

**SECURITY OF ECONOMIC SYSTEMS
IN TERMS OF SUSTAINABLE DEVELOPMENT
OF THE GLOBAL INFORMATION SPACE**

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Abstract. The research is devoted to scientific and applied aspects of economic security in the global information space of business entities. Modern determinants of economic systems affect the nature of the transformation and direction of changes in digitalized management technologies, the formation of the security system. The authors analyze the approaches to the interpretation of economic security and identify the following approaches: protective, resource-functional, technical-digitalization, subject-object, information, system, economic-legal and strategic. The study formalizes the strategic, effective and resource levels of security of economic systems. Creating the necessary prerequisites for economic security should be based on an effective system of measures with the necessary legal, resource, organizational and informational basis. This, in turn, involves the formation of an optimal system of economic security, which should take into account social and national values, territorial and sectoral specifics, the nature of the communication infrastructure of the global information space. Analysis of the theoretical foundations of systemic management of economic security allowed to determine the following principles: development, adaptability, unity, competence, economic feasibility, efficiency, complexity, legality. Management of economic activity of enterprises in a separate global information space implies the existence of a certain mechanism, the use of which will allow to obtain optimal results of production activities, to provide favorable conditions for this. The authors propose a mechanism to ensure the sustainable development of the economic security of the

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enterprise in the global information space. This allows at the enterprise level to ensure compliance with the principles and implementation of measures for sustainable development of economic systems in the global information space.

Keywords: economic security, global information space, economic space, strategic security management, economic security system, sustainable development.

Introduction. Modern patterns and determinants of economic systems development affect the nature of transformation and direction of change in digital management technologies. The latest challenges to ensure security are directed to a technical and technological renewal, management of resource and information flows, creating intellectual capabilities and economic potential. The availability of innovation, information, the problem of balance and consistency of technology with the capabilities of HR-system, environmental and social priority in the management of enterprises create requests for the formalization of system socio-and-economic foundations of the security of economic systems.

Under the dynamic influence of the innovation development, intellectualization and informatization of the economic space, the formation of the theoretical and practical basis for the implementation of methodological provisions of the theory of security becomes the key task of activating the accumulated potential. Formalized institutional mechanisms of settlement of economic security of economic entities on the basis of the sustainable development are focused on the preservation of existing markets, stability of resource supply, production and sale of products, purchasing power and income of the population. However, the transformation of the world economic space under the influence of global crises, pandemics, energy dependence and military conflicts require new solutions and approaches.

In the economic sciences many publications are devoted today to the issues of economic security of enterprises. In particular, the scientific publications of O.V. Arefieva [1], V.I. Muntiyan [2], S.M. Ilyashenko [3] reveal the essence and bases of management; methodological support for assessing the level of security of economic systems studied in the works of O.F. Yaroshenko [4], I.A. Fedorenko [5], R.M. Skrynkovski [6]; issues

of formalizing the structure and functionalities of the economic security system of the enterprise are described in the works of M.P. Denysenko [7], M.I. Averichev [8]; strategic management and innovation transformation of O.V. Lyaskovets [9], S.M. Shkarlet [10]. In the context of the sustainable development, the economic security is studied from the perspective of modernization by T. Tkachenko [11] and S. Tulchinskaya [12], as an object of ensuring competitiveness in conditions of innovative development by M. Lutskiy [13], A. Shtangret [14], and from the standpoint of institutional settlement of crisis manifestations in the globalization space by S. Smerichevskiy [15], A. Popelo [16], Ye. Romanenko [17], G. Kucheruk [18]. Special attention in the studies of security theory has recently been paid to the publications on the information security. Thus, the problems of protecting the national information space are reflected in the works of V. Petryk [19], V. Lipkan [20], B. Kormich [21], V. Pocheptsov [22] and other scientists. However, in the works of the above-mentioned researchers information security was studied from the perspective of ensuring the national security, but not enough attention was paid to the economic aspects of the settlement and preventive management of threats to the global information space and its impact on the security of economic systems.

The purpose of this study is to formalize the system of economic security in the conditions of the sustainable development of the global information space.

1. Theoretical and methodological bases of economic security provision

Numerous works of Ukrainian and foreign authors are devoted to the problems of ensuring the economic security of the enterprise, but a single, established thought has not yet been formalized for the conditions of the spatial management. In order to systematize and structure the approaches to the interpretation of the concept, a generalization of theoretical approaches to the concept of «economic security» was carried out (Figure 1).

Generalization and analysis of the existing approaches to the definition of the essence of the economic security allows us to conclude that in the scientific and economic literature there is no single generally accepted interpretation of «economic security». The economic security is a universal category that reflects the security of subjects of socio-and-economic

Collective monograph

Protective	<ul style="list-style-type: none">•Implementation, prevention and protection of economic interests
Resource-and-functional	<ul style="list-style-type: none">•Sustainable functioning and economic development due to the efficient use of corporate resources by functional components
Technical-and-digitalization	<ul style="list-style-type: none">•The ability of the economic system to ensure technical and technological development and modernization of production technology or services.
Subject-and-object	<ul style="list-style-type: none">•Ensuring independence, sustainability, ability to self-development of the security subject, subjective-and-objective interdependence of elements of the economic space
Informative	<ul style="list-style-type: none">•Keeping of trade secrets, personal information and intellectual property.
Systemic	<ul style="list-style-type: none">•Reconciliation of the interests of the economic system with the interests of the external space.
Economic-and-legal	<ul style="list-style-type: none">• Institutional protection and settlement of illegal actions and threats.
Systemic	<ul style="list-style-type: none">• Resistance to hazards and threats by identifying them, as well as taking preventive action through the activities of the security subjects.

Figure 1. Generalization of scientific approaches to the interpretation of the concept of «economic security»

Source: created by the authors

relations at all levels, from the state to each of its citizens. In our opinion, the economic security in the conditions of global-and-information space should provide protection from:

- reduction of resource and spatial-and-temporal capacities, which is provoked by multitasking and growth in the volume of information content, the need to prioritize information spaces and their structuring;

- the need to ensure a high technology of all economic processes provokes the threat of loss of functional responsibility for the results of the implementation of production, logistics, control and motivational functions;

- along with the communication and infrastructure opportunities in the economic space, the risks of loss of control over information flows, the pace of modernization and innovation development are formed;

- limited resources and spatial and temporal opportunities which directly depend on the level of technical development of infrastructural sphere, logistics, optimization and energy efficiency of production resources;

- sustainability and the need to ensure high rates of informatization and intellectualization, which provokes the loss of communication, information and market competitive advantages;

- the global integration of economic systems in the context of the loss of unique competitive advantages and territorial, national economic values;

- loss of working capital and profitability of production facilities due to the need for constant investment in modernization, innovation and renewal of technology, materials, energy;

- loss of personnel competencies as a result of lack of opportunities for development, excessive informational and social burden;

- structural changes in the industry space due to capital increase in the information, communication, logistics and other service sectors;

- losses due to the transfer of analytical and control functions to «artificial intelligence,» which is unable to apply cognitive tools to make decisions, as well as the risks of technical failures and data loss, leading to crisis losses;

- risks of technogenic impact on ecology and society, which provoke global crises and structural losses due to their indirect impact on the economic space.

Ensuring the sustainability of development and preservation of economic security, taking into account the described challenges in today's global information space requires a systematic and strategic management of preventive measures.

2. The system of management of economic system security in the conditions of global-and-information space

Enterprise activities are always associated with internal changes and external influences on the space of the economic system. Sustainability of the development and ensuring the effective performance build-up in conditions of uncertainty of global-information space should be provided by reliable protection, which in the theory of management is formed in the system of the economic security. The economic security of the company reflects the state of security, flexibility, stability and efficiency in achieving the goals.

A prerequisite for the existence of any economic system is a state of security and the corresponding level of effectiveness of the use of the economic security system. The subjects of the economic security management are owners of capital and resources, institutions and other economic subjects of the economic space, which by conducting an analytical research as the internal and external environment of the enterprise develop appropriate suggestions for the possibility of neutralizing threats, that is, meeting their own economic interests. The creation of the necessary prerequisites for ensuring the economic security should be based on an effective system of measures with the necessary legal, resource, organizational and informational basis. This, in turn, involves the formation of an optimal system of the economic security, which should take into account social and national values, territorial and sectoral specificity, the nature of the communication infrastructure.

In modern studies I.M. Averichev, A.V. Kozachenko and colleagues believe that the modern economic security management system should be flexible, integrated and open, it should cover principles, techniques and methods, procedures, algorithms and models, which provide the harmonization of interests of the enterprise with the interests of the subjects of the external environment [8, p. 15; 23, p. 107]. A. Arefieva defines the system of the economic security as a tool to harmonize economic interests in the processes of adaptation to changes in the internal and external space of the enterprise [1]. According to A. Stangrett, the system of the economic security must be self-regulating and determine the structure and specificity of the components [14]. At the same time I.Y. Kvach reveals three approaches to the construction of the system of economic security:

descriptive, constructive and synergistic [24, p. 380]. The scientist focuses on the synergistic interaction of the components and their communication.

The global-and-information space of functioning of economic systems has been formed under the influence of increasing technology of communication and information transfer. The acceleration and build-up of information flows provoked the mass informatization and social contacts. At the same time, the risks of loss of mental, gender and cognitive values have emerged in the society, not only in economic areas of human life, but also in other manifestations. Accordingly, the challenges of the sustainable development have become strategic guidelines for the preservation of future opportunities, the environment and values while meeting existing needs. Globalization, contributing to the integration of world concepts and provoking the spread of innovative technologies, becomes a determinant of the loss of competitive advantages and markets by economic systems in the internal space of individual territories. At the same time, information technology allows the projection of patterns of behavior and relationships between elements of economic systems. Information, combined with intellectual capital, becomes not only another factor of the economic growth, but also the dominant competitive advantage.

Consequently, the formation of the economic security system in the conditions of the global-and-information space should be based on the conceptual coordination of elements and functions in accordance with the subjective influence of the environment, as well as the strengthening of innovation-and-integration processes and the growth of preventive activity value. These aspects are implemented through the tools of the organizational management. Therefore, we formalize the subjects, object, tasks and directions of their implementation in the system of the economic security.

The number and composition of enterprise subsystems, their subordination and mutual relationship is determined by the organizational structure that provides the distribution of responsibility and authority within the enterprise. The organizational structure, in particular, the structure of the management apparatus have a direct impact on the economic security state and are integral components of the mechanism of its management. On the one hand, the established corporate culture indirectly affects the behavior of management subjects in the economic sphere and determines the actual principles and methods of management. On the other hand, it has a direct

impact on human behavior, which is an important factor in the formation of the final financial and economic results of the economic system.

The main elements of ensuring the strategic development of the economic security system include:

- normative-and-legal, the basis of which are both legislative and regulatory acts of state regulation, as well as norms, orders, instructions, requirements, statutory provisions, methods of activity to ensure financial, information, personnel, environmental or physical security of the subjects of the economic system;

- financial-and-economic, providing information about the financial and economic needs to ensure the security of the subjects of the economic system;

- organizational, allowing you to assess the organizational structure, including units, the set of relationships between the subjects of the economic system among themselves;

- technical, which assess the level of provision of information technologies, as well as appropriate programs for analysis, planning, detection of threats to the subjects of the economic system;

- information-and-analytical, which provide data, indicators, parameters necessary for analysis and planning of financial security of the subjects of the economic system.

In the architectonics of the already established comprehensive system of economic security of the subjects of the economic system an important aspect of ensuring its effectiveness is the establishment of principles, formalization of regularities and methodological tools. A formation of basic strategic guidelines for security remains in a direct correlation with the objectives of financial and economic development of the subjects of the economic system. In the implementation of corrective measures and adaptation of the economic security system in accordance with the identified imbalances, new integration regularities to eliminate the risks of deviations and imbalances in the regulation of development of the security system of economic system subjects remains at the management level of current regulation with subsequent revision of the expected results.

Generalizing the issues of formation of the security system of economic system subjects, we suggest interconnecting the functional components in the coherence of levels (Figure 2).



Figure 2. Graphical interpretation of the gradation of levels of economic security with the direction of sustainable development of the global information space of economic systems

Source: created by the authors

The resource level reflects the efficiency of the use of financial, material, labor and information resources in ensuring the state of security of the subjects of economic system.

The resultant level is formed by efficiency of application and structuralization of resources of subjects of economic system and reflects presence of organizational interaction of components of the security system. Efficiency of the management and logistics of management processes on use of modern digital technologies on optimization of assets and functions provides formation of a system of preventive measures, protocol reactions to threats and prediction of probability of risks.

The strategic level of the economic security system is achieved on condition of ensuring the efficiency of resource components interaction and systems of their management. Thus, corporate security takes place at the enterprise only in the quality management system of certification,

established production and sales system, the system of legal protection of property and corporate rights.

Strategic objectives in the management of the economic security system are formed in the processes of the strategic management of the whole economic space and are a part of the projection of directions to increase the effectiveness of activity, competitiveness and sustainability.

The main tasks of the economic security system in the global information space include:

- collection of basic information about the possibility of threats;
- evaluating and analyzing the main risks;
- forecasting of the state of security of an enterprise to avoid risks or to compensate their consequences;
- preventing penetration of competitors' economic intelligence structures, illegal interference between objects of the economic space, military conflicts;
- ensuring the protection of confidential information and trade secrets;
- ensuring the integrity of capital in the economic space;
- multi-stage protection of the banking and financial system;
- protection of the legitimate rights and interests of the subjects of economic space;
- detection, prevention and termination of possible illegal and other negative activities aimed at reducing the effectiveness of the economic security system;
- protection of the population and personnel of the enterprise from threats;
- formation of effective information and analytical support of the economic security management system, standardization and certification of security parameters;
- formation and intensive use of innovation support of the economic security management system;
- development and adoption of the most optimal managerial decisions on the strategy and tactics of the economic security;
- implementation of continuous control over the effectiveness of the functioning of the economic security system, improvement of its elements.

Strategic management of the development of economic security allows:

1. assessing the impact of the market environment factors;
2. developing ways to avoid existing threats;

3. reducing the negative impact of the environmental factors on the effectiveness of activities of business entities;

4. protecting financial activity from risks in the future and increase the degree of the economic security;

5. elaborating a strategy to develop the economic security system and establishing an interaction with external environment entities

6. identifying existing threats and developing opportunities;

7. comparing the results achieved with the results of activities in previous periods, the financial results of competitors and to make appropriate adjustments;

8. improving the activity of the personnel by motivating them to intellectualization;

9. controlling the level of development and all spheres of activity.

The economic security management must be carried out according to certain principles. Analysis and generalization of a number of scientific sources indicates that the main principles of the economic security management in the global information space should be:

– the principle of development, which implies the need to take into account the rapid changes occurring in the environment, the ability of the system to develop;

– the principle of adaptability is expressed in the ability of the management system to adapt to changes in the external and internal environment in order to avoid threats;

– principle of unity, which implies that all the actions of economic security service units must be coherent and coordinated;

– the principle of competence, which implies that economic security issues are handled by highly qualified personnel;

– the principle of economic feasibility consists in the fact that expenses on security measures shall be economically justified;

– the principle of efficiency – quick reaction of the system to changes in the environment, the use of only current information;

– the principle of complexity, which implies the neutralization of harmful factors to all functional components of economic security

– principle of legality, providing for the functioning of the economic security management system in accordance with the requirements of the institutional environment.

The implementation of the given system of principles of economic security management allows to ensure the fulfillment of objectives of its organization and implementation of the set tasks. Ensuring the economic security in modern conditions becomes one of the key ways and at the same time a complex direction of increasing the competitiveness of enterprises. The state management and processes in the field of economic activity is conditioned by the need to obtain planned and specific results. The economic security of the company as the state of its stay in the process of economic activity is no exception.

3. The formation of the mechanism to ensure the economic security of enterprises under the influence of the global information space

Management of the economic activity of enterprises in a separate global-and-information space assumes the presence of a certain mechanism, which allows to obtain the best results of the production activity, to provide favorable conditions for this. A lot of research is devoted to this issue. It should be noted that the state of economic security is achieved by the enterprise only if its economic interests are coordinated with the interests of the subjects of the external environment. On this basis, ensuring the economic security of the enterprise should be considered as a process of implementing measures to prevent (prevent) possible losses in the current and future period.

Integrated with the main tasks and tools of the strategic development, the system of economic security of enterprises allows to create organizational, managerial, economic, financial and other prerequisites for ensuring the innovative development; to take into account the totality of external and internal risks and threats to enterprises; to ensure optimal allocation of resources (material, labor, information, financial) to achieve the goals of the strategic development; to create effective mechanisms of adaptation and development of enterprises.

The main purpose of the interaction mechanism is to establish mutual understanding between the internal and external subjects of the system of economic security and on the basis of coordination of their activities to counteract internal and external dangers, as well as threats to the economic security of the enterprise (Figure 3).

Consequently, according to the authors, the sustainable development of the economic security system is a process of responding to new threats

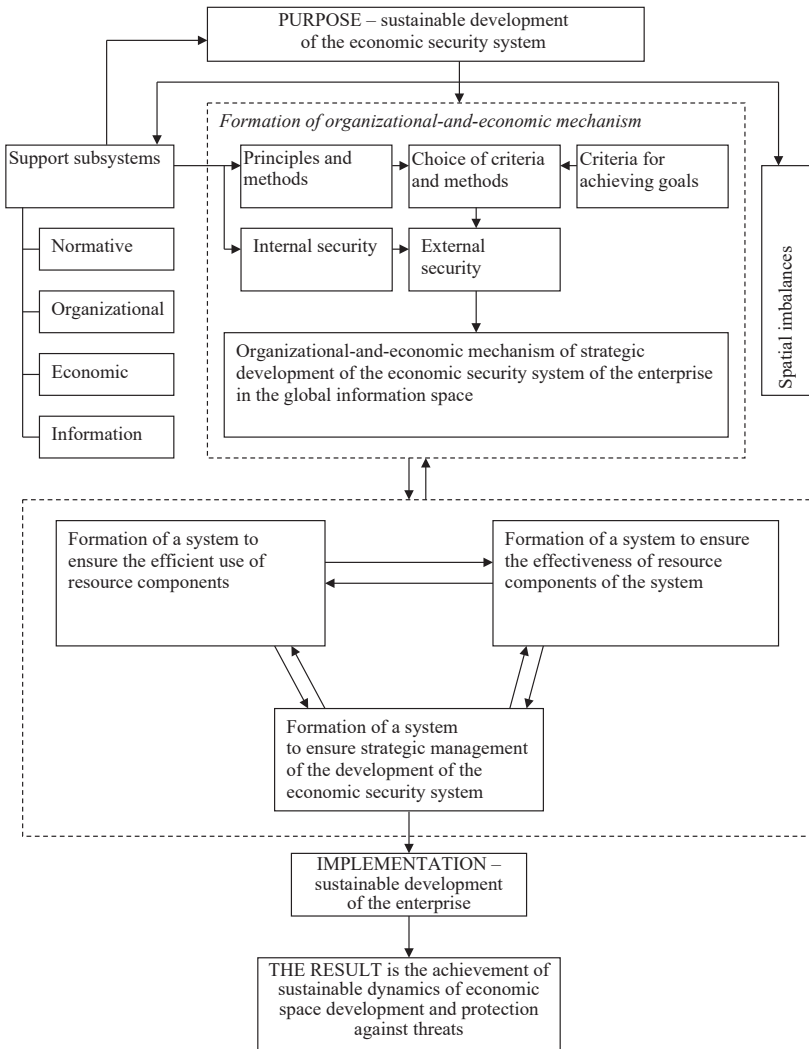


Figure 3. Chart of the organizational and economic mechanism to ensure the sustainable development of the enterprise economic security the in the global information space

Source: created by the authors

and increasing the level of protection while increasing the effectiveness of the necessary resources use. Changes in the global information space of economic systems should be predictable and economically beneficial to the enterprise, as well as improvement and implementation of the latest achievements in the field of the economic security should be continuous. Specific configurations of the economic security system are the basis of adaptation of the company to threats and provide, subject to economic expediency, growth of the company work efficiency and merit of the set strategic purposes in increase of competitiveness of the company and properties of products.

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