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D.S. FAYVISHENKO

Kyiv National University of Trade and Economics

ORCID: 0000-0001-7880-9801

MODELING OF THE STRATEGIC SYSTEM BRAND MANAGEMENT

Abstract. Today, in the highly competitive and volatile modern economy, the issues of strategic analysis and brand development are an indispensable part of improving the competitiveness of domestic enterprises.

The article substantiates the need for modeling the strategic brand management system, defines the relevance and importance of the study, presents the criteria for optimizing the functioning of the strategic brand management system based on the principles of system modeling.

Emphasis is placed on the principles of formation and functioning of the brand management system, the criteria of optimality of its work. To evaluate the performance of an object, they use a generalized quantification that characterizes the quality, effectiveness of management, and allows not only to perform a comparative evaluation of different modes of operation of the object, but also to choose an effective strategy.

The necessity and relevance in strategic brand management of the analysis of the influence of internal and external probable factors described by random functions of time, minimizing not only the functionality but also the risks are proved. It is concluded that the implementation of an effective strategy for managing the economic development of the enterprise is the search for optimal solutions, which will help not only to adapt and to overcome the influence of environmental factors.

Keywords: brand, brand management, strategic brand management, modeling.

Д.С.ФАЙВІШЕНКО

Київський національний торговельно-економічний університет

ORCID: 0000-0001-7880-9801

МОДЕЛЮВАННЯ СИСТЕМИ СТРАТЕГІЧНОГО УПРАВЛІННЯ БРЕНДОМ

Сьогодні в умовах високої конкуренції та нестабільності сучасної економіки, питання стратегічного аналізу та розвитку брендів є неодмінною складовою частиною підвищення конкурентоспроможності вітчизняних підприємств, цей аспект виступає одним з найбільш актуальних науково-практичних завдань економічної науки. У статті обґрунтовано необхідність науково-методичних підходів щодо моделювання системи стратегічного управління брендом, визначено актуальність та важливість дослідження, представлено критерії оптимальності функціонування системи стратегічного управління брендом на основі принципів моделювання системи, запропоновано методологічний інструментарій, що активно може бути застосований підприємствами.

Зроблено акцент на принципи формування і функціонування системи управління брендом, критерії оптимальності її роботи, рішення яких пов'язане з такими найважливішими науковими задачами, як підвищення конкурентоспроможності вітчизняних підприємств і забезпечення їх стабільного функціонування. Для оцінки ефективності функціонування об'єкта використовують узагальнену кількісну оцінку, яка характеризує якість, ефективність управління, та дає можливість не лише виконати порівняльну оцінку різних режимів роботи об'єкта, а й обрати ефективну стратегію.

Доведено необхідність та доречність у стратегічному бренд-менеджменті аналізу впливу внутрішніх і зовнішніх ймовірних факторів, що описуються випадковими функціями часу, мінімізація не лише функціоналу, але й ризиків. Зроблено висновок щодо впровадження ефективної стратегії управління економічним розвитком підприємства є саме пошук оптимальних рішень, який допоможе не тільки пристосуватись, але й випереджати вплив факторів зовнішнього середовища.

Перспективами подальших досліджень є апробація методики та розробка системи оцінки стратегічного управління брендом на ринку мінеральної води.

Ключові слова: бренд, бренд-менеджмент, стратегічне управління брендом, моделювання, критерії оптимальності.

Д.С. ФАЙВІШЕНКО
Киевский национальный торгово-экономический университет
ORCID: 0000-0001-7880-9801

МОДЕЛИРОВАНИЕ СИСТЕМЫ СТРАТЕГИЧЕСКОГО УПРАВЛЕНИЯ БРЕНДОМ

Сегодня в условиях высокой конкуренции и нестабильности современной экономики, вопросы стратегического анализа и развития брендов является неперенной составной частью повышения конкурентоспособности отечественных предприятий, этот аспект выступает одним из наиболее актуальных научно-практических задач экономической науки.

В статье обоснована необходимость научно-методических подходов к моделированию системы стратегического управления брендом, определена актуальность и важность исследования, представлены критерии оптимальности функционирования системы стратегического управления брендом на основе принципов моделирования системы, предложено методологический инструментарий, активно может быть применен предприятиями.

Сделан акцент на принципы формирования и функционирования системы управления брендом, критерии оптимальности ее работы, решение которых связано с такими важнейшими научными задачами, как повышение конкурентоспособности отечественных предприятий и обеспечения их стабильного функционирования. Для оценки эффективности функционирования объекта используют обобщенную количественную оценку, которая характеризует качество, эффективность управления, и позволяет не только выполнить сравнительную оценку различных режимов работы объекта, но и выбрать эффективную стратегию.

Доказана необходимость и уместность в стратегическом бренд-менеджменте анализа влияния внутренних и внешних возможных факторов, описываются случайными функциями времени, минимизация не только функционала, но и рисков. Сделан вывод по внедрению эффективной стратегии управления экономическим развитием предприятия является именно поиск оптимальных решений, который поможет не только приспособиться, но и опередить влияние факторов внешней среды. Перспективами дальнейших исследований является апробация методики и разработка системы оценки стратегического управления брендом на рынке минеральной воды.

Ключевые слова: бренд, бренд-менеджмент, стратегическое управление брендом, моделирование, критерии оптимальности.

Formulation of the problem

Today, for many businesses, the brands they own are the most valuable set of assets, both tangible and intangible, are sources of value for the consumer audience. Analysis of recent research T. Nilson, A. Byler [4], E. Ellwood, A. Kendyukhov [10] proves that the value of the brand to the enterprise is manifested in the process of its use. Management and analysis of a brand becomes relevant. Effective brand management is nowadays the most important strategic objective for many businesses [12]. From this perspective, the analysis and modeling of the brand management system requires special research and continuous measurement of results.

Analysis of recent research and publications

Many works of such well-known foreign and domestic scientists as D. Aaker [1], J. Alexander, J. Schouten, H. Koenig [2], J. Balmer and S. Greyser [3], P. Doyle [6], J. Higgins [7], Simon, J. Carol Mary and W. Sullivan [8], A. Dligach [9], A. Kendyukhov [11], M. Mescon, M. Albert and F. Hedowry [14] are devoted to the problems of forming and modeling marketing strategies. However, many companies that in their markets, such as Coca-Cola, Evian, Obolon, Borjomi, adhere to the principles of strategic management system modeling. Emphasis is placed on protecting its market share and, in the long-term perspectives, expanding and highlighting new niches.

Formulation of research objectives

The purpose of the article is to justify the criteria of optimizing the operation of a strategic brand management system based on the principles of systems modeling, where the emphasis is made on methodological tools can be successfully applied in this field.

Statement of the main material

The basis of the chosen strategy [15] are the principles of formation and functioning of the brand management system, criteria of optimality of its work. Therefore, the search and justification of the criteria of optimality of functioning of the strategic brand management system is an urgent scientific and practical problem, the solution of which is related to such important scientific tasks as improving the competitiveness of domestic enterprises and ensuring their stable functioning.

The formation of an effective brand strategic management system is based on the principles of calculation of the respective systems.

The main dominants are the parameters of efficiency and tools for achieving it. To date, there are different approaches to the formation of systems of key performance indicators, which differ in the principle of building a structure of indicators, focused on different users.

Thus, Balanced Scorecard - BSC includes the main aspects of the correct quality implementation of the strategy, focusing not only on financial indicators to build a strategy to maximize the profits of the company, the brand.

The BSC model allows you to focus on the areas most important for the implementation of management strategies, analyze and select the components that affect the effectiveness of brand management.

Model EFQM (European Foundation for Quality Management) - a practical tool that allows the company to measure, analyze and justify the choice of optimal solutions

The Performance Pyramid, based on the basic idea of the organization of activities, at different levels and areas aimed at solving common business goals. The main emphasis is on wasting time on tasks not related to brand capitalization, increasing value, optimizing actions.

The main task of the "Tableau de Bord" model is to provide visualization of the management process, monitoring, data processing and provision of information in the form of numbers, ratios, graphs, infographics, indicators (KPI) related to decision-making goals.

The basis for the construction of algorithms for strategic brand management is the basis of qualitative (models) and quantitative (methods) characteristics of the brand: popularity, image assessment, Model Image Power, Brand Signature, relevance, Brand Dynamics, Model Brand Assets Valuator (BAV), quantitative methods of brand capitalization (Activity Based Costing), (Future Earnings), (Earnings Basis) (Expenses to Substitution), Premium Profit, Economic Value Added, which characterize the effectiveness of the management system.

In general, modeling of the management process is the establishment of goals and regular verification of forecasts to achieve certain results, ensuring optimal coordination of the enterprise and its subsystems (processes, departments, personnel) to achieve certain desired results, taking into account the effectiveness of staff and business to promote the product . Strategic management is aimed at aligning all processes and subsystems, so the emphasis is on brand management as the main tangible asset of the enterprise.

It is logical to build a model of strategic management which includes the main stages: strategic analysis; strategic accounting; strategic planning; strategic organization of the management process; strategic control; motivation; strategic adjustment and selection of alternative solutions.

Analysis of studies shows that the most frequently chosen options for action are: imperative, creative, variational, alternative.

The main task of building the most effective, optimal brand management system is to solve a variational problem, a kind of decision made earlier. The theory of optimal management processes and the ideas of dynamic programming is used to model the optimal system of strategic brand management.

The theory of optimal management processes is the most appropriate tool for the study of dynamical systems (that is, systems described by ordinary differential equations). The idea of dynamic programming mainly relates to systems operating in the discrete time, discrete systems. It is the stochastic theory of management that studies the dynamic systems of optimal solutions and can be directed to the search for the construction of optimal models of brand management system, which determines the quality of work, the value of which can be minimized (maximized). In determining the optimal management decision, the best indicator of the criteria (system of criteria) of optimality is taken into account. To evaluate the performance of the facility, they use a generalized quantification that characterizes the quality, efficiency of management, which allows not only to perform a comparative assessment of different modes of operation of the object, but also to choose the best strategy. The general record of the optimality criterion is:

1) for deterministic systems:

$$J = G(\mathbf{x}(t_k), \mathbf{u}(t_k), t_k) + \int_0^{t_k} F(\mathbf{x}(t), \mathbf{u}(t), \mathbf{z}(t)) dt \tag{1}$$

2) for stochastic systems:

$$\langle J \rangle = M\{G(\mathbf{x}(t_k), \mathbf{u}(t_k), t_k)\} + M\{\int_0^{t_k} F(\mathbf{x}(t), \mathbf{u}(t), \mathbf{z}(t)) dt\} , \tag{2}$$

where $G()$ – a function that characterizes the state of the system at the end time t_k ;

$\langle J \rangle$ – the average value of the functional;

M – mathematical expectation operator (risks).

Effective solution is a balance between the requirements of the management system and the goals of the enterprise. The solution to the problems of the brand optimal strategic management is set in such a way that the system functions as accurately as possible with minimal cost, with maximum reliability, so $W_t(q_t^*, q_t, u_t)$ can be represented as a function that determines the magnitude of the loss at time t if the control system at that moment has a market share q_t^* , at the exit of the system at time t has a market share q_t , and the magnitude of

the action took on this point in time u_t . Dimensions (q_t^*, q_t, u_t) can generally act as a vector function, W_t – functional. Dependence W_t from t demonstrates the fact that requirements for the control system change over time. The choice of optimal solutions u_t should be chosen so as to minimize the loss of the brand market. If the management system must function during the interval from 0 to T, then the total possible losses of the market niche share are determined by the integral of the loss function [12].

$$\int_0^T W_t(q_t^*, q_t, u_t) dt' = \min_{u_t \in U} \quad (3)$$

in which U is the functional space of possible management decisions. If the system operates in discrete time and has to function n cycles, (1) has the analog of the equation

$$\sum_{t=0}^n W_t(q_t^*, q_t, u_t) dt' = \min_{u_t \in U} \quad (4)$$

Strategic brand management should take into account the influence of internal and external probable factors, which are described by random functions of time, so it is appropriate to minimize not only the functionality but also the risks that can be clearly presented $R = MW_q$ Equation (2) in this case will turn into the form

$$R = \sum_{t=0}^n MW(q_t^*, q_t, u_t) dt' = \min_{u_t \in U} \quad (5)$$

Uncertainties and risks are evaluated, leveraged and then managed, by learning from systematic experimentation and iterative processes, within a portfolio of opportunities

Finding optimal management actions using equations is, of course, possible given the influence of possible factors, which, according to scientists M. Mescon, M. Albert, and F. Hedowry, [14] include the criteria of manager evaluation, internal and external environmental factors for acceptance relevant decisions, information and time constraints, company, brand and staff values, force majeure, and other risks.

Additionally, one can pay attention to the influence of the factors of the enterprise’s corporate responsibility, the level of ethical certainty, peculiarities of national culture, brand ecosophy. It is urgent to use a minimum and maximum indicator, according to which the optimal solutions should be selected taking into account the most favorable conditions.

Conclusions

Conclusions and perspectives of further exploration. Thus, it can be concluded that the modeling of the strategic brand management system, that plays an important role, can be carried out on the basis of the principles of calculating the optimal decision. When designing a strategic management system, the performance criteria of this system must be set, the restriction criteria under which the system must function and the structural-logical model of the system functioning corresponding to the given constraints must be established.

Forming and implementing an effective strategy for managing the economic development of an enterprise is precisely the search for optimal solutions, it will help not only to adapt, but also to anticipate changes in the influence of environmental factors.

Assessment of the level of economic development of the enterprise, the analysis of the factors of influence, the development of the optimal solution strategy in combination with research, confirms the need to improve existing theoretical and methodological concepts, taking into account the priority of practical experience and crisis management in general. Prospects for further research are the adaptation of the methodology and the development of a system for evaluating strategic brand management in the mineral water market.

References

1. Aaker D.A. (1991) *Managing Brand Equity. Capitalizing on the Value of a Brand Name*, The Free Press: New York, London, Toronto, Sydney, 299.
2. Alexander J.H, Schouten J.W., Koenig H.F. (2002). *Building Brand*. *Journal of Marketing*. January, 38 – 54.
3. Balmer J., Greyser S. (2003). *Revealing the Corporation. Perspectives on Identity, Image, Reputation, Corporate Branding, and Corporate-Level Marketing*, New York: Routledge, 363.
4. Byler A. *Brand magic // The role of advertising in the creation of strong brands*. - M.: Williams Scrap, 2005. 227–249.
5. *Brand Management* (1999). *Harvard Business Review*. – US: A Harvard Business Review Paperback, 2004.
6. Doyle P. (2001), *Shareholder-value-based strategies*, Henry Stewart Publications 1350-231 X, *Brand Management*. 20-30 September. Vol. 9. No. 1. P. 16.
7. Higgins J. M. (1983). *Organizational Policy and Strategic Management*. 2nd ed. Homewood: Richard D. Irwin, 3-56.
8. Simon, Carol J. Mary W. Sullivan (2005). *The Measurement and Determination of Brand Equity*. / Carol J. Simon, // *Marketing Science*. No. 12 (1). 28-52.
9. Dligach A.A. (2006), *The strategy of competitive behavior in the strategic marketing system*. *Marketing and advertising*. 2006. № 7 - 8. 33 - 37.
10. Ted Roselius *Consumer Ranking of risk Reduction Methods* (1971). *Journal of Marketing*, January, 56 – 61.
11. Kendyukhov A.V., Faivishenko D.S., (2012). *Assessing brand management efficiency basing on benchmarking*, January 2012, *Actual Problems of Economics*, 137(11), 131-137.
12. Kendyukhov O.V. (2013), *The theory and practice of managing the economic development of the enterprise*. DonNTU, Vol. 1. 344 p..83. [in Ukraine].
13. Fayvishenko D. (2018) *Formation of brand position strategy*.
14. *Baltic Journal of Economic Studies*, Riga: Publishing House “Baltija Publishing”, (4), No. 2, 245-249. doi: 10.30525/2256-0742/2018-4-2-245-248
15. M. Mescon, M. Albert, and F. Hedowry (1997). *Fundamentals of Management*. Publisher: Delo, 704
16. Rice E., Trout J. (2003) *Marketing Wars*. - St. Petersburg: Peter, 2003. - 256 p.
17. Boguslavskaya S. B. (2011) *Sistemnoe strategicheskoe upravlenie kompaniy: podhody i etapyi postanovki*. SPb.: Piter Izd-vo Politehn. un-ta. p. 170
18. *Balanced Scorecard* <https://www.intrafocus.com/balanced-scorecard/>
19. *European Foundation for Quality Management (EFQM)* <https://www.base-uk.org/knowledge/european-foundation-quality-management-efqm>
20. *ACCA* <https://www.accaglobal.com/an/en/student/exam-support-resources/professional-exams-study-resources/p5/technical-articles/the-pyramids.htm>
21. Adams, C, Roberts, P. (1993) *You Are What You Measure* (Europe 1993, Sterling Publications Ltd, 1993), pp. 504–507.