SYSTEMATIZATION OF ASSESSING METHODS FOR THE DAIRY PROCUCTS COMPETITIVENESS

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Abstract: *The assessing methods of the appropriate level maintenance of products' competitiveness are studied and systematized, and one of the defining efficiency characteristics of the enterprise economic activity. As the analysis result of these approaches, the methods' advantages and disadvantages are formed and the using necessity of the most optimal technique is proved.*
Keywords: *competitiveness, competitive advantages, competitive environment, methods, enterprise, products*

Introduction

Under the economic space globalization conditions, the products' competitiveness is becoming increasingly important. To achieve leadership positions in the market, it is important to choose the optimal method for assessing the products' competitiveness, to conduct research and analysis of the internal and external environment and to respond quickly to changes in the market situation.

Review of recent publications.

The theoretical and methodological aspects of assessing the products' competitiveness are reflected in the scientific works of many domestic and foreign economists, such as I. Ansoff [1], M. Porter [6], F. Fatkhutdinov [7], P. Berezovskyi, A. Dragan, M. Kalinchyk, M. Malik [3], M. Misiuk [4], T. Mostenska, L. Pavlovska [5], V. Topikha, N. Toshyna and others. Variability of the market environment requires further improvement of scientific approaches to assessing product competitiveness

The purpose of the article is to study and systematize methods for assessing the competitiveness of dairy products.

Research results. Existing methods and techniques for assessing competitiveness are based on determining their own capabilities and market activity. In particular, it is noted that resources effective usage is the main condition for the enterprise competitiveness, their dynamics affect both the level of quality and results from implementation and the need to attract external sources of financing [6].

Increasing the level of products' competitiveness simultaneously with the growth in sales and market share allows the company to create an image that, in turn, affects both the products' competitiveness and the competitive position of the producer.

The simplest of the methods is the evaluation (comparison) of the dairy products characteristics with similar products - the market leader. To assess the competitiveness, it is advisable to compare the parameters of our product with the corresponding competitor's product by their ability to satisfy one or another customer need. At the same time, in our opinion, it is expedient to take into account the relative nature of this indicator, to a large extent it is possible to use due to already existing approaches, based on calculations of single and group indicators of product competitiveness.

Single indicators reflect the level percentage of any technical or economic parameter to the value of the product- competitor same parameter:

$$q = \frac{P}{P_{100}} \qquad (1.1)$$

Where q is the unit parametric index; P - is the product parameter value, which is investigated; P_{100} - is the product parameter value which is taken as a sample (which satisfies the demand by 100%).

The group indicator (G) combines the single indicators (q_i) of a homogeneous group of parameters (technical, economic, esthetic) using weighting factors (a_i) determined by expertly method

$$G = \sum_{i=1}^{n} a_i q_i \, ,\tag{1.2}$$

Where n is the parameters' number, that are considered. In this case it is advisable to apply the following mechanism of competitiveness analysis (Fig. 1).

In some cases it is necessary to use the integral indicator of competitiveness (J), that is the ratio of the group indicator by technical parameters (G_T) to the group indicator by economic parameters (G_e):

$$J = G_T : G_e \, .\tag{1.3}$$

However, the group indicators usage, as well as the ratio of technical and economic indicators, is very limited, due to the constant change in weight coefficients data as a result of shifts in consumer preferences, which are often cognitive and can not be mathematically formalized. Or, the spent time on their formalization is large enough that it does not allow to react quickly to such shifts, and thus to ensure the objectivity of the analysis.

Therefore, in our opinion, it is expedient to implement this formalization in the function form, which has interchangeable technological and economic parameters. This function should be formed on the results' basis of simulation modeling of the production and dairy products' sale, since simulation modeling makes it possible to most fully take into account the factors of organizational and economic characters, raising it into a system of equations and inequalities.
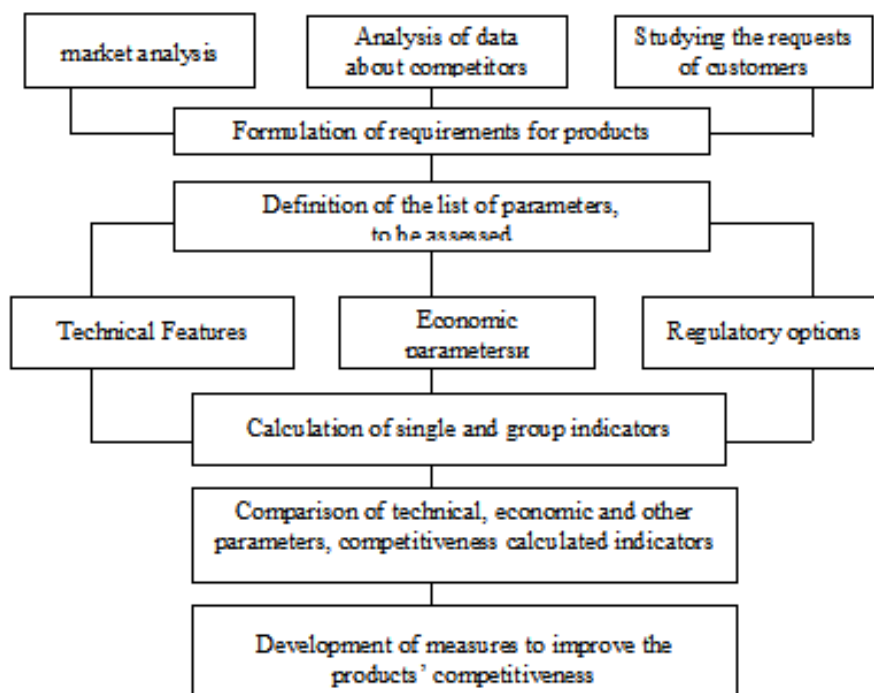

Figure. 1. Flow chart for analyzing product competitiveness
Source: developed by the author.

The methods' essence that mathematically formalize competitiveness is that the initial matrix of dimensionless indicators characterizing the activity of milk processing enterprises, taking into account the complex significance of the factors and conditions that they describe, turns into an effective matrix, shows the competitiveness level of each enterprise [5]. Complex significance is based on determining the internal and external significance of each of the factors describing the

characteristics of the objects' characteristics of the competitive environment (the enterprises under study).

The complex significance of indicator is based on determining the internal and external significance of each of the factors that describe the characteristics of the competitive environment objects (the enterprises under study). The dimensionless indicators matrix of characteristics allows you to compare indicators with each other.

The external significance of factors describing the products' characteristics reflect the importance of determining indicators from the point of view of the consumer and is calculated using the paired comparisons method. At the same time, in our opinion, the main drawback of this method is that it is objectively impossible to determine the factors' significance for each enterprise, since they are situational in character and are mutually-significant, which makes it practically impossible to apply statistical methods of correlation-regression analysis for their processing.

In some scientific works taxonomic coefficients of market activity and own capabilities of enterprises were determined, and generalizing indicators of product competitiveness were calculated using the complex assessment method of competitive environment objects, which allowed to analyze the mutual influence degree of each of the characteristics on others.

The usage of this approach to create a database for diagnosing the competitiveness of products ensures the consistency of the compared indicators, the sensitivity definition to changes that occur, and predetermines the possibility of a dynamic analysis of generalizing indicators ($\Pi_{xap_{kz}}$)

$$ \ddot{I}_{\tilde{o}\grave{a}\hat{q}_z} = \frac{\ddot{I}_{\hat{o}_{kz}}}{\ddot{I}_{\acute{a}_{kz}}} \ , \qquad\qquad (1.4) $$

Where: - $\Pi_{\phi_{kz}}$, $\Pi_{\tilde{o}_{kz}}$ –the actual and basic generalizing indicators, k respectively, of the product characteristics in the - z analysis period [1].

A widely used method in recent years has been the assessing competitiveness method based on benchmarking, which is the performance analysis of the enterprise relative to the best enterprises in this industry or the economy sphere. In particular, among the factors that are used to assess competitiveness, allocate financial results (market share, sales and sales growth, profit margins, etc.), as well as the company's strategy related to financial indicators, that is, determine the strategies most successful in achieving the desired financial performance.

The following indicators are used: market share; the price segment in which the enterprise operates; share of the production cost in sales revenue; product sales profitability; labor productivity; capital productivity; the manager competitiveness; land use efficiency [1].

When determining and choosing a methodology for assessing the products' competitiveness, we agree with the opinion that in the conditions of the market and competition each producer tries to obtain a rate of return on the advanced capital not lower than the average. Otherwise, when the return on the invested resources is low, the enterprise loses its competitiveness, its bankruptcy is not ruled out. Again, a comparison is used with the average level of the rate return on advanced capital, which makes it possible to use relative values in calculating competitiveness indicators.

Comparative competitive analysis, discriminant and cluster analysis, SWOT analysis, models, BCG, GE/McKinsey, Shell/DPM, ADL/LC etc. are used to determine the marketing strategy of the milk processing enterprise [1, 3, 5, 6, 7].

Possible for application is the following assessment of the dairy products competitiveness, which is based not on the parameters' evaluation that in one way or another belong to the enterprise, but on consumer appraisal of the goods. In this case, the accompanying methodology is the method of sociological research and, in particular, the questionnaire. Since it is fairly believed that the buyer is primarily interested in the effectiveness of consumption (E_n) , understood as the ratio of the useful effect (G) to the total cost of goods' purchasing $(Ц_{спож})$, the competitiveness condition of the goods from the point of view of the consumer takes the form:

$$E_n = G / Ц_{спож} \rightarrow \max \qquad (1.5)$$

Considering that the useful effect (G) is formed under the influence of the factors shown in Fig. 1.3, then we can write this expression in the form of the following function of the enterprise activity, which the consumer tries to maximize:

$$F (x_1, x_2, x_3 \ldots x_n) \qquad\qquad max \qquad (1.6)$$

Thus, on the generalization basis of the above-mentioned algorithms and the competitiveness essence, the dairy products' competitiveness is determined by the comparative growth of consumption volumes of this product and is reduced to the ratio consumer's maximization of product competitiveness and price factors. According to function 1.6, the mathematical dependence, reflecting the competitiveness of production in time, can be written in the form of a function:

$$f(t_i, p_i) = a_i \frac{t_i}{p_i}, \qquad (1.7)$$

Where t_i and p_i are, respectively, variables that take into account the technological ability to produce products of a certain quality and the price of that product;

a_i - a constant, taking into account the features of the organizational process of production and marketing of products.

When forming conclusions and developing proposals to ensure the dairy products competitiveness, in our opinion, it is necessary to apply an assessment of the product competitiveness at the consumption price, calculated in a manner similar to the assessment of quality parameters and displayed using the competitiveness index of the commodity at the price of consumption $(I_{Ц_{спож}})$:

$$I_{Ц_{спож}} = \frac{\sum B_i}{\sum B_i^e} \qquad (1.8)$$

Where - $\sum B_i^e$ the amount of consumer costs associated with the acquisition and use of the competitor's goods (reference goods, analogues).

Given the goods' range that are produced, a comprehensive indicator of the competitiveness of enterprise products) $(КП_T)$ can be calculated as

$$КП_T = \sum_{k=1}^{n} I_{Kk} * g_k , \qquad (1.9)$$

Where - $k = 1 \ldots n$ - the number of goods in the products manufacture nomenclature;

g_k - The share of the name in the products manufacture nomenclature.

According to the analysis's results, one of these methods makes the conclusion about the competitive products in this market in comparison with analogues. And according to the evaluation results, they are developing measures to improve the products' competitiveness of the market. In addition, the number of studies should be carried out, which together create a methodology (Fig. 2).

Thus, as the analysis's result of existing methods for studying the enterprise competitiveness, it should be noted that its assessment have to be carried out on the basis of a comprehensive system analysis using methods, techniques and methods that allow for the phenomenon relative nature of product competitiveness.
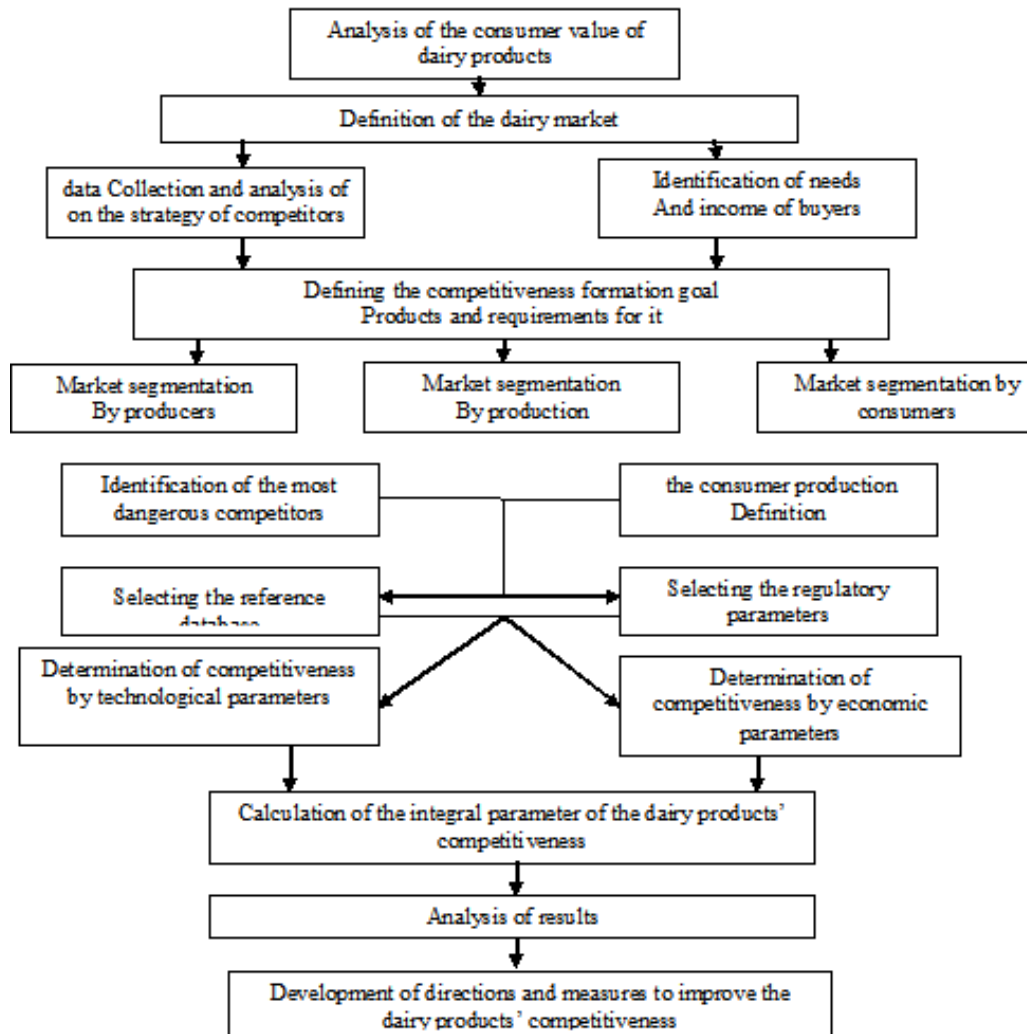
Figure. 2. Methodology for assessing the products' competitiveness of Milk processing enterprises

Source: developed by the author.

Conclusions

The problem of applying traditional approaches to the competitiveness formation is the production technologies sustainability for most types of products, so it is rather difficult to single out your own segment based on the goals of raising and forming requirements for products.

At the same time, the study key elements are the target vector of such an assessment, on the basis of which the hypothesis and the indicators' system are formed, this vector characterizes most fully. The final stage is the techniques' selection that use this system of indicators and apply or refute the developed a hypothesis. This methodological approach is due to the fact that none of the existing methods are able to give a full and complete description of the products' competitiveness in terms of qualitative, institutional, consumer factors and prices exercising the predominant influence on it.

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