APPROACH TO DIAGNOSTICS OF MARKETING COMPLEX
OF INDUSTRIAL ENTERPRISE

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Summary. In the article the essence of diagnostics is examined and the expedience of its application is grounded in relation to the estimation of the marketing complex state of enterprises. Procedure, basis of which is a certain aggregate of indexes, grouped after their ponderability and rates of growth as so-called the dynamic indicator of the marketing complex state, is developed. The created diagnostic procedure was approved by the example of Ukrainian enterprises of machine-building industry.

Key words: complex of marketing, enterprise, diagnostics, dynamic indicator, coefficient of the marketing complex.

INTRODUCTION

The development of the economic system in Ukraine and competition relations between its subjects needs the decision of tasks, among which the question of diagnostics of enterprise's marketing activity occupies the special place. Its basic content is an estimation of the state of economic subjects in the conditions of incomplete information with the purpose of exposure of problems and perspective directions of their decision, and also consequences of acceptance of current administrative decisions. There are a few scientific works of domestic scientists, devoted to this problem. Fewness of such researches does not allow talking about the presence of the unique approach to diagnostic activity of enterprise. Actuality of this question is confirmed also by the fact that the determination of current status of subject of economic activity depends on working of plan package, recommendations, and procedures, directed on the improvement of this state or warning of unfortunate events for its functioning. Especially it concerns to diagnostics of marketing complex of enterprise, concrete content of which is, in particular, the authentication of the real state and properties of analysable object, that is the marketing complex; exposure of changes in consisting of object of the sentinel measuring; establishment of basic factors, which caused these changes, and accounts of their influence; development of recommendations in relation to the improvement of this state.

THE AIM OF STUDY

Diagnostics as the type of economic analysis got the wide distribution mainly in research of various aspects of financial and economic activity of enterprises, among which the works of the following scientists are marked: V. Dubnitskiy, A. Voronkova, O. Gadzevitch, T. Zagorna, L. Kostyrko, V. Gerasymtchuk, M. Glazov, V. Savtchuk and others [1-7]. The research result of existent methods and approaches in relation to diagnostics is generalization of its essence and terms of application, establishment of advantages and failings, which among other factors, influenced on forming of procedure of diagnosticating of complex of marketing of enterprise.

MATERIAL AND METHODS

The diagnostics of marketing complex is a process which is carried out by different analytical procedures taking into account the specific of production and its organization on a concrete enterprise with the purpose of determination of his state and pre-conditions of development. A modern enterprise has a possibility to use favourable and overcome unfortunate factors – terms for realization of its own interests and aims, successfully to function and adapt to the requirements of market environment. But before to react on changing, that is to accept administrative decisions, management must conduct the analysis of problems which arose up, give the quantitative estimation of the activity; find out the list of deviations from a norm and their reasons and only after it to elect strategic directions of the proper changes. An enterprise needs the diagnostics of marketing complex both in the case of predictable strategic transformations and in the process of everyday activity, as his state must be controlled constantly. Even in the case when a situation on an enterprise is satisfactory, the diagnostics plays a considerable role, as it is difficult enough to save the conquered market positions in the conditions of modern competition. It is necessary constantly to watch on basic indexes which characterize exactly the marketing activity, to shut out their worsening in the future. Especially it concerns the enterprises of machine-building complex of Ukraine, which provides intensive development of other economic industries.

The general sequence of executions in accordance with offered approach in relation to diagnostics of marketing complex is shown on fig. 1.

It is expedient to use the traditional aggregate of analytical indexes as the basic tool of marketing complex diagnostics, that characterize commodity, price, sale and communication politics and can be expected from data of the statistical accounting of enterprises. Except this, the chosen system of indexes must take into account the dynamic character of marketing activity of enterprise, which can be determined by the formulation of the certain purposes, expressed by organization of the most sensible amount of indexes of marketing complex. Therefore, the primary aim of diagnostics may be considered the support of this order.

Procedure sequence of marketing complex diagnostics of enterprise

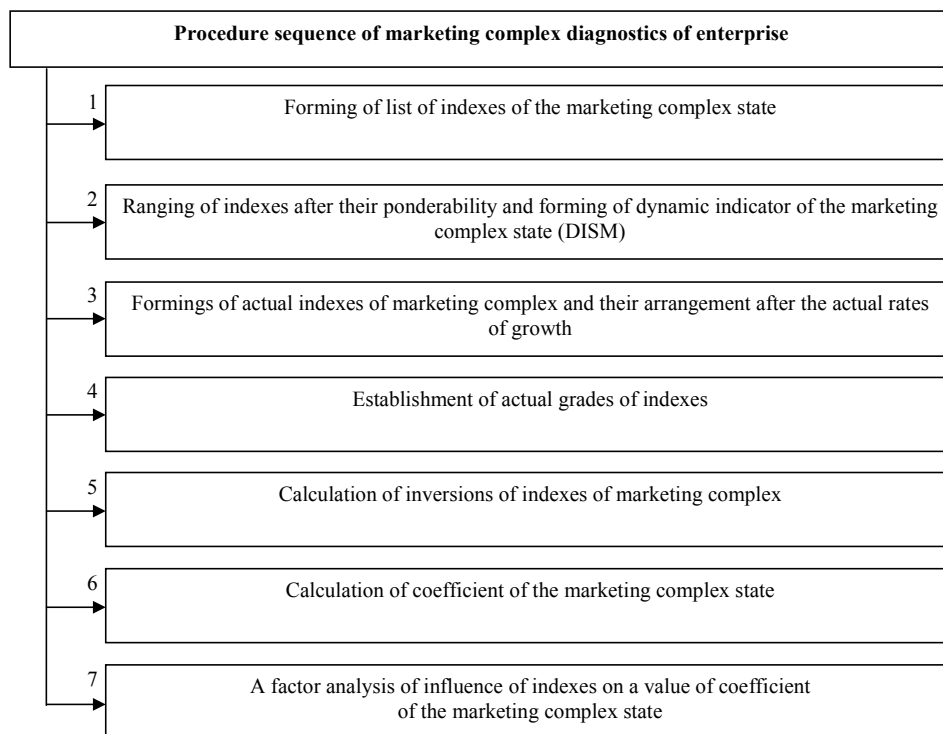| 1	Forming of list of indexes of the marketing complex state
2	Ranging of indexes after their ponderability and forming of dynamic indicator of the marketing complex state (DISM)
3	Formings of actual indexes of marketing complex and their arrangement after the actual rates of growth
4	Establishment of actual grades of indexes
5	Calculation of inversions of indexes of marketing complex
6	Calculation of coefficient of the marketing complex state
7	A factor analysis of influence of indexes on a value of coefficient of the marketing complex state

Fig. 1. Procedure sequence of marketing complex diagnostics of enterprise

Consciously synthesizing and controlling the change of parameters of indexes, it is possible not only to define the state of marketing complex but also to manage these changes for achievement of the set aims. The desired dynamic state of marketing activity corresponds to the indicative order of change of indexes. It shows by itself a certain standard which it is expedient to use for the estimation of the marketing complex state of enterprise. Theoretically and practically a construction of such indicative order makes the analysis of processes of diagnostics in certain maintenance objective. Any actual order of change of indexes can be compared to the indicative, expecting, for example, the coefficient of grade correlation. On this basis, the support of this order in the real dynamics can provide achievement of the desired results of enterprise activity. Consequently, for the subsequent researches it is suggested to name an aggregate of indexes, well-organized after their ponderability and rates of growth, as the dynamic indicator of the marketing complex state (DISM).

Offered approach to the choice of DISM satisfy the principles of system and complexity, and also allows offering simple procedure of estimation of closeness of indicative and actual orders of indexes, on the basis of which comparisons can be made. Accordingly, the dynamic indicator of the marketing complex state can be the guide to the choice of procedure in relation to arrangement of rates of index change. For this purpose it is possible to use the mathematical vehicle of economic analysis, the essence

of which is expounded in detail in works of N. Pogostynskiy and Yu. Pogostynskiy [9] for the analysis of financial firmness of enterprise, and also in researches of T. Maksimova [8] for the estimation of firmness of regional development. Taking into account simplicity and effectiveness of the developed procedures, in our opinion, they can be offered for the estimation of the marketing complex state as a summarizing coefficient, which can be expected by such method:

$$C = 1 - \frac{\sum_{i=1}^{n} m_i}{n(n-1)} = 1 - \frac{M(\Phi, I)}{n(n-1)};$$ (1)

$$m_i = \sum_{j=1}^{n} a_{ij},$$

where: C is a coefficient (estimation) of the marketing complex state; n is an amount of indexes in DISM; m_i is an amount of inversions in an actual order for index, that has a higher grade in DISM; a_{ij} is a variable which lights a presence or absence in actual arrangement of indexes of relations "higher" between i and j by indexes set in DISM ($i = 1,..., n$; $j = 1,..., n$); $M(\Phi, I)$ is a sum of inversions in the actual order of indexes (Φ) in relation to an indicative order (I), set in DISM. Thus, it is possible to define the change of a_{ij} as:

$$a_{ij} = \begin{cases} 1, & \text{if } r_i > r_j \text{ for } i < j, \\ & \text{or } r_i < r_j \text{ for } i > j, \\ 0, & \text{in other cases} \end{cases}$$ (2)

where: r_i and r_j are grades of i and j indexes in their indicative and factual arrangement.

The size of coefficient of the marketing complex state can be changed in a range from 0 to 1. Thus, coincidence of factual and set in DISM index order after their rates of growth testifies the highest level of strategy realization of marketing activity development. Thus, when all normatively set correlations of rates of index change of marketing complex are actually executed, then C = 1. Actual order of indexes after their rates of growth, fully opposite to the indicative, gives the estimation of C = 0. Accordingly, the nearer estimation to unit, the greater part of the desired correlations between indexes is realized in the marketing activity process of enterprise. Consequently, a coefficient of the marketing complex state is a summarizing estimation, as characterizes the degree of approaching of indexes of marketing complex to set in DISM after their rates of growth, does not depend on a dynamics, attained in the past. The formal sign of appearance or existence of rejections is an inversion of indexes of marketing complex in their actual arrangement, the presence of which is meant by non-fulfilment of the certain setting purpose, put up in the dynamic indicator of the marketing complex state.

The determination of influence of values of separate indexes on the size of coefficient of the state of marketing complex was conducted by a factor analysis which is based on multidimensional research of row of factors, which influence simultaneously negatively and positively on marketing activity of enterprise. Except the decision of basic task of factor analysis, it is expedient to set how many percents the coefficient of the state of marketing complex or his increase changes, predefined by the dynamics of indexes for certain period. The result of factor analysis is arrangement of indexes from position excretions of directions, on which it is necessary to accent attention for the increase of effectiveness of marketing complex.

The implemented approbation by the example of Ukrainian enterprises of machine-building industry shows the effectiveness of the offered procedure of diagnostics of the marketing complex state. The calculation of coefficient of the marketing complex state is shown (fig. 2).
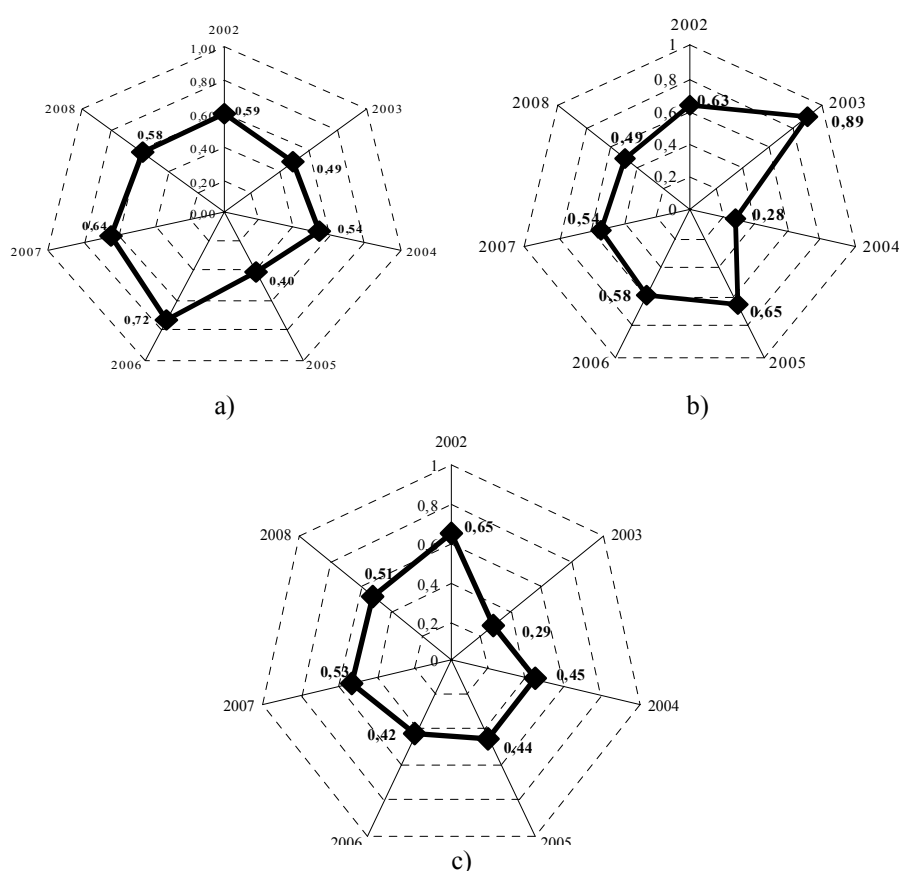

Fig. 2. Results of calculation of coefficient of the marketing complex state by the example of Ukrainian machine-building enterprises
(a – closed joint-stock society «Transmash»;b – open joint-stock society «Carriage works of Stakhanov»; c –Productive association «Vostok»)

The got results testify that during the investigated period the open joint-stock society «Carriage works of Stakhanov», and the least – Lugansk PA «Vostok» has the best values of coefficient of the marketing complex state. Above all things, it predefined that at the last enterprise the dynamics of indexes was constantly violated after the rates of growth in relation to its indicative order. So, for example, indexes in relation to a production and realization of products after agreements and market share volume enterprises which had high indicative grades in DISM and, in the real dynamics occupied considerably lower levels during 2002 – 2006 years. A similar situation was observed at the closed joint-stock society «Transmash», excepting the 2006 year, when the coefficient of the state of marketing complex grew to C = 0,72, that is confirmed by the increase of closeness of indicative and actual grades of indexes of marketing complex.

CONCLUSIONS

The certain advantages pertains to the offered procedure of marketing complex diagnostics of enterprise: orientation on a exceptional study of marketing activity of enterprise; fitness of procedure of diagnostics to the use for enterprises which are engaged in the different types of entrepreneurial activity; possibility of independent use of diagnostic procedure by the lack of conventions and generalizations; structuring, that allows expressly to select and formulate problems in marketing activity, which must be decided; availability of understanding of results by all personnel of enterprise. Regularity of diagnosing of marketing complex is determined by the guidance of enterprise. Thus, the diagnostics is expedient at mastering of new types of commodities, entrances to new markets or considerable diminishing of volumes of realized products.

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ПОДХОД К ДИАГНОСТИКЕ КОМПЛЕКСА МАРКЕТИНГА ПРОМЫШЛЕННОГО ПРЕДПРИЯТИЯ

Максимова Т.С., Шапран Е.Е.

Аннотация. В статье рассмотрена сущность диагностики предприятия и обоснована целесообразность ее применения относительно оценки состояния комплекса маркетинга. Разработана процедура, основу которой составляет определенная совокупность показателей, сгруппированых по степени важности их темпов роста в виде так называемого динамического индикатора состояния комплекса маркетинга. Представлена апробация разработанной процедуры диагностики на примере предприятий машиностроительной отрасли Украины.

Ключевые слова: предприятие, диагностика, комплекс маркетинга, динамический индикатор состояния комплекса маркетинга, инверсия показателей, факторный анализ.