

IDENTIFYING THE WAYS OF COMPETITIVENESS OPTIMIZATION

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Research Goals, Methods and Significance

The goal of the research is to identify, analyze and define optimization ways of enterprise competitiveness. The object under study is an enterprise (not named due to confidentiality reasons), whereas the basis of the research is the information obtained under direct observations, enterprise reports, economic theories and viewpoints.

The instrumental-methodological apparatus of the research represents the combination of the basic methods of scientific cognition, namely dialectical and systemic-structural methods with such universally acknowledge methods as mathematical analysis, induction and deduction, comparative analysis, method of electivity. Practical value of the research lies in the practical application of the elaborated statements and conclusions in the identification of the optimization ways of enterprise competitiveness.

Introduction

The majority of scholars define competition as rivalry between economic agents to gain priority on the market. Other definitions of “*competition*” are as follows: competition is the existence of certain number of economic agents on the market who possess the same market power but act in disagreement with one another; competition is a process forcing the economic agent to consider customers’ demands and requirements (product price, quality and other properties); competition is determined by product’s competitiveness and the combination of economic methods of enterprise activities [1; 2; 4;].

Our proposition: “Competition is a process characterized by cause-effect relations and goals. Cause is the fundamentals for starting the process while the goal of the process is to gain priority

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where particular importance is given to the accuracy and swiftness of information, innovations, correct predictive calculations and free action. The result can either positive or negative.”

Identification of competitiveness indices of an economic subject as well as determination of the ways of their optimization have always been the urgent issues in the process of evaluating free competition problems.

Theoretical Background of the Research

The above given data highlighted fundamentals and the necessity of the research of optimization possibilities of enterprise competitiveness in free competition conditions. Hence, we can easily follow the discussion of its theoretical and analytical aspects as well as formulation of propositions and opinions.

The study of the obtained analytical materials on enterprise activities of the post-communist countries as well as enterprises within Georgia showed that the most acknowledged way of raising optimization of enterprise competitiveness in the post-communist countries in the conditions of free competition is amalgamation of enterprises. On the other hand, implementation of new technologies in production has become a secondary issue due to the lack of financial capital. This situation considerably decreases the quality of competitiveness of the given enterprise.

As it is known, free competition is an important factor for the enterprises acting on markets. The determination of proper ways of competitiveness optimization is only possible in the conditions of free competition. Furthermore, the higher is the competition, the more motivated are the enterprises to decrease expenses and improve production cycle, and consequently, the quality of a product. The outcomes of our research confirm that there exists a positive correlation between

competition and efficiency as well as between competition and productivity growth rate. This, in itself, is the main prerequisite of economic growth and the basis of optimization of enterprise competitiveness.

And we should always bear in mind that the possibilities of raising the competitiveness optimization in enterprises depend on the quality of free competition that directly forces the enterprise to accomplish measures for the reduction of expenses, i.e. competitiveness is directly defined by product competitiveness and the combination of economic methods of enterprise activities on the market. It means that the significance of such features is increased that is possessed by product and its manufacturer.

Mathematical Basis of Research

In order to strengthen the above given analysis let us apply a mathematical method that will be the basis for finding competitiveness optimization ways for an enterprise.

Before identifying the research method and direction, it is necessary to note that from the very start the identification of the ways of an enterprise's competitiveness optimization implies not only the determination of quantitative (i.e. revenues, profit, expenses) indices of competitiveness but an overall analysis of the enterprise competitiveness as well, i.e. the identification of the quantitative as well as all those indices that are connected with the production process and that can be evaluated as advantages or disadvantages of the whole enterprise as well as its separate structural divisions (individual centers: departments, workshops, etc.). Accordingly, in case of revealed disadvantages, the aim of the enterprise becomes to eliminate the ones; however, in case of advantages – the aim becomes to improve them, i.e. to optimize the competitiveness [3; 5].

An enterprise involved in free competition always strives to create savings that will enable its expansion in future. The process of creating savings shows the potential and capacity of the enterprise and eventually its creative abilities. Proceeding from its nature, savings can become material (money, land, building, etc.) and non-material (patent, project, etc.) provision for the enterprise that will be utilized for the purpose

of raising competitiveness. However, in order to accomplish this goal first it is necessary to evaluate and assess competitiveness indices of the enterprise, to study the dynamics of their development and make conclusions that, as we earlier remarked, will reflect reasons causing negative processes in the enterprise and the ways of their elimination; on the other hand, in case of positive results, the determination of optimization possibilities. But in order to get a perfect picture, it is necessary not only to reveal but to evaluate as well the ways of an enterprise's competitiveness optimization. It means to compare competitiveness indices of the enterprise under study with the analogous indices of rival enterprise (enterprises) applying selection method ("selection is a necessary number of competitors enough to conduct comparisons for finding out competitiveness of economic subjects, on the basis of equal parameters") [6; 7; 8].

In order to define the efficiency growth of competitiveness in an enterprise we need to elaborate a model that can accumulate competitiveness features into one single system. Obviously, the basis of this model should be the formula for competitiveness evaluation that will unify such indices as enterprise operative efficiency, strategic positioning and creativity of an enterprise.

Mathematical expression for competitiveness evaluation can be expressed as follows:

$$K = \frac{(Kr \times Ki)}{Ak}$$

where K – is the competitiveness of the enterprise under study, Kr – index of operational efficiency while Ki – ratio of strategic positioning, Ak – creativity ability of an enterprise, from this

$$Kr = \frac{r}{R}$$

where Kr is the ration of operational efficiency of an enterprise, R – operational efficiency according to selectivity.

In its turn, operational efficiency of an enterprise can be calculated with a formula:

$$r = \frac{B}{Z}$$

where B is gains/profit after the product realization, Z – expenses on goods production and realization.

Operational efficiency according to selectivity can mathematically be expressed in the following way (operational efficiency implies better performance of similar activities by the enterprise under study than its competitors that provides it with value added revenue during realization process):

$$R = \frac{B^s}{Z^s},$$

where B^s is gains/profit after the product realization according to selectivity, Z^s - expenses on goods production and realization according to selectivity.

The ration of strategic positioning can be determined with the formula:

$$K_i = \sqrt{\frac{I}{I^s}}$$

where I is the index of profit volume changeability of the enterprise under study, I^s - index of profit changeability determined by selectivity method; and $I = B/B_0$, while $I^s = B^s/B_0^s$, where B is the profit of enterprise for period under study, B_0 - volume of previous year profit, B^s - profit of enterprise for period under study according to selectivity method, B_0^s - volume of previous year profit according to selectivity method.

In its turn, the product total of the indices B/B_0 and B^s/B_0^s expresses attitude towards market. While evaluating strategic positioning of an enterprise, it is necessary to determine dependence on market, changeability of the share of the enterprise as well as changeability of the share of the competitor enterprises, according to the selectivity method:

$$\frac{\Delta Dt}{\Delta Dt^s} = \frac{B}{B_0} \times \frac{B^s}{B_0^s},$$

where ΔDt is the changeability/variable of market share of the enterprise under study whereas ΔDt^s is the changeability of competitor enterprises' shares on the market, according to selectivity method.

As for the creativity abilities of an enterprise, as it is known, it is the ability to rationally use the savings, and it can be calculated with the formula (author: V. Kakabadze):

$$Ak = \frac{G}{H},$$

where $H = P/C$, from which H is creative abilities of the enterprise under study, P - profit on the expenses of savings positioning C - quantitative index of savings; whereas G is calculated with the formula: $G = Pn/Cn$, where G is the creativity ability of a competitor enterprise (enterprises), according to selectivity method; Pn - profit on the expenses of savings positioning, according to selectivity method; Cn - quantitative index of savings of competitor or competitors. The research proves that the lower the A index, the higher is the creativity ability share of the enterprise under study in the competitive environment.

Considering the above given formulas

$$K = (Kr \times Kl)/Ak; Kr = r/R;$$

$$Ak = G/H; Kl = \sqrt{I/I^s}$$

the following equation is received:

$$K = \left(\frac{r}{R} \times \sqrt{\frac{I}{I^s}} \right) \cdot \frac{G}{H}$$

The given expression reflects correlation between the efficiency of economic activities of the enterprise under study and the efficiency of other economic activities according to the selective method. Numerator and denominator of this equation can be seen as the indices of efficient application of economic resources according to both - research and selection.

Finally, we can state that this method of evaluation of enterprise competitiveness gives opportunity of: deep analysis of acting factors on enterprise competitiveness; identification of optimization ways for enterprise competitiveness; and elaboration of rational measure for accomplishment of goals.

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SUMMARY

Unlike other similar methods, the two methods of competitiveness evaluation offered in the article, bear the clearly depicted mathematical apparatus from the very roots that enable to establish exact functional connections. At the same time, the given circumstances provide possibility of wide mathematical elaboration of an enterprise competitiveness that in itself provides multi-dimensional analysis of the category under study. The proposed approach will considerably foster gathering necessary information for the determination of enterprise competitiveness and excludes costly and often inaccessible marketing research as well as hiring experts.