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MARKETING STRATEGY OF BRAND MANAGEMENT

The article proves that the task of development of the marketing strategy is a process of search for instruments and mechanisms of creation of strong brands, combination of which ensures maximal economic effect in current market situation and in future.
Keywords: brand-management, branding, optimisation, trade mark, economic effect.
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МАРКЕТИНГОВА СТРАТЕГІЯ БРЕНД-МЕНЕДЖМЕНТУ

У статті доведено, що завдання вироблення маркетингової стратегії є процесом пошуку інструментів і механізмів створення сильних брендів, поєднання яких забезпечує максимальний економічний ефект у даній ринковій ситуації та у перспективі.
Ключові слова: бренд-менеджмент, брендинг, оптимізація, торговельна марка, економічний ефект
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МАРКЕТИНГОВАЯ СТРАТЕГИЯ БРЕНД-МЕНЕДЖМЕНТА

В статье доказано, что задача выработки маркетинговой стратегии представляет собой процесс поиска инструментов и механизмов создания сильных брендов, сочетание которых обеспечивает максимальный экономический эффект в данной рыночной ситуации и в перспективе.
Ключевые слова: бренд-менеджмент, брендинг, оптимизация, торговая марка, экономический эффект
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Brand management strongly emphasizes creation of a strong trademark, heightening the brand's consumer value and its share of the market. Strong trademark can not emerge, and more importantly, can not exist within itself. It requires constant teleological management. K. Keller [8., P.35] and other western experts note that the typical quality required from a professional marketing strategist is the ability to create, protect, support and strengthen trademarks – in other words, to managing them. At the moment, effective brand management becomes the primary objective for numerous Ukrainian companies. That makes search for the most effective, optimal branding solutions an important scientific and practical problem. This problem can be solved with the help of calculus methodology applied to the decision making processes.

Degree of effectiveness for decisions that are being approved and carried out should be gauged by the degree of their market impact - that is, by evaluating the increase of the product's market share, brand-created surplus value and generalized indices of profitability.

Analysis of works by D Aaker [6], S. Davis [1], D. Trout [3] G. Charmersson [4], M. Yanenko [5], and others shows that the problem of constructing an optimal plan can be formulated as a process of finding tools and mechanisms for creation of strong brands, which would, in the current marketing situation and perspective, provide a maximal economic impact while unified. Thus, various problems tied to constructing solutions for various problematic aspects of brand management, regardless of their specific properties, can be reduced to a general optimization problem. In this paradigm we can also assume that the process of decision approval in branding can be based on the theory of no variant multipara metric optimization.

Article's purpose lies with establishing criteria for selecting optimal decisions in brand management, founded in the theory of multiparametric optimization.

Method of nonvariant multiparametric optimization permits evaluation of all the multiplicity of factors that influence the trademark and limit its growth simultaneously, in a single mathematical model, and helps determine a combination of parameters that maximize or minimize the criterion function. Mathematical modelling in economics allows us to introduce all the necessary conditions in the form of initial data and potentially charge the model with all of the possible solutions under present conditions without introducing each of them implicitly.

Form and essence of various solutions are governed by specific problem properties, which are resolved as a function

of current control system. The problem statement in general form remains unchanged.

In all cases decision approval is a system of brand management can be separated into the following elements:

1) unlimited number of alternatives provided for brand manager's choosing;
2) information that allows the brand manager to foresee the consequences of choosing each alternative;
3) criterion of effectiveness that allows the brand manager to evaluate the results received after approving certain decisions;
4) computational methods that allow the brand manager to determine the optimal solution.

By analyzing a particular decision making situation we observe numerous factors, complex relationships between them and encounter significant difficulties in prognostication of results of the multiple possible decisions, as well as difficulties in comparing desirability of different results. It is more practical to simplify the whole variety of relations on the preliminary decision making stage. For this purpose, a set of limitations is introduced to egest the set of feasible strategies from the general set of strategies. Although, choice of any alternative is not equally possible since the outcome (decision implementation) can become less desirable for various reasons. Thus, a subset of acceptable alternatives can be extracted from the set of feasible ones, which can in turn produce a subset of dominant ones.

Optimization of decision making requires information in form of indices and parameters that characterize the market, competitors, consumers, strong and weak aspects of the brand, threats and possibilities allowing to predict the consequences of choosing each alternative. Prediction accuracy is a function of the type of information, its volume, usefulness, reliability, etc.

Diminution of the information's volume (without reducing its usefulness and reliability) can be carried through by constructing a formal mathematical economic model according to the accepted effectiveness criterion, evaluating the cardinal properties of the foreseeable results. To fulfil the capacity for choosing the optimal strategies in decision making, mathematical models should reflect the possible market situations (or at least the majority thereof) as fully and accurately as possible and present the end results of brand management and ways of attaining it as clearly and concisely as possible. It's worth noting that it's impossible to determine a universal criterion for choosing alternatives, because each approved decision implies a hierarchy of goals and means of securing them. This hierarchy is mediated by multiple factors. Because of that, in each separate case the criterion of effective decision making depends on the real state of the market, hierarchy level and brand properties.

After problem formalization the optimal strategy is determined with the help of mathematical methods. Currently, experts distinguish between deterministic problems, nondeterministic problems, models and decision making situations. In deterministic models choosing the same input for regulating the production factors invariably leads to the same result and value of criterion function. Nondeterministic models do not satisfy the condition described above.

Bellman and Dreyfus were among the first researchers who proposed a number of ways to formalize and solve nondeterministic optimization problems [5, c. 28]. Firstly, the neoclassical premise of risk and advantage function can be introduced to the model. Secondly, it's possible to use the method of confidence levels by introducing a condition that establishes the upper bound of failure probability for the aim that is being pursued.

Approving a decision in terms of uncertainty, brand manager has to pick the strategy that can cause the least potential amount of harm to her work front.

Decision making through minmax principle, accounting for the least favourable situations, is a rather cautious strategy. Under these conditions, assuming that decision would lead to the most favourable outcome it's not recommended, since expected and factual results might not coincide.

It's only reasonable to pick an interim assessment of the situation and to disregard the extreme ones. This implies the Hurwitz principle, which is a compromise rule defining the solution as an arithmetical average of maximin and minimax results.

In nondeterministic cases the Bayes-Laplas principle can also be used by assigning some antecedent probability to all outcomes - for instance, by considering the probability of all outcomes equal.

That allows us determine mathematical expectation of the criterion function that correspond to separate solutions.

Bayes-Laplas principle can be applied when the process iterates through possible situations multiple times, which allows us evaluate the probability of certain outcomes arising in the future by analyzing their relative frequency. In case of singular decisions use of Bayes-Laplas principle is inadviseable. Hurwitz principle is essentially close to the Bayes-Laplas principle in its simplified form.

In practice, while choosing optimal solutions under nondeterministic conditions, Savage's principle of minimaxing the consequences of a faulty decision is utilized. Savage's principle is directed at preventing severe losses that could be caused by a faulty decision. Indeed, brand managers in the process of decision making usually arrive at alternatives that would cause the least harmful consequences in case of a failure. Use of Savage's principle is based on faulty decision consequence matrix.

The optimum of multipara metric linear functions - for instance, the trade mark surplus value with boundary conditions represented by linear equalities or inequalities - can be determined with linear programming tools, like Simplex algorithm or Lagrange method. Inside this class of problems a subset of integer programming problems can be specified, where each variable (i.e. brand popularity or purchasing bias) can only assume integer values.

Methods of nonlinear programming - for instance, quadratic programming, can be used as well. It's useful in cases when the boundary conditions are represented by linear functions, but allows for a convex criterion function.

In general form, the problem of discovering an optimum combination of marketing budget parameters for trademark promotion ensuring an optimum value of chosen effectiveness criterion is a nonlinear multipara metric programming problem. The solution algorithm can utilize such classic approaches to multipara metric function optimization as the scanning method, Gauss-Seidel iteration, gradient method or method of steepest descent in the following manner:

1) the absolute minimum of the function is found without consideration of the boundary conditions;
2) value of the function is calculated and the plan is checked for correspondence with boundary conditions.

If the constraints were satisfied, the solution is accepted; otherwise the procedure is repeated for local minimums.

The problem can also be solved by performing series of statistic trails (Monte-Carlo method).

The absolute minimum of a multipara metric function can be discovered with help of any combination of mentioned methods according to the situation. In cases when number of parameters is small it's feasible to find a point that is close to a local optimum on a coarse network by trail and error, and initiate the search with tangent, fastest descent or stepwise regression methods. In cases when the number of parameters is significant, the Monte-Carlo method is utilised for a small number of trails, and afterwards the search is transferred to the fastest descent method, accidental search, et cetera. In general form the minimization of the target criterion under various types of constraints can be best resolved by variations calculus methods or dynamic programming. However, we think that the simplest solution can sometimes be provided with the help of graphic-analytical methods.

Graphic-analytical methods imply resorting to terms of multidimensional geometry and giving a geometric interpretation of multiprametic optimization problem.

Optimal solution of the problem is represented by coordinates of one more points in the space of feasible plans, marked by boundary conditions forming a $(n - m)$-dimensional convex hyper-polyhedron, where n – is the number of variables, and m – is the number of independent constraints. Those points are situated on isopretinal hyper surfaces (the criterion function assumes same values on all points of the surface) that correspond to the highest degree of success.

The solution is called unambiguous if the polyhedron touches the isolated surface upon a single point and ambiguous if it touches the surface with k vertices (where $k > 1$). In this case the problem possesses $(k - 1)$ degrees of freedom, in other terms $(k - 1)$ values of variables can be chosen arbitrarily, and the remaining $n - (k - 1)$ variables are functions of those $(k - 1)$ variables.

«Traces» of isopretinal hyper surfaces can be depicted as a family of isopretinal lines.

Graphical-analytical method for solving the optimization problems can only be utilized in practice when the criterion function includes two, but no more than three variables. Because of that, it's difficult to determine the dominant variables statistically.

For a certain class of marketing problems in trademark management stochastic methods can be successfully applied to the decision making process.

Trademark market share of 15% or the size of the trademark surplus value in market price on the 50% level can be interpreted as coordinates in an n-dimensional phase space that describes the aggregate of possible brand states. Each momentary stage of its functioning corresponds to a certain phase-point of this space, and different changes in status can be considered a phase trajectory.

The goal of constructing an optimal solution relies on teleological variation of parameters to their optimal levels, in other words – discovering a phase trajectory, which would ensure the highest degree of success. A sample of this type of problem could look like this: minimizing potential advertising expenses, while striving to preserve the trademark market share at 15% and preserving the surplus value of each unit of the trademarked product at 50%. We could apply graphic analysis to this problem, since securing the optimum point allows to pursue it in a shortest possible line. In so doing, only shifting to an isoline with lesser associated expenses i. e. only such curve displacement makes any sense in terms of optimization.

According to the idea of R.Bellman [5], the entire path to the goal can be separated in series of consecutive steps, with advertising strategies being chosen at every step. Strategy can be described as an N-iteration process, where the situation that arises at each step is characterized by a set of variables fully describing state of the system at this step. For instance, it's necessary to choose the values of a single or several regulated variables for each of the planned stages to fulfil a certain objective. N-iteration strategy, which allows a target criterion to attain it's maximum or minimum value is called the optimal behaviour. It possesses the following property: regardless of initial state of the system and initial solution, the following plans have to describe the optimal behaviour in relation to the state of the system that came to be as a result of approving the first decision.

In decision making in two fundamental spaces are considered: state space (i.e. the space of all states we could possibly encounter on any taken iteration) and the decision space (i. e. the space of all possible behaviours, each of them can be chosen at any step). To select the optimal decision, the whole state space has to be collated with the space of value assessments for separate trajectories. Criterions like the probability of certain parameters changing or associated risks can be used as a measure of worth that would reflect proximity to the goal.

These trajectories are a set of alternatives or a complex of advertising measures that are marked for implementation by the brand manager. Under these conditions the process and the structure of decision making can be modelled by a stochastic network that displays the whole multiplicity of feasible plans.

In terms of network planning, process of decision making while choosing from a certain multitude can be compared to regular workflow, while realization of this choice can in turn be compared to events. Events help to further unfold

the project and eventually drive it to completion. Such events are called decisive, and each project can have multiple decisive events.

Introduction of the term «decisive event» in an advertising campaign allows evaluate the alternatives that arise on certain stages of project realization. The quantity of advertising measures to be used depends on certain conditions. Obviously, not all of the events can be implemented – mostly because brand managers and advertising experts usually pay no mind to ways of optimizing their decisions formally. Each of them possesses valuable personal experience that allows making primary choices intuitively. In the subset of plans that they derive from their experience they make decisions based on what they consider to be the most appropriate way to act in current situation. We can assume that under these conditions each brand-manager assigns a scale of subjective values to each scale of objective values of accepted criterion based on personal experience.

This approach is the most appropriate in cases when the mathematical expectation is used for assessment of the effectiveness criterion or when a single solution of the problem is possible. Naturally, in these cases using the objectivity scale is counterproductive. Thus, when the brand manager approves a certain decision based primarily on experience, we could say that he assigns a certain occurrence probability of to each of the final outcomes.

Realization of analytical approach to decision making in branding can be described as following. First of all, it's necessary to compile a list of all feasible plans. When all feasible plans are accounted for, it's necessary to determine which outcomes are possible by assigning an antecedent probability to each alternative.

To gauge the effectiveness of brand mangers decisions with a probabilistic advantage function, a substantial array of statistical data has to be collected on brand manager's choice of alternatives on every level of a hierarchical decision making process in trademark management. To achieve this goal we have to study the aspects of brand managers' decision making and their actions from a strict formal perspective. Possessing the statistics on various decision making trajectories at our disposal we can model the inner mechanisms and connections with sufficient precision, as well as account for the major factors that stipulate paths of decision making.

Acquisition of probabilistic advantage functions can also be based on opinions of experienced marketing strategists regarding the probability of certain results and subsequent transformation of subjective modal assessments to numeric ones.

It's known that formulated decisions are scheduled for execution through a system of measures that were determined in the planning stage. That's why it is important to determine the validity of chosen decisions. This can be determined by checking four factors: availability of financing, competitor actions, market share and consumer behaviour.

Many companies that own trademarks dominating their respective markets – such as Coca-Cola, Chevrolet or Obolon – pursue a defensive marketing strategy. This s caused by the constant attacks from the players of second and third leagues, making retention of their market share a cardinal objective. Except from that, due to resource limitations and other concerns, companies that don't control a major share of the market sometimes also pursue defensive strategies.

Therefore, generalised results of the world's leading branding scientists' research prove that problem of constructing a marketing strategy is a process of finding tools and mechanisms for creation of strong brands, which would, in the current marketing situation and perspective, provide a maximal economic impact while unified.

Based on the general form of optimization problem we can assume that the decision making process in branding can be based on multiparametric optimization theory.

The principles for choosing an optimal solution that were set forth in brand management under ambiguous conditions are in fact rules of expedient action based on effectiveness estimations, and can be used in the following cases:

Hurwitz or Bayes-Laplas principle – for cases when the marketing situation repeats itself multiple times: principle of a minimaxing strategy or Savage's minimax of consequences while choosing singular solutions. Minimaxing principle can also be utilized for selecting collective decisions. This helps guarantee coordination of approved decision with opinions of different experts and professionals from marketing administration: divergence between the assessments of separate experts and the assessment derived from collective decision should be minimal. Solution of deterministic problems can be achieved by utilizing described methods. In separate cases the solution can be found by means of differential calculus.

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