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## **ENTERPRISE INNOVATION-DRIVEN DEVELOPMENT MANAGEMENT BASED ON THE ASSESSMENT OF RESTRUCTURING CAPACITY**

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**Introduction.** The implementation of innovative restructuring makes it possible to achieve positive results in the financial and economic situation of enterprise, to increase the share of competitive high-tech innovation products and intellectual services in industry, to provide the corresponding changes in the structure of the domestic market and export products, which finally should enhance the production competitiveness. The development of new mechanisms for innovative restructuring of enterprises is the problem of particular relevance.

**Problem Statement.** The problem of defining and establishing the role, composition, and basic criteria of objectively comprehensive assessment of restructuring capacity for justification of feasibility of innovative restructuring at enterprise remains practically understudied.

**Purpose.** The purpose of this research is to develop a methodological approach to the evaluation of the restructuring capacity of enterprises, which allows them to comprehensively summarize their economic results and to make optimal management decisions.

**Materials and Methods.** The methodological approach to measuring the integrated index with the use of the indexing and expert judgement methods and to interpreting its value with the help of linguistic characteristics of the scale of restructuring capacity levels has been used.

**Results.** The research and methodological toolkit for the assessment of restructuring capacity of an industrial enterprise, which is based on the calculation of the system of local indicators, given the functional components of the restructuring capacity, has been improved. The implementation of system for monitoring the local and complex indicators and the overall level of restructuring capacity allows developing a single algorithm for each group of enterprises to choose the appropriate type of restructuring and development strategy.

**Conclusions.** The system of indicators has been formed and the integrated indicators of enterprise restructuring capacity have been simulated. A methodological approach to choosing enterprise development strategy for the introduction of innovative restructuring, depending on the level of restructuring capacity, has been offered.

**Keywords:** restructuring, restructuring capacity, and innovative restructuring.

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In 2019, Ukraine lost two positions in the Global Competitiveness Index (GCI) of the World Economic Forum (WEF) and dropped to 85<sup>th</sup> place out of 141 countries. This is a rather disappointing indicator, as Ukraine falls behind Russia (43<sup>rd</sup>), European countries (our closest neighbours: Poland (37<sup>th</sup>), Hungary (47<sup>th</sup>), Romania (51<sup>st</sup>)), and many Asian countries [1]. That is why, in today's conditions, in order to increase the competitiveness of products, it is necessary to develop and to implement an innovation-driven model of development of Ukrainian enterprises.

The main factor that makes our country uncompetitive in today's global world is a slowdown in innovation. The main obstacles to the intensification of the innovation process at Ukrainian enterprises are as follows: lack of financial resources to support R&D and implementation of innovation products; imperfection of the legal framework for regulation and stimulation of innovative activity; high economic risks related to innovation; lack of government support; inconsistency between the corporate structure that has been formed in Ukraine and the main requirements for innovation-driven development, etc.

Given that in today's economic environment, enterprises have to shift from the strategy of survival to the strategy of modernization of production, sales, and management technologies, that is, to introduce changes in all internal processes, the restructuring measures shall be innovative enough to lead to the conversion of restructuring into another quality — transformation as its highest manifestation. Innovative restructuring that aims at introducing innovations into key areas of enterprise activity shall be an effective tool for implementing these processes and the priority direction of enterprise industrial policy. Therefore, the development and practical recommendations on the introduction of new mechanisms for innovative restructuring of enterprises are of particular relevance.

The restructuring processes and innovation-driven development of enterprises have been studied in many research works of domestic and fo-

reign researchers who have mentioned that these processes are closely interconnected.

The theoretical issues of the essence and classification of restructuring have been studied by researchers from different countries (Dubrovski, 2011; R. Kvasnitska, K. Larionova, 2018). The authors of (Smith and Graves, 2005) have noted the strategic nature of restructuring that aims at improving the efficiency of operation and contributes to the development of the existing enterprise. According to Scherer, companies at different stages of development may use different strategies. The choice of a strategy and the timing of its implementation are crucial to success of the restructuring (Scherer, 2003).

Most researchers have considered the issues of enterprise restructuring and management at the macro level (M. Teubal, E. Andersen, 2000). In addition, a considerable amount of practical experience has been gained in restructuring of the enterprises in different countries (Marianne Paasi, 2003; Byung-Yeon Kim & Jieun Park, 2016; Yuan Li, Yi Liu & Feng Ren, 2007).

Among the foreign researchers who have dealt with improving the methodology for restructuring of economic entities at different levels, we highlight research by Paul J. Hare and M. Porter who have formed the concept of sectoral restructuring (Paul J. Hare, 2002). Other researchers have developed restructuring models and tools for timely action by corporate executives in various industries (Malačič, 2016).

The concept of restructuring capacity is explored by a limited number of scientists and its features are highlighted at the level of separate states and regions of the world [12–16].

The theoretical aspects of the development of innovation capacity are of scientific interest. B. Lissin and V. Fridlyanov [17] have studied the structure of innovation capacity. The effectiveness of the processes of the formation and implementation of innovative measures has been analyzed by Fatkhutdinov R.A. [18]. The practical aspect of the concept of innovation capacity has been discussed by P. Drucker who considered the sources

of development of the modern industry (Drucker, 2009); the experience of restructuring the innovation systems of the countries of the European Union has been described by Marzenna Anna Weresa, Małgorzata Stefania.

Methodical approaches to the assessment of innovation capacity based on modern information technologies and research and methodical support have been considered by V. Myasnikov [20], A. Boychuk [21], and O. Goncharenko [22], who have proposed to use the methods of multidimensional statistical and system analysis for integrated assessment of innovation capacity.

In research [23], the authors have substantiated the feasibility of using the methods of economic-statistical and comparative analysis (TOPSIS and CRITIC) for identifying the structural and dynamic characteristics of industrial enterprises and the connection between innovation and its efficiency.

The problems of defining and establishing the role, composition, and basic criteria for objective comprehensive assessment of the restructuring capacity and the feasibility of innovative restructuring remain practically understudied. Studying these problems contributes to the formation of a strategy for innovation-driven development of enterprises. Insufficient elaboration of these aspects, as well as their theoretical and practical importance for the development of a particular enterprise and the economy of country as a whole require a systematic study of the role of innovative restructuring of industrial enterprises.

The concept of “enterprise restructuring” is ambiguously interpreted in the scholarly research literature, since the researchers have different opinions on the formation of the essential characteristics, goals, classification, and means of such restructuring. In addition, because of permanently changing conditions of enterprise operation and improving legislation, there is a need for a comprehensive study of different approaches to the interpretation of this concept by means of appropriate system-logical analysis.

Restructuring involves the systemic nature of optimizing the enterprise operation. Thus, en-

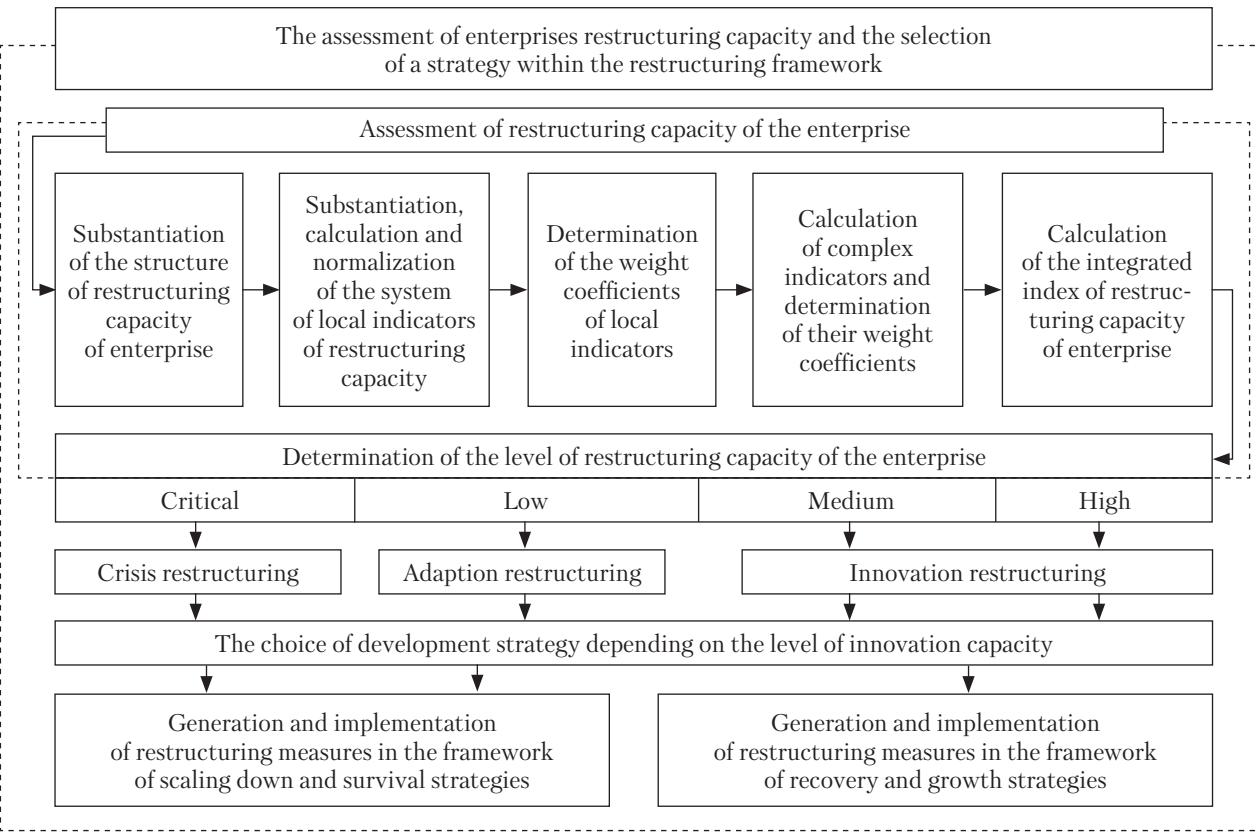
terprise restructuring is the implementation of organizational, economic, financial, legal, and technical measures aiming at transforming the organizational and management spheres of the enterprise, which allows ensuring sustainability, increasing competitiveness, profitability, market value and realizing the potential of long-term economic development of the enterprise.

The purpose of the restructuring is to create such entities that are able to produce competitive products and to be technically and financially viable, regardless of whether they are insolvent or have a stable financial position.

The introduction of innovations in the restructuring of enterprise is caused by the adaptation of the industrial enterprise to changes in the external economic environment and the ensuring of the sustainability of its development through innovation technologies. In this context, innovative restructuring is characterized as a system of measures that initiate a new state of the production that meets the objective needs of its innovative and socio-economic development and provides, first of all, technical upgrade of production on an advanced technological base, which includes resource-saving technologies. Also it aims at a structural transformation of production to optimize it, to reorganize production and personnel management, and to improve efficiency and competitiveness of the enterprise.

Innovative restructuring is used at the enterprises that are steadily operating and seeking radically qualitative changes rather than at the crisis enterprises. The main changes to make should be orientation of management systems towards innovation, flexibility of production, targeted and effective innovation.

Since innovative restructuring is a type of restructuring, it is necessary, firstly, to analyze whether the company has overall restructuring capacity and what kind of development strategy, depending on its level, is advisable. In our opinion, the restructuring capacity of enterprise is a system of financial, labor, production, and innovation resources, reserves, available and hidden opportunities, which determine and ensure the rea-



**Fig. 1.** The assessment of enterprise restructuring capacity and the selection of a strategy for restructuring

diness and ability of the enterprise to form and to implement the restructuring program necessary to ensure the effective operation of the enterprise in accordance with its strategic and tactical development plans.

Each stage of the enterprise development is connected with the realization of certain potential of the enterprise, which is formed as a result of qualitative transformations at the enterprise, and the establishment of new ways of operation due to overcoming internal and external contradictions. That is why, we propose to determine the following types of restructuring: crisis: the adaptive and the innovative ones, depending on the level of restructuring capacity of enterprise.

In order to determine the feasibility of innovative restructuring, it is necessary to carry out a comprehensive assessment of the restructuring capacity (Fig. 1). According to the authors, one

of the decisive stages of innovative restructuring is the assessment of the restructuring capacity of the enterprise, which implies a series of consistent steps.

Having generalized the theoretical approaches and considerations regarding the assessment of restructuring capacity we find the feasibility of doing it on the basis of the functional approach. Therefore, the basis for determining the indicators by which restructuring capacity is assessed in integrated dimension includes its structure that is formed by the production ( $K_p$ ), the financial ( $K_f$ ), the labor ( $K_t$ ), the marketing ( $K_m$ ) and the investment and innovation ( $K_i$ ) capacities.

The proposed components most clearly structure the enterprise resources, systems and methods of evaluation. Their effective use creates the pre-conditions for competitiveness, solvency, profitability and, ultimately, the achievement of long-

term restructuring goals. Based on the industrial features of enterprises, it should be noted that financial, production and labor components that are strongly influenced by external and internal factors, are of the greatest importance in the overall elemental structure of enterprise capacity.

One of the most important elements in the structure of enterprise restructuring capacity is financial capacity that is defined as a set of promising opportunities for enterprises to mobilize their own financial resources and, if necessary, borrowing funds, to distribute and to use them in order to ensure sustainable, dynamic, and balanced development of the enterprise. Financial capacity reflects the financial strength or ability of enterprise to take part in the creation of tangible goods and services. Financial capacity determines the limits of development, serves as a source of the formation of functional components of restructuring capacity.

The financial indicators that show the level of enterprise development and those used in the process of forecasting its future development are most often used to assess financial capacity, namely, to determine financial stability, solvency, profitability, condition and structure of the enterprise property.

The production capacity, in our opinion, plays the leading role for the industrial enterprise and is a complex, dynamic system formed by all the enterprise resources. It constitutes a considerable part of the enterprise restructuring capacity in the production process. The formation of production capacity is necessary for using the available and hidden opportunities of the enterprise to attract and to use factors of production to manufacture the maximum possible quantities of products and services, as well as to achieve the goals of the enterprise in the process of production of competitive products.

It defines the technical and technological vector of industrial enterprise development, providing the opportunities for growing the output, quality, and range of products. To maximize production efficiency means to maximize the produc-

tion capacity of the enterprise through introducing innovation technologies and equipment complying with modern requirements. The strategic development of the industrial enterprise shall be based on creating high-tech rather than on tangible innovation. This condition is particularly relevant because it allows the most comprehensive use of available raw and new types of materials, ensures the disposal of waste in accordance with environmental requirements put by society on manufacturers.

The labor capacity of the enterprise characterizes the composition and qualification of employees of the management apparatus, the level of methodical, organizational, and technical support of management activities. In conditions of innovation development, it depends more on the intellectual capacity of the organization, i.e. the complex of employee intellectual abilities and the ability to discover and to use them. Effective use of labor capacity is a strategic line of behavior in the human resource management. The labor capacity shows the skills of employees, the quality of available personnel; the opportunities for personnel retraining; the system of organization of labor and social relations at the enterprise. The human component of the capacity determines the possibilities of generation and perception of ideas, innovation and implementation of them to the level of new technologies, structures, organizational and management decisions. This fact implies the availability at the industrial enterprise of highly skilled and creative specialists who are able to apply their knowledge and skills to produce new, practically oriented knowledge, and to transform them into market-specific innovations.

The marketing capacity is a set of characteristics of the enterprise related to the implementation, promotion, change of the existing product range in the market conditions, in order to ensure profit making and to achieve the strategic goals. It describes the ability to strengthen and to expand the company's positions in the market and its perspective competitiveness.

At present, most Ukrainian businesses are not competitive in the global market, so the problem of attracting new investments and introducing innovation processes in all production areas is of great importance. Therefore, the formation of a sufficient investment and innovation capacity shall play a significant role in the activity of Ukrainian enterprises.

The investment component in the structure of the investment and innovation capacity of the enterprise is characterized by the investment attractiveness for other investors and the availability of its own investment resources (the possibility of investing capital for the purpose of its further increase). It is advisable to evaluate the investment capacity on the basis of the ability of the enterprise to accumulate the required amount of investment resources, as well as to invest them effectively. On the one hand, it is the result of effective utilization of the capabilities of the enterprise, and on the other hand, it is a factor of its further development.

The innovation component in the structure of the enterprise investment and innovation capacity shows the readiness for the implementation of program for strategic innovation transformations. Thanks to the innovation component, the company may respond quickly to changes in the environment, making the necessary adjustments to its in-house environment. Therefore, assessing the investment and innovation component of the capacity is a necessary measure for developing a restructuring strategy.

All components of the restructuring capacity of the enterprise are interconnected, so it is very important to determine the advantages and disadvantages of the enterprise, to form an optimal structure of production in order to achieve a synergistic effect on the way of achieving the strategic goal.

The authors of the research have proposed to determine the level of enterprise restructuring capacity by calculating the integrated index with the use of the indexing and expert judgement methods. According to the analysis of the existing methods of capacity assessment, using the index

methods is quite widespread and effective, because it allows obtaining a comparable quantitative indicator that may be used for the comprehensive characterization of the state of restructuring capacity and the analysis of its dynamics.

Given the research works of domestic and foreign scientists, regarding the frequency of the use of indicators for assessing the restructuring capacity of enterprise, the authors have proposed a system of indicators for assessing its components. The criteria for the formation of this system are as follows: the application of a minimal but sufficient number of indicators of the restructuring capacity, which take into account all aspects of enterprise activities, do not duplicate each other and are not functionally dependent.

The indicators that determine the evaluation of the output (integral) indicator have two levels. That is, each component can be represented as a partial index (complex indicator) of the capacity and is determined by a series of local indicators.

The input (local) indicators ( $X_1, X_2 \dots X_{25}$ ) form the generalized (complex) indicators ( $K_p, K_f, K_v, K_m, K_i$ ). This differentiation allows obtaining the overall value of the output indicator and the intermediate values of the formative factors, which enable tracing the “problem fields” and taking timely measures to strengthen them.

The next step is to justify the choice of a set of the local indicators to be used for assessing the status of the components of the restructuring capacity.

Developing an effective system of the local indicators of restructuring capacity is one of the most important steps in the assessment process. There is a complex methodological problem, since the quantity and quality of the indicators shall be sufficient to signal timely and adequately about the emergence and development of destabilizing tendencies in the enterprise. At the same time, we should not burden the methodology with redundant calculations and accordingly increase the time and complexity of its calculation.

Thus, the list of indicators shall ensure the most comprehensive and reliable analysis, on the one hand, and enable the quick obtainment of infor-

mation for their calculation, on the other hand. That is why we consider it advisable to calculate the local indicators of enterprise restructuring capacity on the basis of public accounting and statistical information, which allows quickly determining the level of restructuring capacity and the enterprise rating in the competitive environment.

The study of leading researchers [24–29] is a benchmark for the selection of separate indicators for each component of the restructuring capacity. The selected indicators for each component of the restructuring capacity according to the authors make it possible to calculate the enterprise restructuring capacity most reliably and quickly and to make effective management deci-

sions on the possibility of innovative restructuring on the basis of the calculations. The list of the local indicators for determining the level of restructuring capacity is given in Table 1.

After the determination of the capacity structure and the selection of the local indicators based on the primary documentation, the local indicators of restructuring capacity are calculated.

The existence of quantitative assessments of various dimensions, dynamics, and directions of the influence of such a category as “restructuring capacity” causes some difficulties in comparing them and using them for the determination of a comprehensive result. Therefore, the authors have proposed to use the method of normalization.

Table 1. The System of the Local Indicators for Assessing the Restructuring Capacity of Enterprises

Component of restructuring capacity	Indicators	Impact of the indicator		Weight coefficients
		Stimulator	Destimulator	
Production capacity	$X_1$ – fixed assets turnover	+		0.22
	$X_2$ – fixed assets amortization		+	0.18
	$X_3$ – profitability of fixed assets	+		0.21
	$X_4$ – turnover of current assets	+		0.22
	$X_5$ – update of fixed assets	+		0.17
Financial capacity	$X_6$ – coverage ratio	+		0.16
	$X_7$ – financial leverage		+	0.14
	$X_8$ – autonomy coefficient	+		0.16
	$X_9$ – turnover of receivables	+		0.13
	$X_{10}$ – turnover of payables	+		0.14
Labor	$X_{11}$ – return on assets	+		0.15
	$X_{12}$ – cash flow to debt capital ratio	+		0.12
	$X_{13}$ – personnel turnover coefficient		+	0.36
	$X_{14}$ – coefficient of return of full pay	+		0.31
Marketing capacity	$X_{15}$ – average annual output per employee	+		0.33
	$X_{16}$ – market share	+		0.2
	$X_{17}$ – return on sales	+		0.3
	$X_{18}$ – rate of growth (decrease) of sales	+		0.21
	$X_{19}$ – profitability of marketing activities	+		0.29
Investment and innovation capacity	$X_{20}$ – share of long-term financial investments in assets	+		0.15
	$X_{21}$ – net cash flow from investment capital	+		0.17
	$X_{22}$ – cash flow from investments	+		0.18
	$X_{23}$ – overall (net) profitability from innovation	+		0.18
	$X_{24}$ – innovation production coefficient	+		0.16
	$X_{25}$ – innovation profit coefficient	+		0.16

Only the normalized indicator values are used for calculations. Each indicator value is numeric and varies within certain limits. For forming a set of the local indicators  $x_i$ , it is important to ensure their information unidirectionality. The indicators are normalized according to the conventional approach that includes their division into the stimulators and the destimulators of restructuring capacity. There is direct link between the integral value and the stimulator and inverse one between the integral value and the destimulator.

The stimulators are normalized by the formula:

$$z_i = \frac{x_i - x_{i\min}}{x_{i\max} - x_{i\min}}. \quad (1)$$

The destimulators are normalized by the formula:

$$z_i = \frac{x_{i\max} - x_i}{x_{i\max} - x_{i\min}}, \quad (2)$$

where  $z_i$  is value of the normalized  $i$ -indicator;  $x_i$  is value of the  $i$ -indicator of restructuring capacity;  $x_{i\max}$  is the upper threshold of the  $i$ -indicator of restructuring capacity;  $x_{i\min}$  is the lower threshold of the  $i$ -indicator of restructuring capacity.

It is necessary to determine economically achievable minimum and maximum values of indicators or their lower and upper limits, which are used in the process of analyzing the level of restructuring capacity. The range of possible values of each indicator may be determined on the basis of analyzing the local indicators of industrial enterprises.

The next step is to determine the weight coefficients of the local indicators of restructuring capacity. In the conditions of the fragmentation of theoretical researches on this issue and a considerable uncertainty of the environment, we use the method of expert judgment to solve this problem. The characteristic features of the methods of expert judgment are as follows: the scientifically grounded organization of all stages of expertise, which ensures the effectiveness of each of them, and the use of quantitative methods both in the organization of expertise and in the evaluation of expert conclusions based on formalized processing of results of their judgments.

Consequently, at this stage, it is necessary to conduct an expert survey and to analyze its results. For the purpose of the expert survey, we have developed a questionnaire, the questions of which are conventionally divided into the two blocks: the first one includes the questions concerning the proportion of the components of restructuring capacity, and the second one is about the determination of the weight coefficients of the local indicators.

The number of experts in the group can be determined on the basis of the theory of selective observation. Based on the calculations, it has been determined that the required number of experts in the group should be 12 people. In order to conduct the expert survey, we have decided to create an expert commission consisting of 12 experts who are specialists in the sphere of financial management, have a high level of knowledge and experience in the assessment of financial and economic activity and occupy leading positions.

The Kendall coefficient is used for analyzing the consistency of the expert opinions. The calculated coefficient  $W = 0.796$  indicates that the degree of agreement of expert opinions is high. To assess the significance of the concordance coefficient, the Pearson criterion  $\chi^2$  is determined. It has confirmed the sufficient consistency of the expert opinions on the totality of the considered factors. The expert opinions are processed with the use of *Expert Choice 2000* software.

Thus, the survey allowed us to assign certain values of weight coefficients to the local indicators of separate components of the enterprise restructuring capacity (Table 1).

The next step in the diagnostic stage of the assessment is the determination of the level of each component (complex indicator) of restructuring capacity. The complex indicator by separate component is calculated by the formula:

$$K_j = \sum \alpha_{ij} \cdot x_j, \quad (3)$$

where  $K_j$  is complex indicator of the component of the enterprise restructuring capacity;  $\alpha_{ij}$  is the weight coefficient that determines the contribu-

tion of  $i$ -indicator to the complex indicator;  $x_i$  is input (local) indicator.

After the calculation of the complex indicators, the weight coefficients of the components of restructuring capacity are chosen. Their values are determined by expert judgement on the basis of the questionnaire (Table 2).

At the next stage of the methodology, the integrated index of restructuring capacity ( $I_{RP}$ ) is calculated by the formula:

$$I_{RP} = \sum b_j \cdot K_j, \quad (4)$$

where  $b_j$  are the weight coefficients of the components of enterprise restructuring capacity.

The analytical approach to the formation of a system of indicators for assessing enterprise re-

**Table 2. The Weight Coefficients of the Components of Enterprise Restructuring Capacity**

Components of the restructuring capacity	Weight coefficients
Production capacity	0.32
Financial capacity	0.29
Labor capacity	0.19
Marketing capacity	0.12
Investment and innovation capacity	0.08

**Table 3. Interval Scale of Levels of Restructuring Capacity of Industrial Enterprises and Their Correspondence to Types of Restructuring**

Level of restructuring capacity	Limits of the level of restructuring capacity	Level characteristics	Type of restructuring
High	0.8–1.00	Balanced structure of all components of restructuring capacity, sufficiently developed financial, production, and labor capacity, favorable dynamics of marketing and investment and innovation capacity. The close interrelationship of all components is reflected in the synergism effect	Innovation
Medium	0.37–0.8	The negative impact of certain components of the restructuring capacity on its overall level, which manifests itself in the unstable dynamics of financial results	
Low	0.20–0.37	Imbalance in the structure of restructuring capacity. Low level of production and financial capacity, sharp decrease in the use of labor, insufficient marketing, investment and innovation capacity	Adaptation
Critical	0–0.20	The critical level of all components of restructuring capacity, which is determined by low values of the local indicators (less than the regulatory values); characterizes a deep crisis in the enterprise	Crisis

structuring capacity allows determining not only its level, but also the most problematic aspects of the operation of its components and their development in the future.

The implementation of the system of monitoring the local and integrated indicators and the overall level of restructuring capacity significantly increases the efficiency of the enterprise restructuring management processes, allows determining the level of compliance of restructuring capacity with the type of restructuring and the chosen strategy.

The final step is to determine the level of restructuring capacity by interpreting the integrated index using the linguistic characteristics of the interval scale of the levels of restructuring capacity (Table 3). The proposed scale is based on the values of the Harrington function that is transformed and supplemented with linguistic expressions. The limit values of the preference scale can be attributed to any level of desirability, at the discretion of the researcher. Therefore, in our opinion, it is necessary to distinguish such levels of restructuring capacity as high, medium, low, and critical.

The integrated index of restructuring capacity calculated based on the Harrington function ran-

ges within  $\{0; 1\}$ , the closer it is to one, the higher is the level of restructuring capacity. Therefore, the numerical values that correspond to a high level of restructuring capacity can be determined within the range 0.8–1.00. High level capacity is characteristic for the enterprises with effective production and economic activities and an advanced management system.

The medium level of restructuring capacity is typical for the enterprises that are stable or have a local and temporary crisis. These enterprises are characterized by a certainty for the purpose of the operation and sources of financing; upgrade of production and technological facilities; profitability and independence from external sources of financing; a gradual increase in sales of products. The medium level capacity together with the developed restructuring concept allows the enterprise to quickly overcome temporary difficulties and be able to implement innovation measures.

Thus, enterprises with high and medium restructuring capacity have the necessary resources to implement innovation restructuring.

The enterprises with low restructuring capacity are characterized by irregular growth and imbalance between receivables and payables; low level of profitability and even temporary loss of activity; decrease in competitiveness and partial loss of markets; lack of investment activity and limited capacity to innovate production. This situation needs to be carefully analyzed in terms

of the causes of the crisis and the factors influencing the enterprise operation; a complex of urgent remedial measures shall be introduced.

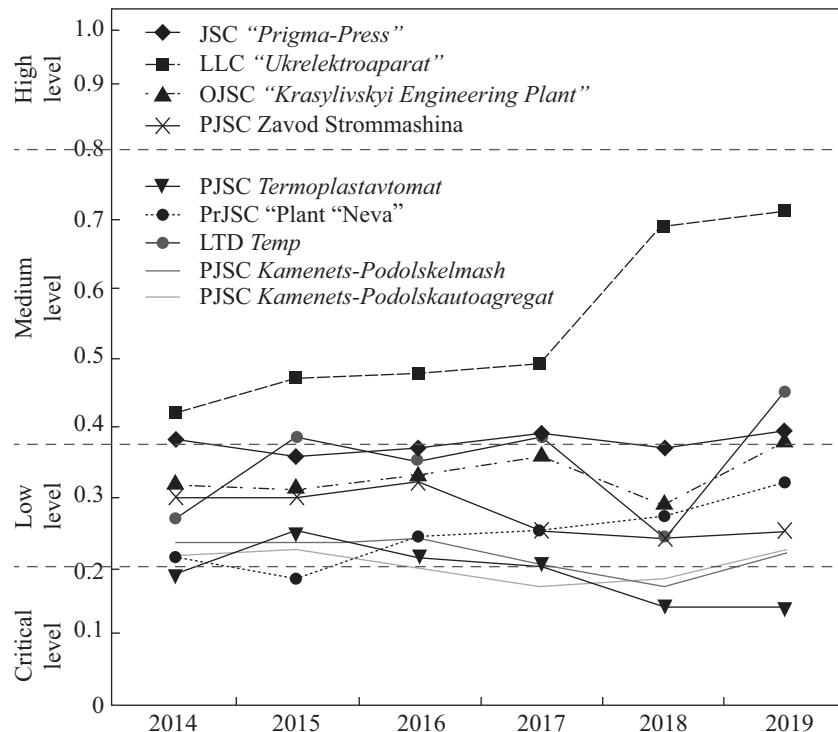
The critical restructuring capacity is characterized by a lack of financial stability of the enterprise, low (or critical) level of financial autonomy, liquidity at a minimum level and loss of its activity. At this level of capacity, it is necessary to implement crisis restructuring that involves the introduction of a reduction strategy and typical crisis management tools to prevent the bankruptcy of enterprise.

The implementation of the developed algorithm for the assessment of restructuring capacity of the enterprise on the basis of the determination of the level and the calculation of the integrated index of restructuring capacity significantly improves the efficiency of management of innovation restructuring of an industrial enterprise, because it allows constantly monitoring changes, evaluating the status of restructuring capacity, identifying the weaknesses and advantages of the enterprise, and making reasonable decisions about the direction and intensity of introducing remedial and innovation transformations.

We have calculated local, complex and integrated indicators of restructuring capacity using the input data of some industrial enterprises and determined the level of restructuring capacity of each enterprise on the basis of the proposed methodology. The results are presented in Table 4.

Table 4. Dynamics of the Integrated Index of Restructuring Capacity of Industrial Enterprises, in 2014–2019

Industrial enterprises	2014	2015	2016	2017	2018	2019	Average value
JSC Prigma-Press	0.38	0.38	0.38	0.38	0.38	0.38	0.38
LLC Ukrlekktroaparat	0.54	0.54	0.54	0.54	0.54	0.54	0.54
OJSC Krasylivskyi Engineering Plant	0.33	0.33	0.33	0.33	0.33	0.33	0.33
PJSC Zavod Strommashina	0.28	0.28	0.28	0.28	0.28	0.28	0.28
PJSC Termoplastavtomat	0.19	0.19	0.19	0.19	0.19	0.19	0.19
PrJSC Plant Neva	0.25	0.25	0.25	0.25	0.25	0.25	0.25
LTD Temp	0.35	0.35	0.35	0.35	0.35	0.35	0.35
PJSC Kamenets-Podolskselmash	0.22	0.22	0.22	0.22	0.22	0.22	0.22
PJSC Kamenets-Podolskautoagregat	0.20	0.20	0.20	0.20	0.20	0.20	0.20



**Fig. 2.** Dynamics of the integrated index of restructuring capacity of industrial enterprises in 2014–2019

Based on the calculations, we can conclude that LLC *Ukrelektroaparat* had the best level of the integrated index of restructuring capacity, in 2014–2019. The lowest level of restructuring capacity throughout the period was reported for at PJSC *Termoplastavtomat*, PJSC *Kamenets-Podolskelsmash*, and PJSC *Kamenets-Podolskautoagregat*.

We have divided the enterprises into groups of high, medium, low, and critical restructuring capacity (Fig. 2) based on previously identified levels of restructuring capacity (Tables 3, 4) and in accordance with the obtained values of integrated indicators.

According to Fig. 2, only one enterprise, LLC *Ukrelektroaparat*, had a medium level of restructuring capacity. In 2018–2019, its integrated indicator increased. Such improvement of activity of the enterprise and increase in its restructuring capacity testify to the efficiency of the strategy of enterprise development chosen by the management, as well as the readiness and ability of the

enterprise to form and to implement the program of innovation restructuring.

JSC *Prigma-Press*, *Temp LTD*, OJSC *Krasylivskyi Engineering Plant*, PJSC *Kamenets-Podolskelsmash*, PrJSC *Plant Neva*, PJSC *Zavod Strommashina* are the enterprises with low restructuring capacity, because their integrated indicators ranged from 0.21 to 0.37. These enterprises have to reorganize and to increase the level of restructuring capacity, otherwise they may be threatened by a deep crisis and bankruptcy.

PJSC *Termoplastavtomat* and PJSC *Kamenets-Podolskautoagregat* had a critical restructuring capacity. The average value of the indicator for 2014–2019 was 0.18–0.2, and the lowest level of restructuring capacity was reported in 2018–2019 (0.14 and 0.17 respectively).

The results of the analysis of restructuring capacity of industrial enterprises has indicated the crisis situation and outlined the problems that need to be solved both at the level of the

individual enterprise and at the government level.

To confirm the correctness of the distribution of enterprises into groups, the cluster analysis has been used. Upon the results of this analysis, three groups, each having an identical composition, have been identified. In particular, the first cluster is formed by the enterprises with a low restructuring capacity, the second cluster includes the enterprises with a medium restructuring capacity, and the third one contains the enterprises with a critical restructuring capacity. The comprehensive use of the integrated indicator and cluster analysis methods has confirmed the reliability and informativeness of the methodology for the assessment of restructuring capacity, the results of which become the basis for the development of a restructuring strategy for each group of enterprises (Table 5).

The research and methodological tools for the assessment and analysis of enterprise restructuring

capacity have been improved. Unlike the existing ones, these tools are based on the calculation of the system of local indicators and the integrated indicator, given the functional components of the restructuring capacity. The methods of integrated indicator and cluster analysis have confirmed the reliability and informative nature of the restructuring capacity assessment. Based on the proposed assessment methodology, the level of restructuring capacity of nine Ukrainian enterprises in 2014–2019 has been determined. Based on the assessment results, the enterprises have been divided into the groups with high, medium, low, and critical restructuring capacity.

This grouping has allowed us to develop a single algorithm for each group of enterprises to choose the appropriate type of restructuring and development strategy. The innovation restructuring should be introduced at the enterprises belonging to the groups with a medium and high restructuring capacity.

Table 5. Choosing a Strategy for Each Group of Companies Depending on the Level of Restructuring Capacity

Level of restructuring capacity	Type of restructuring	Restructuring strategy option	Goal	Main directions of restructuring measures
Critical	Crisis	Contraction	Exit from the crisis, bankruptcy prevention	Scaling down the activities: optimization of the number of employees, sale of illiquid assets and excess inventory, debt management. Strategic alternative (negative scenario) is the liquidation of business in order to restore and to increase it in the long term under favorable conditions
Low	Adaption	Survival (maintenance of current operation)	Crisis prevention, timely adaptation of the enterprise to changes in the environment	Spatial diversification: development of new domestic and foreign markets; product diversification: development of new products, both similar and different. Optimization of composition and structure of external sources of financing, optimization of production processes, improvement of HR management
Medium	Innovation	Recovery (capacity building for innovation development)	Increase in the level of competitiveness, increase in profitability	Expansion of production facilities. Optimization of restructuring capacity. Development of basic innovations in production and organizational and managerial activities.
High	Innovation	Growth	Market leader, capital expansion	Technological leadership (intensive R&D works, development of basic and radical innovations); protection of innovation capacity; winning of a new market; takeover of other enterprises. Continuous increase in innovation resources, creation of strategic alliances

The implementation of innovation restructuring makes it possible to achieve positive results in the financial and economic situation of enterprise, to adapt it to changing environmental factors, to ensure the achievement of sustainable economic development by introducing advanced

technologies, increasing the production of high-tech competitive innovation products and intellectual services in industry, to change respectively the structure of the domestic market and export products, which consequently enhances the competitiveness of Ukrainian companies.

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## УПРАВЛІННЯ ІННОВАЦІЙНИМ РОЗВИТКОМ ПІДПРИЄМСТВА НА ОСНОВІ ОЦІНКИ РЕСТРУКТУРИЗАЦІЙНОГО ПОТЕНЦІАЛУ

**Вступ.** Реалізація інноваційної реструктуризації підприємств дозволить досягти позитивних результатів у фінансово-економічному становищі, зростанні питомої ваги наукомісткої конкурентоспроможної інноваційної продукції та інтелектуальних послуг промисловості, що має посилити конкурентоспроможність продукції. Розробка нових механізмів інноваційної реструктуризації підприємств набуває особливої актуальності.

**Проблематика.** Практично не дослідженими залишаються питання визначення та встановлення ролі, складу та основних критеріїв об'єктивної комплексної оцінки реструктуризаційного потенціалу для обґрунтування доцільності проведення інноваційної реструктуризації на підприємстві.

**Мета.** Розробити методичний підхід до оцінки реструктуризаційного потенціалу підприємства, використання якого дозволить комплексно узагальнити отримані результати та прийняти оптимальні управлінські рішення.

**Матеріали й методи.** Застосовано методичний підхід для розрахунку інтегрального показника за допомогою індексного та експертного методів оцінки та інтерпретації його величини лінгвістичними характеристиками шкали рівнів реструктуризаційного потенціалу.

**Результати.** Удосконалено науково-методичний інструментарій оцінки реструктуризаційного потенціалу промислового підприємства, який ґрунтується на обчисленні системи локальних показників, сформованої з урахуванням функціональних складових реструктуризаційного потенціалу. Впровадження системи спостереження за локальними, комплексними показниками і загальним рівнем реструктуризаційного потенціалу дозволило розробити єдиний для кожної групи підприємств алгоритм вибору відповідного виду реструктуризації та обрати відповідну стратегію розвитку.

**Висновки.** Сформовано систему індикаторів і здійснено моделювання розроблених інтегральних показників реструктуризаційного потенціалу підприємства. Запропоновано методичний підхід щодо вибору стратегії розвитку підприємства для впровадження інноваційної реструктуризації залежно від рівня реструктуризаційного потенціалу.

**Ключові слова:** реструктуризація, реструктуризаційний потенціал, інноваційна реструктуризація.