Competitiveness of the enterprise from the investor's point of view based on the utility function

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Abstract. The quality of the services and goods produced is the primary factor affecting the competitiveness of the enterprise. Product quality management allows you to improve the consumer characteristics of the properties of goods and services. The higher the usefulness of the products produced by the enterprise for the buyer, the more the buyer is inclined to purchase these products, and therefore this enterprise has a higher competitiveness. At the same time, the potential investor of the enterprise evaluates the enterprise as a potential object for investment from the point of view of the competitiveness of this enterprise. The higher the value of the competitiveness of the enterprise, the higher its investment attractiveness, due to the fact that investors are primarily interested in the ability of the enterprise to produce competitive products, which means to profit from its sale. At the same time, investors have different attitudes to risk. With the same utility function for a more conservative investor, the value of profitability and risk R will be less than the value of risk propensity for a more risk-prone investor. Thus, a more conservative investor perceives an investment in this enterprise as more profitable than a riskier investor. In addition, taking into account it can be concluded that if the utility functions coincide, then the competitiveness of the enterprise seems to be higher to a conservative investor than it would seem to a riskier investor. Competitiveness, from the investor's point of view, is a subjective indicator that depends on the investor's investment preferences.

1 Introduction

For a manufacturer, an important problem is the disclosure of its competitive advantages, taking into account the resources at its disposal to achieve a stable position in the market. The production potential available at the enterprise must be used in such a way that the consumer value of the products produced increases among potential buyers. The advantages that the company has should be transformed into profit.

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According to [1], a number of problems arise on the way to the successful functioning of the enterprise, which can be divided into the main groups:

1) Problems of efficient use of the resources available to the enterprise.
2) Problems related to the storage, delivery and organization of the sale of goods to consumers.
3) Problems caused by competition and saturation of the market with similar goods.

According to [2], the conditions of competitive struggle encourage enterprises to continuously transform taking into account market globalization and saturation of the market with services and goods. This allows enterprises to achieve sustainable competitiveness.

According to [3], in order to ensure sustainable competitiveness, the managers of enterprises need a correct understanding of the market position of the enterprise, its strengths and weaknesses, as well as the consumer value of the products sold for its customers.

According to [4], an adequate assessment of its competitiveness is important when making managerial decisions. Competitiveness indicators are of paramount importance when choosing the analysis of the results achieved and the development of a strategy for the functioning of the enterprise in the medium and long term.

According to [5], there is currently no universal methodology for determining the competitiveness of an enterprise.

According to [6], the competitiveness indicator is one of the most important indicators that allows you to evaluate the characteristics of products that an enterprise produces. An adequate assessment of the competitiveness of the enterprise can reduce the risks of the operation of the enterprise.

According to [7], the level of competitiveness of a firm reflects the level of its potential capabilities regarding the retention of market positions. Consequently, the competitiveness of the company characterizes the effectiveness of the dynamics of the functioning of the enterprise.

There are many definitions of competitiveness in the scientific literature.

According to [8], competitiveness is a potential and real opportunity for an enterprise to produce and sell consumer goods and services in a competitive market.

According to [9], the competitiveness of an enterprise characterizes its ability to carry out its economic activities in comparison with its competitors.

According to [10], the competitiveness of an enterprise is the ability of an enterprise to maintain and expand its market share.

According to [11], the competitiveness of an enterprise is a measure of consumer confidence in goods and services produced by the enterprise.

According to [12], the competitiveness of an enterprise characterizes the ability of an enterprise to carry out economic activities in conditions of market competition.

In our opinion, the competitiveness of the enterprise is an indicator of the consumer utility of the products sold by the enterprise. The higher the consumer utility of products for customers, the more they will be in demand.

According to [13], for a comprehensive and objective assessment of the competitiveness of an enterprise, it is necessary to take into account as many different parameters as possible. According to [14], the choice of factors for assessing the competitiveness of an enterprise depends on (Fig.1)
According to [15], the level of competitiveness of an enterprise depends on:
1) Competition in the market
2) Purchasing power of buyers
3) Availability of substitute products on the market
4) Potential market capacity

The authors [16] note that the competitiveness of an enterprise can be influenced by:
1) State regulation of the economy
2) The degree of monopolization of the market
3) The presence of barriers to the emergence of new players on the market

According to [17], there are four main methods for determining the creditworthiness of an enterprise:
1) Matrix method
2) Methods based on the theory of effective competition
3) Methods based on the assessment of the competitiveness of products
4) Comprehensive assessment method

According to [18], it is possible to distinguish the level of assessment of the competitiveness of the company:
1) The method of ranks
2) The points method
3) Comparison method
4) Graphical method
5) The method of comparative advantages

After analyzing these methods, the authors came to the conclusion that they are mainly focused on calculating coefficients and indices, which are relative values or expert estimates.

2 Methods

In carrying out this scientific work, we used an analytical method by which the problems under study were studied in their development and unity. Taking into account the objectives and objectives of the study, a structural and functional method of scientific research was applied. This allowed us to study a number of problems related to assessing the competitiveness of an enterprise based on utility theory.
3 Results

According to [19], the degree of Arrow—Pratt risk aversion is equal to the first derivative of the logarithm of marginal utility in terms of consumption (with a minus sign)

\[ R = - \frac{d \ln MU(x)}{dx} = - \frac{u''(x)}{u'(x)} \]  

(1)

where \( R \) is the degree of Arrow—Pratt risk aversion , \( MU(x) \) is the marginal utility , \( u(x) \)- is the utility function.

Let’s assume that the competitiveness of an enterprise for an investor is proportional to its usefulness

\[ u(x) = \alpha * g(x) \]  

(2)

where \( u(x) \) is the utility function, \( g(x) \) is the competitiveness function , \( \alpha \) is the proportionality coefficient.

Let’s use the property of a complex function

\[ y = f(g(x)) \]

\[ y' = g'(x) f'(g(x)) \]

\[ y'' = g''(x) * f'(g(x)) + (g') * (g') * f''(g(x)) \]

Then

\[ R = - \frac{d \ln (MU(x))}{dx} = - \frac{u''(x)}{u'(x)} = -\alpha^2 * \frac{g''(x)}{g'(x)} \]  

(3)

Solving the differential equation (3), we obtain the expression (4)

\[ g(x) = C_1 * e^{-\frac{Rx}{\alpha^2}} + C_2 \]  

(4)

Without loss of generality (4) can be written to accept \( C_1 = C_2 \), then

\[ g(x) = g(x_0) * \left( e^{-\frac{Rx}{\alpha^2}} + 1 \right) \]  

(5)

Thus , we came to the conclusion that the competitiveness of an enterprise for an investor is a subjective value that depends on the investor’s propensity to risk and its utility function.

4 Discussion

The quality of the goods and services produced is an important factor influencing the competitiveness of the enterprise . Product quality management is aimed at improving consumer characteristics and properties of goods and services . The higher the usefulness of the products produced by the enterprise for the buyer, the more the buyer is inclined to purchase these products, and therefore the competitiveness of this enterprise is higher. At the same time, a potential investor of an enterprise evaluates it as an object for investment from the point of view of the competitiveness of this enterprise. The higher the competitiveness of the enterprise, the higher its investment attractiveness, since investors are interested in the ability of the enterprise to produce competitive products, which means to profit from its sale.
However, investors have different attitudes to risk. With the same utility function for a more conservative investor, the value of the return and risk $R$ will be less than the value of the risk propensity of a more risk-prone investor. Therefore, according to (5), for a conservative investor, $e^{-\frac{R^*}{\alpha^2}}$ will be more than for an investor more prone to risk. Thus, a more conservative investor perceives an investment in this enterprise as more profitable than a riskier investor. In addition, taking into account (5), it can be concluded that if the utility functions coincide, then the competitiveness of the enterprise seems to be higher to a conservative investor than it would seem to a riskier investor.

5 Conclusions

The competitiveness of an enterprise is one of the indicators of the efficiency of the functioning of the enterprise, which determines the compliance of economic, organizational, technical and functional characteristics with the requirements of consumers.

At the same time, investors also assess the competitiveness of the enterprise, then the criterion for their assessment is the function of the usefulness of investors and the propensity of investors to risk. Conservative investors tend to settle for less income compared to risky investors, so risky investors are more demanding about the amount of investment income.

Competitiveness, from the investor's point of view, is a subjective indicator that depends on the investor's investment preferences.

References


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