including big data, artificial intelligence, machine learning, crowdsourcing, crowdfunding, blockchain and cloud technologies, are also crucial in the future economy and corporate governance.

Digitization of the financial sector is an integral feature of the development of the modern world economy. In order for financial market participants to be successful and competitive, they need to follow global trends and be “digital” in the introduction of advanced technologies. Doing this task will lead to the transformation of traditional world business models in a way that responds to the problems of the modern world. Credit institutions, insurance companies and other institutional investors are making significant changes to improve their operations under the influence of digital technologies.

Digitization of the banking sector is a complex and multifaceted process. Nevertheless, its ultimate goal is clear and simple – to save resources (time and money) for customers and banks themselves.

What opportunity the digitization of the bank gives to the consumer:

- The consumer will be able to use banking services at any time and through any channels: bank office, call center, video communication, ATM, mobile and Internet banking, chat bots through social networks and messengers;

- The client does not need to come to the

bank office, they can receive any service remotely: open a card with the condition of delivery to your home, get a loan, open a deposit, etc.;

- services will be personalized. Due to the big data, banks have a lot of information about customers, which eliminates various formalities.

It is necessary to analyze the digitalization of the financial sector as an evolutionary stage of development of modern society and consider the main stages of its formation. It should be noted that the basis of this process is the active introduction of achievements in the field of financial relations in the field of financial technology.

Financial technology is a dynamic segment at the intersection of financial services and technology industries, in which market technology startups and new entrants are now adopting an innovative approach to traditional financial services services and products.

Digitization is evolving rapidly, disrupting the traditional order of things in the traditional value chain.

Using the latest technologies and new business lines, financial technology companies are reshaping the competitive environment by breaking the boundaries between participants in financial services.

The financial technology ecosystem includes elements such as startups, technology companies, financial institutions, and infrastructure participants².

The following stages can be distinguished in the development of financial technologies (Table 1).

The evolution of digitalization in the field of finance demonstrates high intensity and development dynamics. This process leads to the emergence of qualitatively new requirements for the economic system, its institutions and society as a whole.

The introduction of digital technologies requires a radical change in the business strategy of all sectors of the economy. The high efficiency of the application of innovative solutions forces the financial sector to change both to strengthen its position in the market and to increase the level of interaction with customers and market participants.

Credit institutions are striving to become financial high-tech corporations that meet the

² Decree of the President of the Republic of Uzbekistan No. PD-5992 of May 12, 2020 on approval of the “Strategy of the banking system reform of the Republic of Uzbekistan for 2020-2025”

following requirements:

- providing customers with a comprehensive range of services within the financial technology ecosystem;
- increase information transparency, help

eliminate intermediation in financial markets;

- continuous improvement of digital solutions implemented in real-time operation and security, etc.

Table 1.

The evolution of the digitalization of the financial system

Period	Step	Feature
1950-years	the emergence and proliferation of bank cards	development and promotion of banking products and services for a wide range of retail customers. Credit cards were a universal product developed by banks for the mass consumer
1960-years	use of ATMs	Automated ATMs were invented and actively used for the convenience of customer service and cash transactions, which made it possible to use banking services outside bank branches.
1970-years	creation of electronic trading platforms (the first - NASDAQ)	systematization and automation of securities market operations have greatly simplified the conduct of financial transactions
1980-years	биринчи банк компьютерлари ва ахборот технологиялари ечимлари	Молсаштирилган микрокомпьютерлар асосида банк маълумотларини қайта ишлаш учун махсус электрон воситаларни яратиш кредит ташкилотларига харажатларни камайтиришга имкон берди. Банк ходимининг иш жойини компьютер билан жиҳозлаш мумкин бўлди
1990-years	Formation of a network of «financial technologies»	the emergence of a special ecosystem that combines innovative solutions and technologies in the field of financial products and services
2000-йиллар	robotization, visualization, the emergence of the Internet of Things, as well as the creation of SMART ecosystems that combine people and digital agents	Popularization of Internet communications. The combination of traditional operating and information technologies, the proliferation of «smart» machines. In this case, the information becomes not only a means of value creation, but also an independent product (forecasting and prescription analysis, remote monitoring and management)

Source: Smart finances: modern technologies in international finances: reports/red. Of V.D.Milovidova, S.Y. Pertsevov. – Moscow: MGIMO – University, 2018.

Changing the traditional business model is done by changing an important part of information technology, which combines all areas of banking. This process includes the following:

1. Develop a digital strategy based on the conduct of business and its mission, taking into account the need for constant adjustments (high

rate of emergence of digital innovations, changes in legislation, etc.);

2. Creating IT systems or IT landscape architecture. This phase involves the development of a set of software, computing and telecommunications tools that are built in a specific configuration and ensure the operation of

operational processes for business departments;
3. Development of IT solutions and their implementation.

Let's take a closer look at these steps.

The development of the Bank's digital strategy is based on identifying key segments of sustainable development: creation

of digital products, including personalized banking services; ensuring transparent interactions with customers, regulators and partners; development of financial ecosystem of partners, creation of business incubators, etc. (Table 2).

Table 2.

The main segments of the bank's digital strategy

Direction	Description
Creating a digital product	The need to meet customers' needs and desires increases the customer base and the number of products available to the customer.
Perform direct interaction with the client	The use of remote banking services, including the provision of personalized products and services in real time, activates the customer base and increases customer retention
Develop a financial ecosystem of partners	Creating opportunities to sell banking products through partner platforms, which will increase the level of customer base and increase the number of products that fit each customer.
Remote operation with the regulator	Automating internal processes and eliminating red tape reduces transaction costs, time, and operational risks.
Use of business incubators	Developing an ecosystem of ideas and resources will help you make and implement quick decisions, which will reduce process costs and meet customer needs.

Source: Smart finances: modern technologies in international finances: reports/red. Of V.D.Milovidova, S.Y. Pertsevov. – Moscow: MGIMO – University, 2018.

Creating a roadmap for the implementation of a digital strategy using the IT landscape involves the separation of separate business areas: multi-channel distribution and marketing, integration of services and processes, processing operations, support, data factory, strategy and management.

To effectively develop these business areas, banks need to introduce a single multi-channel digital platform that allows them to manage multi-channel services. In order to ensure effective integration of services and processes, the participants of the partnership scheme built on API (application programming interface) technology should be able to use open data to provide mobile communication [6].

In the field of transaction processing, including the functions of inter-product activities (management of transactions under contracts,

payments, limits, assessment of borrowers, compliance, etc.), as well as all operations related to banking products (current accounts and deposits, lending, stock market operations, interbank operations, etc.), it is desirable to strengthen the automation of processes and operations.

The collection, storage and management of customer transaction information is an important part of the banking business. To increase its efficiency, it is necessary to strengthen automation, including the definition of the scope of basic data on IT-landscape systems, which will prevent duplication of processes for business departments and reduce costs. It is also advisable to use analytical tools to assess the level of customer satisfaction with services, identifying micro-segments and their behavior models.

Conclusions and Recommendations.

As for the strategy and management of the credit organization in general, it is necessary to introduce automated systems (strategic planning, merger and acquisition management, business process management, methodological support) that support the overall corporate functions, as well as cross-functions to manage innovation, crowdsourcing and electronic document management.

It is important to ensure the ability to exchange documents with customers not only legal entities but also individuals using electronic digital signatures, as well as the availability of a single warehouse of digitally printed documents (contracts, customer documents).

In the context of a complex digital transformation, it is necessary to adjust the operating model of information technology (IT), which is an abstract tool that reflects the level of standardization and integration of business processes required to create consumer value for the customer. The main elements of the operational model are business processes, organizational structure of the business, technology and digital tools, as well as the people who carry out these processes.

According to bank statistics, digital transformation activity has a positive impact on the financial condition of credit institutions and significant investments are recouped by achieving a combination of goals.

In such circumstances, credit institutions are required to allocate resources (financial, human, material) to achieve sustainable strategic and tactical goals that arise under the influence of changing external factors.

Technology services are a tool and driver to change your business strategy and achieve positive financial results. The activity of the credit organization in this direction will rise to a qualitatively new level, making it more attractive for the client, and inaction can lead to the expulsion of the participant from the market.

It should be noted that the digital transformation includes not only potential opportunities and benefits, but also significant risks and threats. To overcome them, it is necessary to coordinate the regulatory framework in the field of financial technology regulation, especially in terms of cybersecurity and data security. It should be noted that the sustainable development of the country's financial sector in general requires relying on innovative factors of economic growth.

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