**INTRODUCTION**

In today’s conditions, the implementation of an effective anti-crisis management system will be the main factor of stabilization of not only one particular banking institution but of the banking sector as a whole. A set of actions and measures aimed at overcoming crisis situations, due to the unfavorable economic environment of a banking institution, will ensure the functioning of a bank in the financial market of the country and ensure the performance of its social and economic function. On microeconomic levels,
the implementation of qualitative administrative decisions plays a key role in the bank’s strategy of overcoming the negative aspects of external environmental influence. At the macroeconomic level, it is necessary to implement effective means of activity from the main bank regulator and follow the key postulates. The significant weakening of the economic position of the banking sector in the market caused by the outbreak of the pandemic and the war in Ukraine causes the need to take decisive action on the real mechanism of crisis management. The development of digital technologies and innovative technologies provides a key advantage for banking institutions in the prevention of internal and financial risks. The realization of effective management of anti-crisis activity of banking institutions occurs exactly based on the application of modern technologies and the possibility of their introduction in the financial, marketing, and administrative environment of the bank.

Issues of implementation of quality infrastructure and modeling technologies are an advantage for banking institutions. The main principle to avoid and contain risk is to identify and prevent it in advance. Banking institutions that use their technological infrastructure for modeling and forecasting scenarios of economic development and financial activity can prevent risk in advance and optimize banking activities in accordance with the existing scenarios.

The importance of risk prevention consists not only in their early warning but also in the necessary prevention, which can qualitatively improve the competitive position of the bank in the market. To form an anti-crisis management system, it is necessary to urgently restructure the management decisions and direct the strategy of banking institutions to respond to the challenges. With the help of optimization of the internal environment, it is possible to ensure the stability of the banking institution, at the level of performance of basic operational functions and support of communication channels of human activity. This level is the main in further planning to ensure the effectiveness of the anti-crisis management system. Besides, the next stages of implementation of an anti-crisis management system assume the implementation of a number of measures, which may increase the revenues of banking institutions and optimize the existing assets portfolio. Using a single lending strategy during global challenges is ineffective, which may lead to the loss of profits by the banking institution. An important issue for a banking institution’s operations is finding a balance between real risk and the possibility of assuming it.

LITERATURE REVIEW

It is well known that the problems and prospects of improvement in crisis management of banking institutions are widely researched in the global community (Khalatur et al., 2020). For example, the main key foundations of its development in the scientific community have been views on the direction of implementation. According to Patalano (2020), the main direction of forming an effective crisis management strategy in banking activities is the identification and prevention of risk and statistical reporting in accordance with the results of the modeling. This approach can qualitatively improve crisis management in a favorable economic environment, but in various geopolitical shifts or spontaneous shifts should be introduced modeling the scenario development of the financial and managerial activity of the bank. It is interesting to note Roulet’s (2020) opinion that stress testing is the main tool to analyze the readiness of banking institutions for the emergence of crisis phenomena. According to the author, stress testing can provide key indicators of financial, marketing, and operational activities of banking institutions during a global crisis or crisis phenomena. The methodology of stress testing is also aimed at covering all microeconomic aspects of banking institution activity and stimulates the search for effective solutions of implementing a set of measures to overcome negative factors of influence. In the scientific literature and studies by foreign scientists, the main role is assigned to digital technologies and tools for processing extensive data. In addition, the issue of using cloud services will be able to improve the security of the document flow of banking institutions and information on legal entities or individuals. Cloud technology, according to Aliyev (2019), provides banking institutions the ability to store their data on servers in other countries and provides a large amount of data storage. The use of cloud technology systems by information technology giants, such as Azure from Microsoft or AWS from Amazon, is key to designing financial and management security for banking institutions. The ability to form a reliable repository for banking institutions’ data can help improve the quality of data usage and the speed of access to it. Considerable attention is paid to the issue of using software in the formation of crisis management. According to Ramskyi & Solon’ko (2018), a banking institution without a digital infrastructure in a competitive market is the most vulnerable to a crisis. The importance of establishing automation processes, testing capabilities, and risk identification is a key tool when force majeure occurs and creates the conditions for recovery from a crisis situation. Big data technologies can accelerate the specifics of using the mechanism of customer analysis and identifying troubled borrowers. Moreover, big data technologies are widely used in marketing activities, which in times of crisis is important to implement aggressive policies in both traditional and digital communication channels. Researchers Munshi et al. (2019) note that management decisions of banking institutions should be made in accordance with the mission and goals of the banking institution. In the case of management decisions, the
management of the banking institution needs to use methodological developments on the algorithm of steps in a given situation. The absence of such an algorithm, as a rule, creates chaos in the strategic determination of further development of the banking institution. Therefore, according to the author's position Syshchuk & Teteruk (2018), anti-crisis management of banking institutions should be carried out solely on real proposals to eliminate risks implemented as a result of testing or simulation of crisis scenarios. High attention is paid by scholars Sylin et al. (2019), to the management of human resources policies and the provision of the labor pool and employee development. This aspect is often overlooked in crisis management research among banking institutions. Nevertheless, the importance of improving the abilities and development of the human resource capacity of a banking institution will be able to form a competitive human capital in the face of global financial or geopolitical challenges. According to Mihus (2019), the prospects for crisis management in modern banking institutions will consist of a race to digital technology and information security. The formation of a quality crisis management system for each banking institution will have a positive impact on the stabilization of the banking sector. Thus, there is an ongoing discussion among scholars on rational instruments for building an anti-crisis system of banking institutions. The most promising direction is the development of digital infrastructure and cloud technologies to support banking activities.

AIMS AND OBJECTIVES

The purpose of the study is to determine the key principles of implementation of anti-crisis management of the banking institution and improve the system of its functioning in the long term. Aspects of the methodology of implementation of anti-crisis management practices are based on the use of innovative measures discussed in the paper. It is important to review thoroughly possible digital technologies as a key instrument for overcoming crisis phenomena and stabilization of all departments of bank work. To achieve this goal, the analysis of the Ukrainian banking environment as the most affected by the Russian-Ukrainian war is used. In the article the factors of development of anti-crisis management are determined and the analysis of prospects of perfection of the system of management of decisions at the macroeconomic level is carried out. Problematic is the optimal search for ways to form effective measures, algorithms, and instructions to overcome the crisis consequences for the banking institution and as a consequence of the banking sector. The solution to the problems will create conditions for further research on improving the functioning of the anti-crisis approach to the formation of the management of banking institutions.

METHODS

The study uses scientific methods to identify the basic principles of crisis management in the management of banking institutions. To form a qualitative approach to the definition of the concept of crisis management the method of synthesis is introduced. With its help, theoretical and methodological foundations of crisis management and categorical differences between risk management and risk management were characterized. Characteristic features of modern systems of crisis management for banking institutions at the financial, marketing, and managerial level were defined. By means of the method of induction and deduction, the prospects for the development of technologies for the mechanism of implementation of crisis management have been described. Methodologies of risk emergence were studied and the necessity of its premature prevention and identification as a means of creating a reliable system of anti-crisis management was substantiated. The conducted research is based on the method of statistical analysis, which allows us to reflect on the present state of the banking sector of Ukraine and to describe the negative factors of influence on its activity both in the present and in the long term. The method of abstraction revealed and grouped the basic trends in the scientific problems of anti-crisis management of the banking institution. With the help of available methods, the conducted research creates the necessity of attraction of innovative and digital technologies in the activity of banking institutions as the factor of containment of economic crisis and financial threats. In the article methodical approach to the formation of anti-crisis management as the main form of anti-crisis mechanism and management of banking institutions is developed and modern problems and prospects of their improvement are revealed. The implemented methods will be able to strengthen the competitive position of banks in the market of banking services and products. To identify an effective lending strategy and the need to adhere to a riskier strategy, a search method was introduced. With its help, the analysis of crisis phenomena in different countries was carried out and the ways of solving this problem were described. The used methods of scientific research, in working through the problems of the anti-crisis management system of the organization in banking institutions, can significantly expand the research problem and contribute to further analysis of this issue, which needs constant monitoring and response in connection with the aggravation of the global economic and geopolitical situation. The approaches to anti-crisis management of the banking institution are considered from the perspective of crisis onset, rather than their prevention. The means of prevention are used for further scenarios of the development of existing fluctuations in the market of
banking services and products. Thus, the methods of scientific research are used to create conditions for identifying the results of certain problems.

RESULTS

In today’s conditions, the crisis phenomena stimulate banking institutions to search for effective systems and methods of risk prevention. The importance of these processes is to ensure the macroeconomic security of the whole country through the stable operation of the banking system as a financial vein. Anti-crisis management is essentially a set of decisive actions and program decisions for overcoming the consequences of the crisis, rather than their prevention. The main features that characterize anti-crisis management: radical actions, the influence of temporary administration, and the use of tools to identify risks in all structural parts of the banking institution. The difference between anti-crisis management and risk management consists in addressing existing problems of the banking institution in an unfavorable economic situation, both at internal and external levels. Risk management is predominantly carried out in conditions favorable for banking activity and is characterized by partial involvement of resources for stability analysis and financial security.

Anti-crisis management is carried out by the methodology of searching for optimal solutions for risk identification and prevention. In addition, an important area of implementation of effective anti-crisis management is the search for ways to develop the bank. Revealing strengths and the possibility of further strategic development may create parity of available risks and negative fluctuations in the macroeconomic environment and real possibilities of the bank. Economic behavior in times of economic instability is chaotic, as evidenced by the 2008 crisis and the spread of the coronavirus pandemic in 2019. These events have caused a wave of problem loans, reduced liquidity in bank assets, and a drag on economic development. Economic behavior in an unstable environment is chaotic and causes the corporate sector to inhibit economic activity and slows business development. A negative phenomenon is an increase in bad loans in the banking sector (Omelchyk et al., 2022). In addition, the activities of businesses and individuals created an additional burden on banking institutions, which caused the need to find effective tools for the implementation of crisis management. For banking institutions that are not able to cope with the crisis load, there is a characteristic toolkit of eliminating problem situations through the intervention of regulatory authorities, temporary administration, etc. However, such measures are not always effective and testify to the failure of the management of a banking institution to overcome problematic aspects in a bank. Let us consider key approaches to the implementation of anti-crisis management in banking institutions, as depicted in Table 1.

Table 1. Tools for implementing crisis management.

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<tr>
<th>System-targeted approach</th>
<th>Focuses on the implementation of anti-crisis solutions at all structural levels of the banking institution by the key target criterion.</th>
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<tr>
<td>Criterion approach</td>
<td>It is based on a comparative approach and a system for assessing the possibility of making managerial decisions on the issue and the emergence of a certain risk. Comparison, as well as assessment, takes place in the short and long term.</td>
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| Dualistic approach       | Two concepts are used:  
|                          | ▪ Identification and prevention of risk factors and factors, taking a set of actions to minimize them;  
|                          | ▪ Research of possible principles of development of a banking institution in a crisis situation. |
| Graphical and analytical approach | Based on the use of correlation of banking institution activity and indicators of the external macroeconomic environment. |
institutions' operations. As a rule, minimum thresholds and indicators are established at each crisis or the emergence of a possible threat to banking institutions. These indicators are used to analyze the ability of a banking institution to continue its operation or to be liquidated.

To overcome crisis phenomena and to stabilize the microeconomic environment of a banking institution stress testing techniques are the most effective. It is good practice for the bank to implement stress testing once a quarter. Such an approach allows the analysis of the strong sides of bank activity and identifies key risks. Stress testing is a complex mechanism of action, aimed at testing the viability of the operational, financial, managerial, and marketing activities of the bank. If any vulnerabilities appear, this risk may be prevented in advance. In anti-crisis management, the role of stress testing plays a key role from the point of view of the possibility to reveal drawbacks in the system of decision-making and activity of the bank. For more detailed properties of problematic qualities of implementation of key functions of the bank, different technologies of implementation of stress testing of banks are introduced. The essence, advantages, and disadvantages of the methods are shown in Table 2.

Table 2. Advantages and disadvantages of stress testing of banks.

<table>
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<tr>
<th>Method</th>
<th>Benefits of the method</th>
<th>Disadvantages of the method</th>
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<tbody>
<tr>
<td>Scenario analysis</td>
<td>The flexibility of the scenario selection system, the possibility to make forecasts for the long-term strategy.</td>
<td>Limited criteria, and heavy-handedness in modeling.</td>
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<tr>
<td>Sensitivity analysis</td>
<td>Identification of the most vulnerable aspects of the banking institution, risk identification.</td>
<td>High probability of error, limited indicators, dynamic evaluation system.</td>
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<tr>
<td>Multifactor stress tests</td>
<td>Forecasting of multifactor risks, effective at the interaction of several risks, wide choice of indicators.</td>
<td>High probability of error, and periodic program failures.</td>
</tr>
<tr>
<td>Single-factor stress tests</td>
<td>Maximum accurate identification of a specific risk indicator, a wide choice of indicators.</td>
<td>Difficulty in analyzing the whole system of bank functioning.</td>
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The given four methods of stress testing can more appropriately identify the problematic aspects of the operation of the banking institution. Each of them contains its own problematic aspects and a number of advantages, but the implementation requires the appropriate technological infrastructure and software to identify critical factors to ensure the functioning of the banking institution. Stress testing is the main technical tool of anti-crisis management as it allows one to carry out the full diagnostics of the bank activity and reveals its reliability in the conditions of the set scenarios of development.

Conducting multifactor stress testing and its improvement is the most priority among the given methods. This trend lies in the rare occurrence of a single risk, as a rule, financial, credit or any other risks arise from a set of heterogeneous problems, which leads to the obstruction of the stable operation of the banking institution. The prospect for the development of multifactor analysis is the possibility of implementing a broad assessment system that can capture the problematic aspects of the banking institution in more detail and improve the identification of critical indicator values for recommended actions and risk prevention (Zachepa, 2019).

To analyze the effectiveness of the risk management system, the Ukrainian banking sector most affected during the war in Ukraine should be investigated. In addition, socio-economic problems and rapid themes of inflation create difficult conditions for the functioning of banking institutions. The state has introduced preferential business lending systems and the creation of a supervisory committee to ensure the stability of the banking system. In addition, there are a number of significant threats affecting the level of security of banking institutions, through information and technical attacks on the services of the largest of them.

Considering the unstable situation in the Ukrainian banking system, the necessity of forming quality tools of anti-crisis management became the basis for the viability of a banking institution. Due to the contraction of the country's economy by 35% and the loss of main clients the banking sector is forced to focus on favorable credit conditions and be exposed to higher risks, which is connected with a deficit in the circulation of capital in the corporate sector.

The key factor of the stabilization and recovery of the banking system was the investment and financial support of the state, international donor organizations, and foreign creditors. The issue of loan restructuring is of strategic importance for further activities of the banking sector. Let us consider the viability rating of Ukrainian banks according to the following indicators: net assets, percentage of instant liquidity, and a number of problem loans in Table 3.
The data in Table 3. characterize the high level of problem loans in the Ukrainian market, which is a predictable phenomenon as a result of the war and socio-economic destabilizing processes. However, most banking institutions maintained their financial potential and ensured a gradual recovery of the country's economy, stimulating the corporate sector to economic activity.

The most important factor in overcoming the consequences of the war was the use of digital technology. It was through the implementation of digital infrastructure and remote channels that most banking institutions ensured their viability. Innovative technologies in the direction of modeling and forecasting form a number of methodical approaches to building scenarios of possible development (Christa, 2021). The software provides an opportunity for the application of effective work of all departments of banks.

The key feature of modern crisis management is the formation of its own digital infrastructure, which is distributed according to the following features and principles:

- accessibility to big data technologies;
the ability to store, model and predict data;
- encryption and decryption;
- formation of a unified security system against cyber-attacks and reliable protection of confidential information;
- the use of biometric technologies - authorization, identification;
- formation of software reserves - an innovation associated with the development of container technology during 2021-2022.

High-quality digital infrastructure will be able to ensure the operation of a banking institution in any environment because it will create the necessary working conditions both internally and with the bank’s customers. In addition, ensuring operations at all levels is the foundation of banking application software. Most of them operate based on cloud technologies, which form total security against unscrupulous users or planned attacks on the digital Ukrainian space.

Let us consider in more detail the features of the implementation of digital tools to ensure the mechanism of crisis management in Table 4.

<table>
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<th>Table 4. Modern digital tools for crisis management mechanism.</th>
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<td><strong>Technology</strong></td>
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<tr>
<td>Cloud services</td>
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<tr>
<td>Crypto-encryption and crypto-scheduling</td>
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<tr>
<td>Reinforcement of remote communication channels</td>
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<tr>
<td>Cyber security systems</td>
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<tr>
<td>Online lending</td>
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<tr>
<td>Use of container systems</td>
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<tr>
<td>Expanding the product line of digital services</td>
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</table>

In the modern aspect of digital technology development, cloud technologies and the use of container systems as key digital tool to ensure crisis management are relevant for the banking sector. The emergence of cloud technologies made it possible to create and use the software on someone else’s infrastructure and software that does not require real access and the necessary equipment. This approach simplifies the possibility of losing digital infrastructure and moving its functionality to a permanent stable level. Such an advantage is significant in the operations of banking institutions.

The next technology, which has only recently undergone wide application is the use of container systems, which can save in the creation of projects or algorithms of activity of specific departments and even operations of the bank. A special image of the required technology is formed and encrypted on the virtual disk of the operating system. At any time, this image can be restored with all the data, files, and the necessary results of the banking system. The advantage of container systems is widely used not only in banking activities but also in software development, engineering research, etc.

Thus, we can conclude that the effectiveness of crisis management is ensured through a rational approach to implementation methodology. The key direction of the development of crisis management is the use of digital technology and infrastructure to ensure the life of the bank. The most effective management approach is a dualistic approach, which can identify both risks and ways of development of banking institutions.

**DISCUSSION**

The results of the study indicate the need to create an effective mechanism of crisis management implementation implemented in banking institutions and the formation of digital infrastructure for its implementation. Such an issue is caused by the introduction of the most relevant digital technologies and the possibility of improving the existing system of banking
activities. In addition, the issues of the development of banking technologies and quality tools for building digital infrastructure may become a priority for the academic community (Carmassi et al., 2020). It is the use of digital technology and innovative solutions for data processing and storage that is the main issue for discussion. The bank’s ability to access information and the speed of its processing can not only identify risk in advance but also create an algorithm to avoid or follow the appropriate actions when it is detected. In such circumstances, the importance of further research will lie precisely in the implementation of qualitative approaches regarding the possibility of acquiring relevant tools for the implementation of crisis management through the use of digital technology.

The authors note Sidak & Koval (2018) that the implementation of management decisions directly relates to the policy of crisis management by the banking institution. It is based on management decisions that banking institutions carry out qualitative research on the formation of their activities. However, management decisions should be made based on technical and factor analysis. It is in these positions that a qualitative tool of a legal nature is needed to ensure that decisions are made only after technical analysis. This mechanism will create a springboard for the search of optimal analytical modeling techniques and the construction of a development scenario. Managerial decisions should have a clear classification and methodology for their adoption to different levels of crisis situations of the banking institution. This direction will be promising for further research.

Other researchers Alovsat & Aliyev (2019) noted that the priority direction of crisis management will provide human resources and opportunities for its development. It is with the help of human capital it is possible to implement the development of the banking institution and ensure quality functioning. Researchers found that only in the presence of highly qualified human capital it is possible to introduce innovative technologies and create a system of crisis management. This approach is relevant and meaningful in the context of the analysis of crisis management and its development prospects.

In turn, Carmass et al. (2020), see that the priority is the development of crisis management the formation of a balanced system of management of financial assets of banking institutions. In addition, they describe the key advantages of riskier lending and the ability to dispose of property funds in a riskier form with a balanced risk management system. According to scholars, it is natural that the crisis situation poses additional threats, but also greater riskiness can stimulate additional profits, which can be useful for banking activities. So, the prospect of further research could be the analysis of two strategies: risky and more moderate. Based on the analysis with the help of regression analysis, the relationship between bank profitability and the implemented strategy should be investigated. Ukrainian scientists Mihus et al (2019), see the prospects of crisis management development through the development of digital infrastructure and interaction with international partners. External support from international organizations can qualitatively improve the activities of banking institutions and the banking sector. Through investments and qualitative tools of their use can determine the degree of development of banking institutions in times of crisis and financial and economic threats.

Thus, the prospects for further research to improve the anti-crisis management system implementation of banking institutions are in the development of digital technologies, interaction with international partners, and improving the internal microeconomic environment of the bank. An important area of further research is the choice of lending strategy in accordance with the degree of threats and comparison with less risky strategies.

CONCLUSIONS

From the study, we can conclude that modern banking institutions apply a number of tools to avoid the crisis consequences of the macroeconomic environment. The key area of crisis management optimization for effective management of banking institutions is the development of software used by the bank and special technological infrastructure. Banking institutions provided with modern cloud technologies ensure the minimization of failures in the banking system. In addition, the issue of efficiency in the use of digital technology is the highest priority, as it provides a set of tools for the detection and prevention of risk. The technology of big data processing and working with information will be the technology of the future anti-crisis management, as its implementation is possible at all key levels of banking activities, both at the financial, marketing, and managerial levels.

Anti-crisis management of banking institutions contains problems of combining the key foundations of its implementation into a single whole strategy of its development. A significant number of banks are assigned to several strategies, which may turn out to be ineffective. Also, the issue of applying a set of tests to test the sustainability of the banking institution remains relevant. An important direction of further research is the formation of the concept of management decision-making in the occurrence of crisis phenomena.
The main basis for the implementation of the anti-crisis management mechanism and management of banking institutions is the formation of an algorithm of action in the event of negative fluctuations in the market. Modeling and development scenarios of the behavior of banking institutions can optimize the investment portfolio, form a quality crediting policy and improve the internal personnel policy.

Aspects of realization of anti-crisis management is a multistage process, covering all spheres of banking institution activity. Crisis phenomena stimulate restructuring and transformation of the traditional policy of banking institutions activity to carry out optimization at all levels and implementation of effective management decisions.

Consequently, the study indicates the need to improve modern crisis management, which will be able to ensure the financial security of the banking institution and, consequently, the banking sector.

REFERENCES


для їх раціональної оптимізації. Таким чином, у статті розглянуто базові аспекти антикризового менеджменту в умовах економічних викликів та геополітичних загроз.

**Ключові слова:** ризик-менеджмент, банківський сектор, облікова ставка, кредитування, інфляція, антикризовий менеджмент, управління ризиками

**JEL Класифікація:** E50, E59, G32