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IMPACT OF GLOBALIZATION PROCESSES ON STRATEGIC PLANNING OF ENTERPRISES

Purpose. To study the uncertainty of globalization influences on strategic planning (SP). To identify peculiarities of SP for enterprises of Ukraine. To develop methods for evaluating the SP effectiveness in conditions of uncertainty and changes in the level of uncertainty in parameter sequences for relevant forecasting.

Methodology. The study used the following methods: critical analysis – to identify the peculiarities of SP in Ukraine; mathematical formalization – to evaluate the efficiency of SP; method of comparing the first derivatives – for the current assessment of the rate of change in economic indicators and their approximation to the target values of SP; analysis and synthesis – to establish the uncertainty levels of the input and outputs sequences of each of the parameters of globalization.

Findings. It is stated that different vectors of globalization influences cause formation of a complex “competitive landscape”, which increases the uncertainty of SP. Stratification of requirements for formation of strategic plans and opportunities which they allow implementing is proposed, as well as stratification of indicators of globalization influence. The factors of globalization influence on the formation of uncertainty in the activities of Ukrainian enterprises are studied and the peculiarities of this influence on the SP process are indicated.

Originality. An assessment of the level of approximation of the actual and target results of enterprise’s activity is proposed as an indicator of SP effectiveness. A comparison of first derivatives of the efficiency indicator was used to reduce the uncertainty in estimating the rates of dynamic approximation of the actual and forecast results. A method of ordering heterogeneous sequences is proposed for a relevant assessment of the change in the level of uncertainty in parameter sequences.

Practical value. The proposed approach reduces conceptual SP ambiguity. The developed method for assessing the uncertainty of globalization effects on SP and identifying the SP peculiarities in conditions of uncertainty will increase SP relevance for Ukrainian enterprises.

Keywords: *globalization, strategic planning, activities of enterprises, assessment of plans*

Introduction. Today, enterprises that form strategic plans for their own activities must take into account not only the peculiarities of the national market or political, institutional, social influences only of their country. Nowadays globalization processes significantly, and sometimes decisively, determine the activity of enterprises. The impact of globalization is so comprehensive and diverse that it is felt not only by the world economy, but also by enterprises of those countries that are poorly integrated into the global market.

Globalization can be defined as a dynamic process of national mutual influence, due to the extraordinary deepening of transnational contacts in all spheres: economy, politics, society and culture.

The phenomenon of globalization creates new operating conditions, new opportunities and new risks. Globalization leads to the formation of Economy 5.0 as a result of: the realization of a breakthrough in the exchange in information and technologies; formation of international distribution of production activity; implementation of not only a highly competitive environment, but, first of all, an environment of a new level of economic cooperation. Globalization changes bring a different system of values, which requires a different way of thinking from the management of enterprises, requires organizational and structural restructuring and the introduction of new management methods. Globalization is also characterized by a significant level of uncertainty of influencing factors, which complicates the task of analysis, forecasting and building effective strategic plans for the enterprise on their base.

Strategic planning is a logical sequence of several stages, including a set of integrated procedures, and failure to take into account uncertainty at the initial stages leads to an increasing risk of non-fulfillment of subsequent stages of the plan.

The significant dynamism of globalization processes is in a certain contradiction with the need to create strategic plans for a period, usually of five years or more. This reduces the reliability of strategic forecasting, which, in turn, requires an appropriate level of analysis from enterprise management to form relevant forecasts. This, in turn, leads to the fact that strategic planning can be divided into two stages – analytical and project ones. Moreover, the beginning of the project stage does not mean the end of the analytical stage. In some cases, the analytical stage should be a permanent management function.

The successful achievement of strategic planning goals will depend both on the proper understanding of the prospects and threats of globalization by the management and owners of enterprises, as well as on the proper assessment of the level of uncertainty of its factors and the formation of relevant predictive indicators for the strategic planning of enterprises.

Literature review. Many scientific works are devoted to the influence of globalization processes on the activities of enterprises, and the need to take them into account when forming strategic plans. The following works were the most significant for the presented study. Thus, an analytical review by Kumara, et al. [1] indicates that globalization leads to a rapid increase in the level of competition for enterprises in developing countries. This level is so high that it sometimes puts enterprises on the verge of survival. Kumara, et al. [1] suggested survival strategies. This is used in the presented study. But the set of global challenges identified by Kumara,

et al. [1] as critical including global competition, the impact of the global crisis, information and communication technologies, the activities of transnational corporations, changes in consumption preferences, dumping, terrorism, trade wars are not universal, and do not apply, in particular, to the activities of Ukrainian enterprises.

The article by Naz and Ahmad [2] examines the driving factors of globalization, which must be taken into account in the strategic planning of enterprises. To evaluate the level of strategic management efficiency, an efficiency index is proposed, which has five components: economic diversification, redistribution of labor by sector, international competitiveness, macroeconomic instability, and the management index. The impact of these components is evaluated by their weight, revealed by an expert, which significantly increases the level of subjectivity of the evaluation. And even a cursory review of the components of strategic management efficiency according to Naz and Ahmad [2] indicates that they are intended rather for evaluating the sector of the economy of a developing country, and not an individual enterprise.

Shamborovskyi [3] summarized the criteria for the classification of international management concepts in the field of strategic planning, which are used in the presented article. In [3], strategies for the production and sale of products in the conditions of globalization and increased competition are proposed. But the author's attention [3] is primarily focused on the analysis of the prospects of applying the principles of international strategic management in Ukrainian TNCs, which somewhat narrows the use of this research for strategic planning of the activities of other Ukrainian enterprises.

Dwikat, et al. [4] indicated that the globalization process has led to a radical change in the strategic planning of enterprises. It also indicated the significant impact of the geopolitical factor – the war in Ukraine – on the global market, as the main factor in the dynamic changes in the market today. This, according to the authors [4], requires a change in the strategic plans of enterprises to ensure a “long-term viable, sustainable basis, oriented for a long time” [4]. That is, a method for combining survival and development strategies is proposed, which is taken into account in the presented research.

Notani and Jain [5] indicated that TNCs are more resistant to the challenges of globalization, and small and medium-sized companies in local markets are more vulnerable to the conditions of global competition. This determines the use of survival strategies for them, especially in conditions of global crises. Unfortunately, the authors [5], studying the effects of globalization, focused only on the risks of increased competition and the threat of global crises.

Radović-Marković, and others [6] indicated that due to the dynamic changes in the global business environment, the management of small and medium-sized enterprises in developing countries should pay special attention to ensuring sustainability in strategic planning, for which they need the ability to predict market changes, “react to them and initiate them”. This requires the management of these enterprises to “establish the right balance between the challenges and advantages of globalization” by implementing a strategy that meets the requirements of the “global market game”. This is taken into account in the presented article.

Julita and Tanjung [7] propose to take into account the possibility of dumping on the local and global market, using the strategy of reducing the cost of their own products, for the strategic planning of enterprises of developing countries in the context of globalization, in addition to Porter's well-known factors. In developing countries, there are indeed certain opportunities for this: easier access to local resources, a relatively lower level of staff wages, etc. Given the certain perspective of this approach, it should be taken into account that in a strategic perspective, the use of this practice by a significant number of national enterprises may lead to cross-border labor migration. The consequence of this can be a catastrophic level of

growth of strategic risks for enterprises and even the collapse of the national economy.

In the article Benevolo, et al. [8] proposed a conceptual approach based on theoretical views on the globalization of management and strategic decision-making by entrepreneurs. This approach should be based on a comprehensive analysis of the global environment and internal factors. It is proposed to determine which strategic levers are available to managers for the implementation of the strategy, that is, to assess the integral balance of resources and competencies for managing globalization risks. The need to achieve the specified balance is considered in the presented research.

In the study by Razumov, et al. [9] it is stated that at the stage of strategic analysis, the company's position should be determined taking into account the changes that have occurred in the global and local economic environment, the impact of these changes on the company's activities should be determined, and its own advantages and estimated resources due to such changes should be clarified. It is also noted that “as the frequency of possible sudden changes increases, the degree of their predictability decreases” [9]. This, according to Razumov, et al. [9], requires the introduction of permanent adjustments to the strategic plan. The presented study considers the increase in the unpredictability of global processes. But the introduction of the method of permanent adjustments of the strategic plan devalues its significance for the implementation of strategic management.

Koval, et al. [10] studied the importance of taking into account such a factor of influence of globalization processes as the formation of global value chains in the strategic planning of enterprises. First of all, it concerns the production processes of multinational corporations, which is the main focus of the article by Koval, et al. [10]. Consideration is given to the comparative advantages of enterprises of developing countries for their participation in global value chains. In more detail, the dynamic impact of globalization processes on the constant re-configuration of global value chains and their impact on countries that form economic relations with developed countries is indicated in the article by Fritsch and Matthes [11]. In particular, Fritsch and Matthes [11] indicate the restraining effect of the participation of enterprises of developing countries in global value chains on labor migration from these countries. But this increases not only opportunities, but also risks, due to increased sensitivity to global economic crises, which is not taken into account by the authors [10 and 11].

Sarbah and Quaye [12], comparing the positive and negative effects of globalization on the activities of enterprises in developing countries, point to an unexpected factor influencing the formation of strategic plans of their national enterprises. Transnational companies do not aim to destroy local producers, they are focused mainly on the strategy of cooperation, therefore they implement not only the export of goods, but also the export of technologies, moreover, they provide assistance in improving the qualifications of managers of local enterprises, in particular, in strategic planning. The focus on cooperation rather than trade wars is another hallmark of globalization today. This is also considered in Buckley's article [13]. The necessity of using cooperation scenarios in strategic planning is also taken into account in the presented article.

Unsolved aspect of the problem. The review of scientific works indicates an insufficient level of research on the impact of the uncertainty of globalization processes on the formation of strategic plans of enterprises. The existing works on this issue indicate the presence of peculiarities of the interaction of global and national markets and the need to take them into account in strategic planning, which reinforces the need to identify these peculiarities of the strategic planning of the activities of Ukrainian enterprises.

This also requires the development of approaches to evaluating the effectiveness and pace of implementation of strategic

plans and methods of analytical research and forecasting in conditions of uncertainty.

Purpose. To study the uncertainty of globalization influences on strategic planning. To identify the peculiarities of strategic planning for Ukrainian enterprises. To develop methods for evaluating the effectiveness of strategic plans in conditions of uncertainty and changes in the level of uncertainty in sequences of parameters for relevant forecasting.

Methods. In the presented study, methods of critical analysis were used, in particular, to identify the peculiarities of strategic planning for Ukrainian enterprises. The method of mathematical formalization is used to assess the effectiveness of strategic planning.

The phasing of the implementation of the strategic plan can be defined mathematically as an attractor of movement along the response surface of target functions in the space of parameters. If there are m target functions and n parameters, then the response surface is in $(n + m)$ -dimensional space.

$$\eta = \left[(x_{b11} - x_{a11}) / \delta_{11} \cdots (x_{b1i} - x_{a1i}) / \delta_{1i} \cdots (x_{b1j} - x_{a1j}) / \delta_{1j} \cdots (x_{bij} - x_{ajj}) / \delta_{ij} \right],$$

where η is an indicator of the effectiveness of strategic planning; x_{bij} are coordinates of the specified target point on the response surface of the target function in multidimensional space; x_{ajj} are coordinates of the point of the predicted actual result; δ_{ij} is the distance of the permissible deviation of the predicted result from the target value of the parameter; $i = 1, 2, 3, \dots, n$ is the parameter index; $j = 1, 2, 3, \dots, m$ is the index of the corresponding objective function.

Uncertainty expands the interval of presentation of the predicted result $x_{ajj} = (x_{ajj} \mp \Delta)$, where Δ is the level of uncer-

$$\frac{\partial \eta}{\partial t} = \left[\frac{\partial}{\partial t} (x_{b11} - x_{a11}) / \delta_{11} \cdots \frac{\partial}{\partial t} (x_{b1i} - x_{a1i}) / \delta_{1i} \cdots \frac{\partial}{\partial t} (x_{b1j} - x_{a1j}) / \delta_{1j} \cdots \frac{\partial}{\partial t} (x_{bij} - x_{ajj}) / \delta_{ij} \right],$$

where t is the current time, whose values correspond to the relation $t \in (t_z - t_0)$; t_z is the time to achieve planning goals; t_0 is the start of the process of implementation of the strategic plan into production and management activities.

Since Δ is a constant, then its derivative is zero, this method allows more accurately determining the trend of the change in the parameter (the derivative of the parameter).

Since the level of uncertainty of the impact of globalization significantly increases due to the fact that global factors only occasionally affect the economic activity of the enterprise directly, and more often, indirectly, through intermediate links. It is the uncertainty of the interaction of intermediate link factors that significantly reduces the relevance of strategic planning.

Attempts to use traditional regression analysis to detect the level of uncertainty [14] are economical from the point of view of using computer resources for calculations, but do not provide a sufficient level of relevance of predictions. Therefore, the task of analytical research and forecasting under conditions of uncertainty is proposed to be implemented as an arrangement of heterogeneous sequences [15]. These sequences, which are mostly ignored by researchers, determine the level of uncertainty of strategic plans. As an example of a heterogeneous sequence, the following chain of parameters can be cited: the level of the threat of the global economic crisis – the level of resistance of the national economy to external threats and the level of its integration into the world economy – changes in the balance of supply and demand for the company's products in the domestic market – changes in planned production volumes. Evaluating the binary interaction of the elements of this chain allows one to reduce the influence of the uncertainty of the global factor on the result of the company's activity, i.e. the Δ factor in the interval representation of the forecasted result.

For example, a small level of integration of the national economy into the world economy will not contribute to an increase in the level of influence of world crises and, accordingly,

It is advisable to use the assessment of the significance of the gap between the actual forecasted economic results of the enterprise as an indicator of the effectiveness of strategic planning. It is the level of approximation of forecast indicators and achieved results that is the evidence of the effectiveness of strategic planning under the uncertainty of influencing factors, therefore it reasonably forms the basis of the proposed mathematized approach for evaluating the effectiveness of strategic planning. Representing these results in absolute terms, rather than in relative units, complicates the mathematical analysis of the effectiveness of strategic planning. In order to move from the representation of the indicated gap in absolute values to relative values, it is proposed to take into account the relative distance of this gap according to each of the target functions and each parameter.

This requires a comparison of the distance between the coordinates of the target value of the parameter and its predicted actual coordinates according to the expertly determined permissible deviation of the predicted result

tainty. Variants are not excluded when the value of the interval due to the uncertainty of the parameter may be commensurate with the permissible deviation of the predicted result and, even, greater than this deviation.

For the current assessment of the rate of change in actual economic indicators and the level of dynamic predictive approximation of actual and target economic results, the method for comparing the first derivatives of the strategic planning effectiveness indicator and the corresponding values of the parameter intervals in time was used

to an increase in the level of uncertainty of this influence on the results of the strategic plan. Taking into account the change in the level of uncertainty in consecutive binary interactions of influencing factors when applying the specified method allows more accurate forecasting of the enterprise's performance.

The influence of global factors is complex and multidimensional and is characterized by considerable dynamism. Individual indicators of the company's activity may depend simultaneously on several factors of global influence (see the Table, in which the degree of influence is assessed by an expert on a 100-point scale at the beginning of 2022). This requires the establishment of a multidimensional network of heterogeneous sequences. But only the detection of heterogeneous sequences and their arrangement provides an opportunity to assess and even reduce the level of uncertainty in strategic planning. The application of the method for ordering heterogeneous sequences for a multi-parametric system reduces the complexity of planning and increases the effectiveness of strategic planning.

The proposed improvement of the method for ordering heterogeneous sequences is as follows: first, the input sequences of influences (β) are studied, then the fuzzy output sequences of influences (α) are studied

$$(\bar{\alpha} \rightarrow \bar{\beta}) : \{\alpha_{pi} \rightarrow \beta_{qi}\}; \quad p = 1, 2, 3, \dots, h; \quad q = 1, 2, 3, \dots, v,$$

where p, q are the indices of the input and output sequences of each of the n parameters; h, v are total numbers of input and output sequences. If the input sequence α_1 uniquely determines the output sequence β_1 , then this relationship is denoted as $\alpha_1 \beta_1$. If not, we determine the number of initial sequences β_1 , which determines the level of uncertainty. The application of the analysis and synthesis method to estimate the level of uncertainty of $\alpha_{pi} \beta_{qi}$ relationships allows one to identify their value and, accordingly, to permanently assess the impact of this uncertainty on establishing the distance between the coordinates of the predicted value of the parameter and its actual

Table

Factors of globalization influence on the formation of uncertainty in the activity of Ukrainian enterprises

Influence factor	Degree of influence
The general state of the world market and the rate of its change	12
The unevenness and uncertainty of the mutual influence of the processes of trans-nationalization and fragmentation of the geo-economic space	14
Changes to global imbalances between elements of world economy	8
The level of shadowing of the world economy ("gray" export and import, payment for products, raw materials and services in cryptocurrency, etc.)	22
Changes in preferences and restrictions on access to global and local markets for products from competing countries	14
Uneven levels of economic growth and world trade turnover	12
Fragmentation of global production	8
Cross-border labor migration	32
Formation of global value chains	8
Changes in the levels of availability of resources and credits	28
Changing the level of technology availability	25
Change in the level of inhomogeneity of markets	17
Changes in the structure of market entities (suppliers, intermediaries, competitors, etc.)	9
Changes in consumption preferences	7
Change in the level and direction of competition in potential markets	18
Changes in the structural characteristics of society	6
Capacity level of potential markets	14
Changes in the levels of the company's unique access to local resources and unique peculiarities of its own products	12

coordinates in the parameter space and, accordingly, the level of conceptual ambiguity of strategic plans.

Results. Globalization processes have many directions of influence on national economies [16]. For example: facilitation of cross-border migration contributes to fundamental changes in the labor market, especially for third world countries; the growth of external informational and cultural influences contributes to a significant change in consumer attitudes and requires quick access to high-tech goods even for consumers in developing countries [17]. The above factors of globalization influence lead to the homogenization of the global market.

At the same time, globalization processes also lead to increased specialization of national economies. Thus, as it is noted by the authors [18], more economically developed countries rely mainly on the use of the latest technologies, ensure the global movement of capital, and less economically developed countries specialize in low-skilled, labor-intensive production processes and extraction of raw materials.

That is, there is a certain dichotomy of globalization processes regarding the homogenization/dehomogenization of global and, accordingly, local markets. This, in turn, is a factor that determines the creation of a complex competitive landscape and requires appropriate attention when forming strategic plans for enterprises.

The dynamic nature of globalization processes, the rapid development of transport and information technologies,

which causes significant dynamic changes in the level of specialization of national economies and their weight in the world economy, lead to rapid changes in the volumes and directions of movement of both high-tech goods and resources [19, 20]. This, in turn, leads to significant dynamism of the process of transformation of national economies, the rapid formation of new markets and, accordingly, affects the competitive landscape in which enterprises operate. The formation of a complex competitive landscape under the influence of variously directed globalization influences is a factor that determines the uncertainty of strategic planning.

The uncertainty of strategic planning also leads to significant uncertainty of the factors of globalization influence (see the table) and changes in the level of uncertainty in the sequences of parameters that convey the influence of global factors on the level of forecasted results of the enterprise's activities. A significant factor increasing uncertainty is the interaction at the level of global and national factors. This is confirmed by the fact that, for example, the rating of Ukraine according to the Global Competitiveness Index over the past ten years has fluctuated with a change in the opposite direction and the amplitude of the level change up to 11.8 %, and changes in the level of shadowing (Table) of the Ukrainian economy from the volume of official GDP according to the Integral indicator, reached 33 %. The first reduces the competitiveness of Ukrainian enterprises due to the strengthening of the influence of the global factor "Changing the level and direction of competition in potential markets", the second – significantly increases the negative impact of the level of shadowing of the world economy on forecast results, in particular, due to the uncertainty in the balance of demand and supply caused by unaccounted volumes of products on potential markets.

Since strategic planning is an integral component of strategic management, it requires a clear definition of the company's goals and substantiation of the ways to achieve them in a complex competitive landscape, and also an assessment of resources of all kinds necessary for this within the planning horizon.

In particular, the formation of organizational culture, the proper implementation of the personnel motivation system, the acquisition of the necessary flexibility and adaptability of the enterprise to unexpected globalization influences can be determined as the basic resource for the implementation of the chosen strategy.

This determines the peculiarities of the strategic planning of enterprises in different countries of the world. First of all, this applies to enterprises that plan their activities in the global market and in new promising markets. Strategic planning of activity in new markets requires taking into account the level of adaptation to this market, in particular, to the cultural and religious characteristics of countries, national requirements for product certification, the level of changes in production standards, etc.

A fundamental change in approaches to strategic planning in the new conditions is also the need to develop more global thinking skills by enterprise management and to understand the need to reorganize traditional methods, approaches, and the management structure of their own enterprise. It is this that can ensure the necessary level of adaptation of strategic planning to the requirements of global and new local markets, which, in turn, determines the ability of enterprises to survive and of their economic indicators to grow.

Thus, relevant strategic planning is ensured by proper assessment of trends, rates and directions of changes in globalization influences, use of opportunities provided by globalization and prediction of its threats.

Therefore, in strategic planning several levels can be distinguished: implementation of measures to reduce the conceptual ambiguity of strategic plans; determining the direction and purpose of the overall corporate strategy; choosing a growth strategy, a survival strategy, or their combination.

The multi-level and multi-dimensional impact of globalization processes, the opportunities they open and the threats

they create leads to a decrease in relevance in strategic planning. The multi-level and multi-dimensional impact of globalization processes, in turn, causes the possibility of conceptual ambiguity of strategic plans. A mistake in the formation of the concept of activity will lead, at least, to inefficient use of the company's potential, but it can also lead to the decline and bankruptcy of the company. This error can be reduced and, in general, avoided by considering the opportunities and threats of globalization as two vectors of external influence on the company's activities.

These vectors also determine the formation of a hyper-competitive market, which, as mentioned above, is not homogenized, but creates a complex competitive landscape. Many factors influence the formation of the features of the specified competitive landscape for Ukrainian enterprises: branch affiliation; the level of economic development of the region and the country as a whole; opportunities for cross-border connections with potential markets, etc.

The increase in the level of market inhomogeneity also creates a new level of threats to the activity of Ukrainian enterprises, which must be taken into account in strategic planning, due to the possibility of a sudden decrease in the relative competitive advantage of the specified enterprises. This peculiarity, in turn, narrows the horizon of relevant strategic planning in time, i. e., increases over time the level of uncertainty of factors influencing the main forecast economic indicators of the enterprise.

This does not confirm, but rather contradicts the theory of world systems described, in particular, in the article [19]. According to the theory of world systems, strategic planning should be based on the analysis of the global, and not the local (primarily, national) market.

The refutation of the world systems theory approach is based, in particular, on the fact that the complexity of the competitive landscape is due to the multi-level interaction of global and local markets. The consequence of this is that for strategic planning, it is necessary to rely on the assessment of the pace of changes in the competitive landscape under the influence of the above-mentioned two vectors of external influence on the company's activities – the opportunities and threats of globalization, which are formed due to the interaction and opposition of global and national economies.

First of all, this requires a detailed analysis of the company's place on the competitive landscape and the stratification of requirements for the formation of strategic plans of the enterprises.

Stratification of requirements allows one: to determine the importance of avoiding conceptual ambiguity of strategic plans; to establish the direction and pace of management measures; to assess the strategic adequacy of the resources that the enterprise has at its disposal; to adequately weigh their competitive advantages and business prospects in new markets.

At the analysis stage, it is necessary to determine the factors of global influence which have the greatest impact on the company's activities. And at the stage of implementation of strategic plans, they should conduct constant monitoring of these factors, evaluate changes in the pace of their influence in order to forecast new opportunities and identify new risks or a dangerous increase in the level of previously identified threats.

This determines the need for stratification of indicators of globalization influence, necessary for strategic planning. In particular, highlighting:

1. Economic factors: the level of financial and resource support of the enterprise; the general state of the national economy and the world market and the rates of their change; direction of development of the enterprise; dynamics of inflation, stability of the national currency exchange rate; availability of resources and credits.

2. Social and cultural factors: structural characteristics of society, level of population stratification by income; social and geopolitical challenges; the influence of traditions and the lat-

est technologies on the formation of consumer needs; the level of development of civil society; social values.

3. Institutional factors: level of legal protection of entrepreneurs and investors; customs, environmental, tax policy factors; effectiveness of anti-monopoly legislation; availability of regulated tariffs; level of development of the banking system; formation of a reliable transport system and promotion of the development of transport infrastructure.

4. Technological factors: the technological level of their own production and the technological level of competitors in prospective markets for the sale of their own products; rates of introduction of new technologies; the level of their own capabilities regarding the development of promising technologies; the level of implementation of their own know-how in the production process; adaptability of production to the introduction of new technologies.

5. Market factors: speed of change in demand/supply; competitive position of own production; dynamics of changes in the life cycle of own products/services; purchasing power of potential buyers; compliance of the level of prices for the company's products/services with the purchasing power of buyers; prices for raw materials for own production; cost of transport services; the level of customers' familiarity with the competitor's goods/services; capacity level of potential markets.

Also, both at the stage of preliminary analysis and at the stage of implementation of the strategic plan, the rates of dynamics of the following factors need to be evaluated and audited: resources (geography of supplies, discipline of suppliers); strengthening/weakening of the transport system; volumes and nomenclature of their own production and production capabilities of competitors; geopolitical and global economic processes; global institutional factors (need to introduce environmental technologies, ensure ISO standards, conditions for ensuring the proper life cycle of products, etc.).

The definition of a general corporate strategy also consists in the need to forecast changes in the competitive landscape and, accordingly, to plan tools for ensuring the appropriate level of flexibility at a certain level of forecast inaccuracy. In general, the corporate strategy should define: the main prospective direction of activity; purpose; possible changes in the field of specialization, taking into account the company's position on the competitive landscape.

The choice of a growth strategy or a survival strategy depends on comparing the level of influence of the above-mentioned vectors: opportunities and threats of globalization processes on the horizon of strategic planning.

In particular, a growth strategy is chosen when the influence of opportunities prevails over the influence of threats. Then the following things are planned: ways to increase production volumes; the rate of growth of the turnover of working capital, using, for example, the diversification of production, the introduction of innovations; access to new sales markets; development of influence on the specified markets. The development of influence on new sales markets can consist, in particular, in increasing its presence in the market, even with a short-term decrease in profits.

It is expedient to announce the results of the assessment of the rates of change in the actual economic indicators and the dynamic changes in forecasting the level of achievement of the target indicators of the enterprise's activity to the employees. This forms a stimulating function of strategic planning in increasing the productivity of personnel. The frustration of employees due to the unexpected disclosure of negative results may cause a shock reaction and, as a result, a significant drop in labor productivity.

An increase in the projected gap between the actual and target economic results of the enterprise's activity in the current assessment of the rates of change in actual economic indicators is an indicator of management incompetence and indicates the need for its replacement. This, on the one hand, increases the level of management's attention to the develop-

ment of a strategic plan, and, on the other hand, the fear of failure may be greater than the desire for success, which reduces the initiative of management in the conditions of increasing informational “white noise” of globalization (the level of uncertainty of the main influencing factors).

Today, the effects of globalization are complex, synergistic, and mutually causal. Therefore, strategic planning should harmonize the company’s activities and external challenges on the horizon of impact assessment.

Under the globalization cultural influence, the strategic planning of enterprises even in developing countries acquires signs of corporate social responsibility – CSR. This does not reduce the possibility of forming a “business case” during the implementation of CSR within the limits of ensuring the profitability of the company’s products and achieving the required level of competitiveness. Improving the strategic reach of the company’s competitive level will also bring social benefits. In such circumstances, the implementation of CSR, which is considered as a necessity to meet the needs of the public community, also creates new business opportunities for enterprises.

Enterprises that form their own strategy and ensure its implementation are more competitive in the domestic and foreign markets, resistant to globalization influences even under conditions of their uncertainty. The uncertainty of globalization is exacerbated by the contradiction between global and national interests, the inconsistency between consumer needs and the rate of profits, the need to form an individual approach to consumers in developed countries, and the avoidance of the traditional habit of focusing on the social strata of consumers by the management of enterprises in developing countries.

In Ukraine, strategic planning should take into account the fact that the level of uncertainty is significantly increased by permanent economic and political crises, geopolitical challenges and military threats.

In addition to the positive effects of globalization on the activities of enterprises, it is necessary to recognize the presence of negative effects. Thus, in order to acquire the level of competitiveness required for the global market, Ukrainian enterprises must update their technologies, conduct product quality checks, and perform certification and licensing. All this requires significant costs, reorganization of production and management. Accordingly, this creates additional risks of the enterprise’s activity, which significantly determines the peculiarities of strategic planning for Ukrainian enterprises.

The analytical stage of strategic planning in the conditions of globalization requires significant amounts of information. It is characteristic that this information, to some extent, is not publicly available. The lack of information of a certain level leads to the growth of uncertainty, which, in turn, increases the level of irrelevance of the strategic plans of Ukrainian enterprises and, as a result, increases the threat of their non-fulfillment. Also, the significant dynamism of global processes, which is especially felt today by the management of Ukrainian enterprises, leads to an increase in the level of uncertainty.

Since strategic planning should foresee not only the result, but it also forms a system of interdependent decisions, errors due to the uncertainty of the factors of globalization processes can lead to failures in the implementation of these decisions. The complexity of the mentioned system increases the risk of a “domino effect”, i.e. failure to implement the strategic plan, even if there is a slight failure.

Another negative factor of globalization for Ukraine is that the stronger players in the world market are not only more informed, but also have, accordingly, greater influence and use, consciously or unconsciously, this influence mostly to their advantage. This can be called a strong competitive position in the global market. The strong competitive position of the group of economically developed countries facilitates entrepreneurial activity on their territory, makes the development perspective more predictable, which guarantees the implementation of the strategic plans of their enterprises. But for

countries with a weak competitive position, for example, for Ukraine, this increases the uncertainty, the risks of business activity and, accordingly, the growth of the level of irrelevance of strategic plans of enterprises.

The increasing level of uncertainty in the conditions of globalization processes in some cases leads to the fact that strategic planning is not carried out according to defined goals, but only for formulating the direction of the company’s activities.

Uncertainty also leads to the following peculiarities of strategic planning of Ukrainian enterprises:

- identification of new markets only with a certain level of probability and, accordingly, only probable prospects of the enterprise for entering them;
- determination of only probable, desired rates of growth of economic indicators of the enterprise;
- fragmentation of the development and detailing of enterprise plans to facilitate their correction during the implementation process;
- moving away from tying the implementation of strategic tasks to the time of their implementation and moving to evaluating the effectiveness of the strategy based on a certain degree of achievement of the set goal;
- ensuring the competitiveness of the enterprise by relying, mainly, not on technological and innovative advantage, but on unique possibilities of access to local resources or unique features of own products;
- in the case of identifying a tree of globalization influences, introducing a scenario approach in strategic planning and ensuring the possibility of choosing another scenario of operational activity in the event of a drastic change in the course of events;
- the permanent adaptive nature of the implementation of strategic plans under conditions of unexpected changes in the pace or direction of globalization influences.

The impact of globalization processes on local economies, in some cases, can be catastrophic. An example of this can be the rate of loss of the working-age population in Ukraine. Thus, according to the results of the analysis given in the Report on International Migration (World Migration Report 2022), globalization processes have led to a significant loss of human capital by Ukraine (Figure) [21].

Even before the large-scale war, Ukraine was in eighth place among countries whose population goes to work in other countries.

Since, according to the research carried out in the course of the presented article, migrants are mostly people of working age, and their share among those who have received the status of long-term migrants is greater; this allows estimating the rate of human capital outflow.

Thus, for the rural population, the share of migrants of working age is 59.01 %, for the urban population – 78.75 %, together – 73.64 % [21]. That is, the minimum number of labor migrants from the number of citizens of Ukraine who re-

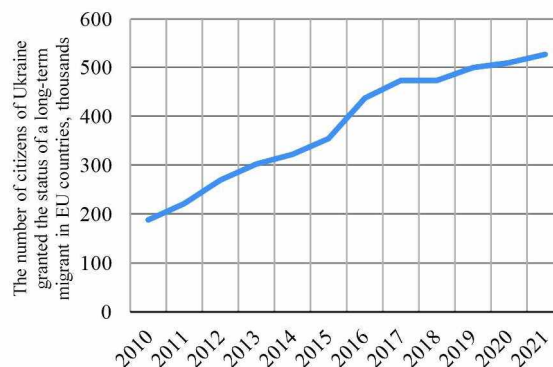


Fig. The number of citizens of Ukraine who received the status of a long-term migrant in EU countries

ceived the status of long-term migrant in the EU countries shown in the Figure, is ~73 %. Migration processes are not permanent, which indicates the influence of global factors. Thus, the rate of long-term migration from Ukraine to EU countries has stabilized, as can be seen from Figure, in 2017–2018, and then steadily grew. In 2022, in the conditions of a full-scale war, it increased by leaps and bounds. Unfortunately, the State Statistical Service does not provide data for this period. For the use of the first derivatives of the proposed mathematical approach to estimate the rate of change in actual economic indicators in 2017–2018 $\frac{\partial y}{\partial t} = 0$ (y is the number of citizens of Ukraine who received the status of a long-term migrant in EU countries), and in 2015–2016 $\frac{\partial y}{\partial t} = \max$ in the studied time interval. This testifies to the minimization of the rate of influence of labor migration on strategic planning in 2017–2018 and, accordingly, the maximization in 2015–2016.

In general, this leads in some cases to the choice by the management of enterprises in conditions of significant risks of a strategy not of success, but of survival. This, in turn, reduces the importance of strategic plans, and the growing importance of tactical, operational management of the enterprise [22, 23].

Globalization also calls for a departure from a strictly hierarchical structure in the organization of management, the use of the team principal in the work of personnel, and the use of new methods of motivation [24]. This, in particular, determines the involvement of the maximum number of employees in the formation of a strategic plan. This allows employees to: increase the level of their significance; unite the team; to form a single team united by a single goal specified in the strategic plan; to increase staff motivation.

Conclusion. A mathematized approach for evaluating the effectiveness of strategic planning is proposed. As an indicator of the effectiveness of strategic planning according to the specified approach, it is proposed to use the assessment of the significance of the gap between the actual and target economic results of the enterprise.

To reduce the influence of the uncertainty of global influences in the assessment of the rates of dynamic approximation of actual and forecast results, the proposed mathematized approach uses a comparison of the first derivatives of the efficiency indicator. In order to identify changes in the level of influence of global factors on the results of the enterprise and increase the relevance of forecasting in conditions of uncertainty, a method for arranging heterogeneous sequences is proposed. These sequences, which are mostly ignored by researchers, determine the level of uncertainty of strategic plans. The need to take them into account lies in the fact that global factors only occasionally affect the economic activity of an enterprise directly, and more often indirectly, through intermediate links. Evaluating the binary interaction of the elements of this chain simplifies the analysis of the uncertainty of the influence of factors, as it allows reducing the impact of the uncertainty of the global factor on the result of the enterprise.

The dichotomy of globalization processes regarding the homogenization/dehomogenization of global and, accordingly, local markets is established, which causes the creation of a complex competitive landscape and requires consideration when forming strategic plans. The formation of a complex competitive landscape under the influence of variously directed globalization processes is a factor that determines the uncertainty of strategic planning. The stratification of requirements for the formation of strategic plans and the creation of opportunities as well as the stratification of indicators of globalization influence is proposed. The factors of globalization influence on the formation of uncertainty in the activity of Ukrainian enterprises are studied and the peculiarities of this influence on the process of strategic planning are indicated. To reduce the conceptual ambiguity of strategic plans, it is suggested to consider the opportunities and threats of globaliza-

tion as two vectors of external influence on the company's activities. These vectors also determine the formation of a hyper-competitive market and influence the competitive landscape, which forms the peculiarities of strategic planning for Ukrainian enterprises. It is indicated that a significant level of market inhomogeneity also creates new threats to the activity of Ukrainian enterprises, due to the probability of a sharp decrease in their relative competitive advantage. This feature increases the level of uncertainty of influencing factors on the main forecast economic indicators of the enterprise over time.

The application of the proposed mathematical methods of assessment and consideration of the uncertainty of globalization effects on strategic planning and the identification of strategic planning features will increase the relevance of strategic plans for Ukrainian enterprises.

Further research is planned to determine the specifics of globalization influences in the branches of the Ukrainian economy.

References.

1. Kumara, S., Gamage, N., Ekanayake, E. M. S., Abeyrathne, G., Prasanna, R., Jayasundara, J., & Rajapakshe, P. (2020). A Review of Global Challenges and Survival Strategies of Small and Medium Enterprises (SMEs). *Economies*, 8, 79. <https://doi.org/10.3390/economies8040079>.
2. Naz, A., & Ahmad, E. (2018). Driving Factors of Globalization: An Empirical Analysis of the Developed and Developing Countries. *Business & Economic Review*, 10(1), 133–158. <https://doi.org/10.22547/BER/10.1.6>.
3. Shamborovskyi, G. (2021). The international strategic management conceptual fundamentals. *Efektivna ekonomika*, 10. <https://doi.org/10.32702/2307-2105-2021.10.6>.
4. Dwikat, S. Y., Arshad, D., & Mohd Shariff, M. N. (2022). The Influence of Systematic Strategic Planning and Strategic Business Innovation on the Sustainable Performance of Manufacturing SMEs: The Case of Palestine. *Sustainability*, 14, 13388. <https://doi.org/10.3390/su142013388>.
5. Notani, V., & Jain, P. (2021). Surviving international competition: analysis of measures employed by local companies. *International Journal of Management (IJM)*, 12(6), 231–239. <https://doi.org/10.34218/IJM.12.6.2021.020>.
6. Radović-Marković, M., Brnjas, Z., & Simović, V. (2019). The Impact of Globalization on Entrepreneurship. *Economic Analysis*, 52(1), 56–68. <https://doi.org/10.28934/ea.19.52.12.pp56-68>.
7. Julita, J., & Tanjung, H. (2017). Development of Porter Generic Strategy Model for Small and Medium Enterprises (SME's) in Dealing with Asean Economics Community (AEC). *International Journal of Recent Scientific Researches*, 8(9), 20262–20269. <https://doi.org/10.24327/ijrsr.2017.0809.0860>.
8. Benevolo, C., Penco, L., & Torre, T. (2020). Entrepreneurial decision-making for global strategies a “heart–head” approach. *Management Decision*, 59(5), 1132–1157. <https://doi.org/10.1108/MD-10-2019-1495>.
9. Razumova, E., Kyrylenko, O., Gurina, A., & Novak, V. (2020). Strategic analysis as a tool for the formation and implementation of air company development strategy. *Financial and Credit Activity Problems of Theory and Practice*, 3(34), 141–148. <https://doi.org/10.18371/fcaptp.v3i34.215456>.
10. Koval, V., Duginets, G., Plekhanova, O., Antonov, A., & Petrova, M. (2019). On the supranational and national level of global value chain management. *Entrepreneurship and Sustainability*, 6(4), 1922–1937. [https://doi.org/10.9770/iesi.2019.6.4\(27\)](https://doi.org/10.9770/iesi.2019.6.4(27)).
11. Fritsch, M., & Matthes, J. (2020). On the relevance of global value chains and the intra-European division of labour. *National Institute of Economic and Social Research*, 252, 4–18. <https://doi.org/10.1017/nie.2020.16>.
12. Sarbah, A., & Quay, I. (2021). Effects of globalization on small medium-sized enterprise development in Ghana. *African Journal of Business Management*, 15(9), 250–264. <https://doi.org/10.5897/AJBM2021.9196>.
13. Buckley, P. J. (2018). Internalisation theory and outward direct investment by emerging market multinationals. *Management International Review*, 58(2), 195–224. <https://doi.org/10.1007/s11575-017-0320-4>.
14. Mironova, N., Koptieva, H., Liganenko, I., Sakun, A., & Chernyak, D. (2022). Modeling the selection of innovative strategy for development of industrial enterprises. *WSEAS Transactions on Business and Economics*, 19, 278–291. <https://doi.org/10.37394/23207.2022.19.26>.
15. Kulikov, P., Aziukovskyi, O., Vahonova, O., Bondar, O., Akimova, L., & Akimov, O. (2022). Post-war economy of Ukraine: Innova-

- tion and investment development project. *Economic Affairs*, 67(5), 943-959. <https://doi.org/10.46852/0424-2513.5.2022.30>.
16. Kudyko, L. (2021). Vietnam's economy in the system of global production and sales. *Efektivna ekonomika*, 1. <https://doi.org/10.32702/2307-2105-2021.1.104>.
17. Erixon, F. (2018). *The Economic Benefits of Globalization for Business and Consumers*. Brussels: European Center for International Political Economy. Retrieved from <https://ecipe.org/wp-content/uploads/2018/01/Globalization-paper-final.pdf>.
18. Ahmad, S. (2022). Role of globalization defining the incidence of entrepreneurship. *PLoS One*, 17(3), e0265757. <https://doi.org/10.1371/journal.pone.0265757>.
19. Tananaiko, T., Yatsenko, O., Osypova, O., Nitsenko, V., Balezentis, T., & Streimikiene, D. (2023). Economic Rationale for Manifestations of Asymmetry in the Global Trading System. *Sustainability*, 15, 5316. <https://doi.org/10.3390/su15065316>.
20. De Massis, A., Frattini, F., Majocchi, A., & Piscitello, L. (2018). Family firms in the global economy: Toward a deeper understanding of internationalization determinants, processes, and outcomes. *Global Strategy Journal*, 8(1), 3-21. <https://doi.org/10.1002/gsj.1199>.
21. Migration movement of the population. *State Statistics Service of Ukraine* (2023). Retrieved from <https://www.ukrstat.gov.ua>.
22. Zayed, N. M., Edeh, F. O., Darwish, S., Islam, K. M. A., Kryshchal, H., Nitsenko, V., & Stanislavskiy, O. (2022). Human Resource Skill Adjustment in Service Sector: Predicting Dynamic Capability in Post COVID-19 Work Environment. *J. Risk Financial Manag.*, 15(9), 402. <https://doi.org/10.3390/jrfm15090402>.
23. Soroka, L. (2021). Space Doctrine and the Future of the Space Industry. *Philosophy and Cosmology*, 26, 25-34. <https://doi.org/10.29202/phil-cosm/26/2>.
24. Pavlova, O., Pavlov, K., Horal, L., Novosad, O., Korol, S., Perevozova, I., Obelnytska, K., ..., & Popadynets, N. (2021). Integral estimation of the competitiveness level of the western Ukrainian gas distribution companies. *Accounting*, 7(5), 1073-1084. <https://doi.org/10.5267/j.ac.2021.3.001>.

Вплив процесів глобалізації на стратегічне планування діяльності підприємств

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Мета. Дослідити невизначеність глобалізаційних впливів на стратегічне планування (СП). Виявити особливості СП для підприємств України. Розробити методи оцінювання ефективності стратегічних планів в умовах невизначеності та зміни рівня невизначеності в послідовностях параметрів для релевантного прогнозування.

Методика. У дослідженні застосовані методи: критичного аналізу — для виявлення особливостей СП в Україні; математичної формалізації — для оцінювання ефективності СП; метод порівняння перших похідних — для поточного оцінювання темпів зміни економічних індикаторів і їх наближення до цільових значень СП; аналізу й синтезу — для встановлення рівня невизначеності зв'язків вхідних і вихідних послідовностей кожного з параметрів глобалізаційного впливу.

Результати. Указано, що різнонаправлені вектори глобалізаційних впливів обумовлюють утворення складного «конкурентного ландшафту», що збільшує невизначеність СП. Запропонована стратифікація вимог до формування стратегічних планів і можливостей, що вони дозволяють реалізувати, та стратифікація показників глобалізаційного впливу. Досліджені фактори глобалізаційного впливу на формування невизначеності в діяльності українських підприємств і вказані особливості цього впливу на процес СП.

Наукова новизна. Як показник ефективності стратегічного планування запропонована оцінка рівня наближення фактичних і цільових результатів діяльності підприємства. Для зменшення невизначеності в оцінюванні темпів динамічного наближення фактичних і прогнозних результатів використане порівняння перших похідних показника ефективності. Для релевантного оцінювання зміни рівня невизначеності в послідовностях параметрів запропоновано метод упорядкування неоднорідних послідовностей.

Практична значимість. Запропонований підхід зменшить концептуальну неоднозначність стратегічного планування. Розроблений метод оцінювання невизначеності глобалізаційних впливів на СП і виявлення особливостей СП в умовах невизначеності збільшить релевантність стратегічних планів для підприємств України.

Ключові слова: глобалізація, стратегічне планування, діяльність підприємств, оцінювання планів

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