

# Improving Methodology to Evaluate the Efficiency of Textile Enterprises

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**Abstract.** The article is devoted to the development of a method for assessing the efficiency of textile enterprises based on the results of the study of foreign experience in assessing the efficiency of industrial enterprises.

**Keywords:** Efficiency, effectiveness, effectiveness, evaluation, method.

## I. INTRODUCTION

From the first years of independence, economic reforms in all sectors of the economy, including the cotton sector, are aimed at further deepening. Great attention is paid to economic policy in this area, the implementation of structural changes in the production of the industry, ensuring the freedom of producers, the introduction of various forms of ownership and improving the logistics, financial and economic relations between farms, organizations and enterprises. Improving the work of enterprises, giving them freedom, improving their management system will allow them to produce better quality products, resulting in increased production efficiency. There is a growing need in Uzbekistan to increase the production of high value-added export-oriented finished products based on deep processing of raw cotton. Therefore, the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021 identifies important tasks to "deepen structural reforms, increase its competitiveness through modernization and diversification of key sectors of the national economy" [1].

Successful implementation of such huge tasks requires the development of concrete measures to ensure more rational use of unused domestic potential on the basis of performance management in the enterprises of the cotton complex, which is one of the leading sectors of the economy. In this regard, the development of scientifically based proposals and recommendations to improve the efficiency of textile enterprises is one of the most pressing issues today.

## II. LITERATURE REVIEW

Assessing the efficiency of an industrial enterprise is a complex process, and not all of the currently available methodological approaches to assessing this process are worth applying for practical work. At the same time, differences in the content of terms such as "efficiency", "effectiveness", "efficiency" make it difficult to assess. In general, the concept of "efficiency" was first introduced to science by the Italian scientist Vilfredo Pareto (1848-1923), who paid special attention to the study of the efficiency of production of goods and services in a market of limited resources. As a result of his research, he concluded that "efficiency is a situation in the market in which no one can change his position in the market without interfering with another." Thus this efficiency is called "Pareto efficiency" [2, p. 115].

McConnell K. R., Bryu S. L.s, on the other hand, explain efficiency as the rational use of scarce resources to meet human needs [3, p. 156].

S. Fisher, R. Dornbush, R. Schmalenzians linked production efficiency with a line of possibilities in interpreting efficiency. They conclude that production resources are being used inefficiently if production options are within these capabilities [4].

Uzbek scientists Sharifkhodjaev M., Abdullaev Yo. [5, B.652.], Olmasov A., Vahobov A. V. [6, B.52], Pardaev M. Q., Abdurkarimov A. [7, B.154], Abduraxmonov K. X. [8], Gulomov S. S. [9] expressed their views by linking the result obtained from production to resource expenditure.

In general, efficiency is the ratio of the result achieved by the enterprise to the resources (costs) that ensure the achievement of this result.

In the economic and special literature, as well as in production practice, economic efficiency is divided into two types: absolute and relative efficiency.

Absolute efficiency refers to the ratio of the amount of a particular result obtained to the costs incurred in its formation. The method of determining the advantage and usefulness of a particular indicator over another or general indicator is called the relative efficiency method.

Relative efficiency is calculated to justify the feasibility of any of the indicators. As a result, the level of

profitability of the product is studied. In addition, efficiency can be divided into internal and external types. Internal efficiency is the introduction of an optimal savings system in the enterprise, or the rational use of available resources on the basis of a high quality factor. At this point, efficiency includes indicators such as management system efficiency, labor productivity, sales efficiency, along with production results.

External efficiency, on the other hand, mainly reflects the results of the application of modern management methods in the enterprise.

In international practice, a number of concepts have been developed in measuring (evaluating) the performance of the firm, and these concepts are mainly aimed at balancing. These include the performance pyramid of R. Lynch and K. Cross [10], the performance measurement matrix of D. Keegan and Nabokov B. [11], the balanced indicators of R.S. Kaplan and D.P. Norton, Aktam B. and others [12].

### III. RESEARCH METHODOLOGY

The research methodology is a dialectical method, and in the research process such methods as experimental, selective observation, comparison, expert evaluation were used.

### IV. ANALYSIS AND RESULTS

In accordance with the purpose of the research, a method of evaluating the performance of textile enterprises was developed in order to assess the effectiveness of these enterprises and develop proposals for its improvement, based on the specifics of production and economic activities.

It is advisable to include the following steps in this method:

**Step 1.** Classification of internal and external environmental factors of the textile enterprise and selection of indicators characterizing the efficiency of use of each resource.

**Step 2.** Determining the level of importance of each group of indicators to determine overall effectiveness.

**Step 3.** Carrying out the calculation of bringing indicators to a comparable view - on one basis. In this case, the calculation is made using the following formulas:

$$\overline{Y_{ke.иж}} = \frac{Y_{ke}}{Y_{ke\max}}, \text{ for positive indicators,} \quad (1)$$

$$\overline{Y_{ke.сал}} = \frac{Y_{ke\min}}{Y_{ke}}, \text{ for negative indicators,} \quad (2)$$

in this  $\overline{Y_{ke.иж}}$  ба  $\overline{Y_{ke.сал}}$  –  $k$ - the enterprise, respectively, the unmeasured (index) value of the positive and negative e-indicator;

$Y_{ke}$  –  $k$ - dimensional assessment of the enterprise e-indicator;

$Y_{ke\max}$  –  $k$ - maximum dimensional assessment of the enterprise;

$Y_{ke\min}$  –  $k$ - minimum dimensional assessment of the enterprise;

**Step 4. Evaluating the effectiveness of the enterprise.**

**Step 5.** Determining the aggregate group indicators of performance in comparable textile enterprises. In order to calculate the integrated performance indicator of a textile enterprise, the aggregate group performance indicators are calculated using the following formula:

$$K_{\Pi K_j} = \sqrt{\sum_{i=1}^l a_i \cdot (1 - R_{ij})^2}, \quad (3)$$

In this case,  $K_{\Pi K_j}$  –  $j$ - integrated indicator of the efficiency of the textile enterpris

$a_i$  – weighted ratio of aggregate group indicators of efficiency of the textile enterprise;

$R_{ij}$  –  $j$ - i-summary group indicator of activity efficiency in the textile enterprise.

In our study, we found it necessary to select indicators that characterize the effectiveness of each of the activities of textile enterprises, based on the specifics of economic and production activities, the organization of production.

Indeed, the results of the analysis of many research papers devoted to the evaluation of the effectiveness of enterprises require a comprehensive systematic approach to this process.

We believe that the indicators selected to assess the efficiency of textile enterprises should meet the following requirements:

- interdependence;
- impartiality;
- relevance;
- completeness of reliability;
- ease and simplicity of calculation;
- Interpretability.

It is shown that the range of specific indicators that characterize the production and economic activity of a textile enterprise is wide, in principle, there can be no restrictions on their selection. However, in this case, the process of calculating the coefficients representing the weight of each indicator becomes more difficult. Therefore, it is advisable to use a set of indicators within the entire system of indicators, which more fully describes the activities of the enterprise or the extent to which it is used. It is necessary to look for the integral value on these selected indicators. In our opinion, it is advisable to use the following indicators: raw yarn output; labor productivity; fund return; resource return, finished product turnover ratio, equity turnover ratio.

In the course of the research, an integral indicator of the efficiency of the textile enterprise "ZAFAR KADIROV TEXTILE" LLC was calculated on the basis of the proposed method of evaluation of the company's reporting materials for 2019:

$$K_{\Pi K_j} = \sqrt{\sum_{i=1}^l a_i \cdot (1 - R_{ij})^2} =$$

$$\sqrt{\begin{aligned} &((0,20 * (1 - 0,82))^2 + (0,18 * (1 - 0,78))^2 + (0,17 * (1 - 0,74))^2 + (0,15 * (1 - 0,76))^2 \\ &+ (0,14 * (1 - 0,77))^2 + (0,16 * (1 - 0,84))^2 \end{aligned}} = 2,39$$

The data show that the integrated performance indicator at this textile enterprise this year was 0.06 points lower than the norm (2.45-2.39). Indicators characterizing some of the constituent activities, mainly labor and investment activities, require improvement.

## V. CONCLUSION

Thus, the efficiency of the enterprise is one of the economic categories that comprehensively describes its areas of activity. Therefore, the indicators selected by us to assess the efficiency of the above textile enterprises not only characterize the efficiency and productivity of production and sales activities of the enterprise in the current situation, but also to study the dynamics.

We offer the following recommendations to increase the efficiency of textile enterprises:

- increase the quantity and quality of raw yarn output while maintaining the quality of existing raw materials;
- reduction of costs and increase of product competitiveness through the introduction of modern cost-effective equipment and technologies in production;
- attracting highly qualified personnel and constantly improving their skills;
- use of modern management methods in production;
- implementation of an effective diversification policy in the organization of value-added industries through deep processing of raw materials in the industry;
- strict control over the increase of production and sales of products by the enterprise, not to exceed receivables and payables, focusing on increasing the number of consumers. In this case, it is important that the company ensures the proper management of receivables and payables;

Ensuring that large inventories are not accumulated in the enterprises of the sector. Long-term maintenance of high levels of inventories (inventories, work-in-progress, finished goods and goods, etc.) in business entities is also a factor that negatively affects the efficiency of working capital. Therefore, it is advisable to constantly monitor the dynamics of change in this indicator.

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