

ANALYSIS OF THE SECURITY DEVELOPMENT OF BUSINESS ENTITIES IN THE CONDITIONS OF ARTIFICIAL INTELLECTUALIZATION OF THE GLOBAL SPACE

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ABSTRACT

Evaluating the security development of business entities requires compliance with the criteria of complexity and systematicity in terms of taking into account the multi-faceted spectrum of internal functional and process relationships of the security configuration of the enterprise management, which requires the selection of a wide range of the indicators of parametric evaluation. The aim of this article is to justify a methodical approach to assessing the level of economic security of business structures in the conditions of artificial intellectualization of the global space using the method of taxonomic analysis as a tool for assessing the level of economic security. To use the method of taxonomic analysis in the framework of assessing the level of economic security of economic entities in the conditions of artificial intellectualization of the global space, in the article, the authors substantiated a system of analytical parameters describing the key components of ensuring economic security of economic entities in the context of artificial intellectualization processes of economic development. Differentiation of analytical parameters by functional characteristics of influence on the level of economic security, formation of the corresponding intellectual evaluation component was carried out. The proposed methodical approach was tested on the example of PJSC "Southern Mining and Processing Plant". The applied value of the proposed methodical approach lies in the possibility of substantiating the tools of strategic planning of the company's activities in the conditions of intensification of crisis phenomena and the availability of opportunities to overcome them by means of the intellectualized development.

Keywords: *Artificial Intellectualization, Economic Security, Enterprise, Industrial Security, Personnel Security, Financial Security, Intellectual Security*

1. INTRODUCTION

One of the defining characteristics of the dynamics of processes of the intra-organizational development of modern economic systems at different hierarchical and functional levels of classification is a noticeable acceleration of the precursor phenomena of the global manifestations of recessionary dynamics, the cascading nature of their objectification, potentially forming the prerequisites for the emergence of a global crisis. The etiological

basis for the emergence of the mentioned processes is the long-term action and successive intensification of the factors of eroding influence on the functioning of socio-economic systems, parallel to the emergence of destructive external effects. In the global dimension, the specified factors found their expression in:

- deepening of income differentiation and emergence of functional disproportions in the world economic development;

- increased volatility of resource markets and their excessive reactivity in terms of the influence of geopolitical factors;

- growth of rationalistic endo-economic contradictions, which manifest themselves in the need to abandon part of the monetary resource in favor of maintaining the sustainability of economic development in the conditions of limited predictability of the exogenous crisis phenomena;

- impact of post-pandemic consequences of a monetary nature (accelerated inflation of national economic systems as a result of uncontrolled growth of government allocations in pandemic conditions), etc.

In general, the mentioned factors have a negative impact on the internal potential of economic agents, being reflected in the rapid growth of prices for key resources, the increase in the cost of raising capital, the difficulty of organizing effective logistics operations against the background of the forced aggravation of numerous geopolitical conflicts, the qualitative change in global competitive dynamics under the influence of an active economic expansion and diffusion of the influence of transnational corporations on local markets due to significant financial resources and the use of technological advantages to overcome the problem of asymmetric market information.

The above substantiates the relevance of this study in accordance with the modern challenges of the development of global space. Also, the outlined conditions actualize the issue of building safety-resistant systems at the level of business structures.

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At the same time, the previously mentioned security challenges arise in the conditions of the completion of the paradigmatic transition to sustainable socio-economic systems of the post-industrial type, the system-forming element of which is the process of artificial intellectualization of the global space. Artificial intellectualization in its essential content covers a wide range of complex process stages of cultivation, effective use and provision of extended reproduction of the intangible basis of the functioning of the entrepreneurial structure in the global space. The corresponding intangible base includes such functional groups of resources as informational, technological, creative, innovative and directly intellectual, the primary element of which is the cognitive properties of the individual, which within the economic structure are converted into applied management or technological solutions capable of intensifying the composition

and structure of the main business processes of the enterprise. Thus, the processes of the intellectualized development of economic systems form a practical field for the search for effective tools for building resistant enterprise management systems and ensuring their sustainable and safe development.

It should be emphasized that the conditions of intellectualization of the global space necessitate the need to increase the security of the development of business entities, and this is possible due to the development and implementation of methodological principles for assessing the level of economic security based on the use of taxonomic analysis. This makes it possible to quantitatively assess the level of economic security within the justified components of the analysis and calculate the corresponding integral indicator. The obtained results will contribute to the implementation of practical measures to ensure the improvement of the efficiency of the implementation of processes of intellectualization of the entrepreneurial activity of economic entities.

2. LITERATURE REVIEW

Globalization challenges of the development and their rapidity have an increasingly pronounced impact on the development of economic entities, including in the recessionary vector, which negatively affect the internal potential of economic agents, being reflected in the rapid growth of prices for key resources, the increase in the cost of raising capital, complicating the organization of effective logistics operations against the background of forced aggravation of numerous geopolitical conflicts, qualitative changes in the global competitive dynamics, etc.

Publications of domestic and foreign scientists are devoted to various aspects of the security development of economic entities. Within the scope of article [1], the peculiarities of management of enterprises in the conditions of ecological economy with the aim of ensuring their economic security are investigated. According to the authors, it is advisable to develop criteria that would improve the procedure for assessing the economic security of enterprises and take into account the transition to the ecological economy. The result of research [2] is a developed model of introducing modern management technologies into the economic security system of the enterprise. The proposed model was tested at the enterprise, during which 35 experts from among management and production personnel were involved.

According to the authors [3], information security is one of the most important aspects of an enterprise's

economic security. The authors proposed a cluster system approach and modeling methodology, as well as a toolkit for analyzing and diagnosing the state of the enterprise. This made it possible to sufficiently analyze the complex of factors that threaten the economic security of the enterprise, as well as meaningfully and purposefully organize and implement the necessary indicator monitoring. Article [4] is of practical importance, within which the principles of assessing the adaptive management of the economic security of enterprises in the context of the challenges of globalization and sustainable development have been developed. The methodological basis of the research is the structural-functional approach, which reveals the essence of economic security as a certain system that takes into account the adaptive behavior of enterprises and the specifics of their activities. Within the scope of scientific articles [5-6], modeling of the financial impact of political-oligarchic interests of state-sponsored enterprises was carried out, as well as the impact of digitalization on the innovative development strategy of industrial enterprises in the context of ensuring economic security was investigated.

The purpose of article [7] is to analyze the energy security of Poland, which is understood as the financial and economic stability of enterprises working in the energy industry. As a result, it was investigated that the level of financial security of energy enterprises is influenced by the ratio of the cost of sold goods and materials to the net income from sales, as well as the level of profit before deducting interest and taxes, and among external factors, the GDP level and the consumer price index were important. Analyzing the results of the publication [8, 9], it should be noted the relevance of research on the analysis of the role of digital technologies in the transformation of regional models of financial behavior of households and the outlined features of the management of foreign economic activities of enterprises. The purpose of the study [10] is to analyze the role of digitalization in maintaining the financial stability of trade enterprises in the conditions of transformational challenges in the wartime period. The authors researched the empirical data of Ukrainian trade enterprises in crisis periods in order to find out the practical consequences of their activities in such conditions.

Supporting the research [11], we would like to draw attention to the fact that in the modern conditions of the rapid development of the knowledge economy, more and more enterprises attach great importance to the importance of human

resources and psychology, which play a significant role in the issues of safe development. The article examines the peculiarities of achieving the goals of high-level human resource management and security management, which is achieved through the use of a system of indicators. According to scientists [12], intellectual capital is a key factor in the formation of the economic security of enterprises. In the article, the scientists outlined the priority of the structural components of intellectual capital in the context of the formation of the economic security of the enterprise. It has been proven that the organic connection of the structural elements of intellectual capital will contribute to ensuring economic security.

Within the articles [13; 14], ontological models of managing the financial and intellectual security of an enterprise based on a multi-agent approach, as well as a methodological approach to economic analysis and management of enterprises in the conditions of transformation of economic systems, are proposed. Scientific papers [15; 16] are based on the study of key aspects of ensuring economic security by modernizing the personnel management system and analyzing the ecosystem of the VAT administration in electronic commerce. Article [17] analyzes the key aspects of the digital personnel management of socio-economic systems from the point of view of security. The result of the authors' research is the development of a model for the implementation of digital personnel management in terms of ensuring the security of the enterprise. According to scientists [18, 19], the innovative potential of personnel has a significant impact on strengthening the economic security of enterprises in the post-war period. The authors singled out four obstacles to the positive impact of the innovative potential of personnel on strengthening economic security and proposed directions for solving the identified problems.

The authors [20-22] analyze the methodology for assessing the level of the dependent link of the economic security of the company's stakeholders, including personnel, which, unlike other available methods, is based on the assessment of outstanding costs. The authors proposed an economic-statistical toolkit for assessing the likely attitude of personnel to the introduction of innovations.

Scientific work [23] analyzes the methodology for assessing the level of the dependent link of the economic security of the company's stakeholders, including personnel, which, unlike other available methods, is based on the assessment of outstanding costs. The authors proposed an economic-statistical toolkit for assessing the likely attitude of personnel to the implementation of innovations.

Regardless of the importance of the conducted research, the issue of assessing the security development of economic entities in the conditions of artificial intellectualization of the global space is an extremely important direction of research and requires further analysis.

The purpose of this article is to justify a methodical approach to assessing the level of economic security of business structures in the conditions of artificial intellectualization of economic processes in the global space.

The following list of tasks was set and completed by the authors to achieve the specified goal of the study:

- justification of the use of the taxonomic analysis method in the framework of assessing the level of economic security of economic entities in the conditions of artificial intellectualization of the global space;

- formation of a system of analytical parameters describing the key components of ensuring the economic security of economic entities in the context of the artificial intellectualization process of the economic development;

- differentiation of analytical parameters according to the functional characteristics of the influence on the level of economic security, formation of the appropriate intellectual component of the assessment;

- approbation of the proposed methodological approach to assessing the level of economic security of economic entities in the conditions of artificial intellectualization of the global space using the example of PJSC "Southern Mining and Processing Plant" and qualitative analysis of the obtained calculation results.

3. METHODOLOGY

The formation of a holistic methodical approach to the assessment of the level of economic security of business entities in the conditions of the global space artificial intellectualization requires compliance with the criteria of complexity and systematicity in terms of taking into account the multifaceted spectrum of internal functional and process relationships of the security configuration of the enterprise, which requires the selection of a wide range of parametric evaluation indicators. Compliance with the above-mentioned requirement also requires the use of analytical methods capable of the necessary mathematical processing of large data sets without losing the representativeness of the resulting results. Based on this, within the framework of this study, the authors propose the use of the taxonomic analysis method as a tool for

assessing the level of economic security of business entities in the conditions of artificial intellectualization of the global space.

The essential basis of using the method of taxonomic analysis consists in the analysis of the points of the multidimensional space formed by the parameters of the isolated main components with the sequential determination of the Euclidean (taxonomic) distance indicator between them, at the same time, the selected parameters undergo a normalization process, which allows to ensure their comparability, avoiding the need to involve homogeneous ones in their economic the nature of the parameters. Within the scope of the conducted research, the methodological expediency of applying taxonomic analysis in the process of assessing the level of economic security of business structures in the conditions of artificial intellectualization of the global space is explained by the possibility of obtaining a specific quantitative indicator of security assessment within the limits of isolated analytical components, as well as a reasonable calculation of the corresponding integral indicator. The algorithm for the implementation of the taxonomic analysis of the level of economic security of enterprises in the conditions of artificial intellectualization of the global space is presented below.

1. Construction of the input array of data, which is a set of analytical parameters based on which the matrix of observations is formed, the mathematical form of which is given in formula (1):

$$X = \begin{bmatrix} x_{11} & x_{1j} & x_{1m} \\ x_{i1} & x_{ij} & x_{im} \\ x_{n1} & x_{nj} & x_{nm} \end{bmatrix} \quad (1)$$

where n – number of analyzed periods (years);

m – number of parameters for assessing the level of economic security of entrepreneurial entities in the conditions of artificial intellectualization of the global space;

x_{ij} – value of the j-th analyzed parameter for the i-th period (year).

Within the scope of this study, the authors propose to form an initial array of analytical data for assessing the level of economic security of economic entities in the conditions of the artificial intellectualization of the global space in order to build an appropriate matrix of observations based on 31 indicators, having previously qualitatively differentiated it into separate functional components that most fully characterize the system of internal interrelationships in terms of ensuring safe development of the enterprise (Table 1).

Table 1: Characteristics of analytical parameters for assessing the level of economic security of economic entities in the conditions of artificial intellectualization of the global space by functional components.

Name of the component	Analytical parameters	Content
Component of industrial safety	Coefficient of maneuverability of equity capital, growth rate of accounts payable turnover, fixed asset index, profitability of assets, profitability of production assets, growth rate of return on capital, share of implemented new technological processes (including low-waste and frugal technologies), growth rate of production waste	This component covers analytical parameters that reflect the structure and composition of the enterprise's assets, which are mostly represented by production equipment, indicators of the efficiency of its use, as well as the enterprise's potential for sustainable modernization
Component of personnel security	Coefficient of total coverage, coefficient of total solvency, growth rate of sales volumes, profitability of wages, growth rate of labor productivity, turnover rate due to the departure of workers, wage intensity, staff retraining rate to the rate of qualification improvement	Reflects the dynamics of the main safety indicators in the personnel movement system at the enterprise, dynamics of the level of labor productivity, characterizes the enterprise's capabilities to ensure the professional development of personnel
Component of financial security	Absolute liquidity ratio, critical liquidity ratio, growth rate of accounts receivable turnover, return on equity, return on sales, depreciation rate of fixed assets, capital equipment growth rate, reception staff turnover rate, growth rate of gross fixed capital investment	It characterizes the key security indicators of the financial management system, in particular, the maintenance of the appropriate level of liquidity, profitability parameters, the ability of the enterprise for effective investment activities, including effective investment of funds in the development of fixed capital
Component of intelligent security	Growth rate of costs for technological innovations, growth rate of costs for informatization, growth rate of costs for software, share of innovation costs in production costs, savings in production costs as a result of the introduction of innovations for 1 hryvnia investment costs	Describes the direct impact of the process of artificial intellectualization of the global space on the level of economic security, covering the parameters of the introduction of innovations, new technological processes, the achieved level of cost savings and the dynamics of digitalization processes

Source: developed by the authors

2. Determination of the nature of the qualitative impact of each of the analytical parameters within the previously established components of the economic security of enterprises in the conditions of artificial intellectualization of the global space, namely their positive (contributes to strengthening the level of economic security of the enterprise), or negative (deteriorates the level of economic security) impact.

3. Normalization of the constructed matrix of observations of analytical parameters, which makes it possible to achieve comparability and qualitative representativeness of the results of the taxonomic analysis, which is carried out by using formula (2):

$$X = \frac{x_{ij} - \bar{x}_j}{\sigma_j} \quad (2)$$

where \bar{x}_j – the arithmetic mean of the j-th analyzed parameter;

σ_j – root mean square deviation of the j-th parameter.

4. Construction of the standard vector (ideal vector) by determining the maximum or minimum (according to the type of impact) normalized values of the analytical parameters for assessing the level of economic security in the conditions of artificial intellectualization of the global space, according to formula (3):

$$y_{0j} = \begin{cases} \max_i y_{ik}, & \text{provided the analytical parameter has a positive influence} \\ \min_i y_{ik}, & \text{provided the analytical parameter is negatively affected} \end{cases} \quad (3)$$

5. Calculation of the quantitative indicator of the distance between the studied analytical parameters according to formula (4):

$$d_{i0} = \sqrt{\sum_{j=1}^n (y_{ij} - y_{0j})^2} \quad (4)$$

where d_{i0} – the distance between y_{ij} and the specified levels of the reference vector.

6. Calculation of the generalized indicator of assessing the level of economic security of enterprises in the conditions of the artificial intellectualization of the global space according to the established components (factors), which is

implemented through successive mathematical operations according to formulas (5 - 9).

$$M(d_{i0}) = \bar{d}_0 = \frac{1}{m} \sum_{i=1}^m d_{i0} \quad (5)$$

where $M(d_{i0})$ – the average deviation of the analyzed parameter from the reference vector.

$$\sigma_0 = \sqrt{\frac{1}{m} \sum_{i=1}^m (d_{i0} - \bar{d}_0)^2} \quad (6)$$

where σ_0 – standard deviation d_{i0} .

$$d_0 = \bar{d}_0 + 3 \cdot \sigma_0 \quad (7)$$

where d_0 – the maximum deviation from the reference value is calculated according to the 3-sigma rule.

$$c_i^* = \frac{d_{i0}}{d_0} \quad (8)$$

where c_i^* – intermediate value of the indicator of the level of ensuring the economic security of the enterprise in the conditions of the artificial intellectualization of the global space within the limits of the corresponding component (factor).

$$c_i = 1 - c_i^* \quad (9)$$

Where c_i – indicator of the level of ensuring the economic security of the enterprise in the conditions of artificial intellectualization of the global space within the limits of the corresponding component (factor).

7. Calculation of the integral indicator of the level of economic security of the enterprise in the conditions of artificial intellectualization of the global space and qualitative interpretation of the received results of the taxonomic analysis, qualitative comparison and analysis of the obtained values by individual components, their actual impact on the final security indicator.

Summarizing the above methodological aspects, it can be stated that the methodology proposed by the authors for assessing the level of economic security of the enterprise in the conditions of the artificial intellectualization of the global space based on the use of the methodological apparatus of taxonomic analysis allows to quantitatively assess the level of economic security within the justified components of the analysis and to calculate the corresponding integral indicator.

4. RESULTS

Approbation of the methodology proposed by the authors of the article for assessing the level of economic security of economic entities in the conditions of artificial intellectualization of the global space was carried out on the example of PJSC "Southern Mining and Processing Plant". In the course of the study, the collection, processing and calculation of indicators were carried out within the pre-built system of analytical parameters based on the data of the accounting and management reporting of the studied economic entity PJSC "Southern Mining and Processing Plant", which forms the basis for further formation of a matrix of observations and standardized matrix of analytical parameters within the framework of the established procedure for conducting a taxonomic analysis of the level of economic security of economic entities in the conditions of artificial intellectualization of the global space.

The first step in the implementation of the taxonomic analysis of the level of economic security of the enterprise in the conditions of the artificial intellectualization of the global space is the normalization of the original data array, the identification of the nature of the influence of analytical parameters and the construction of the standard vector, the corresponding results are presented in Table 2.

Table 2: The normalized matrix of observations of indicators for assessing the level of economic security of the enterprise in the conditions of artificial intellectualization of the global space by the method of taxonomic analysis.

Name of the component	Indicator	The actual value of the indicator					Benchmark	Type
		2018	2019	2020	2021	2022		
Component of industrial security	Component of industrial safety	-1.378	-0.118	-0.526	0.391	1.630	1.630	+
	Growth rate of accounts payable turnover	-0.865	-0.190	-0.300	-0.589	1.944	-0.865	-
	Fixed asset index	1.378	0.118	0.526	-0.391	-1.630	1.378	+
	Return on assets, %	-1.364	-0.839	0.011	0.968	1.224	1.224	+
	Profitability of production assets, %	-1.464	-0.318	-0.421	0.823	1.379	1.379	+
	Growth rate of fund return, %	-1.291	-0.851	0.096	0.521	1.525	1.525	+
	Share of implemented new technological processes (including low-waste and economical technologies), %	-0.590	-0.549	-0.462	-0.394	1.995	1.995	+
	Growth rate of production waste, %	1.754	0.230	-0.224	-0.511	-1.249	-1.249	-

Component of personnel security	Personnel security component	1.329	1.042	-1.130	-0.843	-0.398	1.329	+
	Total solvency ratio	1.777	0.445	-0.747	-0.744	-0.730	1.777	+
	Growth rate of the volumes of sold products %	-1.405	-0.429	1.674	-0.034	0.193	1.674	+
	Salary profitability, %	-1.966	0.217	0.389	0.604	0.756	0.756	+
	Growth rate of labor productivity, %	-0.780	-1.141	1.691	-0.204	0.434	1.691	+
	Turnover rate from employee attrition	-1.615	-0.670	0.710	0.475	1.101	-1.615	-
	Salary capacity	1.389	0.920	-1.127	-0.949	-0.233	-1.127	-
	Rate of personnel retraining for new professions	-1.873	-0.203	0.679	0.620	0.777	0.777	+
	Coefficient of professional development	-1.937	0.013	0.629	0.571	0.724	0.724	+
Component of financial security	Financial security component	-0.847	1.947	-0.608	-0.215	-0.277	1.947	+
	Critical liquidity ratio	-0.587	1.998	-0.464	-0.463	-0.484	1.998	+
	Growth rate of turnover of receivables	1.856	-0.486	-0.103	-1.137	-0.130	-1.137	-
	Return on equity, %	-1.402	1.625	-0.573	0.133	0.218	1.625	+
	Profitability of sold products, %	-1.856	1.173	0.126	0.338	0.220	-1.856	-
	Depreciation rate of fixed assets, %	1.928	-0.980	-0.429	-0.299	-0.219	1.928	+
	Growth rate of the armed forces, %	-1.836	0.962	-0.126	0.193	0.807	0.962	+
	Reception staff turnover rate	-1.993	0.435	0.499	0.406	0.653	0.653	+
Component of intelligent security	Growth rate of gross investment in fixed capital, %	-1.599	1.270	-0.495	0.763	0.060	1.270	+
	Growth rate of spending on technological innovations	-1.838	-0.047	0.172	1.103	0.610	1.103	+
	Growth rate of informatization costs, %	-1.202	-0.502	0.744	1.550	-0.589	1.550	+
	Growth rate of software costs, %	-1.304	-0.756	-0.225	1.324	0.962	-1.304	-
	Share of innovation costs in production costs, %	-0.696	-0.626	-0.458	1.969	-0.190	1.969	+
Savings in production costs as a result of the introduction of innovations per 1 USD of investment costs	-0.680	-0.504	-0.437	1.989	-0.369	1.989	+	

Source: normalized by the authors according to company data

The obtained results make it possible to carry out further calculations in terms of determining intermediate indicators, as well as calculating the final values of the level of economic security of the enterprise in the conditions of artificial intellectualization of the global space for each of the identified components, the corresponding calculations are presented in Table 3 and Fig. 1.

Table 3: Component-by-component calculation of the indicator of the level of economic security of the enterprise in the conditions of artificial intellectualization of the global space.

Intermediate indicators of the level of economic security of the enterprise by production component					
Indicator	2018	2019	2020	2021	2022
d_{i0}	6.889614	5.152429	4.419852	3.518157	4.115891
$M(d_{i0})$	4.819188633				
σ_0	1.161420831				
d_0	8.303451125				
c_i^*	0.829729	0.620517	0.532291	0.423698	0.495684
C_i	0.170271	0.379483	0.467709	0.576302	0.504316
Intermediate indicators of the level of economic security of the enterprise by personnel component					
Indicator	2018	2019	2020	2021	2022
d_{i0}	6.590925	4.598205	4.240003	4.696705	4.606739
$M(d_{i0})$	4.946515486				
σ_0	0.836948772				
d_0	7.457361801				
c_i^*	0.883815	0.616599	0.568566	0.629808	0.617744
C_i	0.116185	0.383401	0.431434	0.370192	0.382256
Intermediate indicators of the level of economic security of the enterprise by financial component					
Indicator	2018	2019	2020	2021	2022

d_{i0}	7.460654	4.254756	5.683188	4.861775	4.950857
$M(d_{i0})$	5.442246229				
σ_0	1.106396668				
d_0	8.761436234				
c_i^*	0.851533	0.485623	0.648659	0.554906	0.565074
C_i	0.148467	0.514377	0.351341	0.445094	0.434926
Intermediate indicators of the level of economic security of the enterprise by intellectual component					
Indicator	2018	2019	2020	2021	2022
d_{i0}	5.51837	4.334054	3.802701	2.627726	4.491526
$M(d_{i0})$	4.154875527				
σ_0	0.944538742				
d_0	6.988491754				
c_i^*	0.789637	0.62017	0.544138	0.376008	0.642703
C_i	0.210363	0.37983	0.455862	0.623992	0.357297

Source: calculated by the authors

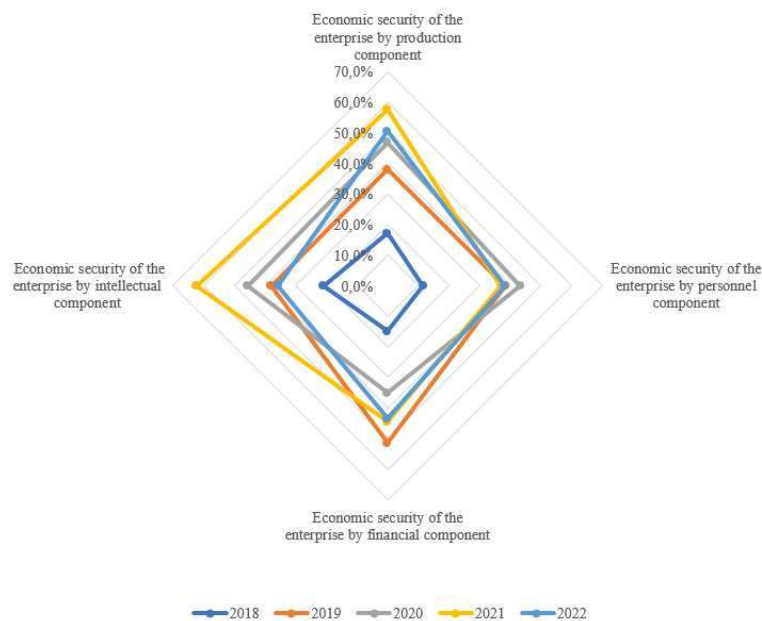


Figure 1: Dynamics of indicators of the level of economic security of the enterprise in the conditions of artificial intellectualization of the global space according to the main components

Presented in the Table 3 results of the carried out component-by-component calculation of the indicator of the level of economic security of the enterprise in the conditions of artificial intellectualization of the global space of PJSC "Southern Mining and Processing Combine" demonstrate that the lowest level of economic security for all functional components is observed in 2018, which is due to the consequences of crisis processes of previous periods. During 2019-2021, there was a partial restoration of the main safety indicators in the components of production, personnel and intellectual safety. However, despite the partial restoration of the company's financial security level in 2019 to 51.4%, in 2020 there was a significant decline to 35.1%. In general, in 2022, the level of industrial safety of the investigated

enterprise was 50.4%, personnel safety – 38.2%, financial safety – 43.5%, intellectual safety 35.7%. Based on this, it can be stated that the level of economic security of PJSC "Southern Mining and Processing Plant" is at an average level and is characterized by unstable dynamics of change.

The final stage of the implementation of the proposed methodical approach to assessing the level of economic security of the enterprise in the conditions of the artificial intellectualization of the global space is the calculation of the value of the overall level of economic security of the investigated enterprise, weighted on the basis of the levels of influence of each of the selected security components established in the process of stochastic factor analysis. The results of the calculations are shown in the Table 4.

Table 4: Calculation of the integral indicator of the general level of economic security of the enterprise in the conditions of artificial intellectualization of the global space.

Component of economic security	2018	2019	2020	2021	2022
Component of industrial security, %	17.0	37.9	46.8	57.6	50.4
Component of personnel security, %	11.6	38.3	43.1	37.0	38.2
Component of financial security, %	14.8	51.4	35.1	44.5	43.5
Component of intelligent security, %	21.0	38.0	45.6	62.4	35.7
General level of economic security of the enterprise, %	16.1	41.4	42.7	50.4	42.0

Source: calculated by the authors

In summary, as a result of the calculations carried out in accordance with the proposed methodical approach to assessing the level of economic security of the enterprise in the conditions of the artificial intellectualization of the global space, it was established that the lowest level of the overall indicator of the economic security of the investigated enterprise was recorded in 2018 (16.1%), and further during 2018-2021 its gradual recovery to the level of 50.4% is observed in 2022, but a decline to 42.0% was recorded in 2022, which is explained by the economic consequences of the operation of the investigated enterprise in pandemic conditions.

5. CONCLUSIONS

In summary, the application of the methodological approach outlined in this article to the implementation of the procedure for assessing the level of economic security of economic entities in the conditions of artificial intellectualization of the global space will have a positive impact in the context of the implementation of the following aspects:

- qualitative updating of applied means of methodical support for systematic strategizing of security development of business entities based on a complex methodology for calculating functional components of ensuring economic security of the enterprise, quantitative identification of the corresponding security level and calculation of the integral indicator;

- ensuring the objectivity of the order of formation of target priorities for the safe development of business structures in the conditions of dynamic processes of artificial intellectualization of economic activity;

- improvement of existing approaches to the formation, distribution and determination of directions for the use of financial support according to the relevant functional aspects of the business entity;

- development of internal mechanisms of security resistance in terms of elements of the prevention system, preliminary identification and timely

overcoming of threats to the sustainable functioning of the enterprise and limitation of their destructive influence on artificial intellectualization processes;

- formation of practical means to promote the increase in the effectiveness of the implementation of processes of artificial intellectualization of entrepreneurial activity of business entities, based on the use of a system of quantitative indicators of the existing and prospective state of the enterprise's security system.

The scientific novelty of this study consists in the formation of a complex methodical approach to the assessment of the security parameters of the functioning of economic entities in the conditions of the artificial intellectualization of the global space, which is based on the use of a taxonomic analysis tool, allowing to reasonably differentiate the analytical parameters that describe the security situation within the limits of individual functional components of ensuring economic security of the enterprise and accordingly calculate the component indicators of the level of economic security, as well as the integral weighted value of the overall level of economic security of the enterprise in the conditions of artificial intellectualization of the global space.

The practical use of the methodical approach proposed by the authors consists in, firstly, flexibility in relation to the possible volumes of the information resource necessary for the implementation of the proposed method of economic security assessment, secondly, the validity of the differentiated functional distribution of analytical parameters to the corresponding functional components of the economic security of the enterprise, thirdly, taking into account the descriptive parameters that characterize the internal processes of the intellectualized development of the business structure and their impact on the level of economic security, and fourthly, the enrichment of the methodological toolkit of strategic planning of enterprises in the conditions of the intensification of crisis phenomena and the availability of opportunities to overcome them by means of intellectualized development.

It should be noted that the proposed methodical approach to assessing the level of economic security of business structures in the conditions of intellectualization of economic processes in the global space in accordance with the developed calculation algorithm was tested on the example of PJSC "Southern Mining and Processing Plant", which is a large industrial enterprise. The conceptual developments proposed by the authors can be used to assess the level of economic security of business structures in the conditions of intellectualization of economic processes in the global space and on the example of other economic entities. However, depending on the specifics of the business system, the analytical parameters of the functional components can be changed. In this case, it will require additional substantiation of the characteristics of the analytical parameters for assessing the level of economic security in the conditions of intellectualization of the global space by functional components.

Further research in the direction of artificial intellectualization of the processes of security development of business entities requires the formation of instrumental support for increasing the efficiency of the processes of intellectualized development of business structures as one of the components of sustainable security functioning of economic entities.

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