MARKETING EFFECTIVENESS INDEX (MEI) - TOOL FOR STRATEGIC MARKETING PLANNING

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ABSTRACT

This paper offers a new approach for measuring company's marketing effectiveness and in this way enabling the organisation to embark more effectively on its strategic marketing planning. The article presents an index-MEI (or Marketing Effectiveness Index) that could be also useful in identifying the strengths and weaknesses of the marketing division and could facilitate the comparison of company's marketing effectiveness vis-a-vis competitors and/or the relevant industry or sector.

Introduction

Faced with the need to control budgets, corporate and marketing managers are scrutinising marketing expenditures more closely. Marketing is an easy target for budget cuts, since it is difficult to measure its effectiveness. As customers are placing increased emphasis on service and quality, it is increasingly necessary for organisations to be sure that their marketing programmes are effective.

Although marketing effectiveness is extremely important for companies' marketing planning, relatively very few publications are available on this under-studied subject area.
The objective of this paper is to put forward a novel approach to measuring marketing effectiveness, in which the overriding factor is its degree of applicability, and as such could be used as a tool for strategic marketing planning.

Literature Review

Marketing effectiveness is a complex subject. As far as its measurement is concerned, it remains one of the most under-studied area in the field of marketing. Little information is available from the existent body of marketing literature.

Greenley (1987) focused on some of the major approaches to defining effectiveness which involved:

1. Analysis of the end results, which is impaired by the difficulty of determining the cause of the results and whether planning had any effect on the outcome.

2. The multidimensional approach, which involves examining the attributes of the planning system itself, and

3. The assumption approach, which holds that planning is of benefit merely because it is used. However, all of the approaches are problematic, and none are considered to be totally satisfactory.

In the article "From sales obsession to marketing effectiveness", Philip Kotler (1988) had suggested a method for auditing marketing effectiveness. He presented the questions that should be asked in auditing the marketing effectiveness in a combination of five principal activities. They were, customer philosophy, integrated marketing organisation, adequate marketing information, strategic orientation and operational efficiency. The questions would be scored and the final score would determine the company's marketing effectiveness. In his method, Kotler avoided the use of any quantitative measures such as profitability, market share, growth etc. He argued that the use of these measures would undermine the true performance of the marketing division.

An attempt to study the relationships between the marketing mix variables of a company, taking into consideration the macroeconomic setting in which that company operates has been made by Brissimis and Kioulafas (1987).

An approach to evaluate the relative effectiveness of various decision aids in marketing practice has been proposed by Wensley (1989). Breaking the decision-making process into three stages (identifying options, forecasting outcomes and evaluating outcomes) and classifying marketing problems as operational decisions or investment decisions, could - according to Wemsley - assist marketers.

Since marketing executives track market share, sales volume, and profit contribution margins, a decline in these areas can cause desperate short-term activity. Such short-term actions include:

1. Raising or lowering prices suddenly and 2. increasing advertising or sales activity, loyalty and good financial performance. Band (1988) advanced the view that three core sources of long-term competitive advantage, which lead to the creation of loyal customers, are: 1. Customer responsiveness, 2. Fast-paced innovations and 3. Flexibility.

Howard et al. (1988) conducted a study to demonstrate the design and application of the ABC measure (consumer's attitudes, brand recognition and confidence) by analysing the experience of managed cash accounts at four financial institutions. The ABC measure was developed to replace market share in the measurement of marketing effectiveness.

Gatignon and Hanssens (1987) introduced a general class of marketing interaction models distinguishing between market response functions and marketing parameter functions. They have argued that these models can be estimated by standard generalised least squares procedures on pooled time-series and cross-section data.
Finally, Hagborg and Mitchell (1987) have attempted to look at each input in the marketing mix and measure it in terms of the amount of budget it consumes.

TABLE 1
OVERVIEW OF RELEVANT STUDIES ON MARKETING EFFECTIVENESS AS COMPARED TO THE MEI

Dimensions Authors(s)	Measurement of end-results	Multimensional audit approach	Quantitive Measures	Use of Macroconomic variables
Greenley 1987	yes	yes	no	no
Brissimis &	yes	no	yes	yes
Kioulafas 1987	yes	yes	yes	no
Gatignon & Hanssens 1987	yes	yes	yes	no
Hagborg & Mitchell 1987	yes	yes	yes	no
Kotler 1988	yes	yes	no	yes
Band 1988	yes	no	no	no
Howard et al 1988	yes	no	no	no
Wensley 1987	yes	no	yes	no
MEI	yes	yes	yes	no

Table 1 summarises the assessment of some of the most important studies on marketing effectiveness as compared with the development of the present marketing effectiveness index (MEI) in terms of the following critical dimensions: measurement of end - results, the use of a dimensional/audit approach, the use of quantitive measures and the inclusion of macroeconomic variables within the overall assessment.

As noted above, the measurement and identification of the cause of end-results is the dominant element performed by all the approaches. Focusing on the MEI, it can be seen that this strategic tool complies with the three most important dimensions of analysis, with the exception of not including the assessment of macroeconomic variables. In fact, the vast majority of these approaches also do not include this particular measurement. Only Kotler (1988) makes the evaluation of variables related to the macroenvironment in his audit approach as well as Brissimis and Kioulafas (1987) who have included variables, such as the assessment of the retail environment and the set up cost of a new retail store when evaluating the specific impact of advertising and distribution on sales.

Unfortunately, despite the importance of assessing the effectiveness of all the marketing variables taken together, so far there are no indexes or model(s) that could be used to handle this aspect of marketing planning. In this paper we attempt to deal with this important issue that faces virtually every marketing and corporate manager, particularly at the strategic planning level.

Measuring Marketing Effectiveness

The objective of this paper is to study the constructs involved in the possible development of an index or an equation using both quantitive and qualitative measures as indicators of marketing effectiveness. By calculating the summated value of these indicators, a figure which will represent the level of marketing effectiveness could be derived. Therefore, first of all, it is necessary to determine what indicators should or could be used. Then, investigate the importance of each indicator and giving each of these the corresponding weight. Figure 1, below suggests a systematic approach to develop this marketing effectiveness Index (MEI). Criteria that were found to be essential in measuring marketing effectiveness are listed in Table 2. It contains 10 variables (both quantitive and descriptive) identified from the literature review. The analysis of the existing literature has suggested several other relevant factors which could also be important indicators of effectiveness (such as customer satisfaction, innovativeness and flexibility) and therefore could have been included in the equation, as additional key constructs of the markekting effectiveness index (MEI). These other variables were not included in the analysis for the following reasons: i) it was found reasonable to limit the number of constructs to be included in the equation to ten variables; ii) the accurate measurement of some of these aditional constructs was found to be more complex; and iii) the difficultly of interpretation by marketing managers and the level of subjectivity attached to these factors was found to be high. Neverthelesss, it is the intention of the authors to add some of these constructs into the MEI equation for analysis in a subsequent stage of research.

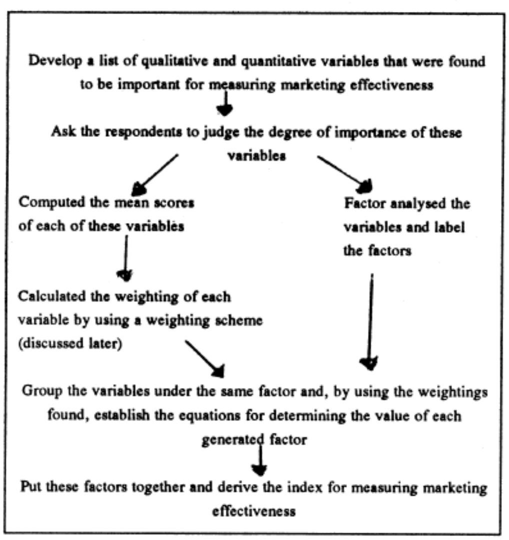
Several of the measures (image, brand reputation and promotion effectiveness) are determined by consumers. This fact may represent a significant problem since it is likely that managers have biased judgements about their company's image, reputation and promotion effectivess. It is the authors' intention to incorporate a combined rating score derived from consumer input in the further refinement stage of the MEI.

Table 2 contains 10 variables identified from the literature review which include both quantitive and qualitative measures. The degree of importance of these variables were judged by the respondents on a 7 point itemised rating scale (i.e. "1" - the least important to "7" - extremely important), as explained in the methodology (see below).

TABLE 2
LISTS OF ATTRIBUTES THAT ARE IMPORTANT IN MEASURING MARKETING EFFECTIVENESS.

Profitability
Sales volume growth
Market share growth
Marketing investment intensity
Return on capital
Company image
Brand reputation
Distribution effectiveness
Promotional effectiveness
Quality of marketing managerial personnel

FIGURE 1
PROCEDURAL STEPS FOR DEVELOPING THE INDEX OF MARKETING EFFECTIVENESS



The qualitative measures (attributes) referred to: company's image, brand reputation, distribution effectiveness, promotional effectiveness and the quality of marketing managerial personnel. These measured the qualitative aspects of a company's marketing effectiveness. In order to convert these qualitative measures into quantitative ones, users were suggested to use a 10-point-scaled itemized rating scale (i.e. with "1" representing the least satisfactory performance to "10" - the most satisfactory performance), to judge the corresponding performance of each variable. Then the scores obtained, which reflected their respective performance level within the same period of time, were divided by 10 and a ratio which represented their corresponding quantitative values was derived.

The Quantitative attributes referred to the measurement of sales volume growth, market share growth, marketing investment intensity, profitability and return on capital. These were defined as follows:

Sales Volume growth was measured by the percentage rate of growth of total sales revenue experienced by a company in a given time period.

$$\text{i.e. Sales Volume Growth} = \frac{\text{Sales t1 - Sales t0}}{\text{Sales t0}}$$

t0 = period O
t1 = period 1

Market share growth was measured by the ratio of total sales of a business to the total sales by all competitors, including the company itself, in the same market during a given time period.

Market Investment intensity was measured by the ratio of a company's total investment in marketing to sales.

Return on Capital was measured by the ratio of the profit before interest and tax to the total assets value of the company.

Finally, it was the measure of **profitability**. In order to isolate the responsiveness of profit to marketing effort and recognise the fact that there was time lag between the implementation of marketing activities and the realisation of their effectiveness, a different version of profitability was used. It was measured by the ratio of "net marketing earnings" to sales within a given time period.

$$\text{i.e. Profitability} = \frac{\text{Net marketing earnings}}{\text{Sales}}$$

The value of Net Marketing Earnings was obtained from a new version of Profit and Loss statement (based on Feder, R A 1965). In order to produce a profit and loss statement which was meaningful for measuring marketing effectiveness, the items in the traditional p/l statement were reorganised so that all the items which had marketing significance and produce gross revenue, were differentiated from those which do not. In other words, the responsiveness of profits to the changes in the level of marketing expenditure, e.g. advertising and sales promotion, would be reflected in the figure of net marketing earnings.

Methodology

Data on the importance of each of the 10 criteria (presented on table 1) was collected from a random sample of 200 British firms. The sampling frame was the "Key British Enterprise - Top 25,000 Companies". The sample consisted of firms from the food, drink, clothing, shoe, textiles and plastic consumer good manufacturing sectors and the questionnaires were addressed to the marketing or managing directors of these companies. The respondents were asked to indicate the importance of each of the criteria for measuring/assessing the effectiveness of marketing operations in their own companies.

The data collection method had two objectives. Firstly, only consumer goods manufacturing companies were chosen so that the variation existing within the sample was minimised and validity of the use of the proposed equation index was also increased. Secondly, the data was supplied only by the top management so that to make sure that the answers were considered from the strategic level point of view.

Despite running the usual statistical commands of cross tabulation, frequency distribution and descriptives to organise the data, the core analysis was done by factor analysis.

Factor analysis is one of the most commonly used "analysis of interdependence" techniques. In this study, the factor analysis (table 3) was employed in order to reduce the number of variables into a smaller manageable set of factors. The reason for employing Factor Analysis was to obtain a small, manageable number of factors, so that a 'simpler' model and equation (of marketing effectivess) could be deployed. The Varimax Rotation Scheme was selected to carry out the factor analysis because its interpretation is easy. Varimax rotation searches for a set of factor loadings (close to zero, to -1 or +1), and these loadings indicate clear association(s) (or disassociation) according to their values. The resultant factors became subsequently the variables of the equation for measuring the marketing effectiveness. As a result, marketing effectiveness could be expressed as a function of these resultant factors (see Study Results).

The mean scores of these ten marketing effectiveness attributes, which indicate their average importance were also identified (Table 4). These mean scores were used to derive the weightings of the 10 variables so that values of the four factors generated could be calculated and the final value of the level of marketing effectiveness could be determined.

A total of 53 completed questionnaires have been obtained and the study results are presented below.

Study Results

The 10 variables listed in Table 2 were factor analysed and 4 factors which represent the indicators of marketing effectiveness, were obtained. These factors were intepreted based on factor loadings greater than 0.61. The emerging four-factors explained 70.2% of the variation of the data. The result of analysis is presented in Table 3.

TABLE 3
RESULTS OF THE FACTOR ANALYSIS ON THOSE ATTRIBUTES THAT ARE IMPORTANT FOR MEASURING MARKETING EFFECTIVENESS

Variables that are important for measuring marketing effectiveness	Factor A Marketing mix performance	Factor B Marketing cost and investment	Factor C Sales performance	Factor D Profit-performance
Distribution effectiveness	0.82679			
Brand reputation	0.74380			
Promotional effectiveness	0.74136			
Company image	0.68466			
Marketing investment intensity	0.88937			
Quality of marketing managerial personnel		0.72860		
Sales volume growth			0.85878	
Market share growth			0.76201	
Profitability				0.85969
Return on capital				0.60922
Eigenvalue	3.39926	1.38674	1.18483	1.04824
Percentage of Variance	34	13.9	11.8	10.5
Cummulative percentage of Variance	34	47.9	59.7	70.2

Factor 1 was interpreted as the **"Marketing mix performance"**. Its value was determined by four separate variables. They were: the level of company image, brand reputation, distribution effectiveness and promotional effectiveness.

Factor 2 was interpreted as the **"Company's marketing cost and investment"**. It included the measures of a company's ratio of total marketing investment to sales and the quality of marketing managerial personnel.

Factor 3 was interpreted as a company's **"Sales performance"**. Its value was determined by two variables. These were the measures of growth in sales volume and market share.
Finally, **Factor 4** was labelled as the **"Profit performance"**. This factor reveals the effects that a company's marketing activities could have on its financial statements. This was measured by two variables: profitability and return on capital.

FIGURE 2
THE PROPOSED EQUATION FOR MEASURING MARKETING EFFECTIVENESS

Marketing Effectiveness (ME) = f (Factor A, Factor B, Factor C, Factor D...)

Value of Factor A = a1W1 + a2W2 + a3W3 + ... + aiWi
Value of Factor B = b1W1 + b2W2 + b3W3 + ... + biWi
Value of Factor C = c1W1 + c2W2 + c3W3 + ... + ciWi
Value of Factor D = d1W1 + d2W2 + d3W3 + ... + diWi

Factor A, B, C, D, ... :quantitative or qualitative factors that marketing effectiveness depended on.

ai, bi, ci, di, ... : quantitative or qualitative variables that are important indicators of marketing effectiveness.

Wai, Wbi, Wci, Wdi ...: weightings of the variables ai, bi, ci, di

TABLE 4
MEAN SCORES OF THE 10 MARKETING EFFECTIVENESS ATTRIBUTES

Factor 1: Marketing mix performance	
Variables	**Mean Score**
a1: Company image	5.53
a2: Brand reputation	5.73
a3: Distribution effectiveness	5.44
a4: Promotional effectiveness	5.18
Factor 2: Marketing cost and investment	
Variables	**Mean Score**
b1: Marketing investment intensity	5.02
b2: Quality of marketing managerial personnel	5.53
Factor 3: Sales performance	
Variable	**Mean Score**
c1: Sales volume growth	5.24
c2: Market share growth	5.51
Factor 4: Profit performance	
Variables	**Mean Score**
d1: Profitability	6.67
d2: Return on capital	6.07

In order to determine the value of these factors, the weighted sum of these underlying variables were calculated. The weightings of each variable were obtained by calculating the ratio of the mean score of each variable to the total sum of the mean scores of all 10 variables.

e.g. weightings
of variable

$$= \frac{a1}{a1 + a2 + a3 + b1 + b2 + \dots + d3 + d4}$$

This weighting scheme was used because:-

(i) it considered the relative importance that the actual users would assign to effectiveness attributes and,

(ii) it made the sum of weightings equal to 1.

On the other hand, the variables' value were calculated in ratio form. In this way, the problem of having a mix of different units of measurements, was solved (see example below).
From the above mentioned results, we could derive an equation of marketing effectiveness as function of Marketing mix performance, Marketing cost and investment, Sales performance, and Profit performance).

Having identified the mean scores of each of these variables, the weightings were then calculated using the relevant weighting scheme. As a result, an equation for determining the factors' value was formulated as follows:

Marketing mix performance = 0.0984 (Company image) + 0.1019 (Brand reputation) + 0.0968 (Distribution effectiveness) + 0.0921 (Promotional effectiveness).

Marketing cost and investment = 0.0893 (Marketing investment intensity) + 0.0984 (Quality of marketing managerial personnel).

Sales performance = 0.0932 (Sales volume growth) + 0.0984 (Market share growth)

Profit performance = 0.1186 (Profitability) + 0.1080 (Return on capital)

Obviously, each industry or sector are likely to have different average values of marketing effectiveness. Therefore, a similar measure of marketing effectiveness, which reflected the average performance in the relevant industry sector should be done before the calculated value of marketing effectiveness (ME) of a company is meaningful. From this, a standardised performance scale could be established which would indicate the company's relative level of marketing effectiveness.

e.g. GRADE Inferior Poor Average Good Superior
..............x.................................x....

VALUE	Industry's average value of ME	company's value of ME

In this way various companies' marketing effectiveness (ME) scores could be plotted on the same scale. This could enable a firm to compare its marketing effectiveness not just vis - a - vis the industry or sector average, but also in relation its competitor(s).

CONCLUSIONS

To measure the marketing effectiveness of a company, first of all, the values of all the 10 qualitative and quantitative variables should be determined. Then, the values of the four factors are found by the equations derived. Finally, the value of a company's marketing effectiveness is obtained by the summation of the values of these 4 (or more) factors.

In a similar way, the industry's average value of marketing effectiveness can also be found. These two values of ME should be compared and the relative level of marketing effectiveness of a company can therefore be obtained.

(A) Calculate the company's value of marketing effectiveness

(B) Calculate the industry's average value of marketing effectiveness.

↓

(C) Compare the values so that the relative level of a company's marketing effectiveness is found

↓

(D) Compare the individual value of each variable of the company with the industry's average value

↓

(E) Take steps to improve if necessary

The contribution of this paper is therefore in suggesting a way for measuring company's marketing effectiveness and in this way enabling the organisation to embark more effectively on its strategic marketing planning.

The present study is to a certain extent a preliminary one. Obviously, 53 responses hardly represents a useful sample to generalize from. Moreover the stability of factor loading with only a limited sample size is questionable. To increase the validity and generalisation of use of the proposed ME equation, a survey of a larger sample of companies to include a larger diversity of industries, should be carried out.

The present study is, of course, restricted by the scale of the survey. Also the results of the study are constrained as the small sample of respondents were all British consumer goods manufacturing companies. As a result, this particular ME equation cannot be generalised for use in other countries or industry sectors (such as service industries, industrial goods, etc,) without proper re-assessment and evaluation of the weights.

The measures of marketing effectiveness, although comprehensive, could never be definite. There will always be some company specific factors that are better indicators of a firm's own marketing effectiveness than any other generalised indicators. Factors that might only relate to one particular company may not relate to others. Moreover, rapidly changing marketing environments might from time to time generate some new indicators of marketing effectiveness.

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