



METHODS FOR ASSESSING MANAGEMENT EFFICIENCY IN INDUSTRIAL ENTERPRISES

Mamanazarov Oybek Shomurodovich
Professor of the Department of Economics,
Renaissance University of Education

Abstract

The article provides a theoretical and practical analysis of employee performance evaluation based on the system of key performance indicators (KPIs) at industrial enterprises of Kashkadarya region, material and non-material incentives affecting the system of employee performance evaluation, training and, based on the results of a social survey, analyzed the professional development of employees, organized labor management system and employee dissatisfaction, considered as the final the result for them, according to the results of the social survey, relevant conclusions and proposals have been developed.

Keywords: Key performance indicators (KPI) system, performance of work, training and development of employees, organization of work, motivation of employees, employee dissatisfaction.

Introduction

In a market economy, industrial enterprises are one of the fundamental systems of the national economy. Competitiveness, innovative development, and the organization of effective production processes directly depend on the quality of enterprise management. Assessment of management effectiveness is becoming an important tool for the rational use of internal resources of the enterprise, making strategic decisions, and ensuring overall economic stability.

Today, industrial enterprises face the need to constantly improve their management systems in the context of various risks, costs, competitive pressures, and technological innovations. From this perspective, developing



criteria and methods for assessing management effectiveness and implementing them in practice is one of the urgent tasks.

Furthermore, in the process of transitioning to the stages of industrial modernization and digital transformation in the Republic of Uzbekistan, opportunities are expanding to increase production efficiency by enhancing management effectiveness and creating mechanisms for its scientific assessment. This further underscores the relevance of the topic.

Literature review

Measuring the effectiveness of activities and evaluating key indicators has long evolutionary stages of development. The initial concepts of key performance indicators began to form in the 1950s through Peter Drucker's idea of "Management by Objectives." According to P. Drucker, "to achieve results, it is necessary to focus separately on performance indicators, and instead of occupying managers with daily tasks, it is necessary to focus on indicators that are effective in guiding their activities towards set priorities and the main goal." In the process of examining the components of the key performance indicator system, R. Kaplan and D. Norton proposed distinguishing the main ones among numerous analytical indicators that are difficult to comprehend.

N. Kondrasheva identifies three types of key performance indicators:

- first type - effectiveness indicators showing the general state of affairs;
- second type - indicators of business process effectiveness;
- third type - a system of key performance indicators that shows how to increase efficiency.

G. Yeremina distinguishes three components of the key performance indicator system:

- the first component - "competencies" (includes the assessment of employees by identifying competencies based on the characteristics of the position held by the employee and evaluating their compliance with the requirements);
- the second component - "process" (assessment of compliance with current activities, norms, and rules at the enterprise);
- the third component - "result" (evaluation based on comparing the obtained result with the planned indicators).



In our country, a number of scientists focused on labor productivity issues, particularly K.Kh. Abdurakhmanov and others, have paid great attention to analyzing this problem. K.Kh. Abdurakhmanov defines the productive essence of labor productivity as follows: "The effectiveness of labor activity is an indicator of the final economic result of labor. It is measured by the quantity of products produced or services rendered relative to labor input, i.e., the output produced per unit of labor input. The development of society and the level of well-being of all its members depend on the level and growth of labor productivity."

Research Methodology

The research methodology is based on data assessing the most important performance indicators of enterprises that form the structure of companies. The study employed methods of systematic analysis, analysis and synthesis, and expert evaluation.

Analysis and discussion of results

The prospects for future development of any enterprise depend on the level of effectiveness of its current activities. The effectiveness of activity reflects the enterprise's resource potential and the ability to use it rationally. It is precisely the effectiveness of activity that is an important factor influencing the enterprise's profit volume. Traditional approaches to determining and calculating performance indicators of the economic management mechanism of an enterprise consist of quantitative interpretation of all aspects of enterprise activity.

There are a wide range of interpretations of the concept of effectiveness, for example: "Effectiveness is the expected or even greater effect. Effective, productive. For example, labor." Effect is the outcome or result of an activity, where efficiency characterizes the ratio of effect to resources, ensuring the achievement of the desired result.

Management effectiveness is understood as its characteristic that ensures the achievement of goals set by the organization. Quantitatively, management efficiency is understood as the ratio of the result to the required costs.



Efficiency, in turn, can be divided into internal and external.

Internal efficiency is economy, that is, the ability to allocate and use available resources in the best (optimal) way.

External effectiveness refers to the performance of management, which determines the degree of achievement of the organization's goals.

While one source states that "production efficiency is determined by the final result of a firm's or its production units' operations and reflects the level of organizational and managerial activity," another book emphasizes that the concept of "production efficiency" should be distinguished from "production management efficiency." Production efficiency is understood as the ratio of final results to applied or expended resources, i.e., the difference between the production outcome (efficiency) and costs. This concept evaluates the dynamic process of production and reflects its qualitative changes.

Analysis shows that economic theorists and practitioners pay special attention to the relationship between the costs associated with producing goods to meet society's needs when determining a specific classification of economic production efficiency.

In our opinion, the effectiveness of production management in oil and gas industry enterprises refers to the direct management process and the effectiveness of management activities. Considering that the final results of management activity correspond to the final results of the team's activity, it can be said that the effectiveness of the management process is a complex, multifaceted socio-economic category.

The management of any enterprise aspires to work effectively. Since there is no unified view on the criterion of effectiveness, evaluating management effectiveness itself is not a simple matter. Even the concept of "efficiency" changes its meaning depending on the chosen assessment method. In this paragraph of our dissertation, we will attempt to summarize all information regarding the calculation and assessment of management efficiency in enterprises. Generally, the goal of enterprise management is to ensure its stable operation in the external environment for a long term (essentially, an unlimited period). When assessing management effectiveness, it should be remembered that it involves defining management objectives as well as ensuring their



implementation. Management effectiveness itself has both broad and narrow interpretations, and its calculation requires determining many indicators.

During the administrative-management system period, a set of general indicators was used to assess managerial activity: labor efficiency indicators; fixed assets and working capital; and material resources.

These indicators are still used today. However, they do not cover all aspects of enterprise activity, including financial and marketing aspects. Therefore, a comprehensive assessment of the economic efficiency of management is required in market conditions.

Indicators that summarize social effectiveness in the broadest sense can include:

- the degree of fulfillment of customer orders;
- the volume of products released by the enterprise to the market, and so on.

Specific indicators of social effectiveness include: timely fulfillment of orders; complete fulfillment of orders; provision of additional services; after-sales service, and so forth.

Calculating the above-mentioned specific indicators of the social effectiveness of management is somewhat complex, as it is necessary to take into account many subjective factors in the production and sales process.

The economic efficiency of management (E_m) characterizes the following indicators within a narrow scope:

Summary indicators

$$E_m = \frac{R \text{ (Net revenue)}}{E \text{ (Expenses for management personnel)}}$$

Market conditions require the development of appropriate indicators and criteria for assessing management effectiveness. There is a need to introduce criteria for several basic indicators, on the basis of which an assessment of the management system's effectiveness is carried out; an assessment of the effectiveness of functional subsystems and management levels is also required.

Management effectiveness reflects the results of an organization's socio-economic development. In this case, the effectiveness of management is manifested in the productivity indicators achieved by the enterprise throughout its entire operation.



Effectiveness, as a productivity indicator, requires the results and costs to be mutually measurable. Income is considered as the final result of activity, while fixed production assets and working capital are viewed as costs. However, the result has a broad interpretation as an economic concept. The result has multiple forms.

For example, D. Scott Sink considers 7 different results: effectiveness, efficiency, quality, profitability, productivity, quality of work life, and innovation.

The concept of effectiveness (L) indicates the degree to which the system achieves its goals, the extent to which the "necessary" work is completed.

Three criteria are used to assess effectiveness:

- quality - whether the product we make meets certain requirements or not;
- quantity - whether we are producing the required product in the amount stipulated in the supply contract;
- timeliness - whether we are adhering to the contract terms for product delivery or not;

Efficiency (T) reflects the level of resource utilization. This indicator is a measure of the organizational system's productivity in terms of costs.

Quality (Q) is associated with qualitative characteristics and is reflected in the specific properties assigned to the product during its creation.

Utility (F) represents the ratio between total income and quantitative payments. In production, productivity refers to the ratio between sold products and the labor expended on their manufacture. This indicator can also be presented as the ratio of manufactured and sold products to both live labor and labor embodied in products. This indicator may also reflect elements of previous performance indicators. Additionally, the volume of product sales depends on the quality and quantity of the product. The use of this criterion in calculations links the combination of live labor and labor embodied in products with efficiency.

Leading Western consulting firms in the management field widely use and develop methods for assessing the effectiveness of the management process in practice. In this context, an important criterion is the achievement of maximum market value by the enterprise or its individual branches at different levels of



management success. This approach has been named value-based management, or in other words, VBM (Value Based Management).

Although the main component of VBM is measuring company value, it differs from traditional business valuation methods. VBM is based on an integrated financial indicator - company value. This approach did not emerge under uniform conditions. The evolution of financial indicators is presented in Table 1.

Table 1 Evolution of financial resources in assessing management effectiveness Changes in approaches to value-based management assessment:

Years	Main approaches*	Interests
1920s	• DuPont model; • ROI	Indicators may reflect the interests of managers rather than shareholders
1970s	• Earnings per share; • Price-to-book value ratio	Indicators may reflect the interests of managers rather than shareholders
1980s	• Market-to-book value ratio; • ROE; • RONA; • Cash flows (CF)	Indicators may reflect the interests of managers rather than shareholders
From the 1990s to the present	• EVA; • MVA; • BSC; • CFROI	Maximum shareholder value VBM (Value Based Management) - value-based management

The DuPont system has proven successful and continues to do so today. This system is known in Russian practice as factor analysis, which includes indicators such as earnings per share (EPS), return on investment (ROI), return on equity (ROE), return on net assets (RONA), and others. A significant drawback of these indicators is their reliance on historical reports; in some cases, they serve the interests of managers at various levels rather than owners. The VBM approach, which emerged in the 1980s, aims to address this and several other issues.

In essence, the first group of VBM methods is based on the models of traditional DuPont methods and discounted cash flows (DCF). The methods mainly differ in their calculation options for capital expenditures and the results obtained in absolute or percentage values. The concept of resulting financial indicators was derived from the DuPont system. For example, ROA (return on assets) - its form consists of interconnected parameters that determine cash flow and indicators that must be managed and controlled.

Thus, ROA is "broken down" into profitability and asset turnover, which in turn detail the value down to individual factors at lower levels. Consequently, each level of management corresponds to its own set of coefficients and their changes over a certain period.

However, simply identifying value factors does not solve the problem of absolute money management - it is necessary to link them with indicators based on which functional and operational decisions are made at each level of management (Figure 1).

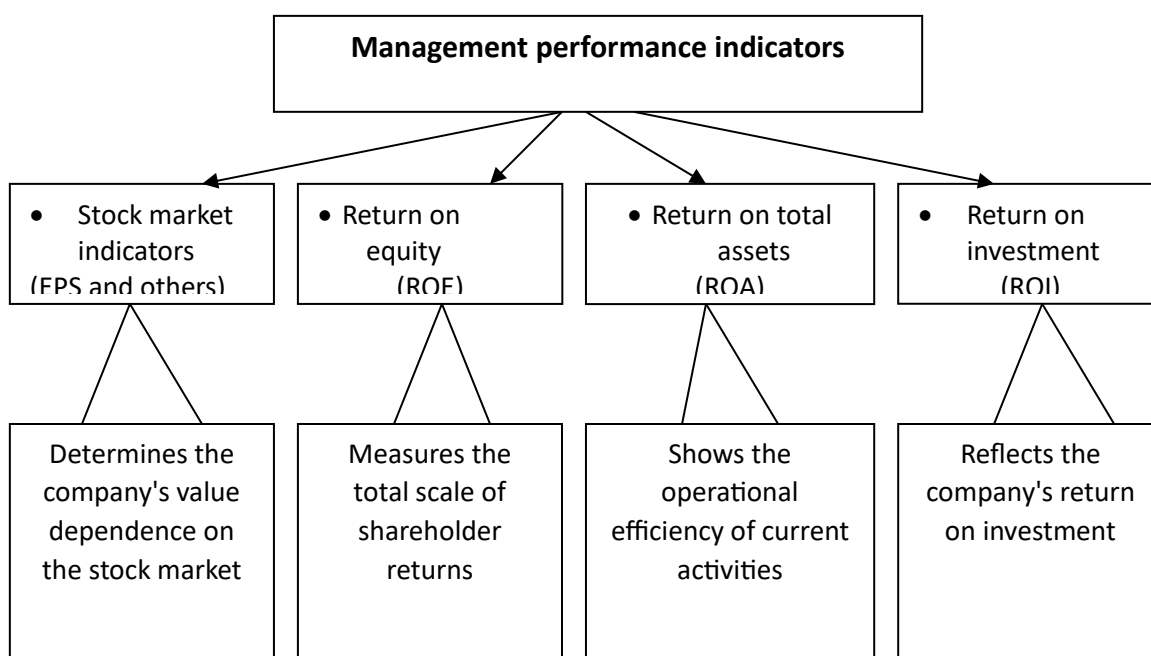


Figure 1. Management performance indicators



The DSF model incorporates the enterprise's future cash flows into VBM rather than those from previous periods, and also allows for accounting of risks associated with operational uncertainties. Unlike the "more abstract" nature of data sources such as "investor expectations," some Western authors' studies have noted a high degree of correlation between a company's market value and its discounted cash flow.

In large enterprises, there are sufficient grounds for its application. In particular, the existing order portfolio is relatively stable within given production capabilities; its components do not change suddenly. Trends such as the convergence of domestic prices for raw materials and energy with world prices, the "person-hour" ratio, and labor costs can be predicted.

Finally, it is necessary to consider the recommendations of International Financial Reporting Standards, which limit the forecast period to five years (although exceptions exist).

In our opinion, it is necessary to examine the indicators of enterprise management efficiency in both static and dynamic terms.

In K. Walsh's book "Key Performance Indicators in Management," he proposes measuring management effectiveness using three indicators:

- return on investment (ROI);
- return on equity (ROE);
- return on total assets (ROA);

The above indicators reflect the effectiveness of organizational management in static terms.

In our conditions, these indicators have not yet been tested. Therefore, their use is proposed. Below is a description of the essence of these indicators according to the primary source.

Return on investment. The term "return on investment (ROI) " directly relates to the most important concept in corporate finance (Figure 2).

Every sum invested in assets should be compared with the income received in the capital market, since the company pays for each raised sum at market rates. The means for such payments can only be implemented if the assets are used effectively, i.e., if they generate profit. Therefore, the return on investment indicator can be obtained by linking these profit values to those assets (capital).

If this indicator is equal to or greater than the invested capital, then the enterprise can be considered viable for operation. If the indicator in any enterprise is lower than the invested capital, especially if this situation persists for a long time, then the enterprise is considered to have no future.

Initial data are necessary for proper calculations. The amount of assets can be taken from the balance sheet, while the amount of income can be obtained from the income statement.

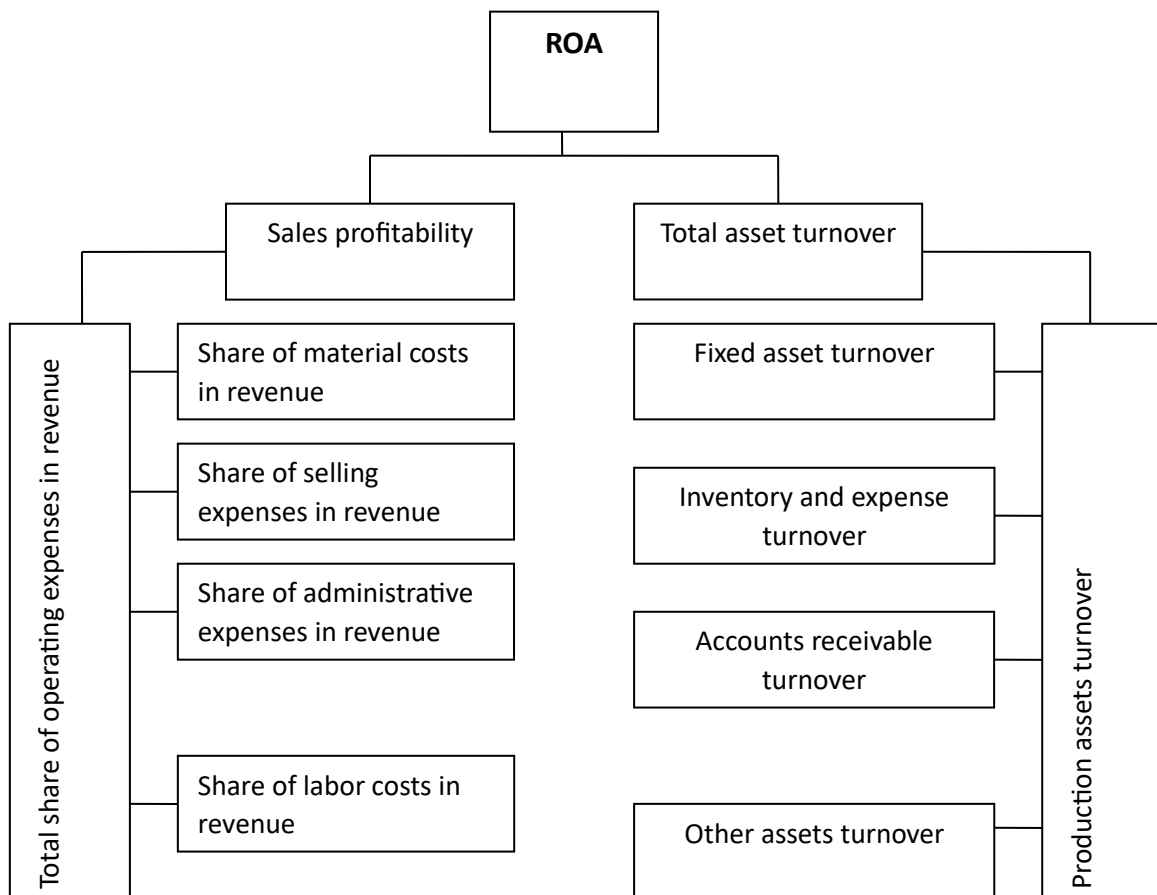


Figure 2. Factors affecting total asset turnover and sales profitability.

By connecting these indicators, it is possible to determine the return on investment for a specific enterprise.

Dynamic indicators of management effectiveness include:

1. Growth in return on equity during the analyzed period (over one, two, three, four, or five years)



2. The growth in the relative share of all competitive products of the organization in the foreign market during the analysis period.
3. The rate of intensification of the organization's innovative activity during the analysis period.
4. The rate of intensification of the organization's investment activity during the analysis period.
5. The increase in the education level of personnel during the analysis period.
6. Change in the average age of personnel during the analysis period.
7. Changes in staff turnover during the analysis period.
8. The rate of renewal of the organization's fixed production assets during the analysis period.
9. Change in the average age of the organization's technological equipment during the analysis period.

By inputting these listed dynamic indicators into the formula, it is possible to determine the effectiveness of management.

Summarizing the above-mentioned issues, it can be said that assessing management effectiveness in industrial enterprises is currently one of the main factors in ensuring economic stability and competitiveness. As evident from the above studies, the concept of effectiveness is multifaceted and includes many economic, social, organizational, and resource-related factors. This necessitates a comprehensive approach to assessing management effectiveness.

Firstly, management efficiency is closely linked to the level of rational and targeted use of the enterprise's internal resources, which directly impacts the overall economic results of the enterprise's activities. Along with traditional indicators of economic efficiency (resource efficiency, cost level, return on assets, etc.), social efficiency, i.e., the degree of comprehensive and high-quality satisfaction of consumer needs, also plays a significant role.

Secondly, distinguishing between narrow and broad approaches to efficiency enables the assessment of management effectiveness based on various indicators. Here, the seven-element efficiency system (competence, economy, quality, profitability, productivity, etc.) proposed by D. Scott Sink provides a foundation for a comprehensive evaluation of management processes. In



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particular, assessing efficiency criteria through quality, quantity, and time factors aligns with the requirements of modern management.

Thirdly, new approaches such as the digital economy, technological transformation, and VBM (Value-Based Management) in international practice are developing strategic management methods aimed not only at utilizing internal resources of enterprises but also at increasing their market value. Specifically, assessing management effectiveness based on modern financial indicators such as EVA, MVA, and CFROI, in combination with traditional indicators, enables the creation of integrated evaluation systems.

Fourthly, combining statistical and dynamic indicators in assessing management effectiveness, that is, determining how indicators change over time, provides a foundation for deeper analysis of management decision outcomes. In particular, indicators related to factors such as the average age of employees, staff turnover, innovation activity, and investment pace allow for forecasting future stability.

In conclusion, assessing enterprise management effectiveness requires a multi-level, comprehensive, and systematic approach. When determining operational effectiveness, along with classical financial indicators, it is necessary to consider strategic management indicators, socio-psychological factors, and innovation metrics. This ensures the success of industrial enterprises not only today but also in the future.

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