



CRISIS SYMPTOMS AND THE IMPROVEMENT OF EARLY DETECTION MECHANISMS

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ABSTRACT

This article substantiates that the causes of crises do not emerge in isolation but result from the complex interrelation of economic, financial, organizational-managerial, and social factors. It is also emphasized that the early identification, monitoring, and implementation of systematic management mechanisms of these factors play a decisive role in ensuring the sustainable development of enterprises, industries, and regions.

KEYWORDS: Causes of Crisis, Economic Factors, Financial Factors, Organizational And Managerial Factors, Risk Analysis, Anti-Crisis Policy, Sustainable Development, Monitoring, Strategic Management.

1. INTRODUCTION

In today's modern global economy, crises are increasingly becoming an inevitable phenomenon that poses a serious threat to the stability and sustainable development of enterprises, industries, and even entire national economies. A crisis usually does not occur suddenly; rather, it develops gradually and manifests itself through a series of warning signs and symptoms which, if overlooked, can lead to severe disruptions.

Therefore, the timely identification and systematic analysis of crisis symptoms are of crucial importance in preventing destructive consequences and ensuring the resilience of organizations.

The improvement of early detection mechanisms is particularly relevant in the context of increasing uncertainty, intensified competition, and rapid technological change. Effective mechanisms make it possible to identify potential risks in advance, diagnose their root causes, and implement preventive strategies before the situation reaches a critical stage. To achieve this, a comprehensive approach that incorporates economic, managerial, and technological tools, along with continuous monitoring and data-driven decision-making processes, is essential.

Research shows that the earlier a crisis is detected, the greater the opportunity to mitigate its negative consequences. Therefore, improving early detection systems is not only a managerial necessity but also a strategic requirement for achieving long-term sustainability. This study aims to examine the key symptoms of crises and explore advanced approaches to the development of early detection mechanisms, with the ultimate goal of contributing to the formation of effective anti-crisis management practices.

The issue of identifying the early signs of crises and developing mechanisms to manage them is of strategic importance today not only for individual enterprises but also for the stability of entire economic systems. This is because any crisis usually does not occur suddenly; rather, it is preceded by a series of warning signals, manifested in financial, organizational, social, or psychological indicators. If these signs are detected and analyzed in a timely manner, the ability to mitigate future risks, develop adaptive strategies, and prevent negative consequences increases significantly.

2. LITERATURE REVIEW

From this perspective, the development and improvement of early detection mechanisms for crises remain a central issue not only in management and economics, but also in risk management, healthcare, and social sectors. Scholars have employed various approaches in creating effective Early Warning Systems: some have developed theoretical concepts, others have relied on empirical data, while another group has proposed practical models and technological tools.



In particular, in the field of economics and finance, market volatility is examined as a sign of crisis; in corporate governance, the inefficient use of resources; in healthcare, epidemiological indicators; and in social systems, changes in the dynamics of population behavior.

In the scientific literature, numerous significant studies have been conducted in this regard, among which classical theoretical developments, modern statistical and mathematical models, as well as machine learning systems based on digital technologies, hold a special place.

In this regard, scholars have proposed various approaches. Pearson C. M. and Clair J. A. (1998) reinterpreted crises as a systemic process, emphasizing the existence of warning signals that can be detected before their escalation. According to them, organizations often ignore these signals due to denial, misinterpretation, or the absence of monitoring mechanisms. Their approach highlights the necessity of organizational learning and foresight.

Similar ideas were advanced by Kozłowska, M., Gubiec, T., and Struzik, Z. (2014), who studied financial markets and revealed the phenomenon of “critical slowing down” occurring in the pre-crisis period. Their research demonstrates that increasing volatility and correlation in financial data serve as indicators that emerge prior to systemic shocks.

Thus, systematic research on financial Early Warning Systems (EWS) shows that the effective early detection of crisis risks requires the integrated use of machine learning models and macroeconomic indicators. Namaki, A., Eyvazloo, R., and Ramtinnia, S. (2023) emphasize in their studies that combining quantitative models with risk management systems serves not only to mitigate risks but also as a strategic factor in ensuring economic stability.

In addition, ISO 31000:2018 (International Organization for Standardization, 2018), although not attributed to an individual author, represents an important source that provides the conceptual and methodological foundation for risk management on a global scale. This standard outlines structured approaches for identifying, monitoring, analyzing, and evaluating risks, which can be universally applied across various sectors and organizations.

Additionally, the ISO 31000:2018 standard views risk management as a systematic and integrated process, providing a solid methodological foundation for the effective implementation of early detection and preventive mechanisms. This, in turn, enables organizations and institutions not only to identify potential crisis indicators at an early stage but also to respond to them quickly and intelligently.

3. RESEARCH METHODOLOGY

This study employed a methodological approach aimed at analyzing practical measures for identifying crisis indicators and improving early warning mechanisms. It conducted an in-depth examination of the dynamics of economic indicators, the level of financial stability, external and internal risk factors, as well as the rapid response capabilities of management systems. Using analysis and synthesis, abstract-logical thinking, and scientific generalization methods, the study assessed the early-stage signs of a crisis and the institutional, economic, and organizational constraints that hinder their effective identification.

4. ANALYSIS AND RESULT

A thorough analysis of crisis indicators and early detection mechanisms demonstrates that timely and accurate interpretation of warning signals is crucial for preventing major economic and organizational crises. The study's findings indicate that crisis signs typically manifest in processes such as declining financial indicators, disruptions in liquidity, increasing debt burdens, reduced production efficiency, and weakening institutional stability. Systematic monitoring of these indicators, in turn, enables the development of early warning models and provides management entities with the ability to make prompt and well-founded decisions.

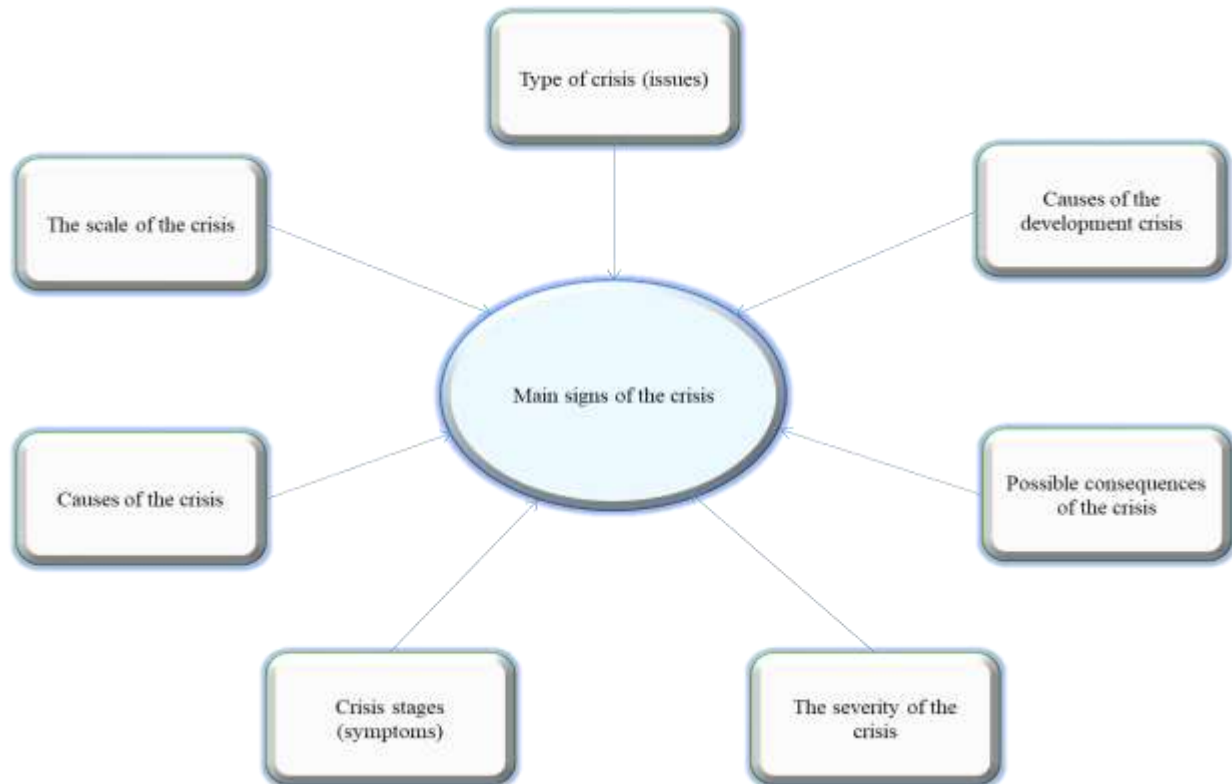


Figure 1. Classification of the main signs of crisis ¹

The key indicators of a crisis consist of a set of factors that allow for its in-depth analysis. These include the types of crises and their causes, the factors influencing their development, and the potential consequences.

Additionally, the scope, stages (signs), and severity of a crisis are also of significant importance. Systematic study of these indicators serves as a crucial methodological foundation for the early identification of crisis processes and the development of effective management measures.

The main signs of a crisis are manifested in various indicators, and their systematic analysis serves as a methodological basis for understanding and evaluating crisis processes. In particular, the causes of the crisis, its stages of development, severity, and the scale of its impact on economic, social, and institutional stability are of special importance as diagnostic criteria. These signs not only reveal existing problems but also indicate their deep-rooted causes.

From this perspective, a thorough and systematic study of crisis indicators enables management entities to assess risk factors in advance, improve early warning mechanisms, and minimize negative consequences. Thus, identifying the signs of a crisis is not only a theoretical concept but also a decisive factor that determines the effectiveness of practical management strategies.

¹ Prepared on the basis of the authors' research.

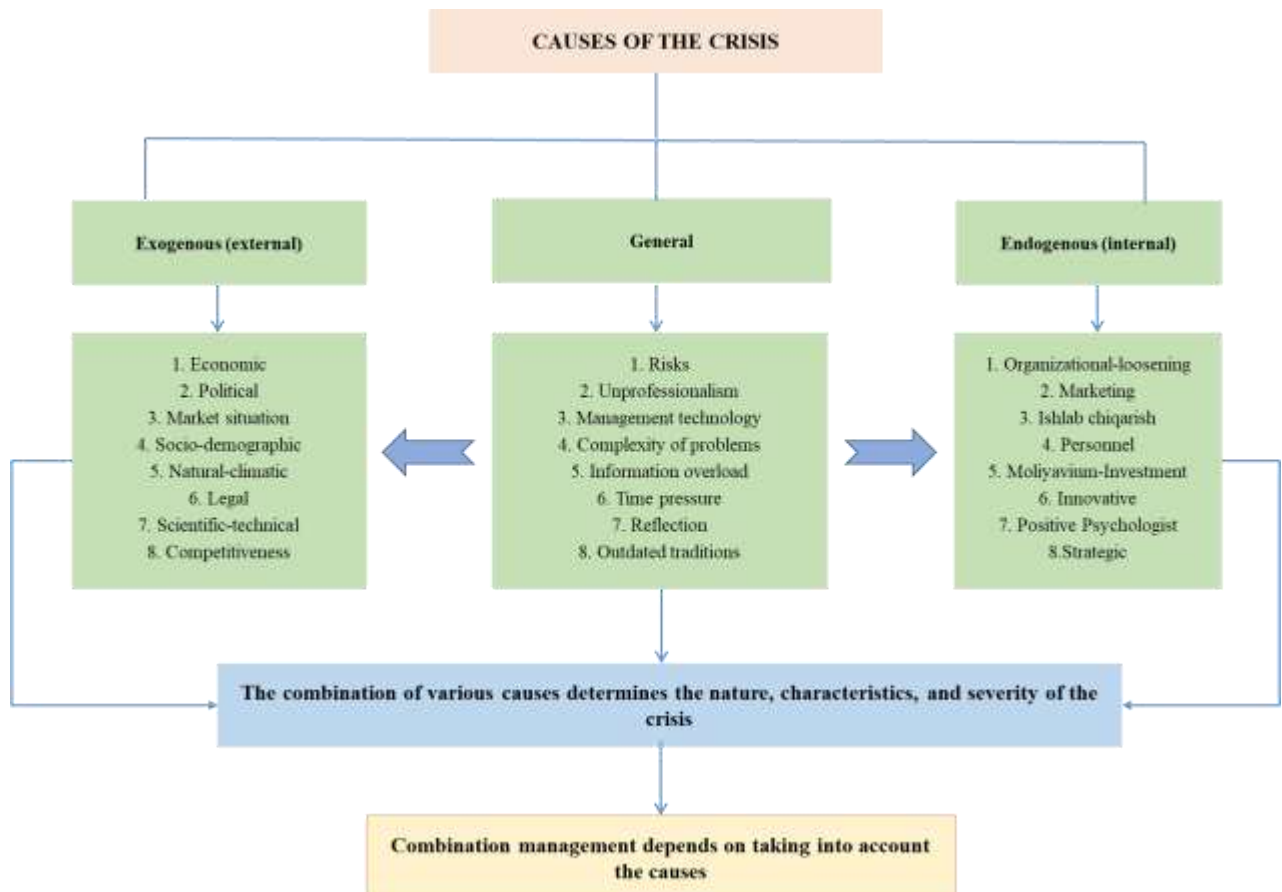


Figure 2. Classification of Crisis Causes and Their Interaction Mechanism²

The causes of a crisis are conditions arising from economic, political, socio-demographic, natural, organizational, and managerial factors that disrupt the stable functioning of an enterprise or the entire economy. They can be conditionally classified as external (exogenous), occurring beyond the organization's control (such as market fluctuations, political tensions, or global crises); internal (endogenous), arising within the organization (such as management errors, innovation delays, or insufficient investment); and general factors, including risks, time pressure, and information overload.

The causes of a crisis are divided into three main groups: external (exogenous), internal (endogenous), and general factors.

Their interaction determines the nature, scope, and severity of the crisis.

External factors are related to economic, political, socio-demographic, and natural conditions. Internal factors pertain to the organization's internal management, production efficiency, and innovation activity.

General factors encompass conditions such as risks, outdated management technologies, time pressure, and information overload, acting as additional pressures on both external and internal causes. Therefore, effective crisis management requires a comprehensive analysis of their sources and careful consideration of the interrelationships between these factors.

5. CONCLUSION

Crisis causes never appear in isolation; rather, they emerge from the complex interaction of economic, financial, organizational-managerial, and social factors. Scientific analyses indicate that early identification of these factors, monitoring their development trends, and implementing systematic management mechanisms are essential for ensuring the stability of an enterprise, sector, or region.

² Prepared on the basis of the authors' research.



Therefore, a thorough study of the groups of crisis causes and their interconnections not only mitigates existing risks and threats but also enables the determination of future strategic development directions, the formulation of effective anti-crisis policies, and the enhancement of competitiveness.

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