

IJPSC

International Journal of Psychology and Strategic Communication

ISSN: 2941-5691 (Online) 2941-5705 (Print) [03]

DOI: 10.61030/IJPSC.25.v01a03



USE OF MATRIX METHODS OF ANALYSIS OF STRATEGIC ALTERNATIVES BY ENTITIES OF THE HOTEL BUSINESS

Timar Volodymyr¹, Grynko Tetyana²

¹*Student, Oles Honchar Dnipro National University, Dnipro, Ukraine, vovatimar@gmail, +380665862826*

²*Supervisor – Doctor of Economic Science, professor*

Abstract

The analysis of strategic alternatives is an important task of the strategic management of business entities, therefore scientific-theoretical, methodical and applied research on the improvement and peculiarities of the application of analysis methods and tools do not lose their relevance. Scientific developments in the application of matrix methods in the strategic analysis of hotel business entities in Ukraine are of a fragmentary nature, which determines the need for further scientific research in this direction.

The purpose of the study is to systematize scientific and theoretical approaches to the definition of matrix methods for the analysis of strategic alternatives that can be applied in the management of hotel business entities.

In the process of research, a number of general methods of scientific knowledge were used, in particular, systematic analysis, synthesis and generalization, while studying scientific literary sources and publications in open editions, the hypothetical method, methods of deduction, synthesis, abstraction and formalization were also used. The theoretical basis of the research was scientific publications on the subject of strategic analysis and the application of matrix methods of analysis of strategic initiatives, presented in open sources and scientometric databases.

The article examines the essence, content and features of the use of the main matrix methods of analysis of strategic alternatives, defines their advantages and disadvantages. The possibilities of applying individual matrix methods to achieve the defined goals of strategic analysis of hotel business entities have been identified. It is proposed to consider the hotel business as a set of separate strategic business units, which represent independent areas of activity and function in separate strategic areas of management. The author's vision of the sequence of management decision-making on the selection and application of matrix methods in the strategic management of the hotel business subject is presented, taking into account the purpose of the analysis, the identified strategic areas of management and strategic business units, the existing information base of the analysis.

Keywords

Analysis of strategic alternatives, matrix analysis methods, hotel business.

Problem statement

Strategic management approaches play an important role in ensuring sustainable development, especially in crisis and unstable conditions. Strategic management is aimed at determining the development vectors of business entities, ensuring efficient and rational use of resources and avoiding potential threats. An important element of strategic management is the analysis of strategic alternatives, the choice and justification of the strategy that most

closely matches the internal and external conditions and the intended goals of the business entity's operation. One of the important tools in strategic management, which allows solving the outlined tasks, are matrix methods, which are aimed at balancing the product (product) assortment, services, individual types of activities by strategic areas of management and strategic business units, reducing the impact of uncertainty and risks on the economy activity. The use of matrix methods in strategic analysis began in the middle of the last century in the USA, during this time it has developed significantly, however, in the practical activities of Ukrainian business entities, including the hotel business, they are not used enough.

Relevance of the chosen topic

Crisis business conditions caused, in particular, by the COVID-19 pandemic and the deployment of full-scale actions on the territory of Ukraine, the change in the economic conditions of running a hotel business "requires the use of the most adapted methods and modern tools of strategic analysis" [1], which determines the relevance of further scientific research in this direction.

Analysis of recent research and publications

Scientific and theoretical studies of various aspects of strategic analysis, as an important component of strategic management, were carried out by leading foreign and Ukrainian scientists, in particular, I. Ansoff, B. Karloff, M. Porter, A. Strickland, A. Thompson, L. Artemenko, V. Vasylenko, T. Grynko, L. Dovgan, Yu. Karakai, O. Krause, I. Pinyak, S. Shpylyk, and others. I. Geets, T. Goncharenko, M. Ivanova, O. Yehorova, O. Leshchynsky, Ye Mishchuk, T. Oleshko, N. Yankina, I Yasnolob, other Ukrainian and foreign scientists devoted their scientific works to studies devoted to the application of matrix methods of analysis of strategic alternatives. An important role in the development of matrix analysis methods was played by the research of experts from the famous consulting companies Boston Consulting Group, McKinsey & Co, Arthur D. Little. Various aspects of the application of strategic approaches in the management of hotel business entities were studied by such scientists as: R. Brymer, O. Vynogradova, S. Galasyuk, L. Zavidna, O. Remeslova, and others. Despite the fundamental nature of scientific research, the issues of strategic management in the hotel business have not been fully reflected in the scientific developments of Ukrainian scientists, and the presence of problems in the applied application of matrix methods in the analysis of strategic alternatives in the hotel business determined the choice of the topic of this work.

Purpose and objectives

is the systematization of scientific and theoretical approaches to the definition of matrix methods for the analysis of strategic alternatives that can be applied in the management of hotel business entities.

Presentation of the main research material and results obtained

The central point of strategic management is the choice of strategies, which is carried out in three stages: 1) development; 2) refinement (correction); 3) analysis and evaluation of strategies. At the first stage, several strategic alternatives are developed, which represent a set of different options for strategies aimed at achieving the company's strategic goals in the chosen areas of activity and in conditions of limited resources. At the third stage, developed alternative strategies are evaluated and analyzed, for which matrix methods are most often used.

The essence of matrix methods consists in the construction of matrices in which variables characterizing the strategic positions of internal factors of strategic business units (SBU) are reflected on one axis, and external factors (strategic business area (SBA) on the other axis - "a certain segment of the organization's environment, where the firm carries out its activities (or wants to carry out), which is the object of analysis from the point of view of identifying individual trends, threats, opportunities for the further functioning of the firm" [2].

Strategic management zones characterize the external environment using indicators of current demand for products or services, competitive position on the market, actual and planned sales volumes, profit and profitability. Strategic business units characterize the internal environment, namely areas of activity and/or structural units.

When constructing the matrix, several segments are distinguished in the field of coordinates at the intersection of the variables (depending on the level of measurement of the matrix), which are analyzed and for which the most suitable strategy is chosen. The most famous matrix methods used in strategic analysis are: Boston Consulting Group matrix, McKinsey matrix (General Electric), AD Little matrix (Arthur D. Little (ADL)), Shell directional policy matrix, Ansoff matrix, Thompson and Strickland matrix, Dobb-Simkin model, Hofer-Schendel model.

One of the most famous matrix methods used in strategic analysis is the Boston Consultative Group (BCG) matrix. The method got its name from the American company of the same name, whose founder and employee became its authors and developers. The methodology of the BCG matrix was launched in 1968, and for 55 years scientists and specialists in strategic management have been studying various aspects of its practical application.

Although some scientists believe that the peak of popularity of the BCG matrix as a tool for strategic analysis has passed, other scientists in Ukraine and around the world are currently continuing scientific research in this direction. For example, Tien N. applied the BCG matrix in order to assess the state of the company in the modern real estate market and develop its investment strategy [3], and Song, Myung-soo and Park, Sang-hyeon - for strategic analysis and formation of sustainable competitiveness of the Amazon company [4]. Teams of Indonesian scientists applied the BCG matrix for the strategic analysis of the export of some products from the island. Java [5], and Chinese scientists – for screening energy-saving technologies for cement production [6]. Also, the BCG matrix method is used to analyze coal imports from the Kwanyang port [7], in the aviation industry [8], for the purpose of strategic analysis of the concentration and deconcentration of container terminals in India [9]. Among Ukrainian scientists, the issue of using the BCG matrix does not lose its relevance, for example, E.V. Mishchuk suggests using this tool to justify management decisions by public sector officials under martial law conditions [10]; scientists O.V. Yehorova and I.O. Yasnolob proposed to adapt the BCG matrix for the analysis of the financial results of the enterprise [11], L.D. Zavidina investigates the possibilities of applying the BCG matrix to form a strategy for the development of the hotel industry [12]. Consequently, the Boston Consultative Group method has been researched, disseminated, and criticized over the course of its existence, but it remains popular among strategic management practitioners today because of its merits. Currently, the BCG matrix has a worldwide distribution and has the reputation of the "gold standard" in portfolio analysis.

The McKinsey matrix was developed for the General Electric company by specialists of the McKinsey consulting company, based on the BCG matrix, in order to develop and improve it. In contrast to the BCG matrix, the McKinsey model is a nine-sector matrix that takes into account seven factors whose name begins with the letter "S" in English: "strategy, skill, shared values, structure, systems - systems, staff - personnel, style - style" [13, p. 89]. The purpose of the McKinsey matrix is to provide analytical support for the management of investment processes and the development of strategic business positions and strategic business areas. This matrix is two-dimensional and multifactorial, it is also called the "attractiveness-competitiveness" matrix.

The difference between the McKinsey matrix and the BCG matrix is that it uses not the rate of market growth, but a comprehensive indicator of its attractiveness and a comprehensive indicator of the company's competitiveness instead of an indicator of relative market share. Attractiveness is assessed by the size of the market, the competitive situation on it, the level of prices and state regulation of the market, etc. Competitiveness is assessed by the size and growth rates of the business entity, market share, profitability, technological potential, organizational structure, customer loyalty, flexibility, etc. As a result of the construction of this matrix, nine zones are distinguished: three winners, three losers, an average business, a profit generator and question marks. Therefore, the McKinsey matrix is characterized by expanded opportunities for choosing strategic alternatives and a more flexible approach to strategy formation. The disadvantages of this method include the static nature of the model, the subjective nature of the assessments, and a significant number of criteria.

Shell's directional policy matrix is also two-dimensional, characterizing the ratio of industry attractiveness and competitiveness. Industry attractiveness is determined with the help of such factors as "market growth, stability of profitability, the ratio of buyers and producers, loyalty of buyers to the brand, the level of replacement by substitute goods, technological limitations, business development after sales service" [14]. Competitiveness is determined by market position (market share, sales network, after-sales service network), production capabilities (economic indicators of production, availability of raw materials, possibilities of making changes to the product), ability to innovate, product quality) [14]. According to the results of the construction of the Shell matrix, nine elements with corresponding strategies are distinguished: business leadership, development, cash generator, strengthening of competitive advantages, business continuation with caution, partial reduction of business, doubling of production volume or partial reduction, continuation of business with caution, termination of business.

The advantage of this model is the possibility of its use regardless of the stage of the product life cycle, and the main disadvantage is that its use is limited exclusively to industries with a high level of capital intensity.

The AD Little (ADL) business profile matrix was developed by Arthur D. Little and is based on the four stages of the market (industry) life cycle (from formation to decline) and the competitive position of the business entity, which can be dominant, strong, favorable, stable or weak). Taking into account the number of factors determined by this model, twenty zones are distinguished in the coordinate system, which correspond to strategic management zones, their key characteristics and strategies for their development.

The Ansoff matrix, which was named after the surname of its author, is used for business entities that enter new markets or operate during market growth, or expand production and master new types of products (services). The matrix has four segments, which correspond to the following strategies: 1) activity improvement, product development; 2) product expansion, market penetration, promotion of new products in the old market; 3) market development (development of new markets or new segments); 4) diversification (entering new markets with a new product). The obvious advantage of this matrix is its clarity and ease of construction, its one-sidedness (focusing on market growth, disregarding other important factors) can be attributed to its disadvantages.

The Thompson-Strickland matrix was proposed by A. Thompson and A. Strickland, for use in order to select a strategy based on the criteria of a competitive position that can be assessed as strong or weak, and market growth that is defined as fast or slow. As a result of the construction of the matrix, four quadrants are formed, each of them corresponds to certain types of alternative strategies. This strategy has the same advantages as the Ansoff matrix, its disadvantages are the assessment of a limited number of factors and the uncertainty of the criteria for choosing one or another strategy, of which there are several in each quadrant.

The Dibb-Simkin model is used for the purpose of analyzing the company's product assortment, it allows to identify priority assortment positions, analyze the structure of the product assortment and determine the ways of its optimization. On the basis of the conducted analysis, four groups of goods are determined, this makes it possible to determine the most attractive directions of development of certain groups of goods, to determine priority assortment positions, to evaluate the effectiveness of the structure of the product assortment and to identify ways of its optimization. For the purpose of building the matrix, parameters are used that reflect the dynamics of product sales volumes and marginal income (or the amount of variable costs for its production and sale). Based on the results of the matrix construction, decisions are made regarding the prospects for the development of the product range structure, which will allow to increase the profitability of sales and the amount of profit received, to adopt strategies for improving and balancing the product portfolio. The method is quite simple and clear, but its drawback is the use of not a large number of indicators, which can lead to wrong management decisions.

The Hofer-Schendel model is a method of strategic analysis developed by Charles Hofer and Dan Schendel, which is aimed at positioning the existing business depending on the evolution of the market. The advantage of this method, according to the author, is the possibility of its application for the analysis of business that is at the initial stage of development. A feature of the Hofer-Schendel matrix is that several segments of the matrix can correspond to one generalized strategy.

Based on the results of the analysis, it can be concluded that the modern scientific literature presents a sufficient number of developed and substantiated matrix methods for the analysis of strategic alternatives, which have their advantages and disadvantages, target direction, areas and features of use. A generalized comparative analysis of the main parameters and characteristics of matrix methods in strategic analysis is given in Table 1.

Table 1: Parameters and characteristics of matrix methods for the analysis of strategic alternatives*

Method name	Content	Criteria for building a matrix	Matrix format	Number of positions
Boston Consulting Group (BCG)	Analysis of strategic alternatives by product/market growth rate and relative market share	1 – Relative market share (ratio with the share of the largest competitor) 2 – Growth rate	2x2	4
McKinsey (General Electric)	Analysis of strategic alternatives based on market attractiveness and competitiveness	1 – Competitiveness of the business entity (market share, profitability, growth rates, size, consumer loyalty) 2 – Attractiveness of the market (size, competitive situation, price level, government regulation)	3x3	9
Shell/DPM matrix	Analysis of strategic alternatives in capital-intensive industries according to the industry attractiveness and competitiveness of the business entity	1 – Competitiveness of the business subject by market position (market share, sales network) 2 – Industry attractiveness (market growth, profitability, ratio of buyers and producers, loyalty to trade marks (brands))	3x3	9

Matrix A.D Little (ADL)	Analysis of strategic alternatives by competitive position on the market and the life cycle of the market (industry)	1 – Competitive position of the business entity (dominant, strong, favorable, stable, weak) 2 – Stage of the industry or market life cycle (formation, growth, maturity, decline)	5x4	20
Matrix of I. Ansoff	Analysis of strategic alternatives of business entities that enter new markets or operate during market growth, or expand production and master new types of products (services).	1 – Market (old, new) 2 – Product (old, new)	2x2	4
Thompson/Strickland matrix	Analysis of strategic alternatives by competitive position and market growth	1 – Competitive position (strong, weak) 2 – Market growth (fast, slow)	2x2	4
Dibb-Simkin model	Analysis by sales volume and financial contribution to cost coverage	1 – Revenue from sales 2 – Marginal profit	2x2	4
Hofer-Schendel model	Analysis of strategic alternatives according to the competitive position of the business entity depending on the stage of market evolution	1 – Relative competitive position of the business unit within the industry (strong, average, weak, worst) 2 – Stage of market evolution (development, growth, displacement of the old product from the market, maturity, saturation)	5x4	20

** Compiled by the author using sources [1, 12, 13, 14,]*

Taking into account the content, parameters, main characteristics, advantages and disadvantages of the considered matrix methods of analysis of strategic alternatives, it can be concluded that almost all of them can be used in the strategic management of hotel business entities. Undoubtedly, the Shell/DPM matrix method is an exception due to its limitation of application in capital-intensive spheres of activity, which makes it unsuitable for hotel business entities. All other methods and models can be used in the field of hotel services, adapting them depending on the purpose of the analysis, parameters and factors that are evaluated, taking into account the specifics of the business sector. It is advisable to make managerial decisions about the choice and application of matrix methods in the strategic management of a hotel business entity in a certain sequence, the author's vision of which is presented in Figure 1.

At the first stage, it is necessary to determine the purpose and tasks of the analysis, which is supposed to be carried out using matrix methods. It should be noted that we are not talking about the strategic goals of the development of the hotel business entity, not about the goals of forming strategies, and not even about the goals of strategic analysis in general, but about the goal and tasks that must be solved with the help of matrix methods.

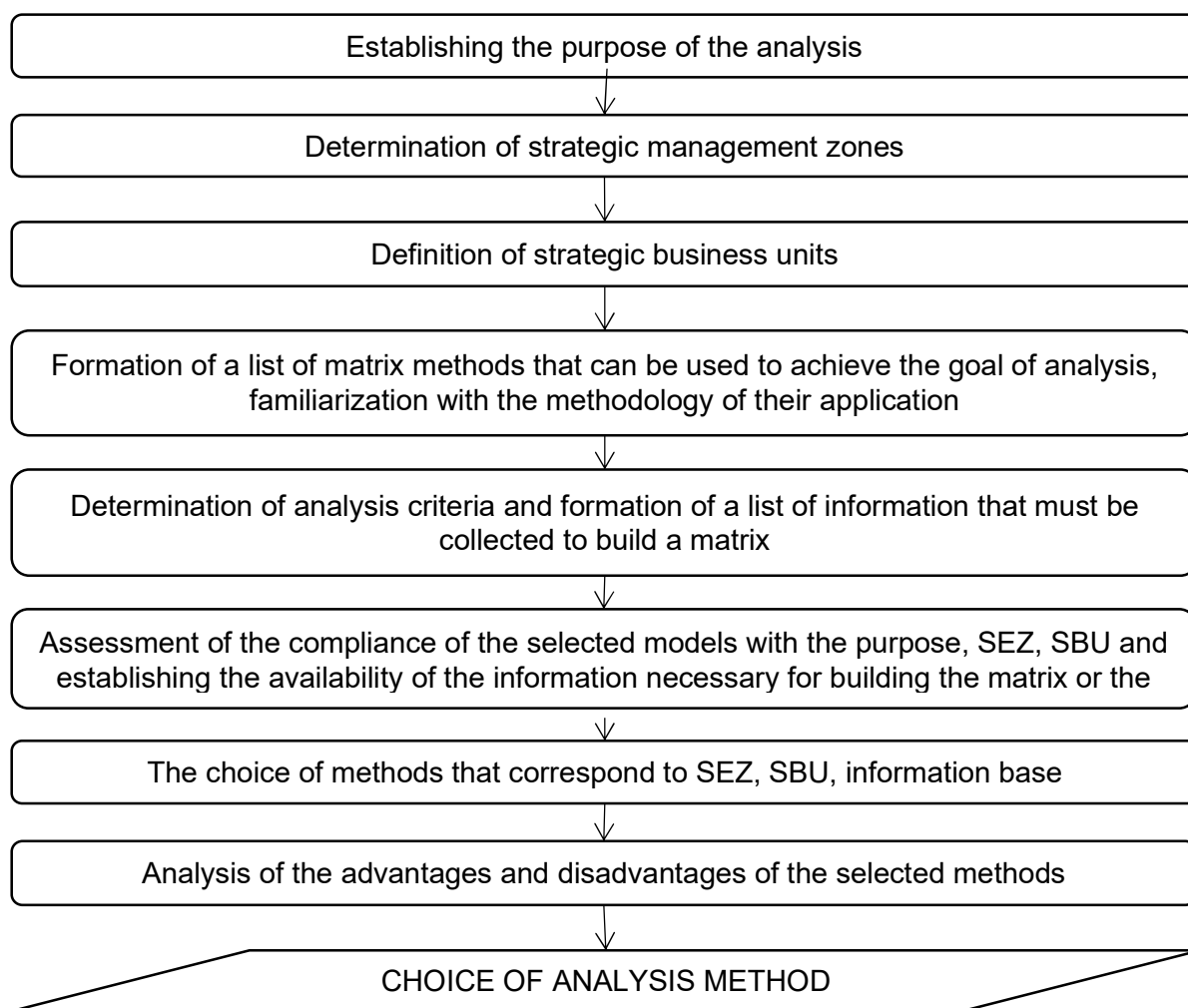


Figure 1. Selection sequence of the matrix analysis method (constructed by the author)

In order to further determine the possibility, expediency and target orientation of the application of matrix methods of strategic analysis of hotel business entities, it is necessary to establish a list of strategic management zones and strategic business units in the hotel sector, taking into account the specifics of the industry.

Strategic business zones (SEZ) of hotel business entities include:

- Hotel services in the segment of business tourism (individual and/or collective);
- Hotel services in the entertainment tourism segment (individual and/or collective);
- Hotel services in the health and recreation segment (individual and/or collective);
- Hotel services in the field of educational tourism (individual and/or collective);

The second important element of the matrix analysis of strategic alternatives is the definition of the list and structure of strategic business units (SBU). In general, all strategic business units in the hotel business can be grouped into three groups:

- Basic hotel services for persons living in the hotel;
- Additional and auxiliary hotel services for persons living in the hotel;
- Services provided to persons who do not live in the hotel [15].

Within the presented groups, each subject of the hotel business separates its own strategic business units depending on its specialization, the specifics of management, the availability of opportunities to provide additional and auxiliary services, the availability of opportunities to provide services to persons who do not live in the hotel.

It should be noted that the definition of the list and structure of strategic economic zones and strategic business units should have an individual approach, for each individual subject of the hotel business, it is necessary to establish its own structure of SEZ and SBU, depending on its specialization and positioning in the market of hotel services. For example, for a hotel that is located in a recreation area and has a health and wellness complex in its structure, the structure of the SBU will include hotel services in the segment of recreation, rest and health, and all others will be classified as other basic hotel services, and the structure of the SBU will include basic hotel services, additional hotel services related to wellness, and services of a medical and wellness complex for outsiders.

At the next stage, it is necessary to form a list of matrix methods that can be applied to solve the set goal of strategic analysis. For this, it is necessary to thoroughly study the essence of each method, the peculiarities of its application, based on available scientific and applied research. The possibility of applying separate matrix methods to achieve some goals of strategic analysis of hotel business entities is shown in Table 2.

Table 2: The possibility of applying certain matrix methods to achieve the goals of strategic analysis of hotel business entities*

	BKG	McKinsey	A.D Little (ADL)	Matrix of I. Ansoff	Thompson / Strickland matrix	Dibb-Simkin model	Hofer-Schendel model
Evaluation of the competitiveness of the subject of the hotel business	+	+	+				+
Optimization of the strategic portfolio of the hotel business entity	+	+		+	+	+	
Determination of diversification directions				+	+	+	+
Determination of investment priorities	+	+		+			+
Justification of new hotel services/product				+			+
Analysis of opportunities to enter the new market of hotel services				+			+
Optimization of the range of hotel services	+	+		+	+	+	

* *Compiled by the author*

As we can see from the table, several matrix methods correspond to each given goal of strategic analysis, therefore, at the next stage, it is necessary to consider the criteria by which each relevant matrix is constructed and to determine the possibility of obtaining or the availability of ready-made information for the analysis. If it is not possible to obtain the information necessary for the construction of the matrix, or there is no confidence in its objectivity, truthfulness and adequacy, then it is not advisable to use the appropriate methods, since the construction of matrices on the basis of insufficiently substantiated initial data will lead to the formation of false conclusions and as a result adoption of ineffective and/or erroneous management decisions.

If the subject of the hotel business has an information base that allows the use of several methods of analysis, then at the next stage, a critical analysis of the advantages and disadvantages of each method should be carried out and the optimal one chosen for further use.

As the study of scientific literary sources showed, most scientists and practicing scientists pay attention to the BCG method, however, in the process of strategic analysis, it is advisable to use a complex of matrix methods. This approach will allow taking into account a greater number of factors affecting the subject of the hotel business, and consider more parameters on the basis of which matrices are built. The expediency of using matrix methods of strategic analysis as a whole is determined by the individuality of each method, which gives an individual result of the analysis.

Conclusions

Matrix methods of analysis of strategic alternatives play the role of an important tool of strategic management of hotel business entities. The conducted study of the essence and content of individual matrix methods of analysis of strategic alternatives made it possible to perform a comparative analysis of their parameters, characteristics and features of application in the hotel business. In order to perform the analysis of strategic alternatives using matrix methods, it is proposed to consider the hotel business as a set of separate strategic business units, which represent independent areas of activity and function in separate strategic areas of management. Depending on the applied method, various parameters and indicators that characterize them are used when constructing the matrices, which

makes it possible to choose one or another strategy. The considered matrix methods and models are not universal for use by subjects of the hotel business. It is advisable to choose them in a certain sequence, taking into account the purpose of the analysis, the identified strategic areas of management and strategic business units, taking into account the available information base of the analysis. Further scientific research should be directed to the improvement of matrix methods of analysis of strategic alternatives with the aim of maximum adaptation to the conditions of Ukraine and taking into account the specifics of the hotel business industry.

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