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## INFORMATION PROVISION OF THE CONTROL SYSTEM OF ENTERPRISE'S COMPETITIVE POTENTIAL BASED ON MARKETING MIX

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## ІНФОРМАЦІЙНЕ ЗАБЕЗПЕЧЕННЯ СИСТЕМИ УПРАВЛІННЯ КОНКУРЕНТНИМ ПОТЕНЦІАЛОМ ПІДПРИЄМСТВА НА ОСНОВІ КОМПЛЕКСУ МАРКЕТИНГУ

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*The article substantiates the approach to management of development of the company on the basis of ensuring the availability of sustainable competitive advantages (SCA). The certain requirements are established for the information provision of the search for sustainable competitive advantages: application of the system approach to form and management information; application of the modular principle of information representation; the accordance of the information support and the level of authority of the person who makes the management decisions. The main result of the research for the purposes of managing the competitive potential on the basis of the enterprise marketing mix is the description of the information technology for determining the set of parameters, for the formation on its basis of SCA enterprise.*

**Keywords:** *competitive advantage; business intelligence; module; sustainability.*

**Statement of the problem.** The stable state of the enterprise in response to changing market conditions should be provided in advance with a calculation of the development's vector on the basis of an effective, scientific, viable model of such development.

The keys to the quality of strategic modeling should be:

1. grounded concept of ensuring sustainable development of the enterprise,
2. appropriate information on various aspects of the business activity,
3. analytical system of information processing for providing strategic decisions.

Sustainable development of the enterprise is defined, in particular, as a process of permanent change, in which the use of resources, investment direction, scientific and technical development, innovation, staff development and institutional changes are agreed and aimed at improving the current and future potential of the enterprise, meeting its needs, and achievement of strategic goals [1]. Such a model of sustainable

development combines three main points of view: economic, social and ecological.

Strategic management of the enterprise should ensure its sustainability not only in the mode of operation, but also in the mode of development with the definition and maintenance of sustainable competitive advantage (SCA).

It is known that a SCA is an asset or competence that forms the basis for a continued superiority over competitors, with their correct perception of:

- such an advantage is a trend during a long time and for a further forecast;
- the competence is unique;
- the coherence of the various key success factors creates an additional advantage.

**The main purpose of the article** is the description of the information technology for determining the set of parameters, for the formation on its basis of SCA enterprise.

**Analysis of the recent researches and publications.** If we rephrase G. Emerson [2] in order to general functioning of the enterprise, we can say that the search for growth paths can go both in the direction of adaptation to external changes, external factors, and in the direction of their normalization to the conditions, capabilities, strengths, potential of the enterprise. The normalization of conditions involves their research and selection those one, whose impact will increase the potential of the enterprise.

Potential as an object of management in the context of dominance of different concepts of strategic management occupies different places in the chain with goals, capabilities and strategies. Thus, according to the structural direction of the resource concept, K. Prahalad, D. Collis, S. Montgomery, R. Grant [3,4,5] determine unique resources and key competencies (internal potential) as a basis of competitive advantages of the enterprise in a changing market environment. That basis is reproduced in the order of development of the strategy as "potential → goals → strategy".

From the beginning of the 21st century the potential is considered from the point of view of the process direction of the resource concept [6,7,8], which defines dynamic capabilities and unique organizational knowledge as a basis of the company's potential. It forms the intellectual potential and causes changes in the order of creation a strategy as "goals → potential → strategy".

But in any case, outside of the relationship between goals and potential there is an interaction between the object of management and the control subsystem in the management process. These are manifested in the exchange of information flows to each other and external environment.

### Results of the research.

#### Requirements for information provision of competitive potential management

Enterprise's competitive potential can be defined as a system of resources (assets) and determining characteristics of the enterprise, the use of which ensures not only its functioning on the target market, but also the opportunities of economic, social and environmental development of the enterprise. This justifies the requirements for the information providing of the competitive potential's management.

Information providing of enterprises in the conditions of information and technological development should combine of information flows, information base and information processing technology.

Concepts and methods for improving business decision-making using systems based on business information, known as BI (business intelligence), are methods and tools for translating raw information into a meaningful, convenient form. BI is most effective when it combines data derived from the market in which a company operates (external data) with data from company sources internal to the business such as financial and operations data (internal data). External and internal data create a more complete picture of business in their combination, form the so-called "intelligence" - an analytics that cannot be obtained from only one of these sources. BI is appropriate to apply to the search for strategic decisions of the enterprise based on its SCA.

T. Davenport [9] notes that business intelligence should be divided into

- information retrieval
- online analytical processing (OLAP)
- business analytics
- business reporting.

It is also appropriate to apply BI capabilities to finding strategic solutions for managing the competitive potential of an enterprise based on a marketing mix. The operational structure of the information support system includes the subsystem of planning, data collection, processing and storage of data and sending information to persons authorized to make strategic decisions. Information technology for finding competitive advantages of an enterprise should be in line with the objectives of the control system of enterprise's competitive potential.

The principles of information technology for finding enterprise's competitive advantages are:

the application the a systematic approach to the organization and management of data;

- ensuring permanent monitoring of competitive potential;

- ensuring of data verification in order to reduce mistakes;

- the sufficiency of data provision and the level of authority of the person who makes managerial decisions;

- a modular approach to the organization of data, which ensures a certain independence of individual sources of information, as well as feedback (modifying data) for effective management of the competitive potential.

This approach allows us to identify sources of information unique to each module, as well as to establish feedback (correction of information) for effective control of the competitive potential.

#### Presentation of control system of enterprise's competitive potential

Interconnection of information in the control system of enterprise's competitive potential can be described by the equation:

$$R(t) = F[X(t_0); Y(t_0)], \quad (1)$$

that is, the result of the control over time (R) is a function of the state's parameters of this system (object) at a certain time (X) and the input impulse parameters at a certain time (Y).

Inputs of the control system studied can be represented as:

$$Y = \langle Ri_1; Ri_2 \rangle \quad (2)$$

where:  $Ri_1$  - environmental requirements, formed according to competition requirements in the field (by Porter's Five Forces), opportunities and threats to the environment, etc.

$Ri_2$  - owner's, enterprise's executives needs.

The state of the control system of enterprise's competitive potential can be described in the coordinates of the enterprise's marketing mix.

$$X = \langle Ps_1; Ps_2; Ps_3; Ps_4; \dots \rangle \quad (3)$$

where:  $Ps_1; Ps_2; Ps_3; Ps_4$  - the parameters defined per elements of the enterprise marketing complex "product", "price", "place", "promotion" accordingly. The list of parameters can be extended by adding to the parametric description other elements of the marketing mix.

The managerial response can be represented as:

$$R = \langle Pr_1; Pr_2; Pr_3; Pr_4 \rangle \quad (4)$$

where:  $Pr_1$  - a component of the tuple of parameters, characterizing the economic indicators of the object's processes;

$Pr_2$  - a component of the tuple, which characterizes the social outcomes of the enterprise's activity;

$P_{r3}$  - a component of the tuple, which characterizes the ecological outcomes of the enterprise's activity;

$P_{r4}$  - a component of the tuple, which characterizes other results of the object's processes.

**Approach to assessing the enterprise's competitive potential based on a marketing mix**

A more detailed approach to assessing the enterprise's competitive potential based on a marketing mix is as follows.

1. Comparison of the values of indicators for the elements of the marketing mix with similar indicators in the existing competitors, potential competitors and substitute products.

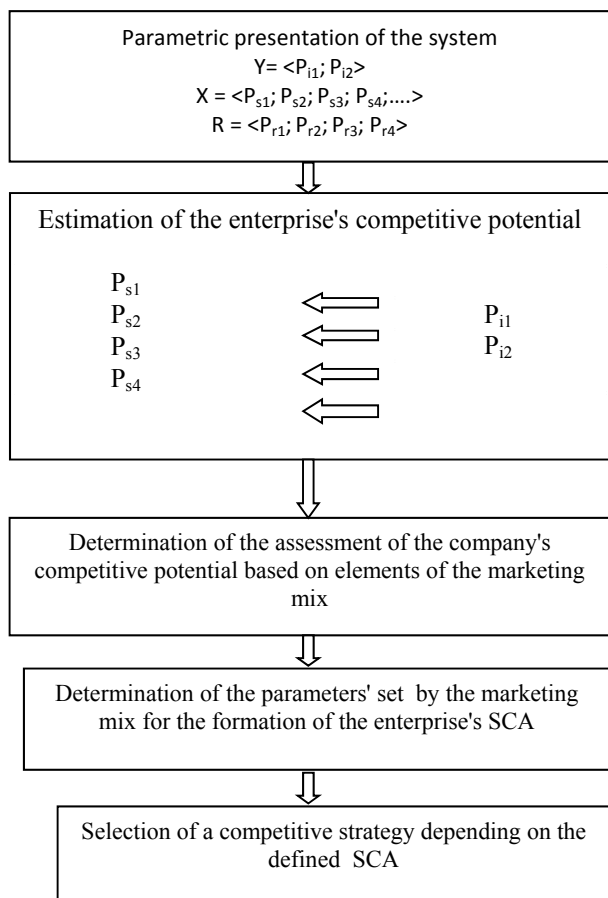


Fig. Control system of enterprise's competitive potential based on the enterprise's marketing mix (Source: author's elaboration)

Indicators whose values are greater than or equal to the values of the respective indicators of competitors are revealed. They will form a group of "high" parameters of the enterprise's competitiveness and are potential key success factors. Those parameters whose values are significantly worse than the competitor's ones, will form a group of "low" parameters. The rest fall into the group of "average" parameters.

2. Determination of the power of the every individual competition factor on the indicators by the groups of parameters ("high", "medium" and "low"). Characteristics of the force of influence could be set the meanings "strong influence", "average influence", "weak influence".

3. Set of marketing mix's parameters for the formation of the enterprise's SCA is determined. It is precisely this stage that allows formulating potential competitive advantages as a result of assessing the degree influence of each of the considered competitive forces (strong, average, weak) on individual parameters in the groups of parameters (high, medium and low).

The most perspective in order to setting up SCA are those components of marketing mix, which are described by high and average parameters, the degree influence of the competitive forces on which is average or weak (or is supposed to be). In addition, those positions of the marketing mix described by "high" parameters under the strong influence of competition can be involved for deeper analysis. "Low" parameters under the strong and average influence of the competitive forces can be considered as "bottlenecks" of the enterprise's competitive potential. This may weaken the company's competitive ability.

4. The formed indicators' set of the state of the control system of enterprise's competitive potential on elements of the marketing mix should be the basis for periodic evaluation its elements in time and verification of the stability degree of the indicators' values in order to further determine the SCA and the selection of a competitive strategy.

5. The study of the coherence of individual elements of the enterprise's competitive potential, which can be separated in a special stage of competitive potential's managing. Such a requirement stems from the conditions of the classical approach to the formation of sustainable competitive advantages [10], which is based on the conformity and consistency of the entire system of activity as one of the criteria by which any optimal strategy is checked.

In addition, such interconnectivity, mutual support for individual elements of marketing mix can help to highlight those aspects of the marketing activities of the enterprise that are (or may be) the basis for the formation of so-called "core assets or competencies" [3].

Information support for the search for SCA should be organized according to information modules - incoming, internal and outgoing information. The structure of each module involves the following procedures:

1. Parametric description of information
2. Choice of information evaluation methodology
3. Parameters' estimation
4. Formation of business analytics for the needs of information's consumers
5. Verification of information.

The module of input information ensures the fulfillment of these procedures in order to the requirements of the environment, which are formed taking into account the requirements of competition in the industry (following by Porter's Five Forces), opportunities and threats of the external environment, the needs of the owners, enterprise's management etc.

The internal information's module ensures procedures are carried out in relation to elements of the enterprise's marketing mix: "product", "price", "place", "promotion".

The outgoing information's module ensures the fulfillment of these procedures regarding the economic,

social, environmental, and others results of the object of management.

**Conclusions.** The strategic approach to management development of the company involves ensuring the availability sustainable competitive advantage.

The main result of the research for the purposes of managing enterprise's competitive potential on the basis of the marketing mix is the presentation of information technology identifying a set of parameters for forming enterprise's SCA on its basis.

Set compilation including:

- comparison of the values of indicators for the elements of the marketing mix\$
- determination of the power of the every individual competition factor on the indicators by the groups of parameters;
- determination the set of marketing mix's parameters for the formation of the enterprise's SCA;
- the study of the coherence of individual elements of the enterprise's competitive potential.

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#### **Атюшкіна В.В., Бурко Я.В., Карнаух Ю.М. Інформаційне забезпечення системи управління конкурентним потенціалом підприємства на основі комплексу маркетингу**

*У статті обґрунтовується підхід до управління розвитком компанії на основі забезпечення стійких конкурентних переваг. Визначаються вимоги до інформаційного забезпечення пошуку стійких конкурентних переваг: застосування системного підходу до формування та управління інформацією; застосування модульного принципу подання інформації; відповідність інформаційної підтримки рівню повноважень особи, що приймає управлінські рішення. Основним результатом дослідження з метою управління конкурентним потенціалом на основі маркетингового комплексу підприємства є опис інформаційної технології визначення набору параметрів для формування підприємством на її основі стійких конкурентних переваг.*

**Ключові слова:** конкурентна перевага; бізнес-аналітика; модуль; стійкість.

#### **Атюшкіна В.В., Бурко Я.В., Карнаух Ю.Н. Информационное обеспечение системы управления конкурентным потенциалом предприятия на основе комплекса маркетинга**

*В статье обосновывается подход к управлению развитием компании на основе обеспечения устойчивых конкурентных преимуществ. Определяются требования к информационному обеспечению поиска устойчивых конкурентных преимуществ: применение системного подхода к формированию и управлению информацией; применение модульного принципа представления информации; соответствие информационной поддержки уровню полномочий лица, принимающего управленческие решения. Основным результатом исследования в целях управления конкурентным потенциалом на основе маркетингового комплекса предприятия является описание информационной технологии определения набора параметров для формирования предприятием на ее основе устойчивых конкурентных преимуществ.*

**Ключевые слова:** конкурентное преимущество; бизнес-аналитика; модуль; устойчивость.

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