

## DETERMINING THE EFFECTIVENESS OF ENTERPRISE MARKETING BASED ON THE 4P'S MODEL

Romualdas Ginevičius<sup>1</sup>, Valentinas Podvezko<sup>2</sup>, Adomas Ginevičius<sup>3</sup>

*Vilnius Gediminas Technical University, Faculty of Business Management,  
Saulėtekio ave. 11, LT-10223 Vilnius, Lithuania*

*Email: <sup>1</sup>romualdas.ginevicius@vgtu.lt, <sup>2</sup>valentinas.podvezko@vgtu.lt, <sup>3</sup>adomas888@gmail.com*

**Abstract.** Globalization of markets is accompanied by the increasing competition between enterprises. In this environment, the results of the economic-commercial activities of enterprises strongly depend on the effectiveness of their marketing. The latter, in its turn, largely depends on the distribution of the finances, intended for marketing strategy's improvement, among the main marketing mix components, i.e. product, price, promotion and place (channels). The analysis performed shows that 32 percent of all financial resources should be allocated to product, 24 percent – to price, 23 percent – to promotion and 21 percent – to place.

**Keywords:** enterprise marketing, 4P's model, marketing effectiveness.

**Jel classification:** M3, M31

### 1. Introduction

Today, enterprises can be competitive on the market only if they effectively use the available resources and make purposeful efforts in their activities. This primarily refers to marketing strategies, which are growing in importance and require more and more attention and resources. Enterprise marketing has many various aspects, which may be viewed as the problems to be solved. These problems range from the selection of innovative strategies by marketing department and its relations with other departments to the creation of favourable conditions for making management decisions required for implementing these strategies (Ginevičius 2007; Ginevičius *et al.* 2011; Ginevičius, R., Ginevičius, A. 2008; Ginevičius *et al.* 2008; Rutkauskas *et al.* 2008; Adcock *et al.* 2001; American Marketing Asociation; Bartels 1968; Bennet 1995; Booms, Bitner 1980; Donnelly, George; Brassington, Pettitt 2003).

Economic globalization complicates enterprise performance, but provides new opportunities to enterprises. To use them to the best advantage, enterprise marketing should be very effective. This may be achieved in various ways. First, there should be a possibility of quantitative evaluation of the current marketing state. This is a complicated problem because enterprise marketing manifests its numerous aspects in reality. These various aspects should be transformed into criteria, which may have various dimensions and be oppositely directed (Ginevičius 2007; Ginevičius *et al.* 2011; Ginevičius 2011; Ginevičius, Podvezko 2011; Ginevičius,

Podvezko 2010). Therefore, they should be made comparable. The above considerations show the multicriteria nature of marketing as a phenomenon (Brauers *et al.* 2010; Ginevičius 2011; Ginevičius, Podvezko 2011; Ginevičius *et al.* 2010; Podvezko 2011; Ginevičius *et al.* 2010).

Another condition, ensuring marketing effectiveness, is the targeted use of finances intended for marketing improvement because their effect on enterprise performance may differ to a great extent. This is accounted for by the specific function and contents of marketing, forming the paradigm for considering enterprise marketing, based on its division into a various number of components.

Enterprise marketing may be referred to complex phenomena. These phenomena differ from other issues because we can hardly find a single criterion (or value) that could describe all their aspects, which can be observed in reality (Ginevičius, A. 2007; Ginevičius, Podvezko. 2008).

The analysis of the literature on the problem shows that marketing may be described in various terms.

The marketing mix is probably the most famous marketing term. Its elements are the basic, tactical components of a marketing plan. Also known as the Four Ps (4P's), the marketing mix elements are described as follows:

- 1) Product is an article or service that you are selling;
- 2) Price shows how much you are charging your product/service;

3) Promotion means how and what you tell people about your offer, i.e. your product/service and price;

4) Place denotes how and where people can buy your product.

Marketing decisions generally fall into the above four controllable categories. These four Ps are the parameters that the marketing manager can control, subject to the internal and external constraints of the marketing environment. The goal is to make decisions that centre the four Ps on the customers in the target market and is similar to the idea of mixing a cake. A baker will alter the proportions of the ingredients in a cake depending on the type of cake he wishes to bake.

Möller (Möller 2006) notes that the wide appreciation of the marketing mix among field marketers is the result of their profound exposure to this concept during the years of studies, since most introductory marketing manuals define it as "the heart of their structure" (Cowell 1984) and identify the 4P's as the controllable parameters likely to influence the consumer's buying process and decisions (Kotler 2003; Brassington, Pettitt 2003). He also points out that another significant asset of the mix is the fact that it is a concept easy to memorise and apply. David Jobber (Jobber, 2001) noted: "The strength of the 4P's approach is that it represents a memorable and practical framework for marketing decision-making and has proved useful for case study analysis in business schools for many years". Enjoying large-scale appreciation, it is not surprising that the 4P's became even synonymous to the very term marketing, as this was formulated by the American Marketing Association (Bennet 1995).

The development of the marketing mix has received considerable academic and industry attention. Numerous modifications to the 4P's framework have been proposed and the most concerted criticism has come from the services marketing area. A study by Rafiq and Ahmed (Rafiq, Ahmed 1995) suggested that there is a high degree of dissatisfaction with the 4P's framework.

People: all people involved with consumption of a service are important. For example, workers, management, consumers, etc.

Process: a procedure, mechanism and flow of activities by which services are used.

Physical evidence: the environment in which the service or product is delivered. The one which helps to communicate is tangible and the knowledge of the people around us is intangible.

The concept of 4P's has been criticized as being a production-oriented, rather than customer-oriented definition of marketing (Popovic 2006). It is referred to as a marketing management perspec-

tive. Lauterborn (Lauterborn 1990) claims that each of these variables should also be seen from a consumer's perspective. This transformation is accomplished by converting product into the customer's solution, price into cost to the customer, place into convenience, and promotion into communication, or the 4C's (Goi 2009).

The author of this paper performed an analysis and discovered that most of Eastern and Central European companies (even the most successful ones) are still using the traditional marketing mix of 4P's. Therefore, the marketing mix consisting of product, price, promotion and place will be analysed further in the paper.

The analysis of the experience of the Eastern and Central European countries in the considered area shows that the considered 4P's model is still widely used for describing marketing there. In general, the criteria describing the particular aspects of marketing may have various dimensions and be oppositely directed (Ginevičius *et al.* 2008). It means that for one criterion the increase of a particular value may show a better situation, while for another criterion the increase of this value may denote that the situation is worsening. To perform quantitative evaluation of marketing, all the criteria expressed in various dimensions as well as the oppositely directed criteria should be integrated into a single generalizing criterion. To solve this problem, multicriteria methods commonly used for quantitative evaluation of socio-economic systems should be applied (Figueira *et al.* 2005; Brauers *et al.* 2010; Ginevičius *et al.* 2006).

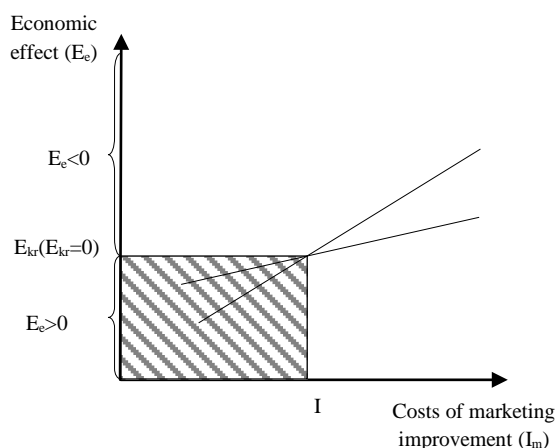
The application of these methods requires that a set of criteria describing enterprise marketing as well as their values and weights should be defined (Ginevičius *et al.* 2008).

A set of criteria describing enterprise marketing may be determined by using the 4P's model. The analysis of the data on enterprise performance shows that the information about the values of the considered criteria is missing. Therefore, expert evaluation is required to determine these values. Another important problem is associated with the determination of the criteria weights, which completely relies on expert evaluation (Podvezko 2007).

Usually, several experts perform the evaluation, therefore, the determination of the criteria weights used in marketing analysis is made in two stages. At the first stage, the estimates elicited from experts are ranked and checked for consistency, while at the second stage the criteria weights are determined.

## 2. The model for increasing the effectiveness of the use of financial resources, aimed at improving enterprise marketing strategies

Any enterprise, planning to use some methods for improving its performance, should estimate the cost of their implementation. The effect of each measure on enterprise performance is different; therefore, it is important that the amount of money invested in the implementation of these measures should correlate with their significance. In other words, the investments should be goal-oriented. In this environment, the managers of an enterprise should be aware of the economic effect of the investments made. If the considered effect outweighs the costs of improvement, the measures taken to improve the enterprise marketing are goal-oriented and effective. Otherwise, it means that the structure of investment in the improvement of marketing strategies was not properly selected. This process may be presented as shown in Fig 1.



**Fig.1.** The dependence of the effective performance of an enterprise on the costs of marketing strategy's improvement (▨ a zone of effective marketing strategy)

To determine the limit of marketing improvement costs  $I_{kr}$  and the limit of the respective economic effect  $E_{kr}$  ( $E_{kr}=0$ ), the costs of the tactical actions  $I_M$  and the respective economic effect  $E_e$  should be determined. Given these values and using the correlation-regression analysis, it is possible to determine the influence of the costs of marketing strategy's improvement on the performance of an enterprise.

As mentioned above, the effectiveness of the efforts, aimed at increasing the considered influence, largely depends on the proper evaluation of the effect produced by any particular marketing activity on enterprise performance. To solve this problem, the division of the enterprise marketing activities into four components (i.e. product, price,

promotion, and place) may help. When enterprise marketing activities are structured in this way, the effectiveness of the measures taken will largely depend on the distribution of the available financial resources among the above-mentioned components. To determine the effective distribution of finances, the economic effect  $E_e$  (Fig 1), i.e. the level of enterprise performance improvement, achieved by investing a monetary unit in a particular marketing mix component, should be estimated (Ginevičius 2011).

This problem can hardly be solved by analytical calculations. Only highly qualified specialists, facing the problems of improving the marketing strategies of an enterprise in their everyday work, may make the appropriate decisions as the experts in this area.

They were asked what improvement of enterprise performance (in percent) can be expected from investing a monetary unit in a particular marketing mix component. To assess the uncertainty of the considered problem, they had to define the approximate upper and lower limits of the expected improvement. In further calculations, the average value of the provided estimates will be used.

When expert evaluation, based on Pearson's test-statistic  $\chi^2$  was performed, the consistency of the obtained estimates was checked (Berenson, Levine 1999). The final results of expert evaluation are given in Table 1.

As shown in Table 1, a monetary unit invested in the first component of the marketing mix ( $P_1$ ) may improve enterprise performance from 0,228 to 0,552 or, in general, by about 0,390 of the monetary unit. These values for the second component ( $P_2$ ) are 0,190, 0,409 and 0,229 of the monetary unit, while for the third marketing mix component ( $P_3$ ) they were 0,152, 0,420 and 0,288, and for the fourth component ( $P_4$ ) – 0,177, 0,347 and 0,262, respectively. The general effect obtained by investing a monetary unit in the marketing mix components for improving enterprise performance is determined as follows:

$$\Delta E = \sum_{i=1}^n e_i \quad (1)$$

where  $\Delta E$  denotes the results obtained in improving enterprise performance by investing a monetary unit;  $e_i$  is same for finances invested in particular marketing mix components.

**Table 1.** The data obtained in expert evaluation of the improvement of enterprise performance, depending on the investment of one monetary unit (in a particular marketing mix component)

No	Expert		No 1	No 2	No 3	No 4	No 5	No 6	No 7	No 8	No 9	The average estimates of all experts			
	Criterion	Interval										The lower evaluation limit	The upper evaluation limit	The lower evaluation limit	The upper evaluation limit
1.	Product (P <sub>1</sub> )	Interval	30	50	20	80	20	40	20	55	30	50	22,8	55,2	
		Average interval	40	30	50	50	35	51	37,5	37,5	40	30	39,0		
		Interval	10	30	50	50	15	30	26	48	10	35	15	19,0	40,9
2.	Price (P <sub>2</sub> )	Average interval	20	32,5	50	22,5	37	32,5	22,5	20	32,5	29,9			
		Interval	20	30	20	80	10	20	16	63	20	55	15	15,7	42,0
		Average interval	25	22,5	50	15	39,5	27,5	37,5	20	22,5	28,8			
3.	Promotion (P <sub>3</sub> )	Interval	30	50	50	50	5	20	14	37	5	25	17,7	34,7	
		Average interval	40	17,5	50	12,5	25,5	15	17,5	40	17,5	26,2			
		Interval	10	25	50	50	5	20	14	37	5	25	17,7	34,7	

The calculations made by formula (1) show that a monetary unit, invested in all four marketing mix components may improve enterprise performance from 0,752 to 1,728 monetary units or by about 1,234 monetary units.

The normalized values of enterprise performance improvement due to the investment of a monetary unit (Table 1) will show the proper distribution of a monetary unit among the four marketing mix components. The values were normalized as follows:

$$P_i^n = \frac{P_i}{\sum_{i=1}^n P_i}, \quad (2)$$

where  $P_i^n$  is the normalized value of the effect obtained by investing a monetary unit in the  $i$ -th marketing mix component;  $P_i$  is same for expert evaluation.

The calculation results are given in Table 2.

**Table 2.** The data on expert evaluation of the effect obtained by investing a monetary unit in a particular marketing mix component

Mix component into which a monetary unit is invested	The value characterizing the effect obtained by investing a monetary unit in a particular marketing mix component
Product ( $P_1$ ),	0,31
Price ( $P_2$ ),	0,24
Promotion ( $P_3$ ),	0,23
Place ( $P_4$ ),	0,21

As shown in Table 2, the largest percentage of finances (31 percent) invested in enterprise marketing improvement falls to the component 'product'. It is followed by 'price' (24 percent), 'promotion' (23 percent) and 'place' (21 percent). The second conclusion is associated with the fact that the financial resources aimed at improving marketing strategies distributed evenly among the four marketing components.

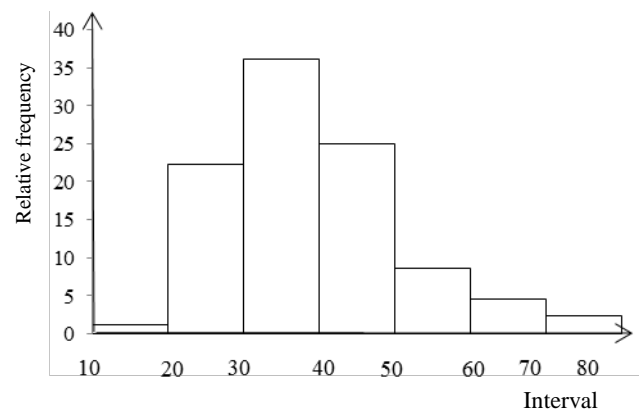
The evaluation of enterprise performance improvement due to the investment of a monetary unit in terms of intervals allow us to determine the probable growth of the effect, i.e. to find how it will be distributed in the interval with the lower limit, expressed by the smallest estimate value and in the interval with the upper limit, expressed by the largest estimate value.

For example, these limits for the marketing mix component 'product' ( $P_1$ ) are 15 and 80 percent, respectively (Table 1). Suppose that this interval is divided into 7 parts. Their limits and the respective relative estimates (in percent) are given in Table 3. The total estimate of all relative frequencies is equal to 100 percent.

**Table 3.** Relative frequencies of the effect obtained for the marketing mix component 'product' ( $P_1$ )

Interval No	1	2	3	4	5	6	7
Interval limits	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Mean relative frequency of the interval	1,23	22,3	36,07	24,96	8,56	4,50	2,38

Based on the mean relative estimate frequencies provided in Table 3, their histogram is made (Fig 2).



**Fig.2.** A histogram of expert estimates' relative frequencies for the effect obtained for the marketing mix component 'product' ( $P_1$ )

Based on the data given in Table 3 and Fig 2, it is possible to determine the relative frequency in a particular interval. For example, the relative frequency for the case, when a monetary unit invested in the marketing mix component  $P_1$  gives the improvement from 20 to 50 percent, will be equal to 0,83:

$$P \times (20 < P < 50) = 0,83, \quad (3)$$

where  $P^*$  is a relative estimate frequency.

By applying Pearson's test-statistic  $\chi^2$ , it is possible to validate a statistical hypothesis about the law of probability distribution, which the improvement of enterprise performance obeys, when a monetary unit is invested in a particular marketing component. Based on the above distribution, the probability of enterprise performance improvement may be predicted.

### 3. Conclusions

Market globalization increases the competition between enterprises, making their performance more strongly dependent on marketing effective-

ness, which can be achieved by various methods. In addition to quantitative evaluation of the current marketing state, the goal-oriented allocation of finances, intended for marketing improvement, is also considered to be an effective approach.

The effective use of finances for improving the enterprise marketing is based on their proper distribution among the components of the marketing mix. In addition to the traditional 4P's model, including four components (product, price, promotion and place), there are other models, differing in the number of marketing mix components (from 3 to 30). Now, the 4P's model is most widely used.

Any enterprise, allocating the finances to marketing improvement, always seeks a positive effect. The finances will be used effectively only if they are properly distributed among four marketing mix components. For this purpose, the improvement of enterprise performance achieved by investing a monetary unit in a particular component should be determined.

Only highly qualified specialists, facing the problems of improving the enterprise marketing and performance in their everyday work, may distribute the available financial resources properly.

The results of expert evaluation show that the highest percentage of the finances intended for increasing marketing effectiveness (32 percent) should be given to the marketing mix component 'product'. It is followed by the components 'price' (24 percent), 'promotion' (23 percent) and 'place' (21 proc.).

By applying Pearson's test-statistic  $\chi^2$  or similar procedures, it is possible to validate a statistical hypothesis about the law of probability distribution, which the improvement of enterprise performance obeys, when a monetary unit is invested in a particular marketing component. Based on the above distribution, the probability of enterprise performance improvement may be predicted.

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