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Improvement of methods for determining the efficiency of advertising

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Abstract

Theoretical background: The paper shows that increase in sales and profit margins is only partially dependent on the implementation of advertising activities. Methodical approaches for estimation of an exhibition and advertising activity and promotion of its employees are specified.
Purpose of the article: It is the purpose of this article to analyze and further develop the methodological principles for assessing the efficiency of advertising and exhibition activities.
Main findings: The results of the work involve evaluation of the effect of advertising and the share of the impact of advertising in increased revenue from the sale of products. A corresponding proportion of

this impact was determined based on consumer inquiries. We propose an index of exhibition and trade fair performance, calculated based on two components: how many times a specific company participated in such events, and how the company was presented at relevant exhibition and fairs. Indices of the cost of advertising and promotion of certain products were provided as well. The present research is a novel approach that consists first in proving that the sales increase effect should not be assigned to advertising only, and second, determining the factors that influence consumer preferences and their share in the total value effect. Moreover, the proposed index of influence of exhibition and trade fair performance results depending on the selected factors is innovative as well. The practical importance of the research results involves a more accurate calculation of the effect caused by activities performed and, consequently, an increase in the efficiency of the business entities.

Introduction

The choice of methodology for assessing the efficiency of advertising and exhibition activities is generally aimed at determining the increase of efficiency of economic activity and revenue. There is need for further improvement that will help to define eventual outcomes with regard to the practical activities of business entities and the development of social and economic efficiency of public production.

In most cases, advertising outcome is estimated as a change in the amount of profit after and before the advertising (Kotler, 2014; Lebedev-Lyubimov, 2007). At the same time, a number of factors, which do not directly depend on the results of marketing communications, are affected by the change of industrial goods' sales. These include changes in prices, entrance to the me-too products and competitors' market, changes in consumer preferences, and so on. Therefore, other indices are used, which include a group of criteria proposed by Voychak (2009): income and profits, financial solvency of business entity, stock turnover; efficiency of marketing measures, which is determined by the orders price per unit of revenue, increment in value of orders compared to the previous period, revenue per employee of the enterprise.

To determine the effect, the following indices should be applied: comparison of marketing costs with profits per given type of goods; relationship of marketing costs to sales and profit across the entire range of goods of the enterprise, which expresses the degree of sales growth as a result of investments for the enterprise as a whole. Therefore, further developments are required in this regard.

Literature review

Specific indices of marketing communication efficiency depend on the types of marketing activities. The most common of these is advertising. There are two types of advertising activity evaluation: commercial and qualitative (psychological). In both cases, the presence of advertising will bring an effect if it is aimed at a specific circle of customers or the target audience interested in a given type of goods (Leb-

edev-Lyubimov, 2007). For example, turbines are of interest to power station companies. To the contrary, machine-tool companies will not be interested in advertising of turbines. Efficient advertising attracts attention, causes interest in the object that it advertises, convinces the consumer that he cannot exist without this product, and persuades him to purchase it.

Psychological (qualitative) evaluation of advertising considers the degree of its impact on a person. Its indices consist of the extent of reach to the consumer audience, the depth of influence on that audience, and audience memory and understanding of the advertising appeal. It also considers public attitude to the product "before" and "after" the advertisement (Kotler, 2014; Oklander, 2012; Yashkina, 2012; Zahorodniy, 2008), which characterizes the share of potential consumers that appeared after the advertisement. Our study examined a number of people who saw or read the advertisement and perceived its content. According to Kotler (2014), advertising efficiency is defined as the degree of actual value of the product or service that is guaranteed to the consumer upon purchase, and how this actually corresponds to the expectations and hopes that the consumer had before purchase. This comparison is very important because false advertising will push away the consumer from such products for a good while. We have found the quantitative evaluation of advertising of greatest interest and decided to dwell upon this subject.

Research methodology

It is important to note that the amount of sales cannot only be gained at the expense of advertising. The fact that a potential customer reads the advertisement does not mean that he or she will be in an immediate rush to purchase the product. The consumer is primarily interested in the technical and economic benefits of a new product compared with a previous similar one, as well as its novelty. With that in mind, appropriate expert assessments were performed among consumers. The share of various factors influencing purchases of new goods was as follows: novelty (fashion statement) – 0.15; quality – 0.3; price – 0.35; advertising − 0.2. That is, the proportion of advertising impact was 20% of the total value of factors influencing purchase. Therefore, advertising should be considered in any calculation of the impact caused by amount of sales growth. Such dependencies can be set for specific types of goods and markets. This approach can be applied to other types of advertising activities as well.

An important aspect of marketing communication measures is increase of market segment (Pigorev, 2013; Yashkina, 2012; Kravchuk, 2013), which can be determined using the performance index I_E of the company:

$$I_E = MSI \times (1+ Pr/C) \quad (1)$$

Where:
MSI – index of the market share;
Pr – profit of sales;
C – prime cost.

Then,

$$MSI = S_{indiv}/S_{market} \quad (2)$$

Where:
S_{indiv}, S_{market} – the corresponding amount of sales of the enterprise and total sales amount at the market.

Previous formulas consider the efficiency for one type of product. Provided the business entity produces several types of products simultaneously, as happens in most cases, the efficiency index is calculated for each of them separately and then a composite efficiency index I_E is determined.

$$I_E = \Sigma I_{Ej} / n \quad (3)$$

Where:
I_{Ej} – efficiency index per *j*-type of product;
n – number of product types simultaneously produced by the company.

There are a number of types of advertising; hereafter we consider ways to determine the efficiency of the most popular ones.

External advertising

Such advertising is used on the streets, in places of high occupancy. Studies, particularly those carried out by master's degree students of the National Technical University (Kharkiv Polytechnic Institute), have shown that outdoor advertising is an efficient means of reaching consumers. This phenomenon happens due to the fact that such advertising is perceived by a large audience. The main media for outdoor advertising includes signs and image designs such as signboards, letters, media vehicles, shields, and so on. The most efficient of them are billboards arranged in public places.

Assessment of outdoor advertising efficiency is quite complicated. It is performed by defining the number of potential advertising exposures by assessing the target audience of a specific advertising location. Audience assessment for one external medium is calculated as the percentage ratio of the target audience size – determined by expertise – to the total market volume. The effect of all types of outdoor advertising

used by the advertising company is the sum of the effects caused by applying each advertising medium. Of course, such an assessment is subjective and not unified.

Effect of television and radio advertising

The largest audience is reached by TV commercials. However, radio advertising has its own, albeit small, audience. Moreover, according to expert studies, radio advertising is more efficient because the heard word sticks in the mind more consistently than a fast-moving image on the TV screen. The efficiency of radio and television commercials is calculated in the same way – through ratings. Ratings represent the number of viewers (radio listeners) that comprise a target audience of an advertisement, watching or listening to a specific transmission at a specific time, ranked among the potential viewers (radio listeners).

The corresponding rating is found as the set of the following two indicators. The first indicator determines the audience share that is currently watching (listening to) a specific transmission, from the total number of viewers (radio listeners). It characterizes the degree of preference given to television or radio by the audience of this broadcast. The second indicator characterizes the share of viewers (radio listeners) at the moment. It is calculated as the ratio of the total number of viewers (radio listeners) watching the TV (listening to the radio) at the moment to the total number of the target audience (radio listeners).

Efficiency of exhibition activity

An advantage of exhibitions lies in simultaneous reach to a large number of customers. Communication of individual sales and advertising agents with certain potential customers is more expensive than collective communication with them at an exhibition. The effect of participating in the exhibition of industrial goods may consist of the revenue increase, as well as determining the benefits of marketing activities. However, such a calculation is subjective. In addition, deals and trade agreements are not always concluded immediately at the exhibition. Protocols of intentions are more likely to be signed but they do not always turn into real deals. In addition, a certain time is needed until the deal will commence. Consequently, it is difficult enough to determine benefits from specific agreement implementation among the entire group of the company's orders.

Results

In this regard, it is suggested, based on the analysis of the relevant information, to use the following indicators to determine the effect of running exhibitions of industrial goods:

1. Number of intentions or memorandums of agreement N_{int}. It characterizes the number of visitors intending to enter into an agreement with a certain entity.

2. Degree of agreement implementation γ_y. It is defined as the share of customers with whom the exhibition contacts took place.

3. Average contact amount TR_{av}.

Altogether it is the sum of expected income TR_{exp} calculated by the following formula:

$$TR_{exp} = N_{int} \times \gamma_y \times TR_{av} \quad (4)$$

A number of foreign corporations, including some from the United States, consider the main goal of their participation in the exhibition to be to acquaint their customers with new products. A survey carried out at one of the exhibitions showed that 52% of customers found out about the new product of a certain company while visiting the exhibition, and that can be considered as a good result.

At the same time, an exhibition is a one-time event, which cannot always convince future specialists of the need to purchase the products of a certain company. Another way of attracting attention to products is through showrooms located in different geographical areas. These showrooms are designed to present the benefits of a particular product to a future customer, as well as provide instructions and advice on its operation, and show the organization of maintenance service. Such measures contribute to a steady demand for products. The showrooms of Kharkiv Yuzhkabel Works PJSC, located in different cities of Ukraine and Russia, are a positive example of this.

The value of index of exhibition and trade fair activity, as an integral element of competitiveness of given type of the i^{th} manufacturer, in our opinion, depends on two important factors: first, how many times this enterprise participated in exhibitions or trade fairs held with participation of the studied product; and second, prominence of this company's representation at these trade fairs. It is our belief that both these factors have the same importance. It is difficult to talk about the efficiency of exhibition and trade fair activity of the company if it generally ignores exhibitions and fairs. However, participation itself at the exhibition does not show anything because consumers may not notice the company's participation. To calculate the index of exhibition and trade fair activity I_{ex}^{i}, we offer the following dependence:

$$I_{ex}^{i} = \sqrt{N_{part} \cdot \sum_{i=1}^{i=N_{total}} Q_i \Big/ \left(N_{total} \cdot \sum_{j=1}^{j=N_{total}} Q_j\right)} \quad (5)$$

Where:

N_{part} – number of exhibitions and trade fairs participated in by enterprise i manufacturing the analyzed product;

N_{total} – total number of exhibitions and trade fairs where goods of a given type were exhibited;

Q_i – number of samples of a given type (configurations having specific features, etc.) being presented by the enterprise at the i^{th} exhibition or trade fair;

Q_j – number of samples of given type being presented at the j^{th} exhibition or trade fair, where the types of products studied were exhibited.

Along with assessing the efficiency of the marketing activities of enterprises we also calculated the efficiency of individual workers – salesmen, advertising agents, and so on. The main indicator of their activities is an increase in turnover and profitability depending on the work results of a specific employee. A system of documents was developed to record these results. For example, the activity of trade and advertising agents was monitored on the basis of their trade reports. The following data were recorded: results of visits to specific consumers, including sales, number of new customers and their average number, covered by a certain employee; number of lost clients; the profitability of a particular agent; the cost for visits, and so on. Quality indicators of the agent's work were evaluated along with the quantitative ones. These included such qualities as knowledge of clients, social ease, and showmanship. For example, a well-known sales agent in a suburban village or in a rural area must know the names and birthdays of each family member of all residents. This will also help to increase sales.

The cost index for advertising and promotion of a given type of manufacturer $I_{advert}{}^{i}$, competing in the market, is proposed to be determined on the basis of the following considerations. The scientific literature provides results of studies in respect of determining the market reaction to the amount of advertising and promotion costs. These results make it clear that market reaction is close to logistic dependence, which means that greater success in the market can be achieved with lower advertising costs. In spite of some controversy, it has a certain rational kernel. Hence, we can draw the following conclusion: direct increase of advertising and promotion costs does not always allow us to obtain an adequate result on the market in the form of increasing demand for goods and increased sales. Given this fact, it is proposed to lower the explicit cost index for advertising, which is calculated as the ratio of the amount of advertising costs of a given manufacturer to the amount of advertising costs of the product with the best market power. It is proposed to determine the cost index for advertising and promotion of products of given type of manufacturer $I_{advert}{}^{i}$ as the ratio of actual share of costs of this manufacturer in the total amount of advertising costs and promotion of a specific product to its average value among comparable enterprises using the following dependence:

$$I_{adver}^{i} = \frac{C_{promo} \Big/ \sum_{i=1}^{i=n} C_{promo}}{1/n} \tag{6}$$

Where:

C_{promo} – advertising and promotion costs of a given type of manufacturer (seller, supplier), UAH;

n – the number of manufacturers (suppliers, sellers), represented by their products on the market of a given type which determines the index of market competitive ability.

Efficiency of market segmentation

To determine the efficiency of market segmentation, we use a range of indices including those listed above. The following conditions should be observed in order to determine them:

– measurability – means that rate of measure should take place, how the volume of market segment determines the purchasing capacity of buyers, foresees the profit margin;

– availability – defines a range of market segment that may be covered or available;

– significance – a limit within which the market segment can be considered as large and profitable;

– suitability– defines the extent to which an effective marketing strategy can be developed for the relevant market segment, aimed at attracting and serving target customers.

Let us dwell upon other methods less common nowadays (Lidovskaya, 2013).

Focus group method. A focus group is a group of people who can be identified as actual or potential consumers of given goods. Such people are invited to participate in a study, during which their attention focuses on a given topic. The focus group method involves discussion of the problem and is to be guided by a special leader.

This method is used to:

– generate ideas or brainstorm;

– study the consumer's vocabulary.

Relevant information is obtained, first of all, through the well-known tool of field marketing research.

The main advantage of this method is that participants of the focus group are given an opportunity to express their thoughts freely, impartially, and are encouraged to generate their own ideas. A disadvantage of the method is the judgmental evaluation of the product and its advertising company, as well as the high cost.

Panel method. In marketing a panel is understood as a group of people, families or other members, who take part in ongoing polls on the same topic. The method itself consists of periodic interviews with a certain group of people.

The advantage of this method, compared with other methods of qualitative research, is the ability to compare the results of present and previous surveys. It provides an opportunity to identify certain patterns and trends, for example, consumption of specific goods, efficiency of advertising on a certain group, and so on. A disadvantage of the panel method lies in its high cost.

Conclusions

The results of our study provide a new approach to determining the effectiveness of advertising through a change in sales before and after the advertisement. It was proved that such changes are influenced by a number of components the numerical values of which were determined. We offered indices of exhibition and trade fair activity and expenses on advertising and promotion of the products sold that will increase the reliability of assessment. Analysis of modern advertising methods provides an opportunity for their better application and, accordingly, increases the effectiveness of advertising activities. Further developments in this direction will lie in the creation of appropriate economic and mathematical models.

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