Methodological approaches to ensure the competitiveness of organizations

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Key words

Competition, competitiveness, business organizations, competitiveness assessment methodology.

Abstract

The present article considers the issues related to competitiveness of domestic enterprises that is one of the high-priority tasks in Russia. The emphasis is made on the globalization processes, requiring from Russian companies a fierce competitive struggle, including an increase in the quality of products and services, cost optimization, profit maximization and certain efforts to improve other factors of competitiveness. In such circumstances, the state is not always able to protect domestic enterprises from global competition, because many protective barriers, designed to support enterprises, apply no longer.

1. The Introduction

The problem of improving the business competitiveness of organization is closely linked methodologically to its assessment because it is a reference point in making decisions on strengthening of market positions of the economic entity and, at the same time, indicates the effectiveness of ongoing activities. Competitiveness assessment is a methodological framework to identify ways of improving the business competitiveness of enterprise and proper decision-making on formation and management of competitive advantages. It allows identifies the strengths and weaknesses in activity of the economic entity, strengthening its superiority and eliminating weaknesses.

The adoption of effective measures aimed at improving the business competitiveness of enterprise requires the availability of an objective tool for its determination.

2. Methodology

At that, the choice of business competitiveness assessment method of enterprise becomes the most important decision, because the assessment must be comprehensive and accurate, carry objective quantitative and qualitative information, and at the same time must not require a significant investment of time and money.

Currently, there is no universally accepted approach to the assessment of the business competitiveness of enterprises. The choice of the assessment method is a subjective process, and assessing the competitiveness of a certain object using different techniques and approaches, completely opposite results may be obtained. In this regard, the research of many economists is focused on the study of the theoretical and methodological bases of determination of the competitiveness of economic entities. For this reason, the analysis of existing methods and finding techniques that would allow more objectively and accurately determine the level of competitiveness of the enterprises is currently a relevant objective.

For this purpose, we conducted analysis of the following well-known competitiveness assessment methods.

1. Assessment of competitiveness in terms of comparative advantages. Here the main criterion is the low costs associated with this assessment method. This method expresses the most traditional viewpoint about the competitive advantages of the enterprise: the higher the competitiveness of the manufactured products, the higher competitiveness of the enterprise. Simplicity of the method is its

advantage. However, it does not take into account all the other factors of competitiveness that reduces the objectivity of the assessment, whereas qualitative assessment of competitiveness of the enterprise requires information that is more detailed.

2. Assessment of competitiveness in the framework of A. Marshall's theory of equilibrium, which presupposes the existence of the enterprise production factors, which can be used by the enterprise more efficiently than by competitors. This theory is applicable when the market is characterized by a state of equilibrium, which assumes availability of perfect competition conditions. The enterprise achieves a maximum production output and products sales at a constant level of demand and technology development in a given market. However, this situation is not typical in practice.

Furthermore, considering only the cost of production factors, we ignore the capabilities of the intangible assets of the enterprise (product quality, image, advertising effect, etc.), whose influence may be quite decisive. In this regard, the application of the described theory not always may give reliable results.

3. Assessment of competitiveness based on product quality. This method is based on the evaluation of a number of quality indicators of the products and their comparison with corresponding parameters of competing products. The advantage of this method is the possibility to take into account consumer preferences. However, other important factors of competitiveness are ignored that reduces the reliability and objectivity of such assessment.

4. The "requirements profile" method is based on application of the scale of expert assessments, which determines the degree of promotion of the certain enterprise and the correlation with the strongest competitor. The advantage of this method is clarity of the assessment. The drawback is that expert assessments can be subjective and not reflect the actual situation.

5. The "polarities profile" method is based on the comparison of parameters, indicating the strengths and weaknesses of the enterprise, with those of competing enterprises. The level of competitiveness in this method can be determined easily and quickly. However, at that, we may leave out of account some performance characteristics of the enterprise and its competitors that should be considered when determining the level of competitiveness. Therefore, the application of this method also cannot give a comprehensive assessment of the competitiveness.

6. There is a group of so-called "matrix methods" for assessing the competitiveness of the enterprise. These include the following tools for competitiveness assessment:

- Boston Consulting Group (BCG) matrix is a theoretically grounded method that is based on the marketing assessment of products. This method is distinguished by simplicity and clarity. It allows making strategic decisions concerning product strategy. However, this method often does not take into account the financial characteristics of the enterprise competitiveness;

- McKinsey matrix, representing a coordinate system, which is used for making strategic decisions based on the relationship of two parameters: "competitiveness of a company" and "attractiveness of the industry";

- Ansoff matrix is designed to develop possible action strategies of a company under the conditions of growing market. Growth opportunity is defined between the categories of existing market and existing product, existing market and a new product, a new market and existing product, and a new market and a new product;

- SWOT-analysis is the most common and universal method, applicable in many fields. Based on analysis, this method allows identifying the strengths and weaknesses of the enterprise, as well as identifying potential opportunities and external threats. SWOT-analysis offers the possibility to use a large number of quality characteristics and allows characterizing enterprise performance factors, which are not quantifiable.

Matrix assessment methods are easy to use.

However, they are distinguished by subjectivity, which is expressed in the fact that they are able to reflect the competitiveness of the enterprise just within a framework of particular industry. Furthermore, these methods do not take into account many factors, in particular, the financial status of the enterprise and its manufacturing capabilities. Therefore, their use is appropriate to obtain the qualitative characteristics of object's competitiveness, which supplements the objective quantitative assessment.

7. STEP-analysis is a descriptive model of strategic analysis designed for the study of the external macro-environment of the enterprise. It consists in sequential description of four groups of factors: social, technological, political, and economic. This method allows assessing the influence of external macro environment factors, though it does not take into account the inner potential of the enterprise and does not give a clear quantitative assessment, which could give information about competitiveness of the enterprise.

8. Expert evaluation methods are frequently used in assessing competitiveness. The main advantage of this approach consists in its versatility as well as in the ability to obtain simply and quickly the necessary assessment of the enterprise competitiveness. Expert evaluation methods are indispensable in case when it is impossible to quantify certain parameters. The quality of the results obtained with this approach depends entirely on the professionalism of the experts, their intuition and vision. It makes sense to use expert opinions in addition to objective assessment of competitiveness.

9. A graphical method, based on constructing of "hypothetical polygon", is based on the analysis of the eight factors of enterprise competitiveness. These factors are represented as polygon vectors. Superimposing the resulting competitiveness polygons of various enterprises on each other, we can visually assess the strengths and weakness of the enterprise in relation to competitors. The main advantage of this method is the visibility of the obtained results. The disadvantage concerns the possible difficulty in determining the actual length of the vectors, indicating the status of a certain competitive factor of the enterprise. In this regard, the results obtained using this method are quite conventional and require clarification.

3. Findings

There is a group of methods for enterprise's competitiveness assessment giving an objective description of the object under evaluation.

These include computational as well as combined computational and graphical methods. To determine the competitiveness level of the object, a variety of assessment criteria are used, which lay the basis for calculation of individual, group and integrated indicators. For clarity, the computational and graphical methods provide a graphical illustration that facilitates the analysis. The advantage of these methods is the precision and the accuracy of the obtained results, although they are time-consuming and require specific information.

Another group of competitiveness assessment methods is based on the system approach. One of the methods, based on the application of the system approach, was proposed by D. Sink.

According to his technique, the company's activity is assessed based on the results of seven interconnected subsystems (Savchenko, 2011):

- Effectiveness determined by comparing actual results with planned ones;
- Efficiency characterizing the level of resource saving;
- Quality, defined as the conformity of manufactured product properties with the requirements and standards;
- Profitability, which is calculated as a ratio between total revenues and total costs;
- The performance, describing the ratio between the cost of produced goods and production costs per unit of output;

- Labour conditions, reflecting the quality of working life and being a pre-requisite for the successful performance of the system;
- Level of assortment renewal.

The application of D. Sink's method involves determination of the weights and importance of each of the above criteria.

The selection of criteria requires the use of mathematical methods.

4. Limitations of the study

Sink's method takes into account the totality of production factors that reveals the weaknesses and monitors their dynamics. However, the practical use of this technique is rather difficult due to the complexity of the calculations. In addition, the method does not give any integral indicator characterizing competitiveness of the enterprise as a whole. The methods based on the competitiveness assessment from the standpoint of the theory of effective competition are referred to another group. Within the frameworks of this theory, the criterion of competitiveness is determined based on one of two approaches – structural or functional.

At the structural approach, the main criterion, characterizing the competitiveness of enterprise, is the ability of consolidation in the market and level of competition. In this approach, the assessment of level of the enterprise's competitiveness is rather complicated, because the definition of barriers to entry the market and quantitative assessment of enterprise's market share are quite problematic and not always objective.

The functional approach is based on the comparison of the economic performance indicators of the enterprise with those of competitors. Typically, this approach involves the assessment of the following indicators:

- Indicators characterizing production efficiency (E_p);
- Indicators of sales activity (E_s);
- Price and quality indicators characterizing the competitiveness of the products (C_p);
- Financial performance indicators of the enterprise (F_p).

According to the methodology of I. Maximova, the coefficient of competitiveness is calculated by the formula (Nikolaev, 2003):

$$K = 0.15E_p + 0.29E_p + 0.23E_s + 0.33C_p \tag{1}$$

The coefficients in the presented formula are set by expertise. The presented method gives the opportunity to assess own internal capabilities of the enterprise and describes its main performance indicators. However, this method does not give a comprehensive assessment of the enterprise's competitiveness with due account for the influence of the external environment.

I.U. Zulkarnaev and L.R. Ilyasova proposed the technique to determine the integral competitiveness that does not require expert judgment since it uses quantitative calculation of individual factors on the marketing information basis (Zulkarnaev and Ilyasova, 2001).

The integral indicator of competitiveness is determined by the formula:

$$K = C^{0.803} P^{0.583} L^{1.048}, \tag{2}$$

where C is the enterprise's competitiveness in terms of its fixed assets;

P is the enterprise's competitiveness in terms of its financial management;

L is the enterprise's competitiveness in terms of its personnel and production management.

This technique is applicable for assessment of the enterprises performing in the framework of a single industry in the similar marketing environment. However, the above technique lacks sufficient justification of the selected indicators as well as their calculation technique. Therefore, the results obtained by this method are quite doubtful.

The following indicators are proposed by V.L. Belousov to analyze the competitiveness of the company (Fatkhutdinov, 2005):

1) Marketing competitiveness test factor, which is determined by summing the four coefficients: the coefficient of market share, occupied by a company in the market; the price level coefficient, showing the product cost dynamics; the coefficient responsible for bringing the product to the consumer, characterizing the level of sales activity of the company; and the advertising coefficient, showing the effectiveness of advertising:

$$K_{mct} = \frac{\sum\limits_{1}^{4} K}{P} , \qquad (3)$$

where K_{mct} is the marketing test factor;
P is the total number of coefficients in the numerator;
2) Current liquidity ratio, K_{cl};
3) Asset coverage, K_{ac}.
The final formula for the coefficient of competitiveness can be written as:

$$K_f = K_{mct} \cdot K_c \cdot K_{ac} \qquad (4)$$

A positive value of this index indicates a high competitiveness of the company.

In the methodology proposed by V.L. Belousov, the calculation of the marketing test factor causes some doubt, because the determination of indicators, included to the formula, is conditional.

Another method, which is often found in literature, is based on determination of the integral indicator of the enterprise's competitiveness (Zulkarnaev and Ilyasova, 2001). This indicator is based on partial indicators of competitiveness (group and individual) and is defined usually by the general formula:

$$K = \sum_{i=1}^{n} \alpha_i K_i , \qquad (5)$$

where K is the integral indicator of the enterprise's competitiveness;
α_i is the weighting value of the i-th factor;
K_i is the numeric index of the i-th factor of the enterprise's competitiveness.
In fact, the indicator K_i characterizes the potential competitiveness of the enterprise and is determined by the formula:

$$K_i = \sum_{j=1}^{m} (b_j P_j) , \qquad (6)$$

where b_j are the weighting coefficients;
P_j is partial indicator reflecting specific aspects of the enterprise's competitiveness. Various authors justify the use of some or other factors to determine the integral indicator of competitiveness depending on the scope of their studies. The partial indicators may include the elasticity coefficient, the proportion of new products, the coefficient of renewal of fixed assets, the capacity utilization, the number of employees, the profitability of staff, the average monthly wage of employees, the proportion of variable costs, and the current liquidity ratio.

The work of N.S. Yashin, who considers the possibility of state influence on competitiveness of the enterprise, is of particular interest. The author makes emphases on the following indicators (Fatkhutdinov, 2005):

- the proportion of state subsidies in the total amount of owned capital;
- tax to revenue ratio;
- the proportion of private investment in loan capital of the enterprise;
- the aggregate amount of interest payable on bank loans;

- the level of utilization of public information about market performance.

Applying the above methodology it is not difficult to calculate indicators such as tax to revenue ratio and the interest payable on bank loans. However, it is quite difficult to evaluate some indicators (in particular, the level of utilization of public information).

R.A. Fatkhutdinov offered an assessment of competitiveness as "...a weighted average value on competitiveness indicators of specific products in specific markets" (Fatkhutdinov, 2005: 268).

At that, it is proposed to determine and predict three indicators for a minimum of five years:

- the performance efficiency of the enterprise;
- the efficiency and competitiveness of each product;
- the sustainability of the organization's performance.

According to Fatkhutdinov's methodology, one should calculate the actual and strategic competitiveness of the enterprise. The actual competitiveness is determined by the importance of the products and the specific markets where they are sold:

$$K_f = \sum_{i=1}^{n} a_i b_i K_{ij} \to 1, \tag{7}$$

where K_f is the actual competitiveness of the enterprise;
a_i is the proportion of the i-th commodity in total sales;
b_j is the importance factor of the j-th market;
K_{ij} is the competitiveness of the i-th commodity in j-th market.
This methodology does not take into account the competitive potential of the commodities.

According to Fatkhutdinov's methodology, the strategic competitiveness is determined based on the normative values of competitiveness of the strongest competitor:

$$K_{cmp} = \sum_{\gamma=1}^{m} C_\gamma P_\gamma \to 1, \tag{8}$$

where $C\gamma$ is the weight of γ-factor;
P_γ is the value of γ-factor.

When using this approach, we are facing the problem related to the determination of standard indicators of competitiveness of the priority competitor that also makes the result questionable.

In our opinion, the rating of organization's competitiveness by using multidimensional comparative analysis may be sounder. This method allows taking into account not only the indicators of the internal competitiveness of the enterprise, but also the degree of their proximity to the indicators of the reference enterprise. In this case, the indicators of the reference enterprise are taken equal to unity.

The rating assessment is used for the comparative assessment of the performance of several enterprises in the industry. It is based on a generalized description of enterprises in the framework of certain system of parameters.

The following formula is used to obtain a rating assessment of enterprises' competitiveness R_i

$$R_i = \sqrt{K_1 X_{ij}^2 + K_2 X_{ij}^2 + K + K_n X_{nj}^2}, \tag{9}$$

where K_1, K_2, …, K_n are the coefficients of significance of enterprises' competitiveness indicators $\sum K = 1$;
X_{ij} are the standardized coefficients.
The larger the value R_i, the higher the competitiveness of the enterprise.

The rating assessment of the enterprise allows identifying weaknesses in the enterprise's performance, analyzing the level of utilization of its capacity and developing strategic plans to

improve competitiveness. The enterprise's performance potential indicators are changed dynamically through time; therefore, their systematic monitoring is very important.

The advantages of the rating method to assess competitiveness are as follows:

- this method is based on a comprehensive multivariate assessment of such a complex category as competitiveness;
- the method allows giving a definite objective assessment of the enterprise's competitiveness, excluding different interpretations of the results;
- the method takes into account real progress of enterprises and allows determining the degree of closeness of each parameter to the parameter of the reference enterprise (this is the main advantage of this technique over the technique based on integral indicator);
- this technique can be applied to assess the competitiveness of enterprises in any industry. Volkov, D.V. (2010)

5. Conclusion

In our opinion, when assessing the competitiveness it is advisable to use the following parameters:

- indicators of enterprise's productive activity;
- indicators of labor activity of the enterprise;
- indicators of product competitiveness;
- index of the financial state of the enterprise;
- indicators of marketing activity;
- occupied market share, which reflects the impact of the external factors of competitiveness.

To characterize these parameters we calculate group indicators, which are formed by single indicators. The algorithm for the rating assessment of enterprise's competitiveness is presented in Fig. 1.

We suggest calculating the competitive intensity indicator as a weighted sum of the indicators included into the criteria for the assessment of the competitive environment, by the formula:

$$E = l_1 * x_1 + l_2 * x_2 + K + l_{13} * x_{13} ,$$
(10)

where E is the competitive intensity indicator;

x_i is the standardized value of i-th indicator;

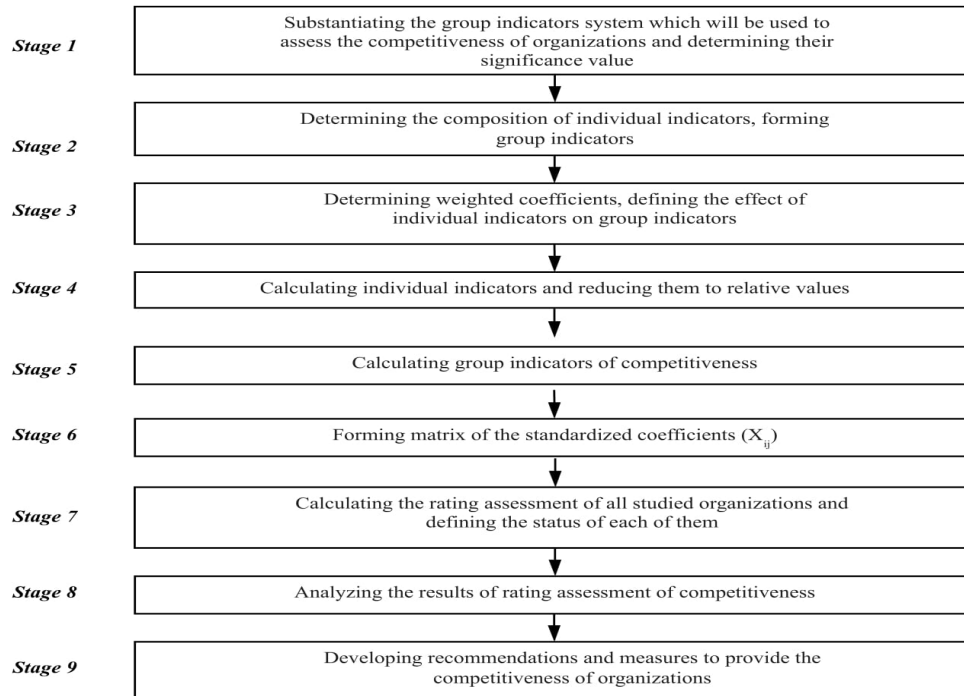l_i is the weight of i-th indicator,

$$\sum_{i=1}^{13} l_i = 1$$

at   that means that the sum of the weights must be equal to 100%.

The indicators' weights are calculated using the "hierarchy analysis technique" of Thomas Saati based on a jury of executive opinion.

The analysis of the considered techniques allows formulating the basic principles for the quantitative assessment of enterprises' competitiveness, which include the following:

- integrity, which provides an assessment of all significant indicators
- unambiguity, i.e. inadmissibility of different interpretations of the results;
- consistency, i.e. the study of competitiveness indicators integrally, taking into account their behavior in time;
- objectivity, which means that the results of the study should reflect the actual competitiveness of the business entity;
- simplicity, which minimizes possible errors;
- economic feasibility;
- comparability, i.e. the ability to compare the obtained results with competitors' indicators.

The quantitative and qualitative characteristics of competitiveness are mutually supportive, because not all the factors could be quantified, while just a qualitative assessment has a low representativeness. Therefore, it makes sense to supplement the quantitative assessment of competitiveness with the qualitative evaluation.

Stage 1	Substantiating the group indicators system which will be used to assess the competitiveness of organizations and determining their significance value
Stage 2	Determining the composition of individual indicators, forming group indicators
Stage 3	Determining weighted coefficients, defining the effect of individual indicators on group indicators
Stage 4	Calculating individual indicators and reducing them to relative values
Stage 5	Calculating group indicators of competitiveness
Stage 6	Forming matrix of the standardized coefficients (X_{ij})
Stage 7	Calculating the rating assessment of all studied organizations and defining the status of each of them
Stage 8	Analyzing the results of rating assessment of competitiveness
Stage 9	Developing recommendations and measures to provide the competitiveness of organizations

Note: compiled by the author.

Figure 1. The rating assessment algorithm of the organization's competitiveness

The author analyzes the methodologies for assessing the competitiveness of enterprises based on available theoretical material. The analysis results enabled the author to propose rating method for enterprises' competitiveness appraisal. This method gives an unambiguous integrated assessment of the enterprises' competitiveness and allows determining how the enterprise under consideration is far from the reference venture.

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