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METHODOLOGICAL BASES FOR ASSESSING THE EFFICIENCY OF THE MANAGEMENT OF THE TEXTILE INDUSTRY ENTERPRISE

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Abstract

This article discusses the development, implementation and practical application of models and methods for assessing the management of activities and development, which are an important condition for improving the financial and economic condition of the textile industry enterprise. A lot of attention is paid to the theory and practice of enterprise management in the textile industry. The issue of effective management of the textile industry enterprise is covered in modern literature.

Keywords: enterprise management, development, implementation, application in practice, management assessment methods, activities, financial and economic condition, theory and practice of management, textile industry, a lot of attention is paid, effective management.

Introduction

In modern scientific literature, there are many methods for assessing the effectiveness of enterprise management in the textile industry.

Let us consider the main existing approaches, models and methods for assessing an enterprise from the point of view of the effectiveness of managing its activities.

The development, implementation and practical application of models and methods for assessing the management of activities and development is an important condition for improving the financial and economic condition of a communications enterprise. A lot of attention is paid to the theory and practice of enterprise management in the textile industry. The issue of effective management of the textile industry enterprise is covered in modern literature. The fundamental scientific works of many domestic [1] and foreign [2] scientists

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are well known, in which fundamental questions of theory and practice are given, the most important concepts are given, and traditional methods and methods of enterprises are considered.

Due to the fact that in practice the dimension of estimates is quite large, and it is often impossible to make quantitative comparisons of the parameters of a controlled object, it is not possible to evaluate all aspects of management. Therefore, in some cases, the assessment of management efficiency is limited to the analysis of the financial and economic state of the company [3].

The problem of assessing the effectiveness of economic activity and its sources, combined with the problem of managing the functioning and development of enterprises, has always been one of the main issues of economic science. By definition, K.R. McConnell and S.L. Bru, "economics explores the problems of efficient use of limited production resources or their management in order to achieve the maximum satisfaction of human material needs" [4].

The advancement of this problem to the forefront of modern research contributes to the acceleration of scientific and technological progress and, accordingly, the need to increase the pace of changes in the current management mechanism.

Let us consider the existing well-known models for managing the efficiency of a textile industry enterprise.

The current management models are:

- Lorenz Meisel's balanced scorecard model [5];
- Balanced Scorecard System, BSC (Balanced Scorecard) by Norton Kaplan [6];
- Economic Value Add (economic value added) [7];
- efficiency pyramid of K. McNair, R. Lanch and K. Cross [8];
- EP2M (Effective Progress and Performance Measurement) by Christopher Adams and Peter Roberts [8].

Let's take a closer look at these models.

1. Lorenz Meisel's BSC model was proposed in 1992. It reflects the following parameters (blocks): customer relationships, internal activities, financial security, human resources perspective. The model emphasizes that the management of the textile industry should be more attentive to its staff and evaluate the effectiveness of not only processes and systems, but also its employees [5].

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2. BSC (Balanced Scorecard System) Norton-Kaplan - a balanced scorecard (balanced scorecard, balanced scorecard, balanced scorecard system) is a system of strategic management and evaluation of its effectiveness, which reflects the goals and objectives of the enterprise in the scorecard. Published in 2001 and originally intended for the banking sector. It includes the same blocks as the Meisel model, but instead of the "human resources perspective" block, innovations, development and training are used [6].

This model turned out to be very popular after the translation of the book by Norton and Kaplan "The Balanced Scorecard. From strategy to action. R. Kaplan and D. Norton proposed a system based on cause-and-effect relationships between strategic goals, reflecting their parameters and factors for obtaining planned results. It consists of four components - financial, client, internal business processes and personnel training and development, the goals and objectives of which are reflected in financial and non-financial indicators.

The balanced scorecard is an integral part of the BPM system.

3. Stuart Shtern developed a concept called EVA-based management. The management system based on this indicator is a financial management system that sets a single basis for decision-making by key and auxiliary personnel and allows you to model, track, conduct and evaluate decisions made in a single direction: adding value to shareholders' investments.

Stuart and Shtern as a result of the introduction of a management system on the basis of this indicator distinguish the so-called 4M: measurement (Measurement), management system (Management system), motivation (Motivation), thinking style (Mindset) [9].

4. Christopher Adams and Peter Roberts proposed a model they called EP2M ("You are what you measure" in Manufacturing Europe magazine). EP2M is an abbreviation for Effective Progress and Performance Measurement.

According to Adams-Roberts, what matters most is what a company does in four areas: serving customers and markets; improvement of internal processes (increase in efficiency and profitability); change and strategy management; property and freedom of action [8].

Each performance management model has its own characteristics (Table 1.), which determine their application in various situations for various industries.

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Table 1. Enterprise Performance Management Models

Model	*Accent*
BSC model by Lorenz Meisel	Staff, employee efficiency
Norton-Kaplan BSC model	Four Perspectives: Finance, Customers, Internal Business Processes
EVA-based management	Four directions: measurement, management system, motivation, thinking style
Efficiency Pyramid	Hierarchical management structure
EP2M model	Four areas: service to customers and markets, improvement of internal processes, change and strategy management, ownership and freedom of action

When considering the existing economic and mathematical methods for assessing the effectiveness of an enterprise in modern scientific literature, one can distinguish various options for their classification. Each method (technique) is created for a specific situation and is effective only when solving a certain range of problems.

At the same time, various researchers define the content of the complex of these methods in different ways.

So, V.V. Fedoseev and I.V. Orlova [130] propose a classification of economic and mathematical methods according to the type of scientific disciplines, the specific tools of which include certain methods:

- methods of mathematical statistics - correlation, regression analysis, dispersion analysis, factor analysis;
- methods for researching operations in the economy - network methods, program-target methods, branch and bound methods, queuing theory, game theory;
- methods of experimental study of economic phenomena and - methods of machine simulation, business games, etc. [10]

In accordance with the classification of V.V. Kovalev, the methods and techniques used in the analysis of the financial and economic activities of enterprises can be divided into two large groups: non-formalized and formalized [11].

The first group is based on the description of analytical procedures only at the logical level, the second group assumes the presence of fairly strict formalized

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analytical dependencies and operates with stochastic modeling tools, decision theory, financial calculation methods, etc.

In the work of Illarionov A.V. [12] provides a classification of mathematical methods for assessing the creditworthiness of a borrower - a legal entity, which is based on the division into groups of expert assessment methods and automated assessment systems, which in turn are divided into statistical methods, linear programming methods, genetic algorithms and neural networks and fuzzy multiple methods.

Since when assessing the creditworthiness of a borrower, an analysis of the state of the enterprise is actually carried out, we will assume that the same classification, with some changes, can serve as one of the options for classifying existing mathematical methods used in the process of analyzing the state of the enterprise [12].

For the purposes of this study, we characterize these methods and analyze the feasibility of their application from the point of view of managing a small communications enterprise.

Classical methods for assessing the state of an enterprise are based on the calculation of certain groups of coefficients and their comparison with standard (basic) values. Such methods can be conditionally divided into quantitative and qualitative.

Qualitative methods are based on the use of survey methods of experts in the field (or potential clients). They are indispensable in solving complex problems of evaluation and selection of technically complex objects.

In modern practice, these methods are widely used in the analysis and forecasting of situations with a large number of significant factors, when it is necessary to involve the knowledge, intuition and experience of highly qualified experts. These methods are based on the systematization of experts' judgments. When applying these methods, the most detailed description of the problem under consideration is achieved.

The most commonly used methods of group expert work:

– brainstorming - assessments and conclusions are made during the meeting, one group of experts generates ideas, the other analyzes them, while the more options, the higher the probability of the accuracy of the assessment of the factor, forecast;

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- the method of synectics - assessments and conclusions are made by specialists from different fields of activity, the most realistic option is accepted, which received the support of the majority;
- delphi method - estimates and conclusions are made on the basis of processing the opinions of a representative group of experts. The reliability of the estimates obtained largely depends on the correct selection of experts, on their qualifications and awareness.

The methodology for conducting an expert-analytical analysis should include not only the descriptive aspect of determining certain decisions, but should help identify the possible causes of their occurrence, the expected results of their implementation and the development of measures to minimize or eliminate negative consequences and give a cost estimate of these results. In standard situations, using qualitative methods of analysis, an assessment of the economic consequences of a particular management decision is carried out, based on the opinions of a wide range of experts. It should be noted that practically for a small communications enterprise, these methods, due to their complexity and duration, are rather informal (discussions, meetings, etc.).

Taking into account the peculiarities of a small telecom operator, for the purposes of this work, it is necessary to use, first of all, quantitative methods of analysis.

In the modern practice of financial analysis, there are many indicators used to quantify the activities of organizations. Since the state of the enterprise is determined primarily by indicators of liquidity, financial stability, business activity and profitability, we will further consider these groups.

The first group includes liquidity and solvency ratios, operating on the ratio of the values of the company's assets and the values of short-term and long-term liabilities.

The second group of coefficients is the coefficients of financial stability, showing certain proportions between individual groups of assets and liabilities of the enterprise, as well as allowing to assess the possibility of progressive development of the organization without the threat of crisis situations.

Calculation of coefficients of the third group - coefficients of business activity, is necessary to assess the quality of organization management according to the criterion of the speed of converting assets into cash.

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The fourth group includes profitability ratios that characterize the relative efficiency of the enterprise and show what income the company derives from the assets at its disposal.

Thus, the classical methods of assessing the state of an enterprise involve the calculation of certain groups of financial ratios, which are then compared with some standard (base). This approach is convenient to use, but not always informative enough, since it does not make it possible to trace the relationship between indicators, therefore, it needs to be improved for the purposes of the analysis of this study.

At the same time, determining the cause-and-effect relationships of economic phenomena and processes occurring at the enterprise is the most important task of economic analysis. The need for application solve this problem allows the use of economic and statistical methods.

The need to use statistical methods (methods of multidimensional statistical analysis) is associated with the existence of an important feature of real economic systems, which is practically not taken into account in other systems for assessing the state of an enterprise. Economic observations are inevitably subject to numerous random perturbations, the unpredictable, probabilistic nature of which manifests itself at all stages, from the process of obtaining the observations themselves to the decision-making process. Consequently, the development of models for assessing the state of an enterprise adequate to the processes under study is inevitably associated with the study of random variables, which turns out to be possible on the basis of statistical methods.

To assess the financial condition of an enterprise, it is more convenient to use such methods of multivariate analysis as discriminant, correlation, regression and factor analysis.

Analysis and Results

The purpose of discriminant analysis is to classify an object based on the measurement of its various characteristics, i.e. assigning it to one of several groups (classes) in the most optimal way. Cluster analysis - one of the varieties of discriminant analysis, allows you to divide the set of objects and features under study into homogeneous groups according to a number of criteria selected by the user.

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Correlation analysis allows you to establish the tightness of the relationship between observations, which can be considered random and distributed according to the normal law. But at the same time, correlation analysis establishes only the fact of the degree of closeness of the relationship, and does not reflect the reasons for its occurrence.

Regression analysis allows you to establish an analytical expression of the stochastic relationship between the studied features, that is, unlike correlation analysis, regression analysis makes it possible to determine a formalized relationship between the studied features.

On the basis of the calculated principal components, it is possible to build a simpler and at the same time the most informative system for describing the competitiveness of an enterprise, to assess the strength of a causal relationship between factors and selected principal components, to explore the possibility of changing the analyzed factors under the influence of principal components. In addition, the results of grouping according to the main components can be used to conduct a comparative analysis of the factors due to which the enterprise has achieved the best results in increasing competitiveness. This makes it possible to identify progressive trends in increasing the efficiency of the use of production resources [13].

As is known from economic theory, the activity of the textile industry enterprise takes place in conditions of limited resources. In this regard, at any stage of the life cycle of a textile industry enterprise, there is a search for optimal solutions. The theory of optimal decision making is a set of mathematical and numerical methods focused on finding the best options from a variety of alternatives and avoiding their complete enumeration [14].

The management of any economic system is implemented as a process that obeys certain laws.

Knowledge of these patterns helps to determine the conditions necessary and sufficient for the implementation of this process. To do this, all parameters characterizing the process and external conditions must be quantified. The purpose of this method is to quantitatively substantiate the decisions made on the organization of the management of the textile industry enterprise. The application of this method involves:

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- Construction of economic and mathematical models for decision-making problems in complex situations or under conditions of uncertainty;
- The study of relationships that subsequently determine decision-making, and the establishment of performance criteria that allow evaluating the advantage of one or another variant of action [15].

Conclusion

At present, there is a penetration of methods of scientific knowledge from one science to another, and therefore it is now quite difficult to attribute one or another method of scientific knowledge or practical technique to the tools of any particular science. In analysis, this feature is especially pronounced, since it is associated with the processing of a large amount of information [16]. In this regard, recently in economic analysis, such mathematical technologies as neural network methods and fuzzy-multiple methods for assessing the state of a textile industry enterprise have become widespread.

Based on the review, we can conclude that the use of these methods is an important component of the analysis of economic processes occurring in the textile industry.

The use of economic and mathematical methods for evaluating the activities of textile industry enterprises involves a number of limitations:

1. Most methods for analyzing a company's activities with the support of mathematical tools are a rather difficult and time-consuming process that requires certain knowledge and skills, which, as a rule, economists and managers of a small company do not possess.[17] Also, the use of these methods is usually accompanied by the development or purchase of software that automates the settlement process, which brings additional costs and requires the involvement of third-party specialists or the training of their own personnel.
2. It is necessary to approach the introduction of modern software in accordance with specific calculation methods for a rather long time in order to interest employees in automating their work.
3. Many of the existing methods do not provide an assessment of all the features of the state of a small enterprise, due to which significant differences in the assessment result from reality are likely; also, mathematical analysis implies a

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number of certain assumptions that may adversely affect the reality of the forecast and the reliability of the calculated indicators [18].

4. Some methods that establish mathematical relationships between the final indicators and the influencing effects of the external environment and the internal infrastructure of the enterprise do not explain the nature of this influence and do not provide possible prospects for overcoming crisis situations, which is an urgent problem for a small enterprise in the infocommunication industry.

5. Most of the methods are based on the processing of annual reports, which does not take into account the high dynamism of processes in a small enterprise, and are of little use in cases where urgent calculations of indicators are needed for significantly shorter time intervals.

It is undeniable that a comprehensive economic and financial analysis, which involves the construction aspects of the organization's activities, is the basis for decision-making, the development of the financial policy of any economic entity. Taking into account the fact that a small communications enterprise is in itself a complex economic system, often operating in uncertain conditions, and at the same time has a number of distinctive features, obtaining a complete and adequate assessment of the activities of such an enterprise is a difficult task. As a result, there is an increasing need to develop economic and mathematical models and methods that can allow the analysis of the state of this class of enterprises with sufficient accuracy, reliability and temporal relevance.

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