

The Role of Digital Technologies in Ensuring Stable Functioning of the Financial Services Market

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Abstract

In the article, the role of digital technologies in ensuring stable functioning of the financial services market in the conditions of dissipatedness and uncertainty is examined. Important attention was paid to the analysis of the impact of modern information and communication innovations on the activities of financial institutions of various types. Among the methods that were used to conduct the research, the following should first be highlighted: content analysis, abstraction, systematization, comparison, induction and deduction, visualization methods for presenting statistical information. In the article, the main consequences of digital transformation are also identified, which are inherent in certain components of the financial services market (credit services market, deposit services market, insurance services market, investment services market). The analysis of the features of the functioning of the financial services market in the conditions of instability of the macroeconomic environment was carried out. Using the experience of Ukraine, which is currently facing non-standard and unpredictable challenges for the activity of financial institutions, the trends of the activity of financial institutions in Ukraine since the beginning of the war were investigated. The experience of using digital technologies by banking and non-banking financial institutions in Ukraine to ensure their own stable functioning in complex, unpredictable conditions is also analyzed. This made it possible to generalize and single out the main possible areas of positive impact of digital technologies on ensuring stable operation of financial institutions and functioning of the financial services market in general.

Keywords: Financial Services Market, Commercial Bank, Non-Bank Financial Institutions, Insurance Company, Macroeconomic Stability, Digital Economy, Digitalization

Introduction

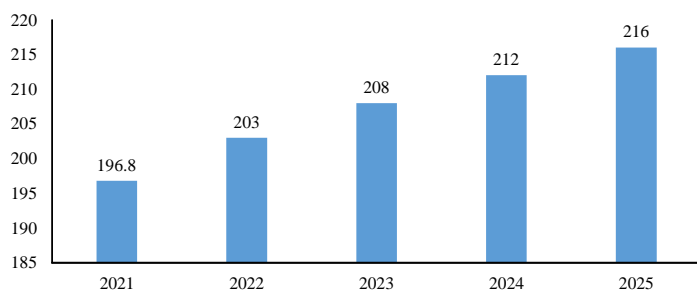
Historical experience shows that quite often destructive processes and phenomena occur within the financial services market, which can negatively affect economic development of the country, and sometimes

lead to crisis situations in the development of the national economy. A significant number of financial crisis in economic history confirms this.

The governments of most countries pay great attention to regulation of the financial services market to prevent occurrence of crisis phenomena in its functioning. However, despite wide range of economic, organizational, managerial and informational methods used by central banks and other state institutions regulating financial services, it is impossible to guarantee the lack of crisis phenomena in the activities of financial institutions. In accordance, you can assert that such phenomena arise periodically, despite every efforts of states regarding opposition them. However, this does not mean that it is impractical to regulate and ensure stable functioning of the financial services market. It is regulation that allows in the vast majority of cases, firstly, to minimize losses from the occurrence of crisis phenomena in the financial services market, to ensure a faster exit of financial institutions from crisis situations and to prevent a significant number of destructive phenomena in the functioning of this market.

Development of the digital economy in the world today is taking place at a fairly fast pace. Digital technologies have already penetrated the functioning of financial institutions, which significantly changed their activities and directly affected the financial services market. According to Statista, the number of consumers of financial services will grow rapidly in the future. For example, in 2025 in the USA, according to forecasts, the number of consumers of banking services will increase to 216 million people. In 2021, their number was 196.8 million people (Fig. 1).

Figure 1. Forecasted number of digital banking users in the United States from 2021 to 2025 (in millions)



Source: <https://www.statista.com/statistics/1285962/digital-banking-users-usa/#statisticContainer>

In today's conditions, financial institutions are trying to use the potential of digital technologies as deeply as possible to transform their own activities, increase the efficiency of their own work, optimize costs and ensure revenue growth. As experience shows, digital technologies also play an important role in forming both a favorable space for financial institutions for further development, and in creating opportunities to increase their financial and informational stability.

Modern digital technologies create positive and negative consequences of their use for both financial institutions and their clients. However, the number of positive consequences significantly outweighs the number of negative aspects and accelerates active digitalization of the financial services sector. The wide-ranging impact of information and communication technologies on stability of financial institutions requires appropriate actions from these institutions as well, especially in the direction of ensuring their own information security. At the same time, one of the aspects of the positive impact of digital technologies on the activities of financial institutions and, in general, on the functioning of the financial services market is their significant potential to stabilize financial relations within this market and ensure the conditions for stable functioning of banking and non-banking financial institutions in the difficult economic conditions of their work. It is these aspects that are not sufficiently studied in the scientific literature today, which determines the expediency of their research to describe the features of the influence of digital technologies on the process of stable functioning of the financial services market.

Literature review

The financial services market is an integral part of the functioning of the financial system of any country. The need for financial services in the modern world is objective for all economic entities. This determines the importance of this market for ensuring not only the development of the financial system, but also the stability of the functioning of the entire national economy. Leading scientists have devoted a lot of research to these problems.

The purpose of articles (Shrivastav A. et al., 2023; Esteban RiosJavier, 2023; Tarasenko O. et al., 2022) is to study the impact of digitalization on the efficiency of the banks' functioning, the growth of indicators of their activity. The authors are convinced that digitalization of the financial sector has a negative impact on some groups of the population, which is explained by the difficulty of accessing digital financial services.

The authors of articles (Liu Junyong et al., 2022; Bhatt Amola et al., 2022; Dubyna M. et al., 2021) investigate the quality of providing standardized joint financial services, risk control, performing fundamental financial work and providing value-added financial services to clients. The scientists analyzed the current trends in the digitalization of financial services, and also analyzed the peculiarities of their perception by consumers.

Articles (Kanungo Rama Prasad et al., 2021; Pakhnenko O. et al., 2021; Grosu V. et al., 2021) are of practical importance, within which the influence of financial inclusion in the context of the development of digital technologies on Indian banks of the public sector is investigated. The authors provided a general assessment of digitalization of financial services and carried out a comparative international analysis on 3 components, including digital inclusion, financial inclusion and digital financial services.

In the context of research on this issue, the authors (Kulkarni Lalitagauri et al., 2021; Oehler A. et al., 2018; Koval V. et al., 2022) note that in the conditions of rapid development of digital financial inclusion in India, women have certain problems in accessing and using digital financial services. The scientists analyzed the role of trust in the conditions of rapid development of digitalization processes and proposed ways of building trust in digital financial services.

Articles (Broekhoff Marie-Claire, et al., 2024; Wang Q. et al., 2024) that examine people with low levels of digital skills and who have corresponding financial difficulties are of practical use. The authors argue that the development of an accessible and inclusive payment system from the point of view of trust is an extremely important aspect. Within research, dynamic implicit processes have been established

that cause financial overcompensation, which in turn increases consumer confidence through potential.

The authors of the articles (Saoula, Oussama et al., 2024; Ding Ling et al., 2024) found significant digitization and trust in the quality of services and identified the role of agents in establishing cooperation between service consumers. Scientists are convinced that trust plays an important role in financial markets, which positively affects the development of FinTech innovations.

Within the framework of scientific works (SimateleMunacinga, 2024; Santini de Oliveira F. et al., 2023; Raza Aliorcid et al., 2023), the peculiarities of the use of mobile financial services, which are aimed at increasing financial availability and the level of trust, are investigated. The authors have developed a meta-analytic approach that allows predicting risks and their consequences, as well as developing ways to mitigate aspects of trust in financial services. Scientists are convinced that strategic priorities should be to overcome fierce competition, take into account possible service failures, and develop tactics for establishing an appropriate level of trust.

Practically oriented are the results of research (Rivera Hernández A., 2023; Nathan J. et al., 2020; Roy S.K. et al., 2020; BasemMasoudAlhazmi, 2019), which analyzed behavior that testifies to a decline in the level of trust and demonstrates a decrease in the use of tools offered by official institutions of the financial sphere. Blockchain technology, which aims to prevent fraud and improve the efficiency of transactions, is also considered. Scientists have analyzed the role of trust in the practice of delegation of authority regarding consumer decision-making in the field of financial services.

Authors (Marhasova V. et al., 2024; Popelo O. et al., 2022; Liu B. et al., 2024; Priyadarshini V. et al., 2024) have shown a significant relationship between customer service and financial results, and the use of digital technologies moderates this relationship. Scientists are confident that AI contributes to sustainable practice of providing banking and financial services. A significant connection was established between the parameters of revolutionary technologies and trust in the use of digital financial services. The impact of digitalization on the financial

behavior of households and the national security system is substantiated.

Research results of the practical direction (Zhavoronok A. et al., 2022; Riktesh Srivastava et al., 2024; Qasrawi Y.A. et al., 2024) proves the analysis of the implementation of electronic financial services by clients in the UAE. The authors proved the influence of psychological aspects and suggested financial service providers to use the research results in their practical activities. The scientists analyzed the regulatory policy in the researched area, substantiated the role of financial technologies and their technical tools in stability of digital financial services.

Supporting the research results (Cazazian Rafaela, 2022; Liu Zhangsheng et al., 2021; Birch David G.W. et al., 2017; Poberezhets O. et al., 2018), it is appropriate to note the importance and impact of access to digital financial services on the progress of green technologies. The importance of blockchain in the context of stable development of banking and financial activities is substantiated. The authors considered a simple model of the Consult Hyperion level, which is aimed at facilitating communication between enterprises and regulators in the world of financial services.

The issue of ensuring stable functioning of the financial services market is extremely urgent, despite numerous scientific developments and practical experience in finding tools to prevent crisis phenomena in the functioning of financial institutions. In part, this situation is related to the complexity of the field of financial services in general, a significant number of economic entities operating in it, a fairly large number of different types of financial institutions that provide certain types of financial services. This has determined the need for further research.

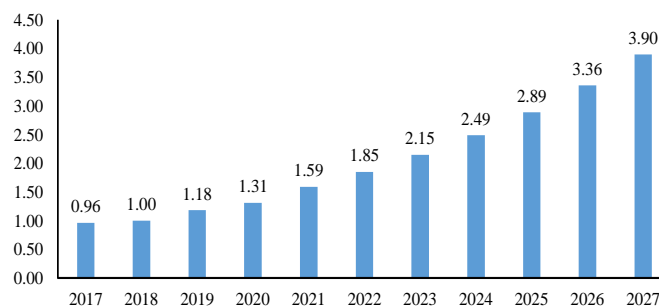
Methodology

In the article, a range of general and special research methods for economic science is used. In particular, methods of content analysis and systematization were used to specify the effects of digital technologies on the activities of financial institutions. The methods of abstraction, induction and deduction are used to describe the features of the functioning of the financial services market in the conditions of the instability of the economic environment.

Statistical methods, the method of generalization, were used to describe the peculiarities of the work of financial institutions in Ukraine after the beginning of the war. Methods of observation, analysis, and synthesis were used to specify the consequences of military actions on the functioning of the financial services market of Ukraine. The description of the role of digital technologies in ensuring stability of the specified market was carried out using methods of abstraction and content analysis.

Results: It is rather difficult to exaggerate the influence of digital technologies on the functioning of financial institutions in modern conditions. These institutions have already invested significant amounts of financial resources in their own innovative development, introducing new approaches to providing financial services to economic entities, maintaining communication with them (Fig. 2).

Figure 2. Spending on digital transformation technologies and services worldwide from 2017 to 2027 (trillion USD)



Source: <https://www.idc.com/getdoc.jsp?containerId=prUS52305724>

So, in 2023, more than 2.15 trillion USD were spent on development and implementation of digital technologies in various spheres of the economic activity. In 2027, investment is forecast to grow to 3.9 trillion USD. In fact, such investments are planned to grow by more than 80% in 4 years. A significant part of these resources is spent by financial institutions on the development and implementation of digital technologies in their activities.

Today, virtually the participants of all financial services market try adapting modern digital technologies to their own activities. Fig. 3 presents the main consequences of digital transformations, which were formed within the boundaries of individual boundaries of the financial services market, quite unpredictable and changing circumstances, is particularly important today.

Figure 3. The consequences of digital transformation are individual components of the financial services market



Source: compiled by the authors

Economic systems develop cyclically and, accordingly, in their development there are periods of reduced development rates or one-time crisis phenomena that negatively affect their further functioning. Similar processes take place in the financial services market and directly in its individual components. Quite often, unforeseen circumstances are related to the activities of financial institutions themselves and are determined solely by internal reasons that arise in their activities. In this case, the financial services market as an economic system will not experience a significant decrease in the pace of its own functioning. It may happen only if problems of stable functioning arose precisely in systemically and are important for financial institutions of the national economy.

In the majority cases, financial and economic crises and in general instability in the financial services market are conditioned external factors, change external the environment in which financial institutions are functioning. Crisis phenomena can arise within individual components of the financial services market and quickly spread to other components. For example, in 2007, the financial and economic crisis arose in the credit services market and gradually led to the deterioration of the functioning of both financial services market, and the global financial system in general.

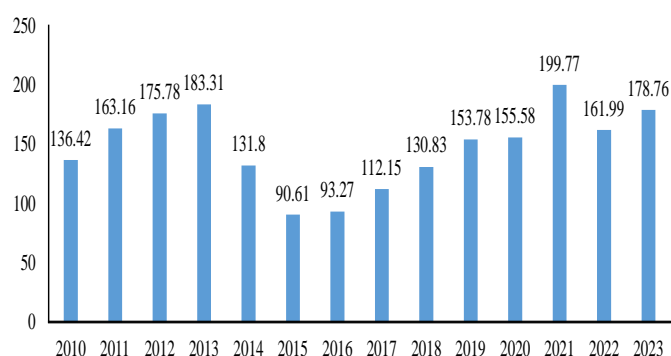
Thus, to prevent the occurrence and development of crisis phenomena in the global financial system, in functioning of the financial services market, public authorities make significant efforts to prevent possible potential risks that may arise, develop and turn into a crisis in the national financial system. With the effective use of the methods available, firstly, to central banks, with the help of state regulation mechanisms, most of the complex problems associated with the functioning of certain financial institutions can be solved. In a significant number of cases, it is possible to prevent potential negative risks that may arise in the functioning of the financial services market. The situation when the economic environment in which the financial services market develops, financial intermediaries of various types and their clients operate is quite complex. It is in this case that the known and available

methods used by state authorities to regulate the functioning of financial services markets become insufficient, as their application does not allow in the vast majority of cases in the short term to normalize the functioning of the state's financial system. Accordingly, rather quickly, crisis phenomena begin to spread to other economic entities, which in general has a negative effect on the development of the national economy.

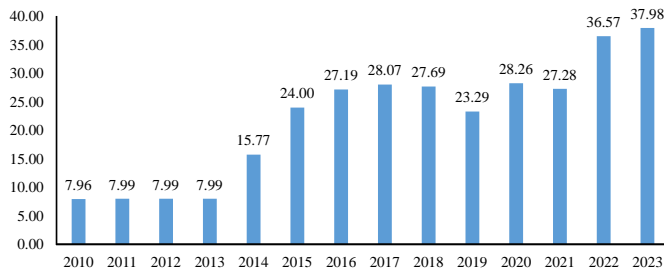
There are not so many unpredictable and difficult economic situations that arise suddenly and unpredictably change the economic landscape for the development of financial institutions. However, occurrence of such crisis phenomena contributes to significant deterioration of the financial condition of banking and other non-banking financial institutions, and worst of all, makes it impossible to predict further development of the financial services market, since the economic space in which financial institutions develop becomes dissipative.

For example, such an unpredictable situation that arose and led to the formation of significant challenges to the financial system of the state is the war in Ukraine. Its beginning was not predicted and led to the short-term destruction of the established economic relations, which also affected the macroeconomic stability in the country. In the long term, as experience shows, the main economic indicators of the country began to decline, although this was not so noticeable during 2022 (Fig. 4).

**Figure 4. Separate exposure data of the war on economic development of Ukraine
Nominal GDP of Ukraine, 2002-2023**



Official UAH to USD exchange rate



Source: <https://bank.gov.ua/>

Financial institutions that carry out their activities in Ukraine faced and are facing atypical, complex and unpredictable consequences of military aggression. There are no developed methods and algorithms for countering such challenges. Developed countries did not face similar risks and threats, and that is why financial institutions in Ukraine, adapting to the situation that arose, independently, with the support of the central bank, executive authorities and their owners, tried to solve not only the issue of ensuring financial stability and implementing economic activities, but also a number of organizational issues, which primarily concerned preservation of the lives of employees, since it is quite clear that without them, it is extremely difficult to restore stable development of these institutions in the future.

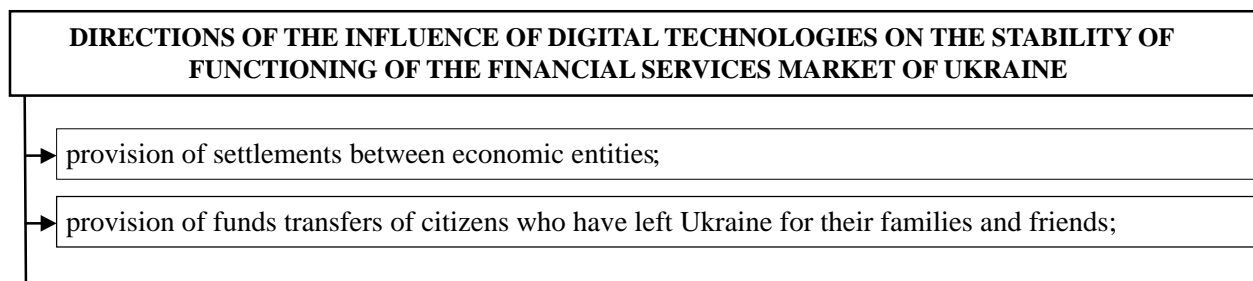
However, as experience has shown, financial institutions were able to quickly adapt to this situation, which developed in different regions of the country, and managed to resume work in the main areas of their activity within two months. Moreover, provision of financial services did not stop on a large territory of the country. In this, financial institutions helped active involvement of digital

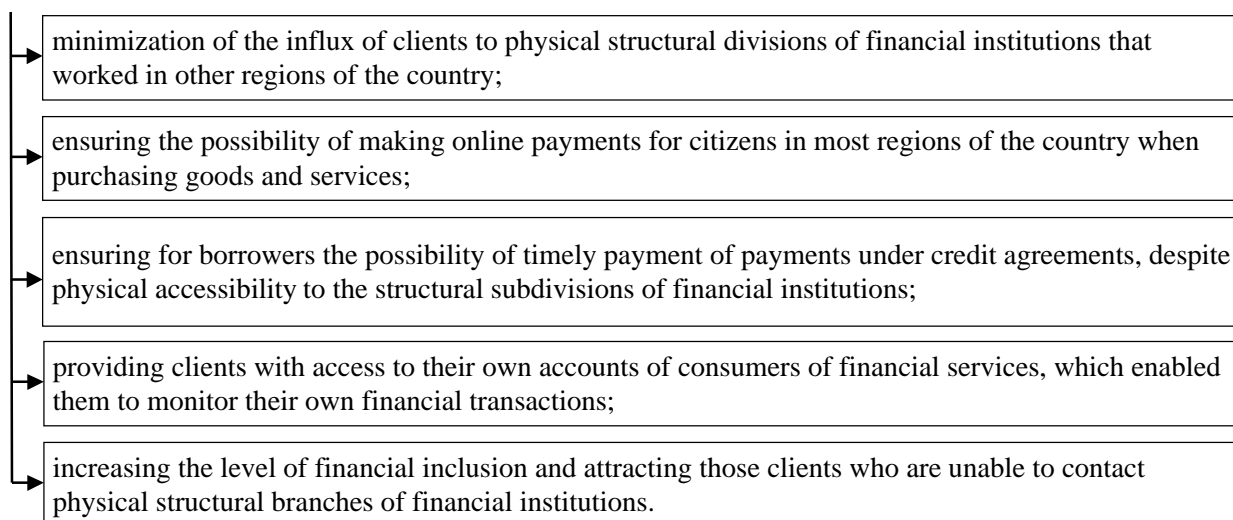
technologies into their own activity in the pre-war period. Exactly the availability of convenient transfer systems funds, utility payments services, mobile payment communication, payment of loan payments allowed to ensure stable functioning of payment systems in the country made it possible citizens who went to other regions countries or abroad, to support their own relatives, friends, colleagues who remained in the territories where they are conducted military actions. Possibility making payment online as well contribution to fast recovery of the economic activity by significant quantity of economic subjects was used different regions of the country. This had a positive effect on the functioning of financial institutions, stopped the growth of demand for cash funds, their withdrawal for the purpose of conducting calculations exclusively offline.

Therefore, digital technologies were able to play one of the key roles in ensuring stable functioning of financial institutions in Ukraine in difficult economic conditions (Fig. 5).

Thus, taking into account the above, it can be argued that digital technologies, taking into account their positive impact on the functioning and development of the financial services market, i.e. relations between financial institutions and their clients, improving the quality of providing financial services, their availability, also play a key role in ensuring stable functioning of the financial services market, stable operation of financial institutions and activities of state authorities that carry out regulation in the field of financial services. This positive role of the specified technologies only strengthens their importance for functioning of modern models of the financial services market.

Figure 5. Directions of influence of digital technologies on stable functioning of the financial services market of Ukraine





Source: compiled by the authors

Conclusions

Therefore, in the article, the impact of digitalization processes on the functioning of the financial services market and ensuring its stable development is analyzed. It was determined that in modern conditions, the specified market plays an important role in the development of the national economy. Features of digital transformation of financial institutions of different types of permissions were considered in detail to define the results of the impact of information and communication technologies for functioning of individual components of the financial market services, namely: credit market services, deposit market services, insurance market services, investment market services. Conducted research provided an opportunity to set the total nature of digital technologies, their actual penetration into all spheres of functioning of the financial services market. The results research also testify to objectivity of the digitalization process and deepening further impact of digital technologies for the activity of banking and non-banking financial institutions.

In the article, features of functioning of the financial market services in the conditions of instability are also justified that implemented based on the research experience, transformation and adaptation of financial institutions in Ukraine since the beginning of the war aggression. At the same time, the main consequences of the outbreak of war for activities these institutions are identified. Based on

received results the analysis was also carried out to determine further actions of financial institutions after the adaptation period to new shocking changes of the economic space in which these institutions operated.

Carrying out the research of the roles of digital technologies in the restoration process of Ukrainian financial institutions after full-scale invasion and the start of the war provided an opportunity to distinguish the directions of influence of digital technologies to provide stable functioning of the financial market services, describe the role of such technologies in support development of the specified market, favorable functioning of social and economic systems of the Ukrainian society.

It was defined in the whole that digital technologies have considerable the potential to create conditions for stable development of financial institutions, detection and minimization of potential risks, which can have a destructive effect on their functioning. At the same time also, it is established that these technologies can positively influence the emergence of macro-financial risks, macroeconomic instability in the country. In accordance, it was found out that there is a need to conduct additional research of potential information and communication technologies of making a positive impact on stable work of financial institutions, despite those destructive changes which they can take place in the environment in which they carry out their activities.

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