

## THE TAKING OF MARKETING DECISIONS IN CONDITIONS OF UNCERTAINTY AND RISK

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### Abstract:

*The choice of method of developing marketing decision alternatives and their evaluation depends significantly on the availability of initial information. The decision maker may not possess all the information or possess insufficiently precise information about external environmental conditions and their changes in the future. Such a situation is often observed in the case of macro-environment factors, but can also refer to the company's microenvironment. Given these circumstances, in different conditions there are applied different methods of affirmation and choice of decisions. The situation of certainty allows the use of deterministic methods and models, in the risk situation different probabilistic methods are used, while the situation of uncertainty requires the application of other methods and assessments.*

**Keywords:** marketing decisions; uncertainty; risk; alternative, probability.

**JEL Classification:** M31

## INTRODUCTION

The managerial decisions adopting, including in marketing sphere, requires taking into consideration of various external and internal environmental factors. However, the exact knowledge of the importance of various factors and their influence on the decision is not always made by individuals or groups who develop and evaluate decision alternatives. A particular difficulty is the fact that marketing decisions are often an incentive in relation to the competitors' decisions implementing, decisions that are difficult to predict. Thus, the marketing decisions are often taken under conditions of incomplete information or when the available data do not have the necessary reliability and truthfulness. Such situations are typical, for example, in case of decision on the development of new products, entering new markets, changing prices. As a consequence of this, there are real deviations from the realization of the decision, from calculated or expected results.

### 1. APPROACHES IN RISK AND UNCERTAINTY ASSESSMENT AT MARKETING DECISIONS ADOPTING

In the literature in this respect, it is analyzed the problem of risk in taking of marketing decisions. Namely the concept of "risk" is very complex, being interpreted differently by the different authors. Thus, Professor T. Danko says: "the managerial activity in a specific market space inevitably involves the risk as a potential threat, a random action in hopes of a happy ending, possible loss or failure in the commercial act, due to changes in market conjuncture". And still, the author expresses his view that management and business activity requires the use of the principle of risk. Thus, in this case, the risk is associated primarily with the actions of the decision making persons.

The academician Oleg Larichev notes the existence of three different approaches in defining the risk:

- a) risk as the probability of unwanted consequences or losses;
- b) the risk as the size of possible losses;
- c) the risk as a combination of probability and size of losses (for example, the average estimated value of losses over a period of time".

The differences between these approaches are quite significant. In the first of these, the risk is interpreted as the probability of the undesirable consequences' occurring, which may be treated differently in different situations. In this case, is not considered the qualitative measure of such

consequences (for example, resources unreasonably spent in the frame of an unsuccessful promotion). In the latter case, the focus is shifted from the size of the probability of undesired outcome occurring to the size of possible losses. The third approach, in fact, combines the first two ideas, and practically is reduced to the mathematical determination of losses.

But, these views have a common feature. Despite the different interpretation of risk, they are all based on the assumption that the consequences of marketing decisions are of probabilistic nature. The main differences are reduced to the problem of **measuring the size of risk**.

In the author's opinion, depending on specific conditions of the tasks' solving, for the person who adopts the decision these approaches may be of interest not only from the point of view of the concept of risk, but also according to its qualitative assessment. For example, in an extreme situation, when it comes to the business survival, the person who adopts the decision may choose that option of decision, which will more likely lead to its continuous existence. When selecting a volume of acquisitions of different goods, the manager may be driven by the assessment the expected profits.

The theory of decision-making includes and other indicators of the risk. One of the most important is the size of the standard deviation of profit (or losses). We evoke that the standard deviation of the random variable is an important feature of its variability around the mathematical expectation. Let us examine an example of using this indicator of risk in choosing a marketing decision.

Let us suppose that a commercial company examines two possible directions of diversification of store activity:

1. the opening of section of household goods;
2. the opening of section of perfumery and cosmetics.

The table presents some evaluations of the consequences of these variants of action. The probability of one or another outcome was assessed by the expert method.

**Table 1. Probability distribution of profit for possible alternatives of decisions**

Alternative 1	Profit (loss)	1,5	-0,5	0	1,0	1,5	2,5
	Probability	0,10	0,10	0,15	0,30	0,25	0,10
Alternative 2	Profit (loss)	-2,5	-1,0	0	1	2,5	4,0
	Probability	0,10	0,10	0,20	0,35	0,20	0,05

If we use as risk assessment the mathematical expectation, then the expected profit in the first version will be 0,725 monetary units ( $(-1,5 * 0,1) + (-0,5 * 0,1)$ , etc.). In the second variant, the expected profit is higher, being equal to 0,8 monetary units:  $(-2,5 * 0,1)$ , etc.).

However, if it were to consider this approach with more prudence, we should take into consideration not only the mathematical expectation of profit, but also the estimated size of its variation. Dispersion and mean square deviation values of profits are presented in the table below.

**Table 2. The dispersion and standard deviation of profit.**

Alternative 1		Alternative 2	
Dispersion	Mean square deviation	Dispersion	Mean square deviation
1,214	1,102	2,564	1,601

In this case, choosing the second variant, the dispersion of potential values of profit is approximately one and a half times that in the first variant of decision. Namely, this fact can be taken into account in the risk assessment on decision taking. Thus, the second option is better in terms of possible losses (profits), but also more risky.

Here it should be noted that the issue of risk to marketing decisions have objective and subjective components. The first, as already mentioned, is related to the real decision-making

conditions, when the person who adopts the decision does not have all necessary information and it is not possible to calculate accurately the response to the taken decision by the competitors and consumers. In addition, the changes of external environment's factors often have a probabilistic nature and can not be defined precisely.

The subjective aspect of the problem relates to how the risk is perceived by the people who prepare and take the decision, their predilection to take risky decisions, the influence of external factors on the decision taking. In the works of several authors, the emphasis is on issues of risk perception and group decision-making. As different studies show, the risk considering in group decision-making has certain characteristics, primarily associated with subjective moments of conduct of members of these groups. In our opinion, namely the influence of subjective factors explains the fact that in similar marketing situations, different individuals take substantially different marketing decisions.

The risk issue can be examined also from other positions. The managerial decision making process involves the implementation planning of certain actions in the future, considering the company's external environment.

The external environmental factors relate to the conditions, situations and events that can not be influenced by those responsible for taking decisions, but which in future could affect the impact of those decisions. Concomitant with this, the decision maker may not possess all the information or possess insufficiently precise information about external environmental conditions and their changes in the future. Such a situation is often observed in the case of macro-environment factors, but can also refer to the company's microenvironment. As an example, may be referred to the emergence of new technologies, market entry of new competitors, changes in legislation regulating foreign economic activities, taxation.

Usually, the company's employees take totally new or corrective managerial decisions, based on a limited amount of data they have at one time. In this way, the volume of available information and its degree of objectivity, and qualification of the company's employees, are the primary prerequisites for effective managerial decisions making. It is obvious that the smaller (relative to needs) is the volume of available information at the company, the lower is the reliability of information and the greater is the risk at the decision making on this basis.

## 2. THE CHARACTER OF SITUATIONS OF MARKETING DECISIONS TAKING

Depending on the company's marketing environment understanding and ability to influence its components, there can be distinguished three situations in marketing decisions taking:

**A. The situation of certainty** – the company's marketing department has complete information that is necessary to solve the problem; it is possible to develop variants of decisions and the exact determination of decisions consequences after their completion.

In such circumstances, the problem to be solved can be accurately and unambiguously formulated, and criteria for selecting the best alternatives are clear. Taking decisions in such conditions is relatively simple. Although, of course, there may be tasks, the solving of which, despite all the necessary information, the identification of best option is quite complicated. To solve problems under conditions of certainty, the person who adopts the decision chooses the best potential results after its realization.

The right of decision-making under conditions of certainty is often sent to the marketing and sales department specialists. The most daily tasks of lower level managerial staff refers to the adoption and implementation of decisions in real conditions of certainty.

**B. The risk situation** – the company's marketing department can identify a problem occurred, predict the changing conditions of the external environment, formulate possible decision alternatives, originate qualitative assessment of the probability that the choice of certain alternative will lead to desired results.



is pronounced, the greater is the entropy. In conditions of uncertainty, the entropy is virtually impossible to determine.

The systematization of conditions of marketing decision-making has not only cognitive interest, but also practical value.

Depending on situation, the person who adopts the decision possesses different information in terms of content and volume – comprehensive information for full certainty and minimum information in conditions of uncertainty. The choice of method of developing decision alternatives and their evaluation depends significantly on the availability of initial information. For example, to make an accurate forecast of demand (according to statistical criteria) based on models of multi-factorial correlation; it is necessary to have a fairly long dynamic range of sales indicators and factors influencing them. If such statistics can not be obtained by the person who adopts the decision, then this method of forecasting can not be used.

Given these circumstances, in different conditions there are applied different methods of affirmation and choice of decisions. The certainty allows the use of deterministic methods and models, and in the risk situation different probabilistic methods are used. Finally, the conditions of uncertainty require the application of other methods and assessments.

It is obvious that the greater the certainty, the highest – in cases of equals other conditions – will be the quality and efficiency of adopted decisions. The companies that have better information about the marketing environment possess a clear competitive advantage. Hence, the managers tend to ensure the reduction of uncertainty, to make the situation more clear and predictable. We further intend to examine more detailed the outcome of this problem.

It is clear that there are several ways to solve the problem, though; we will refer to a direction that would lead to reduction of the problem of uncertainty at marketing decisions adopting. Evidently, it is extremely important to improve the quality of marketing information. The decision is, in a sense, an informational product, its argumentation being dependent on informational support of decision-making system. For company, there are several ways to improve the informational support of marketing management:

- Managing of company's external marketing environment monitoring: defining the parameters to control, data obtaining sources, forms and periodicity of presenting the information, processing and storage methods, order of presentation (or access to that) of marketing managers and specialists, or other departments of the company.
- Managing of company's internal environment parameters' monitoring, which have particular importance in solving of marketing tasks. First, the marketing department likes to have complete and accurate information about sales and stocks of finished goods, order fulfillment status, production and sales costs and profits, processes of elaborating and development of new products manufacturing. Here are presented only general information groups. The informational support system of decision-making, must submit them in a disaggregated way, required for specific decisions adopting. Thus, sales data should include information on deliveries in terms of product types, geographic markets, segments and clients. Data on the internal and external environment monitoring have a dual utility. First, they allow the adoption of decisions based on the use of more complete, accurate and intelligent information. It is important to emphasize that the systematic analysis of information gathered in the database, can often be used to estimate the probability of occurrence of certain events, predict possible reactions of consumers and competitors on various marketing related activities. Secondly, good organization of marketing environment monitoring (especially if correlated with the forecast system), enables timely identify problems emerging on the market, to be precise it (monitoring) report incentives, weak signals, which require decisions adopting to adapt to assumed changes in the marketing environment.
- The marketing research performing has a direct relevance in terms of reducing risk and uncertainty. Of course, not all informational problems can be solved by such researches,

since, as already mentioned, there are factors and situations that are impossible to predict. At the same time, there is no doubt that the qualitative execution of research of consumer's intentions and preferences, demand forecasting and other issues reduce the uncertainty and the risk in marketing decisions adopting.

- The use of appropriate methods of decision adopting, even if they does not solve the uncertainty problem, they allow to take into consideration the specific of concrete situation, the probabilistic nature of future events on the company's markets. The comprehension of marketing professionals of modern methods of argumentation of decisions, their ability to correctly identify the occurred situations and to choose appropriate ways of approach, helps to improve the foundation of selected action variants in conditions of risk and uncertainty.

## CONCLUSION

In addition, it has to be taken into account another important fact. Many marketing decisions are, in essence, a future action plan on specific elements of the company's external marketing environment. First, this concerns the choice of target markets, positioning and marketing instruments using. The marketing mix is a set of means by which we can exert influence on consumers, competitors, intermediaries and other participants in market relations. In this way, the marketing decisions' implementing not only allows passive observation of the environment dynamics and adapting to it, but actively influence important processes and phenomena such as consumer preferences and intentions, demand, competitors actions, etc. The company tends to use the marketing tools so that this leads to increasing the probability of events' favorable conducting. However, this means that namely the marketing decisions – if they are rational and efficient – reduce the uncertainty and the risk.

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