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# FORMATION OF AN ADAPTIVE MODEL OF ENTREPRENEURIAL RISK MANAGEMENT AS AN ELEMENT OF ENTERPRISE CRISIS MANAGEMENT

*The object of the research is the processes of business risk management as a key element of enterprise crisis management. Particular attention is paid to the study and formation of an adaptive model of business risk management as a key tool for crisis management. The emphasis is placed on its ability to respond to changes in the external and internal environment dynamically, ensuring strategic flexibility, enterprise risk resilience and effective functioning in conditions of uncertainty. Therefore, it is essential to establish a systematic approach for identifying, analysing, evaluating, and mitigating these risks. An adaptive model for business risk management enables a company to not only reduce the effects of adverse events but also to enhance resilience, recovery capacity, strategic flexibility, and competitiveness. The proposed mechanism for implementing the adaptive model consists of six consecutive stages: diagnostics, planning, institutionalization, digitalization, staff training, and continuous improvement. This approach facilitates a gradual transformation of the management system in response to changes in the external environment. The key priorities for implementation are as follows: proactivity, flexibility, integration, digitalization, the development of a risk-oriented culture, and continuous improvement. Successfully implementing these priorities is critical for the effective functioning of the entire risk management system. This article outlines a set of measures that can be adopted to put the adaptive model into practice. These measures address organizational, institutional, informational technology, and personnel aspects, ensuring an interdisciplinary approach and consistency in management decisions. The proposed model can serve as a foundation for developing a customized risk management strategy for enterprises operating in an unstable economy. The work highlights the importance of integrating the enterprise risk management system across all departments and structural units to enable quick responses to changes in both the external and internal environments, thereby enhancing the enterprise's crisis resilience. The presented results are of practical importance for enterprises in all sectors of the economy. The results of the study can serve as an analytical basis for further scientific developments and implementation of effective models of crisis management of business risks.*

**Keywords:** entrepreneurial risk, risk management, crisis management, uncertainty management, risk minimization tools.

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## 1. Introduction

In today's highly unstable global environment, which is caused by economic, globalization, political, social and environmental factors, enterprises operate in a zone of constant risks. Globalization processes in the economy are determined not only by the rapid spread of innovative technologies and the expansion of borders, but also by sensitivity to external shocks and fluctuations, creating new challenges for planning, functioning and forecasting activities. Enterprises are forced to constantly adapt to new operating conditions, which requires flexibility not only in operational activities, but also in risk management systems. The full-scale war in Ukraine has become a catalyst for new transformation processes in the global economy. It should also be noted that Ukrainian enterprises have faced unprecedented challenges: complete or partial destruction of production facilities and assets of the enterprise, destruction of infrastructure and logistical connections, disruption of technological processes, loss of qualified personnel, etc.

These processes have generated a set of specific risks that were previously considered unlikely or geographically limited and have demonstrated the vulnerability of traditional enterprise management models. These crisis phenomena that have arisen in the functioning of the enterprise require new mechanisms for managing business risks.

Business risk management as a component of anti-crisis management allows not only to identify threats in a timely manner, but also to form an adaptive system of management decision-making, which is focused on maintaining the stability of the operation and development of the enterprise in conditions of constant challenges and geopolitical instability. In conditions of a radical transformation of the business environment, enterprises are forced to develop and implement new models and strategies for managing and adapting the enterprise's activities to crisis conditions in order to maintain competitiveness and potential for their further development. Thus, the issue of forming an effective model of business risk management as a component of anti-crisis management is an urgent need of modern

management and a relevant direction of scientific research. However, despite the significant amount of research in the field of risk management and anti-crisis management, in practice, domestic enterprises often remain unprepared for timely response to challenges, which increases the threat of losing their market positions. This necessitates further study of approaches to business risk management as a tool for ensuring the stability and viability of a business. In modern scientific literature, the issue of business risk management is considered in the context of ensuring the stability of the enterprise's functioning. Aspects of business risk are studied in the study [1]. The work identifies the features of decision-making and parameters that affect the process of business risk management. An analysis of the essence of the concept of business risk management is carried out in the study [2]. According to the results of the analysis, it was determined that business risk management is a complex, comprehensive process of identifying, assessing and managing enterprise risks in order to achieve its strategic goals. However, the aforementioned studies do not address the relationship between different types of risks, integrated management models and the impact of digitalization on business risk management. The issues of business risk management are addressed in studies [3, 4], which determine the main characteristics of risks and the main stages of their management.

The study also identifies the main strategies for business risk management. At the same time, the issues of improving the mechanisms for integrating risk management into the anti-crisis management system and forming tools for rapid response to unpredictable changes in the external environment remain unclear. The work [5] is devoted to the impact of business risks on the activities of enterprises of various forms of ownership, as well as measures to overcome them and ensure their stability and adaptability. The results of the study indicate the relationship between the enterprise's risk adaptation system and anti-crisis management, and offer practical and theoretical recommendations for the formation of strategic anti-crisis measures. The issue of including risk management in the anti-crisis management system is addressed in studies [6, 7], in which scientists emphasize the development of strategies and measures for responding to crisis phenomena, taking into account the identification of risks.

Studies [7, 8] emphasize the importance of the risk management system in managing the activities of an enterprise. The studies prove that effective risk management allows the enterprise to quickly adapt to changing environmental conditions, reducing losses from crisis events. However, the study does not consider the processes of integrating the risk management system into the overall strategy of anti-crisis management of the enterprise.

Studies [8, 9] emphasize the importance of a clear classification of risks both by source of origin and by the nature of manifestation and degree of impact. This approach allows to form the structure of the enterprise's risk profile and justify appropriate management measures. At the same time, further research is required to detail the classification features, taking into account the latest challenges, in particular those associated with globalization processes, digitalization of the economy and the growth of environmental threats. The risk management process as a component of strategic planning is studied in works [10, 11]. They believe that management decisions regarding risks are not isolated, but should be integrated into the overall system of strategic development of the enterprise through the use of a system of indicators, however, the issue of developing unified methodological approaches to the formation of such a system and mechanisms for adapting strategic plans to changes in the risk environment has not been sufficiently studied in the study.

Special attention is paid to the impact of financial risks on the functioning of enterprises in studies [9], and the need for further:

- development of a system of indicators for identifying risks;

- creation of insurance and reserve funds to overcome the consequences in the event of losses;
- modeling to predict the consequences of risks on the enterprise is noted.

The methodological essence of business risks, the possibilities of managing them, in particular under martial law, is considered in the study [12]. The study widely covers theoretical approaches to the classification of business risks, however, there is no study of the formation of a holistic concept of the interaction of risks with the enterprise development strategy, reducing negative consequences, especially for small and medium-sized enterprises.

*The aim of research* is to form an adaptive model of business risk management as an integral element of anti-crisis management to ensure increased enterprise resilience to crisis phenomena and optimization of management decision-making processes in risk conditions. The implementation of this aim will allow to ensure increased enterprise resilience to external and internal threats, ensure continuity and efficiency of activities and form an adaptive development strategy in an unstable environment.

## 2. Materials and Methods

*The object of research* is the processes of the enterprise's functioning in the conditions of internal and external risks that affect its stability, efficiency and ability to recover in the conditions of crisis phenomena.

The presented study is based on general economic methods of modern scientific practice, which are aimed at identifying modern patterns of enterprise risk management. Methods of scientific knowledge and generalization are based on statistical data, and graphical and tabular approaches are used to visualize the results. Particular attention should be paid to the adaptation of methodological tools to the specifics of the emergence of business risks, the elimination of their consequences and the development of preventive measures, continuous monitoring of the level of business risks and the adaptation of anti-crisis strategies.

## 3. Results and Discussion

Today, in the conditions of rapid economic development, globalization, high level of competition, as well as external political, social and military influences, enterprises are increasingly faced with various risks that affect the stability of their functioning and long-term development. In such conditions, the importance of comprehensive, systematic management of business risks as an integral component of anti-crisis management is growing. It is effective risk management that allows not only to reduce the likelihood of crisis situations, but also to ensure the sustainable operation of the enterprise, its competitiveness and ability to strategic development. This issue becomes particularly relevant in the conditions of a full-scale war in Ukraine, which has caused an increase in the level of uncertainty, logistical and financial risks, loss of infrastructure, and shortage of resources. In these conditions, enterprises need new approaches to the formation of sustainable management systems that are able to ensure adaptation, recovery and development. In an unstable economic environment, economic risk is an objective and integral element of the economic activity of any enterprise. It is not considered as an exceptional phenomenon or deviation from the norm, but as a normal, constant and objective companion of entrepreneurial activity [13].

Entrepreneurial risk covers a wide range of threats that may arise in the course of an enterprise's activities. It may arise as a result of organizational errors, ineffective planning, personnel problems, changes in legislation, military operations, pandemics, etc. All these factors create an environment of uncertainty in which the enterprise is forced

to make decisions regarding development, investment, innovation or anti-crisis measures. The essence of entrepreneurial risk lies in the probability of adverse events or losses in the process of making managerial decisions under conditions of uncertainty.

As emphasized in [14], entrepreneurial risk should be considered as the possibility of deviation of the actual results of economic activity from planned or expected ones. Such events in some cases can lead to both negative consequences (damages, losses, bankruptcy) and positive results (additional profit, competitive advantage, market growth) [15]. This definition emphasizes that risk has a dual nature – it not only threatens the enterprise, but also opens up new opportunities for development, provided it is managed competently. That is, on the one hand, entrepreneurial risk is a threat to the implementation of the strategic and tactical goals of the enterprise. The occurrence of such a risk can lead to financial losses, disruption of business processes, loss of partners, reduction of market share or even complete cessation of activity. In this case, risk is a barrier, a threat that can affect the stability of the enterprise's activities. On the other hand, quite often risk can act as a catalyst for change and growth of the enterprise. Making risky decisions, although associated with uncertainty, can bring the enterprise a strategic advantage. The dual nature of risk is due to the very mechanism of making managerial decisions under

conditions of uncertainty: every decision that is not based on complete information can lead to both negative and positive results. As stated in the study [16–19], entrepreneurial risk “is a form of manifestation of uncertainty, which, with the presence of appropriate management tools, can turn not into a threat, but into an opportunity to strengthen the company's position”. The essence of the dual nature of risks is presented in Fig. 1.

Thus, the dual nature of risk necessitates the need to balance caution and readiness for change. Excessive risk avoidance can lead to stagnation of the enterprise, loss of competitive advantages and reduction of market share. At the same time, uncontrolled risk decision-making without proper analysis and planning can cause critical losses [21, 22]. That is why the task of modern management is to build a flexible, adaptive risk management system that allows not only to prevent threats, but also to use risk as a source of new opportunities. Such a new system can be an adaptive model of business risk management, which will change and adapt to events and the environment in which the enterprise operates (Fig. 2).

This business risk management model provides for the rapid transformation of its elements in accordance with the challenges faced by the enterprise. This system should be based on the principles of flexibility, sensitivity to change, speed of response and the ability to self-adjust.

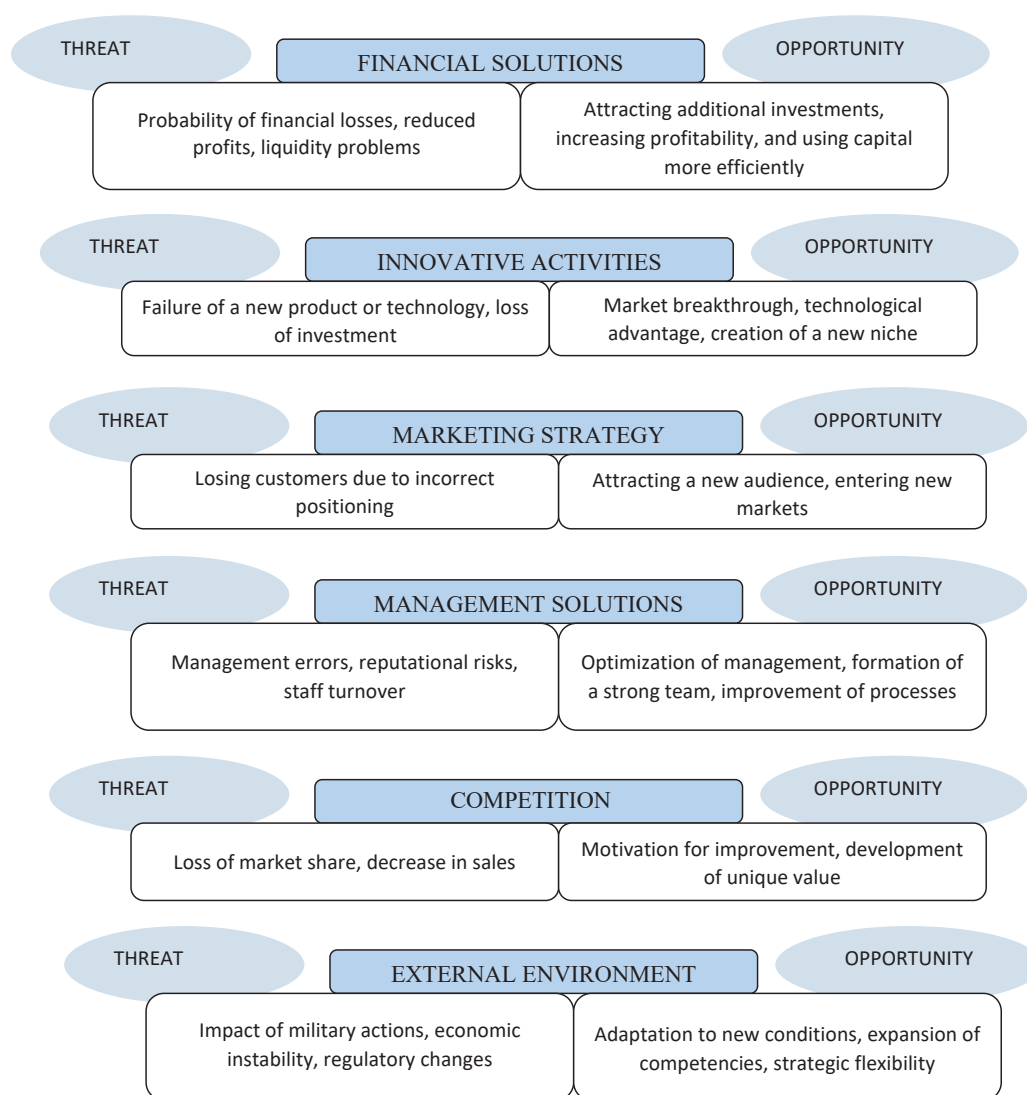


Fig. 1. The essence of the dual nature of business risks (summarized by the authors based on the processing of sources [5–7, 14, 20])

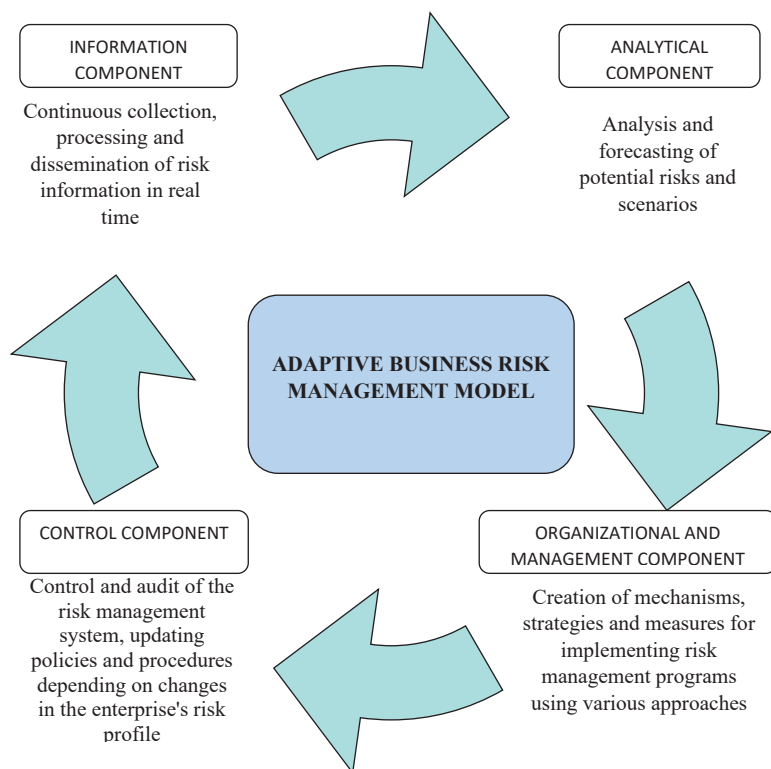


Fig. 2. Structural elements of the adaptive business risk management model

A feature of the adaptive business risk management model is a high level of adaptation and integration with all functional areas of enterprise management, such as: strategic planning, current regulation, control and response to changes in external and internal conditions. This allows to ensure the integrity, consistency and logical completion of the business risk management process from their identification to assessing the effectiveness of the measures taken. An important component of the model is constant risk monitoring and continuous analytics of the enterprise processes and the external environment, which allows to identify new threats or transform them before they lead to losses. This will allow the enterprise to adapt crisis management strategies in a timely manner, promptly changing priorities and resources, redistributing powers or introducing new technologies and management measures. The control component is one of the components of the model. It will allow not only to check the effectiveness of the implementation of measures, but also to take timely measures to adjust the system of management measures, update policies and procedures depending on changes in the enterprise's risk profile.

The effective functioning of the enterprise's crisis management system largely depends on the ability to respond promptly to changes and adapt to new conditions. In this context, the implementation of an adaptive business risk management model is considered one of the key tools for ensuring the stability, business continuity and strategic flexibility of the enterprise. The mechanism of its implementation is complex and involves the integration of organizational, information, technological and personnel components into a single management system (Fig. 3). This is due, first of all, to the need to cover all important aspects of the enterprise's functioning in conditions of uncertainty. The main goal of forming and implementing such a mechanism is both to identify and neutralize potential threats, and to create a dynamic, flexible system that is able to adapt to environmental changes and integrate into all systems of the enterprise's functioning.

To achieve maximum efficiency, the mechanism for implementing an adaptive model of business risk management can be conditionally divided into a number of stages, each of which has its own specifics,

tasks, functions and implementation tools. At the first stage of the mechanism, a comprehensive assessment of the state of the enterprise is carried out from the point of view of existing and potential risks, as a result of which a risk profile of the enterprise is created. Based on the results of the assessment of potential risks, a basic business risk management policy is developed, which takes into account the individual characteristics of the enterprise, strategic goals and the level of risk acceptable to it. It includes the principles of risk management, their classification, and the procedure for action in case of detection of threats, monitoring and reporting procedures and a mechanism for adapting the policy to environmental changes.

This stage creates a regulatory framework for implementing an adaptive model of risk management. The next stages involve the formation of an organizational structure for risk management and the implementation of analytical tools and digital technologies for the risk management system, which allows for prompt response, accuracy and adaptability of decision-making.

The final, but constantly operating, is continuous monitoring of the effectiveness of the implemented model. At this stage, there is constant monitoring of changes in the risk portfolio, an audit of risk management procedures, an assessment of the effectiveness of preventive measures and adjustments and updating of the model in accordance with new challenges. This stage guarantees the flexibility and sustainability of the adaptive business risk management model, allowing the enterprise to adapt to changes and increase its competitiveness.

Successful implementation of an adaptive business risk management model is impossible without a clear definition of priorities and a sequence of measures that correspond to the current risk profile of the enterprise, its organizational structure and industry characteristics. Priorities form a strategic vision for the development of the risk management system, and measures help to specify the mechanism for implementing this vision in an unstable environment. One of the main priorities is the transition from a reactive to a proactive approach, when the enterprise not only reacts to already realized risks, but also anticipates their emergence and takes preventive measures. A proactive approach to risk management allows to reduce the level of losses, minimize the consequences of the crisis and restore stability faster. Another important priority is to embed risk management into all business processes of the enterprise, which involves the integration of risk analysis into the decision-making process, mandatory consideration of risks when developing investment projects, contracts, and plans. Such integration forms a single management and information environment, where each structural element of the enterprise acts responsibly and coherently.

Modern challenges require the use of information technologies to ensure the accuracy, speed, and transparency of management processes. The priority of digitalization is to implement specialized analytical platforms, automate the monitoring of key risk indicators, create digital risk maps and response models, which will increase the efficiency of management and reduce the likelihood of human errors.

In today's dynamic environment, even the most effective system may lose its relevance over time. Therefore, an important priority is the system's ability to continuously improve. It involves conducting regular audits of the system, using the experience of previous crisis situations, updating procedures and policies based on monitoring results, and introducing feedback into all management cycles.

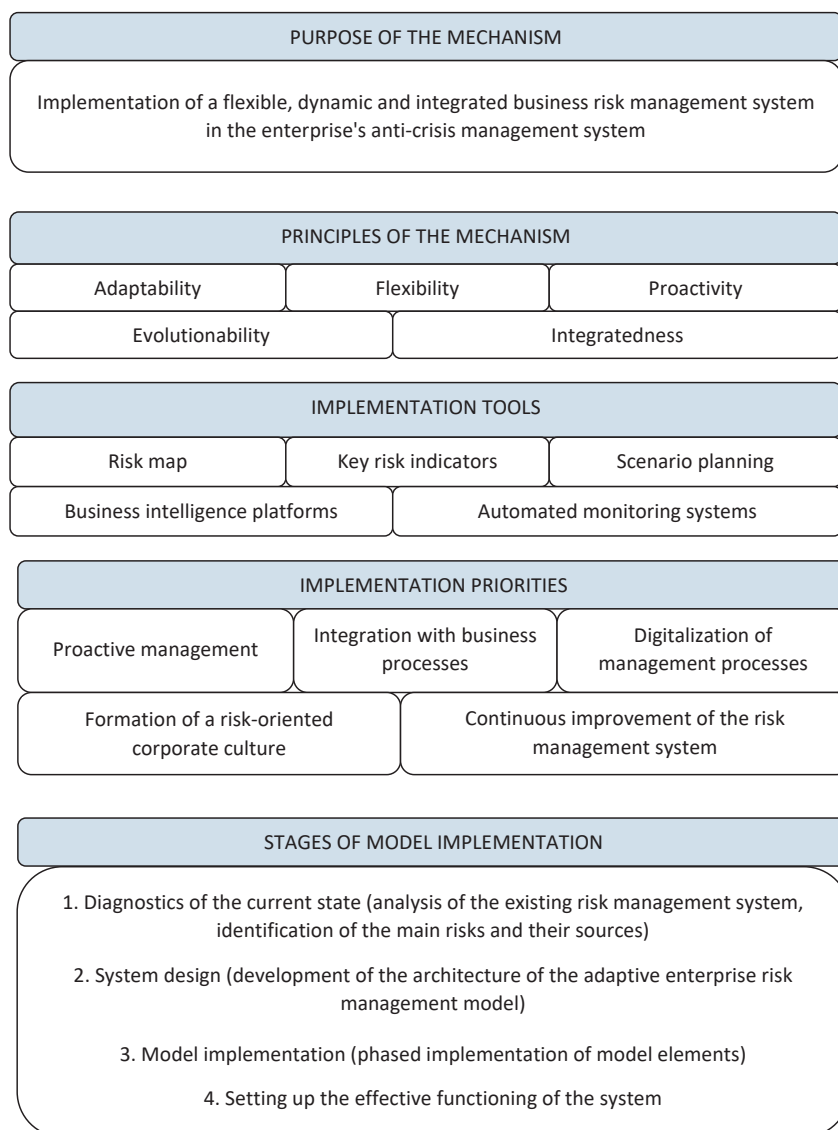


Fig. 3. Structural diagram of the mechanism for implementing an adaptive business risk management model

Thus, the mechanism for implementing an adaptive business risk management model is a multi-level system that functions through the interaction of all subsystems of the enterprise, each of which performs its own function, ensuring a balance between strategic flexibility, technological capability, and managerial responsibility. The synergy of these elements allows the enterprise not only to counteract risks, but also to turn them into a source of competitive advantages.

The practical significance of the research results lies in the possibility of their use by enterprises in various sectors of the economy to increase the efficiency of business risk management in an unstable and dynamic environment. The proposed adaptive business risk management model can become an effective tool for anti-crisis management and will allow to respond promptly to changes, reduce the likelihood of critical situations, and ensure sustainable development of the enterprise.

The developed mechanism for implementing an adaptive business risk management model, which includes six stages, is a step-by-step instruction for integrating the risk management system into the overall structure of enterprise management. This allows to adapt the model to the specifics of an individual enterprise, taking into account its size, industry affiliation, resource base, and level of risks. Also of practical importance are the priorities and key implementation measures identi-

fied in the research, which can be used as a guideline for forming the enterprise's internal policy on risk management. This ensures a transition to proactive business risk management, when the enterprise does not simply react to threats, but predicts them, prepares for them, and prevents negative consequences.

Therefore, the applied aspect of using the research results is the possibility of a holistic implementation of an adaptive business risk management system in the anti-crisis practice of enterprises in order to ensure their stability, flexibility and ability to self-recovery in conditions of high uncertainty.

*Research limitations.* The proposed adaptive business risk management model still requires large-scale testing at enterprises of various industries and scales of activity, taking into account their specific operating conditions: the structure of enterprise risks, the level of digital maturity, the availability of resources for carrying out anti-crisis measures.

*Prospects for further research.* To overcome these limitations, further research requires adapting the model to various organizational and economic conditions. It is also necessary to develop tools for digital risk modeling and systematically introduce anti-crisis and risk management methods into the activities of the enterprise.

#### 4. Conclusions

In modern economic conditions, business risk management is one of the key factors in ensuring the sustainability, continuity of operations and competitiveness of an enterprise, especially in conditions of economic, political or market crisis. In a global dynamic environment, enterprises are constantly faced with multi-vector threats that can negatively affect the financial condition of the enterprise and prevent it from achieving its strategic goals. The research showed that the adaptive business risk management model is an effective approach that allows enterprises not only to identify and assess risks in a timely manner, but also to quickly adapt the management system to changes in the external environment.

The essence of the adaptive business risk management model lies in its ability to respond to the dynamics of risks in real time through constant monitoring, forecasting, updating of influence tools and adjusting management decisions. Such a model is built taking into account the principles of flexibility, systematicity, adaptability and integration, allowing to ensure business continuity even in crisis conditions.

The proposed mechanism for implementing an adaptive business risk model is complex and phased in nature, including interrelated stages: risk diagnostics, strategic planning, process digitalization and continuous improvement of the system. Such a structure allows for the gradual integration of the model into the overall enterprise management system, ensuring its sustainability, efficiency and strategic orientation.

The study pays special attention to the formation of priorities for implementing the model. It was determined that the focus on proactive management, flexibility of the organizational structure, digital transformation, personnel training and the creation of a risk-oriented culture are critically important conditions for the effective functioning of an adaptive risk management system. It is these priorities that allow to avoid a formal approach to risk management and turn it into a strategic management tool.

The results obtained have practical significance, since the implementation of the proposed model will allow enterprises to increase the level of resilience to external shocks, form an effective system for preventing crisis situations, improve the quality of management decisions, and maintain competitive positions even in conditions of high uncertainty. The proposed approach is universal and can be adapted to different sectors of the economy, taking into account the specifics of the activities of enterprises.

#### Conflicts of interest

The authors declare that they have no conflicts of interest in relation to the current research, including financial, personal, authorship, or any other, that could affect the research, as well as the results reported in this paper.

#### Financing

The research was conducted without financial support.

#### Data availability

All data are available, either in numerical or graphical form, in the main text of the manuscript.

#### Use of artificial intelligence

The authors confirm that they did not use artificial intelligence technologies when creating the current work.

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