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**FORMING ANALYTICAL TOOLS FOR OBJECTIVE PERFORMANCE ASSESSMENT INDUSTRIAL ENTERPRISES**

The paper defines analytical tool for objective assessment of results of activity of industrial enterprises taking into account segment dimension. For research results use of the comparative analysis of industrial enterprises with the use of rating estimation is proposed. The main stages of the study of environmental factors that affect the results of activity of industrial enterprises are determined.

**Keywords:** results of the activity, industrial enterprise, factors, environment, method of expert estimations, economic diagnosis, assessment, profitability.

**Problem of research.** It should be noted that the total number of indicators used for evaluation of results of activity of industrial enterprises, more than a hundred units. In the transition economy, there are different points of view on the nature of formation of economic indicators. Therefore, the key management system results of operations of the entity are an analytical tool that increases objectivity in the assessment of results of activity of industrial enterprises.

**Analysis of recent researches and publications.** Review of scientific papers (F. F. Butynets, L. A. Voloshchuk, E. I. Maslennikov, E. V. Mnich, O. V. Oleinik, V. P. Panteleev, S. M. Petrenko, V. S. Rudnytsky, P. T. Sabluk, G. V. Savitskaya, V. K. Savchuk, V. I. Samborsky, V. V. Sopka, V. I. Strazheva, I. D. Farion, M. G. Chumachenko, V. A. Shevchuk, A. A. Shevchuk, A. D. Sheremet, S. I. Shkarban) to make inferences regarding the need for revision and improvement of analytical tools for the study and evaluation of the results of activity of industrial enterprise in modern conditions of managing.

**Unsolved part of general problem.** The best industrial companies in constant unpredictable environment requires appropriate analytical tools for objective assessment of results of activity of industrial enterprises taking into account segment dimension.

**The aim of the article** is to form analytical tools for objective assessment of results of activity of industrial enterprises taking into account segment component.

**The main results of the study.** In today's economic environment not sufficiently developed reasoned principles that should be followed to determine the role and place of an indicator for assessing performance of an industrial enterprise.

When choosing a system of indicators for evaluation of results of activity of industrial enterprises, it is necessary to adhere to the following requirements:

- caution when using assessment techniques, which should prevent the overstatement (understatement) assessment of results of activity of industrial enterprise;
- full coverage of the results of all activities and processes, for the formation of analytical information about actual and potential consequences of economic operations and events that may affect management decisions;
- quantitative measurable indicators and easy to calculate.
- single money measure to measure and summarize all of the results of activity of industrial enterprise;

- high-quality homogeneity and accuracy comparable indicators, which do not contain errors and distortions that may affect management decisions;
- calculation of analytical indicators on a consistent methodology.
- indicators must be founded on clear and reliable accounting-analytical information;
- single period of time;
- the indicators should enable users to compare analytical data of the enterprise for different periods and different enterprises;
- according to the interests of major groups of users of analytical information.

Efficiency, financial, economic, social and environmental feasibility of the industrial enterprises functioning is measured by absolute and relative indicators. The absolute levels of the results of activity of industrial enterprises are presented in the accounting system of the company and its accounting (financial), statistical and tax reporting. According to the form № 2 "Statement of financial performance (Statement of comprehensive income" are determined by the financial performance of industrial enterprises. It was found that mainly the main of the most frequently used indicators in the evaluation of the performance of a business entity is financial results: gross profit (loss); profit (loss) from operations; income (loss) before tax; net income (loss). The combined results of activity of industrial enterprise are composed of other comprehensive income after tax and net financial result.

In addition, the performance of the industrial enterprise activity should be measured in terms of: net income from sales of products (goods, works, services); cost of sales (goods, works, services); income and expenses from investing and financing activities; total income; tax liabilities for environmental tax; social performance indicators.

It is necessary to pay attention that only the absolute performance indicators of an industrial enterprise it is not possible to draw reliable and valid conclusions about the results of operations of the entity, therefore, to assess the results of activities of all kinds, the study will use indicators of relative performance that more fully and accurately determine the outcome of any activity of the subject, because their value shows the ratio of effect of available or used resources of an industrial enterprise.

Also one of the reasons for the selection of relative indicators in the comparative evaluation is using data of enterprises of different forms of ownership and scale of operations. Ratios indexes allow compare the results of diverse industrial enterprises and meets its requirements of scientific research.

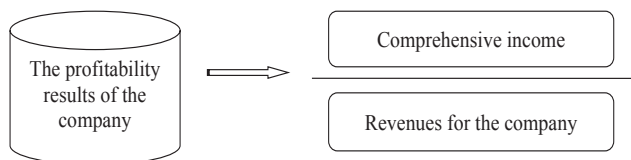
For the evaluation of the results of the company requires a large number of indicators because of the diversity of the properties and characteristics of the performance of economic entities, necessitates the use of many analytical tools.

In the scientific literature proposed for the evaluation of financial results enterprises of various types of profitability: the profitability of the enterprise activity and profitability of assets or capital.

We propose to calculate the profitability of assets (capital) of the company, to use the net financial result or total income. To calculate the profitability of products sales (goods, works, services) we need use gross profit (loss). For calculating the profitability of operating activities we need use the profit (loss) from operating activities.

For calculating the profitability of investment activity we need use of profit (loss) from investment activities. For calculating the profitability of financial activities we need use of profit (loss) from financial activities. It is necessary to note that the model estimates the profitability of an industrial enterprise is based on the income of the entity, taking into account the precautionary principle, and provides a reliable characterization of performance.

To assess the profitability of the enterprise, you must use the combined income of the subject; a calculation model is presented in fig. 1.



**Fig. 1. Model estimates of the profitability of industrial enterprise (the profitability results of the company)**

Comprehensive income reflects changes in equity of an industrial enterprise during the reporting period as a result of economic transactions and other events that affect the performance of the entity, with the exception of changes in equity through transactions with owners of the company. To calculate the above indicators, source of information is the accounting and analytical system of an industrial enterprise.

Profitability ratios allow you to assess the effectiveness of the management of resources controlled by the economic entities as a result of past events, the use of which is expected to generate economic benefits in the future.

The proposed analytical tools to measure results of activities depend on the focus of the study of the effectiveness, efficiency of activities of the entity. Scientists may be interested in the efficiency of the use of negotiable or non-negotiable resources, own or borrowed capital, the efficiency of the enterprise taking into account the socio-environmental effect and so on. Based on the study objectives, the components are formed of the calculated indicator, which together give the total income of the company for all performance.

Scientists [4; 5; 6], form three groups of profitability indicators: the indicators characterizing the profitability of its implementation; indicators of cost recovery and investment projects; the indicators characterizing the profitability of own or borrowed capital. These indicators satisfy the interests of all individuals and legal persons which need informa-

tion about the results of activity of industrial enterprise for making decisions.

In international accounting and analysis system [7] widely used approach, in which profitability indicators are divided depending on the basis of the calculation: the profitability of a certain on the basis of profit (loss); production aspects; based on cash flows. The variety of profitability indicators provides the alternative of finding ways to improve the efficiency of the performance of the entity.

For calculating the profitability of this approach, the question arises, what income (loss) will be the basis for determining: gross profit (loss) profit (loss) from operating activities profit (loss) before tax net profit (loss), comprehensive income. The purpose of objective evaluation of analysis results of the company is required to use all components of comprehensive income of a business entity that will identify the factors influencing the results of activity of industrial enterprise.

As was found earlier in the study, with the aim of improving the timeliness and reliability of the estimates of industrial enterprises in the system of analytical indicators should include the indicators that determine the cash flows of the entity.

The profitability, determined on the basis of available cash resources, generated as previously defined indicators, but instead profit (loss) is net cash flow of the enterprise in all activities. Indicators of profitability calculated on the net cash flow illustrate the financial strength of the company; give an idea of the degree of ability of the entity to repay its obligations.

Thus, for an objective estimation of results of activity of industrial enterprises it is necessary to include analytical tools defined on the basis of available cash resources. The need to use for an objective estimation of results of activity of industrial enterprises of the indicators are calculated on the basis of available cash resources, due to the fact that on the basis of accounting and analytical information results of operations the subject can be evaluated not only under the form № 2 "Statement of financial performance (Statement of comprehensive income)", but also under the form № 3 Statement of cash flows (direct method). Objective factor in the application of the net cash flow is the fact that the financial results of the company in the accounting system is recognized on the accrual basis, revenues and use of funds – cash basis.

The financial statements includes information on the cash balance at the beginning and end of the reporting period, is generated analytical information on receipt and spending of monetary resources by operating, investing and financing activities of the entity. Financial report results of operations is intended to provide information about income and expenditures, financial results, comprehensive income according to the results of activity of industrial enterprise during the reporting period, on an accrual basis.

The accrual method of accounting provides for the formation of income and expenses regardless of received or paid by the respective funds. In the world of the accounting system the accrual basis is the most appropriate for assessing performance of the entity, but the financial result (comprehensive income) for the reporting period does not reflect the actual receipts of money resources.

Applying different models of calculation of the analytical tools contributes to the fact that between them there are deviations that may have some influ-

ence on management decisions. The deviation of the balance remaining at the end of the year net financial result (comprehensive income) received for the relevant period, occurs because not all of the amounts adopted in the accounting system and participate in definition of these indicators at the same time and in full. On enterprises, the advances received in full amount, determine the flow of cash resources in the period in which they are received, but in determining the financial result (comprehensive income) participate only when they are considered income of the respective period.

The discrepancy between the conditions of the definition of proposed indicators and a deviation between them, but the reasons for this discrepancy include: financial result of activity of industrial company decreases accrued depreciation (depreciation), in the calculation of cash flows depreciation is not an outflow, but is a source of receipt of funds in the entity; in determining the final results of the company during the reporting period are accounted for capital investments incurred in the period, but as part of the cash flow they occupy one of the main parts.

In industrial enterprises, for example, according to the accounting system, financial result determines the damage, but the availability of cash enables the subject to operate and vice versa. Thus, to determine the results of activity of industrial enterprise it is necessary to monitor the financial result (comprehensive income) and real cash flow, for the purpose of objective evaluation of results of activity of industrial enterprise.

We consider a system of analytical tools confirmed the need to complement the system of indicators used for evaluation of results of activity of industrial enterprises, defined indicators based on cash flows of the entity. To form an objective assessment of results of activity of industrial enterprise should be used indicators of financial result (comprehensive income), adjusted by the amount of depreciation that affect net cash flow in the subject.

This method is also used in the determination of profitability, the basis of accepted indicators of adjusted results of operations of the entity, taking into account expenses not requiring cash payments.

In the accounting system of foreign countries, this method is used very often. Financial result (comprehensive income) are encouraged to consider together with accrued amortization (depreciation) that is explained by the difference in approaches to the calculation of amortization (depreciation) in the accounting system of business entities. Analytical tools for objective evaluation of the results of operations of the understand is a set of inter-related variables that characterize the state of the relevant phenomena (subjects, objects) with qualitative or quantitative traits the results of activity of industrial enterprise.

Analytical framework comprehensively characterizes the performance of enterprises, the interests of different groups of users of accounting and analytical information and the requirements of the segment control system entity, for an objective estimation of results of activity of industrial enterprise.

For the study results it is also possible to use a comparative analysis of industrial enterprises with the use of rating evaluations of a business entity.

The value rating is a relative assessment that is valid at a certain moment or within a certain period of time, which is the subject of rating as a result of implementation of the process of rating assigns the

studied object, and finds optimal positioning according to the chosen criterion or set of criteria, among others similar by the main parameters of economic entities [1, p. 323].

The rating allows determining the competitiveness of an industrial enterprise on the market among other entities in the industry. The system of rating estimation of results of activity of the subject aimed at the study of individual aspects of improvement of activity of individual industrial enterprises and forms aspects regarding effective practices.

In the comparison process identifies a market (progressive) organizational, operational, economic and financial management decisions relating to the activities of the enterprise. Through a comparative study of the performance of the subjects, it is possible to identify the factors of economic growth and to establish ways and means of mobilizing potential of industrial enterprises.

In international practice, comparative estimation of effective work between business entities is called benchmarking. Benchmarking is a process of identifying, understanding and adapting existing examples of effective functioning of economic entities with the aim of improving their own work. It equally involves two processes: evaluation and comparison [2].

Thus, the comparative analysis of economic subjects is one of one of the main areas of assessing performance of industrial enterprises, which will ensure objectively to estimate results of activity of the subject to reveal internal reserves to increase results; identify trends in the development of the sector; capacity development, etc. the Main elements of a comparative analysis of industrial enterprises with the use of rating assessments of the entity: the formation of goals and objectives of the study; the definition of objects and subjects of research; definition of research methods; formation of analytical tools; information and analytical support; the process of evaluation and comparison; the results of the study.

The main purpose of the comparative analysis of industrial enterprises with the use of rating evaluations of a business entity is to provide an objective assessment of the performance of the subjects. The achievement of the objectives of the study necessitated the following tasks: determining the performance indicator for the group reporting industrial enterprises; ranking by level of performance; determining deviations of parameters and factors characterizing the performance of the subject, from the average values of these indicators analytical group of companies; the receipt of the account information on the reserves of increase of results of activity of industrial enterprises.

The objects of study are the indicators characterizing results of activity of industrial enterprises, determined by the researcher. Entities – the entities of the relevant industry, region.

Research methods include the methods or techniques used in the study of the performance of economic entities.

The formation of analytical tools is based on the objectives of the research, using required and personal tools to assess the results of industrial activities. Accounting system of business entities is the main information-analytical support of studies assessment of results of activity of industrial enterprises.

The process of evaluation and comparison is the calculation of certain performance indicators of the

subjects and compare the system performance between the subjects of the study. The algorithm of the comparative analysis of results of activity of industrial enterprises with the use of rating evaluations of a business entity formed in fig. 2.

On the basis of the conducted calculations is formed of a matrix: the estimation of results of activity of subjects on the basis of certain indicators; a matrix of the standardized indices and the results of the comparative rating evaluation of performance of the subjects; the matrix is an overall assessment of the performance of economic entities.

The result of comparative analysis of industrial enterprises with the use of rating evaluations of a business entity is an objective assessment of performance.

Thus, the main advantages of the comparative analysis of industrial enterprises with the use of rating assessments of the entity in clarity ratings, are consist in that it determines the location of the corresponding subject among other companies. Based on the obtained analytical information you can get an answer about the ability of the operating, financial investment activities, determine the potential for growth of results of activity of subjects of managing and their effectiveness.

The conditions of the external environment and the instability of domestic, industrial enterprises necessitate the development of diagnostic assessment models of the performance of economic entities, which allows on the basis of observation of changes of the main factors of entrepreneurial activity, to control the magnitude of the results for all activities. In the circumstances, it is particularly important methods of economic diagnostics.

Diagnostics of activity of enterprises is a creative process, diverse in content, which is carried out using various analytical techniques specific to the production, his organization of the particular enterprise. Therefore, all employees involved in the review of its activities, must constantly improve their knowledge in this field [3, p. 34].

According to our opinion, the economic diagnostics of the enterprise is a complex systemic process involving the performance of the whole complex of interrelated sequential actions, each stage of which requires varying qualitative and quantitative assessment of the respective object.

Economic diagnostics, using the results of operative and strategic analysis, allows to identify the factors that affect the results of operations of the entity, to assess their impact quantitatively, to generate possible variants of the dynamics of certain key indicators, to take effective management decisions that prevent the effective reduction of indicators allows to take into account the possible implications for managerial decision making business entities. The main stages of the study of environmental factors that affect the results of industrial activities are marked in fig. 3.

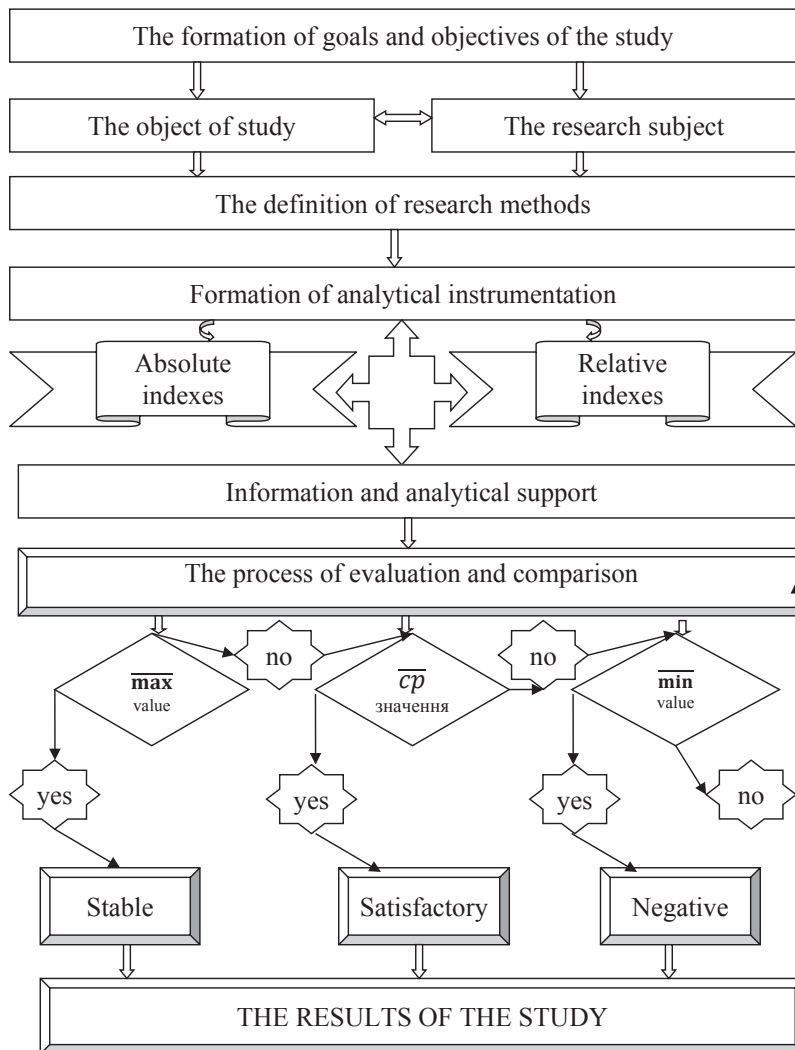


Fig. 2. Algorithm of the comparative analysis of results of activity of industrial enterprises with the use of rating assessments of the entity

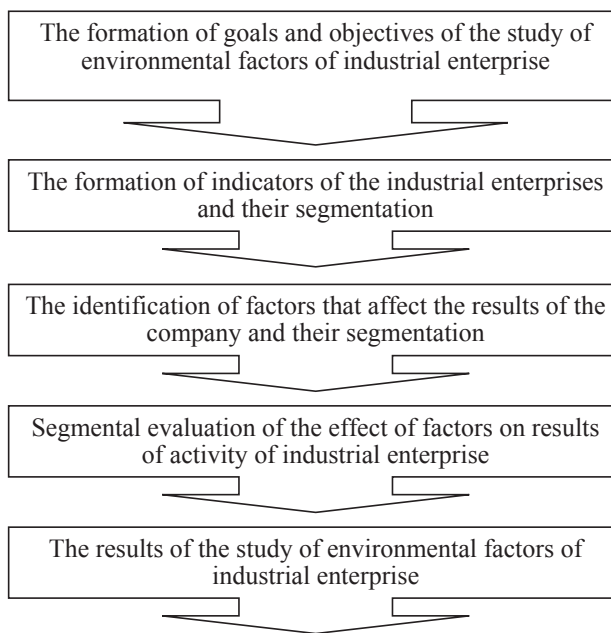


Fig. 3. Main stages of the study of environmental factors that affect the results of activity of industrial enterprises

Using the method of expert evaluations determine the most important factors relevant environment on the performance of industrial enterprises and the degree of their influence. The application of this method to the system of objective evaluation of results of activity of industrial enterprises in may largely contribute to the achievement of relevant objectives for the purpose of making effective management decisions in the enterprise management system.

Delphi method is one of the basic classes of methods of scientific forecasting, which is based on the assumption that, based on the opinion of experts it is possible to construct an adequate model for future development of object of forecasting. Starting information this is the opinion of the specialists who are engaged in research and development in the projected field [5].

Expert estimates in scientific literature [3; 4; 5] is called heuristic evaluation, which is based on the experience of experts and their intuition. For reliability and objectivity of expert estimates in scientific research are used economic and statistical methods with use of mathematical apparatus.

Expert assessment of the entity is used for planning of financial condition and results of operations of the subject taking into account there are no reliable sources of information. In terms of the associated uncertainty, information is based on scientific intuition of researchers.

The method of expert evaluation is organized in the interpretation of the opinions of a group of appropriate specialists, theorists or practitioners, with the subsequent processing of the received expert assessments (answers). The assessment process includes: goal and objectives; object and subject; administering the survey; analysis and assessment; the results of expert evaluation of the results of operations of the entity. A special approach requires the definition of qualified and competent experts to carry out expert evaluation of activity of the enterprise. check its competence, the analysis and synthesis of examination results.

The work of the experts, summarizes the opinion of a certain circle of people, provides information and analytic materials for relevant studies. The quantitative parameters of the expert group is not regulated, but in our opinion the number the more the better, but not less than 5 experts. To improve objective evaluation experts apply the score and rank of the estimates, which have different scales of measurement for study of the status and results of activities of business entities.

The expert professionals work according to the following procedure: specify the purpose, tasks, object and subject; specify form or analytical tools; organizing and conducting a questionnaire or other survey; processing of the results and their transmission.

The study of expert evaluations has the purpose of determining the coherence of the experts taking into account data accuracy estimates. Using a system of relevant environment factors suggested above, it is necessary to distinguish from the total number of those factors that particularly affect the formation of performance of a business entity using the method of expert estimates. The task of the experts-experts from invited relevant factors of the environment of industrial enterprises, by assigning points

to highlight the most important factors affecting the results of operations of the entity.

Each expert-the specialist suggested a scale of one to twelve points, which he distributes between certain factors internal or external environment of the system of functioning of industrial enterprises in varying degrees, affect the results of operations of the entity. The maximum number of points (12-10) is used in the most influential factors of average influence (7-9 points); sufficient influence to (4-6 points); slight influence (1-3 points). The proposed system allows point estimates from the entire set of factors to determine the most influential factors on the performance of industrial enterprises.

When forming the system of indicators that improve the objective evaluation of the activity of the industrial enterprises it is necessary to take into account the particularly influential factors on the performance of the subject to provide a holistic or segment of the enterprise management. Mandatory procedure in the system of expert estimates is to test the consistency of estimates of experts.

Thus, the method of expert evaluation allows identifying factors of the business environment affecting the results of operations of business entities. Further quantitative evaluation of their effects will enable to predict the value of the results of operations of business entities under the impact of the change factors of business environment for the purpose of making sound managerial decisions that will provide the desired level of results of activity of industrial enterprises.

**Conclusions.** The proposed system of analytical tools that more accurately characterizes the results of industrial activities and provides an objective assessment to them. In the present, when many industrial enterprises are insolvent, financially sustainable, low-profit, must change the general results of activity of economic entities taking into account all segments of activity.

The necessity to complement the system of indicators used for evaluation of results of activity of industrial enterprises is defined indicators based on cash flows of the entity. To form an objective assessment of results of activity of industrial enterprise it is necessary to use the indicators of financial result (comprehensive income), adjusted by the amount of depreciation that affect net cash flow in the subject.

One of the most important analytical tools for objective assessment of results of activity of industrial enterprise is the economic diagnosis, to identify factors that affect the results of operations of the entity and assessment of this impact taking into account segment dimension. For these purposes was used the method of expert evaluations. On the basis of this method is possible identified priority factors that affect the results of activity of industrial enterprise.

Based on the obtained analytical information it is possible to carry out further study certain aspects, with the aim of establishing a quantitative relationship with the resulting performance of the entity with the given segment component that will allow us to determine the factors-indicators of monitoring and control which will allow you to plan, forecast and monitor results of activity of industrial enterprises to improve the efficiency of its activities and development.

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## ФОРМУВАННЯ АНАЛІТИЧНОГО ІНСТРУМЕНТАРІЮ ДЛЯ ОБ'ЄКТИВНОЇ ОЦІНКИ РЕЗУЛЬТАТІВ ДІЯЛЬНОСТІ ПРОМИСЛОВИХ ПІДПРИЄМСТВ

### Резюме

У статті визначено аналітичний інструментарій для об'єктивної оцінки результатів діяльності промислових підприємств з урахуванням сегментної складової. Запропоновано для дослідження результатів діяльності використовувати порівняльний аналіз промислових підприємств з використанням рейтингової оцінки. Визначено основні етапи дослідження факторів середовища, які впливають на результати діяльності промислових підприємств.

**Ключові слова:** результати діяльності, промислове підприємство, чинники, середа, метод експертних оцінок, економічна діагностика, оцінка, рентабельність.

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## ФОРМИРОВАНИЕ АНАЛИТИЧЕСКОГО ИНСТРУМЕНТАРИЯ ДЛЯ ОБЪЕКТИВНОЙ ОЦЕНКИ РЕЗУЛЬТАТОВ ДЕЯТЕЛЬНОСТИ ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЙ

### Аннотация

В статье определено аналитический инструментарий для объективной оценки результатов деятельности промышленных предприятий с учетом сегментной составляющей. Предложено для исследования результатов деятельности использовать сравнительный анализ промышленных предприятий с использованием рейтинговой оценки. Определены основные этапы исследования факторов среды, которые влияют на результаты деятельности промышленных предприятий.

**Ключевые слова:** результаты деятельности, промышленное предприятие, факторы, среда, метод экспертных оценок, экономическая диагностика, оценка, рентабельность.

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## УПРОВАДЖЕННЯ СИСТЕМИ КОНТРОЛІНГУ НА ПІДПРИЄМСТВІ: СТАНДАРТНІ ПОМИЛКИ ТА ШЛЯХИ ВИРІШЕННЯ

Досліджено проблеми формування системи контролінгу як сучасної концепції управління, що підвищує стійкість економічного розвитку підприємства в сучасних умовах господарювання. Визначено основні проблеми впровадження контролінгу в практичну діяльність вітчизняних підприємств. Узагальнено та систематизовано стандартні помилки при побудові системи контролінгу, що перешкоджають її позитивному впливу на управління підприємством у цілому. Запропоновано заходи з підвищення ефективності впровадження системи контролінгу, що буде сприяти досягненню стратегічних та тактичних цілей підприємства в складних економічних умовах сьогодення.

**Ключові слова:** система контролінгу, сучасна концепція управління, проблеми контролінгу, помилки впровадження, функції контролінгу.

**Постановка проблеми.** Сучасний стан вітчизняної економіки характеризується постійними ускладненнями умов ведення бізнесу, що веде до

якісних змін у розумінні принципів та методів управління підприємствами, елементах його структури. У складних умовах господарювання перед