DESIGNING A MODEL FOR THE RELATIONSHIP BETWEEN MARKETING ACTIVITIES AND ORGANIZATION PERFORMANCE: META-ANALYSIS ON THE MODERATING ROLE OF RESEARCH TOPIC CHARACTERISTICS

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Abstract

The role of marketing in explaining firms' business performance has received significant attention throughout the history of the marketing discipline. Over the past two decades, researchers have considerably enhanced the conceptual understanding of the role of marketing in enabling firms to create and sustain a competitive advantage. Recent advances in the marketing–performance interface have also begun to provide more empirical evidence of the impact of specific marketing activities and different types of marketing-related assets on firms' performance. On the other side, results of studies in many academic fields that are conducted about a specific issue are usually confusing and contrasting. Meta-analysis is a research approach that helps the researcher to a large extent to identify the moderating variables in the results of previous studies. Despite various researches having been conducted, such contrast is also observed in the relationship between marketing activities and organization performance. Characteristics of the research topic can be referred to among the several reasons that have been mentioned for such divergence in similar studies. It was tried in the present survey to identify the role of moderating variables regarding the characteristics of the research topic in the relationship between marketing activities and organization performance using the meta-analysis approach. The results revealed that the moderating variables related to the

characteristics of the research topic consisting of marketing activity indexes, organization performance indexes, researcher field and year of publication of the research have been led to a significant difference in the results of studies regarding the effect of marketing activities on performance of organizations.

Introduction

Nowadays in the business environment, to establish sustainable competitive advantage, firms need to make use of intangible assets such as knowledge, network and innovation capability more than before. It is necessary that managers measure returns on such intangible assets. In the past, the marketing department had a subtle role in regulating the general strategies of firms. One reason for this problem was the inability of marketing managers in determining and measuring the values they took with themselves to the firms. Because the life of a firm depends on its ability to make values and this value is defined and determined by customers. Marketing managers, in the first line of contact with customers, could play a significant role in the long term success of business (Ambler, Tim, Kokkinaki & Puntoni, 2004). Over the past two decades, researchers have considerably enhanced the conceptual understanding of the role of marketing in enabling firms to create and sustain competitive advantage (Morgan, 2012). However, as a discipline, we have often not done a great job of relating our enhanced understanding and growing empirical insight of the theories developed to explain firm performance in strategic management (e.g. Ketchen & Hult, 2011). A growing number of studies have emphasized the role of marketing capabilities in achieving and sustaining competitive advantage (Song, Nason & Di Benedetto, 2008; Vorhies & Morgan, 2005). In this respect, marketing capabilities can be seen as a joint process of bringing intangible (i.e. knowledge-based) and tangible resources together to create valuable outcomes. Through the development and leveraging of firm resources the firm establishes a set of capabilities (e.g. marketing capabilities) that allow the firm to accomplish a higher level of firm performance (Griffith, Yalcinkaya & Calantone, 2010).

On the other side, the results of studies in many academic fields that are conducted about a specific issue are usually confusing and contrasting (Rosenthal & DiMatteo, 2001). In other words, an

excessive divergence is observed in academic theories. Among the various reasons mentioned for this divergence in similar studies are structural problems of research like using indexes of variables (Kohli, Rajiv & Sarv Devaraj, 2003). Despite various researches done on the relationship between marketing tactical actions and firm's performance, such contrast is observed. It means that it has not yet been approved whether marketing tactical actions can have a desirable effect on firm's performance or not. Some researchers have confirmed the effect of marketing tactical actions on firm's performance and some others have not found any relationship between the two variables.

Among the different reasons mentioned in similar studies for this divergence are characteristics of the research topic like indexes of marketing activities and organization performance, attitude of the researcher, publication year of the research and the number of the references used (Kohli & Sary, 2009). The above descriptions, were tried in the current study to identify the reasons for the contrast in the relationship between marketing activities and organization performance using the meta-analysis approach through adopting a method different from other conducted researches.

Literature review

A precept of the marketing concept contends that business achieves success by determining and satisfying the needs, wants, and aspirations of target markets. Few would argue that this determination and satisfaction of target market wants and needs are critical for firm's success. These concepts, traditionally thought to be part of the marketing function of the firm, have fueled scholars' interest in the role of marketing within the firm (Walsh & Lipinski, 2009).

Evidence has shown that although marketing activities between firms may be different, marketing departments are still critical to any firm's success (Walsh & Lipinski, 2009). The role of marketing in explaining firm's business performance has received significant attention throughout the history of the marketing discipline. The need to link marketing with business performance has become more urgent as marketers have been forced to defend the value of their activities and budgets during the current global recession. Over the past two decades, researchers have considerably enhanced conceptual understanding of the role of marketing in enabling firms to create and sustain competitive advantage. Recent advances in the marketing–

finance interface have also begun to provide more empirical evidence of the impact of specific marketing activities and different types of marketing-related assets on firm's overall performance (Ketchen & Hult, 2011).

For much of the past three decades, examination of competitive advantage and the resulting performance differences between firms in strategic management were dominated by the structure-conduct-performance (SCP) paradigm. The SCP paradigm views performance differences among firms in terms of the firm's ability to find or create and exploit market imperfections that reduce the competitive rivalry and the resulting price competition faced. Over the past 15 years however, the SCP approach has been challenged by the resource-based view (RBV), which views firm-specific resources rather than market characteristics as the cornerstone of competitive advantage and firm performance. From this perspective, firms are idiosyncratic and somewhat "sticky" bundles of resources, with resource heterogeneity creating differences in each firm's ability to conceive and execute particular value-creating strategies which, in turn, lead to inter-firm performance differences. In turn, the RBV has been the subject of increasingly critical theoretical attention within strategic management. Most notably, critics have highlighted weaknesses in the RBV theory's inability to explain how resources are developed and deployed to achieve competitive advantage and its failure to consider the impact of dynamic market environments. In dealing with these weaknesses in the traditional RBV theory, strategic management theorists have made a number of recent developments, collectively labeled as the "dynamic capabilities" (DC) theory. The DC theory posits that since marketplaces are dynamic, rather than simple heterogeneity in firms' resource endowments, it is the capabilities by which the firms' resources are acquired and deployed in ways that match the firms' market environment that explains business performance variance between firms over time (Morgan, 2012; Gama, 2011; Varadarajan, 2011).

Marketing activities

Marketing is an organization task and a set of transactional processes that requires a high volume of various activities. Therefore, marketing management means exchange of people and groups in order to reach an agreement about common purposes. Kotler and Keller (2012) believe that performance of the marketing system for organizations can be studied through two approaches. In the first approach

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marketing is regarded as a unit which is active beside other units of the organization and in the second one, marketing is conceived as an activity inside all organization units. The most important marketing activities can be considered in three major classes; marketing resources, marketing strategic and marketing tactical capabilities (Morgan, 2012; Gama, 2011).

A resource is any attribute, tangible or intangible, physical or human, intellectual or relational, that can be deployed by a company to enable it to efficiently and/or effectively produce a market offering that has value for some market segment(s) (Hunt, 2000). Resources should be assembled in the specific assortment that holds a high potential for the development of competencies and leads to competitive advantages (Juttner & Wehrli, 1994). Marketing resources create value in the marketplace. Typically, they are idiosyncratic to the firm, have been built over time with heavy reliance on tacit knowledge and skills, and involves complex interrelationships with other resources (Hooley et al., 2005).

The notion of strategic capabilities represents a key component of marketing capability (DeSarbo, Di Benedetto, Song & Sinha, 2005). An organization's resources – including its assets and skills – represent the source of its foundation for sustainable competitive advantage (Atoche, 2007; Bowman & Ambrosini, 2003). Strategists should seek to shape, transform, and combine these resources into strategic capabilities, which in turn drive strategic success (Hussey, 2002; Lopez, 2005; Pandza & Thorpe, 2009). Indeed a number of factors, including the increased competition among local and international companies, the emergence of more demanding customers, and great technological advances, have led to a complex market in the world. In this complex market environment, the marketing strategic capabilities could be a competitive advantage provided that they deliver products and values that not only meet customer demands, but also surpass them. Therefore, it goes without saying that firms need to investigate and apply marketing strategic capabilities versus others to stand out in the crowd (Azizi, Ansari, Sedigheh & HaghighiKhah, 2009).

Managers deal with implementing marketing initiatives at tactical capability levels to increase short-term profitability (Rust, Ambler, Georgy, Carpenter & Srivastava, 2004). Three major kinds of knowledge-based tactical capabilities have been recognized in

marketing literature at business units and the firm level: marketing specialized capabilities, marketing cross-functional capabilities and marketing dynamic capabilities (Morgan, 2012). Marketing specialized capabilities are about specific operational processes that are used inside the firm to combine and convert the required resources (Vorhies & Morgan, 2003). Marketing literature suggests that marketing specialized capabilities are based on traditional activities of "marketing mix" that are in relation with the product, pricing, communications and distribution (Vorhies, Morgan & Autry, 2009). Marketing cross-functional capabilities are at a higher and more complex level than marketing specialized capabilities, because they include combining a number of different specialized activities. These actions along others apply several types of marketing specialized capabilities referred to in the previous sections, and combine them with other inputs of the current specialized activities in other organizational activities (Aaker, 2008). Marketing dynamic capabilities are the firm's ability to take part in market-based learning and applying the concluded viewpoint to recognize the resources of the firm and enhance its capabilities in a way which reflects the dynamic environment of the market. Lack of flexibility prevents compliance with environmental changes and often leads to results which have low-level value (Vorhies et al., 2009). Hence, marketing tactical capabilities in the three aspects of specialized, cross-functional and dynamic tactical actions are among the success factors of firms in achieving stable competitive advantage and improving various performance levels of the firms (Liozu & Hinterhuber, 2013).

Organization performance

Organization performance is one of the most important structures under study in managerial researches and undoubtedly it is the standard for success measurement in business firms. But generally there is no total agreement among the experts about the measures of organization performance (Gama, 2011). With regard to the relationship between marketing activities and organizational performance, it is worth noting that the vast majority of authors measure performance considering only the financial or sales indicators such as sales, growth, ROI, market share and profitability among others. In these researches only certain marketing activities out of those tested were found to be statistically significant. In contrast, when performance is measured, including the financial and non-financial indicators, the evidence of the relationship between marketing activities and performance is stronger (Perez-Cabanero, Gonzalez-Cruz & Cruz-Ros, 2012).

Researchers and managers are fundamentally interested in two different aspects of business performance: product-market performance and financial performance (Morgan, 2012).

Product-market performance concerns the purchase behavior responses of customers and prospects in the target market to the firm's realized positional advantage (Morgan, Clark & Gooner, 2002). By creating a positional advantage relative to available alternatives, a firm's value offering will be more positively perceived by customers. In turn, these improved perceptions alter customers' buying behavior in a way that is favorable for the firm. All else being equal, this enhances product-market performance in ways that may be captured in indicators such as: awareness, reputation, perceived quality, customer satisfaction, customer loyalty, customer equity, brand equity, and market share (Persson & Ryals, 2010; Zahay & Griffin, 2010; Narver & Slater, 1990).

While it should not be assumed that superior financial performance is the ultimate goal of all management and investor activity in business organizations, it is clearly a central aspect of business performance. From a financial performance perspective, organization success is typically defined and measured in terms of accounting indicators of cash flows and profitability, and financial market indicators of investor value (Srivastava, Shervani & Fahey, 1999). From a financial market perspective, investors (stockholders and debt holders) will then value the firm's stock and debt based on the present net value of the firm's assets and expected future cash flow. This is typically captured in financial market–related metrics such as stock and bond prices, total shareholder returns, stock beta, credit ratings, and unsystematic risk (e.g. Morgan & Rego, 2006; Rego, Billett & Morgan, 2009). Moreover, accounting and financial-based measures have dominated quantitative approaches to evaluating marketing performance. In their review of commonly used output metrics in studies on marketing effectiveness, Bonoma and Clark (1988) identify profit, margins, sales revenue and cash flow. More recently, findings by Ambler et al. (2004) pointed generally along the same direction. Other possibilities include return on sales (ROS) and investment (ROI) and also the metrics reflecting value generated for the company, such as economic value added (EVA) and market value added (MVA) (Gama, 2011).

Research background

Asadi, Shiralipour, Ghanad and Mohammad Nazari (2013) performed a meta-analysis on the effective factors on life quality of certain patients

in their survey. Researches based on this list include methodological components of research such as questions, hypotheses, purposes, statistical population, sampling, statistical method and the reliability and validity of the questionnaires were selected for meta-analysis. Using the effect-size method through the Schmidt and Huntz' approach indicated that the relationship among the variables of self-care training, smoking, gender, marital status, education and disease duration with life quality gained the required support. But the relationship between the age variable and employment with life quality did not obtain the intended support. Asikhia (2012) determined the effect of relationship marketing on performance of Nigerian banks. This paper presents the primary data collected by the self-administered questionnaires involving a sample of 472 respondents; 363 bank customers and 109 bank management staffs from the two major cities that house the bank's headquarters in Nigeria, i.e. Abuja and Lagos. The data were subjected to correlation, regression and structural equation modeling. This study reveals that relationship marketing has a positive and statistically significant relationship with performance and relationship marketing contributed differently to the variations in the various performance variables. The empirical evidence of this paper affects the major aspects of bank management and relevant recommendations are made. Fathi and Valibeigi (2011) studied the relationship between economic development and firms' returns on investment in information technology using the meta-analysis approach. The results demonstrated that there is a significant relationship between information technology return on investment and income per capita of countries at the national level. Also, they showed that the unemployment rate of countries and the export level of products do not have a significant relationship with information technology return on investment. Subramanian and Gopalakrishna (2009) state that market orientation has been found to be an important factor in how firms respond to environmental changes. This study reports on the market orientation of family firms using the survey data of 368 firms. A high score on market orientation was strongly related to improved performance, measured in terms of increase in overall revenues, return on capital and profit margin. While size was not a factor in the ability to becoming market oriented, family firms' organizational type was found to have an effect on the overall revenue performance measure. The implications of these findings to the academic literature on family firms and the management of family-owned firms are discussed. O'Sullivan, Andrew and Mark (2009) performed an experimental study to measure marketing

performance and firm's performance. The statistical population of this study consisted of a portion of Europe's industry that enjoys advanced technology. The result obtained revealed that the capability of measuring marketing performance has a positive relationship with firm's performance (in terms of objective and subjective measurement standards) and the director general's satisfaction with marketing standard. Pentina and Strutton (2007) performed a study entitled "Meta-analysis approach on the relationship between information system of the corporation and new product development" and investigated a comprehensive elimination of contrasts arising from various studies regarding the relation among information processes and developing new products. To this end, they used the meta-analysis approach. They defined the type of industry under study as one of the effective variables on the results of experimental studies.

Methodology

As it was mentioned earlier, the purpose of this survey is meta-analyzing the moderating role of research topic characteristics in the relationship between marketing activities and organization performance. Meta-analysis is a research approach that helps the researcher to achieve a suitable combination of quantitative results of consistent and inconsistent studies in the past, explain the contrasts, and identify the structural moderating variables in the results of previous studies. Meta analysis is an approach that makes it possible for the researcher to combine quantitative results and offer a proper estimation of the descriptive statistics that resulted from previous studies (a limited or a high number of studies) (Ghazi Tabatabaee & Vaddadhir, 2011; Houman, 2009).

The meta-analysis approach in this survey was implemented in seven phases (Debray, Thomas, Moons, Ahmed, Koffijberg & Riley, 2013). In the first phase, the independent and dependent variables were determined. The independent variable in the accomplished meta-analysis was marketing activities in firms. Previous studies with any index that had measured marketing activities in firms were the topic of meta-analysis. The dependent variable was firms' performance. Previous studies in which firms' performance has been measured with any index would be the topic of meta-analysis (e.g. Harmancioglu, 2010; Snoj, Milfelner & Gabrijan, 2009; Green, Whitten & Inman, 2008). Different dimensions and indexes of marketing tactical actions and organization performance are shown briefly in Table 1.

Table 1

Index of Research Variables

Variables	Main aspects	Sub- dimensions
Marketing activities	Marketing resources	Organizational resources, Reputational resources, Brand resources, Physical resources and etc.
	Marketing strategic capabilities	Market planning, Market positioning, Market segmentation, Implementation and control and etc.
	Marketing tactical capabilities	Marketing 4P, Brand management, Customer relationship management, Market information management, Market learning and etc.
Organization performance	Customer performance	Customer retention, Customer satisfaction, New customer acquisition, Customer loyalty and etc.
	Market performance	Sales income, Sales volume, Market share and etc.
	Financial performance	Profitability, Profit margin, Earning before interest and tax (EBIT), Return on investment (ROI), Cost management and etc.

A report of the previous studies was collected in the second phase (e.g. Annavarjula, Madan, Nandialath, Anup & Mohan, Ramesh, 2012; Tsiotsou & Vlachopoulou, 2011; Griffith et al., 2010). According to the process of meta-analysis, the previous studies in this survey were collected from three main resources including hard copies of the related academic journals, searching in Internet resources of the related journals and the references section. Given that the number of these studies was high and at the same time it was not possible for the researcher to study all of them in terms of time, the simple random sampling was used to select the sample. In order to conduct

the simple random sampling, the first step was all activities regarding the research topic were collected and coded through a comprehensive search. Then one-hundred and forty two articles were selected as the sample size based on the Table of Random Numbers, given the high volume of the intended studies. Generally, the studies were collected from six resources. The number of the studies collected from each resource is shown separately in Table 2.

Table 2

Databases and number of reviewed studies

Database	Number of studies
Proquest	63
Springer	14
Science Direct	26
Emerald	22
Google	8
Magiran	9
Total	142

The usable studies in the statistical population were selected in the third phase. The reports collected in the previous phase were selected based on the type of independent and dependent variables. Nevertheless, considering the standards of the meta-analysis approach, some of these studies were not usable. Because the required information to calculate the effect size was not presented in the present survey, the unsuitable studies were omitted from the statistical population, and then the sampling was done. In phase four, the required information was collected from each study. A study of the history and the reported documents were tools of data collection. In other words, the data related to the values of the variables of the conceptual model of the survey were extracted from reports of previous studies. The list of the information that was to be collected from the reports was divided into three classes: (a) general information about articles; (b) the information required to calculate the effect size; and (c) the information required to measure the mediating variables. The list of the information required is observed in Table 3 (Basu, 2012; Ghazi Tabatabaee and Vaddadhir, 2011; Houman, 2009).

Table 3

List of the Information Required

General information of studies	Information related to effect size calculation	Information related to mediating variables (research topic characteristics)
Research title, researcher's name, Name of journal and etc.	Correlation coefficient, adjusted R^2, P-value, T-statistics, Z-statistics, mean of control group, mean of experimental group, pooled variance of groups, pooled standard deviation of groups and etc.	Marketing activities indexes, organization performance indexes, researcher's field, Publication year of the research, number of used references

The above data were first regulated in the form of an Excel spreadsheet. Each study in this spreadsheet was saved as a record (row) and each kind of data collected about the studies was saved as a field (column). In addition to collecting the data of each study in this phase, the data were coded and inserted in the SPSS software. The effect size was calculated in phase five. Effect size is a standard criterion by which the effect or the relation between two variables for each field study is measured. The calculated effect size in this survey will be the effect size r. The methodology, data analysis method and data analysis tools in each study, the used statistic to extract the effect size and the formula to convert the statistic into effect size r are based on Table 4. The effect size for each identified relation in the framework of the conceptual model will be calculated and reported separately (Basu, 2012; Ghazi Tabatabaee & Vaddadhir, 2011; Houman, 2009).

The existing homogeneity and heterogeneity in effect sizes were evaluated in phase six. According to the above explanations, results of the studies related to the effect of marketing activities on organization performance of firms are not consistent. The calculated effect size for various studies is regarded as one of the indexes of the effect of marketing activities on organization performance of firms. Hence, according to this theory the calculated effect sizes in different studies must be different and divergent from each other.

Table 4

Calculation of Effect Size for Different Methods of Research and Data Analysis

Research method	Analysis approach	Analysis tool	Statistics	R calculation
Correlation	Regression	Regression equation	t	$\sqrt{\dfrac{t^2}{t^2 + (N-2)}}$
Correlation	Correlation coefficient	Pearson coefficient	r	Effect size equal to r
Difference of two populations	Difference of mean	M_1-$M_2 \lessgtr 0$	t	$\sqrt{\dfrac{t^2}{t^2 + (N-2)}}$
Difference of two populations	Difference of mean	M_1-$M_2 \lessgtr 0$	z	$\dfrac{z}{\sqrt{N}}$
Expert's opinion	Mean of relationship	Average test	t	$\sqrt{\dfrac{t^2}{t^2 + (N-2)}}$
Correlation	Regression	Regression equation	R^2	$\sqrt{r^2}$
Difference of multiple-population	Analysis of variance	Variance	F	$\sqrt{\dfrac{t^2}{t^2 + (N-2)}}$

Usually Q and I^2 tests are used for accurate identification of heterogeneity of data related to effect size. Finally, the moderating variables of effect size will be identified in the seventh step. As it was mentioned earlier, where values of the calculated effect sizes are heterogeneous it is essential to determine the cause of such heterogeneity. Moderating variables and their effect on the amount of effect size show why the effect size is heterogeneous (Ortega, 2011; Ghazi Tabatabaee & Vaddadhir, 2011; Houman, 2009).

According to the descriptions, the conceptual model of the survey can be displayed as in Figure 1.

Figure 1. The conceptual model.
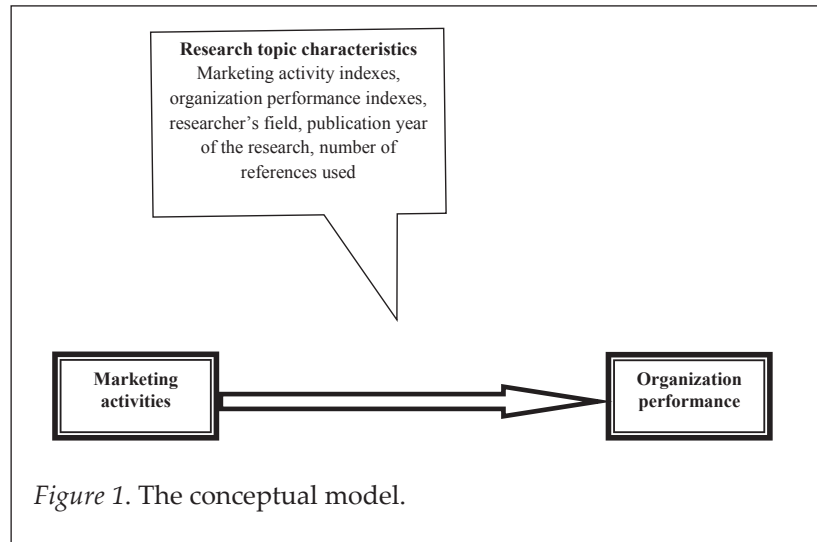
The information obtained from the data analysis of the previous studies as well as the results of the hypotheses testing are presented in the next section.

Hypotheses

As mentioned above, the effect of the factors related to the research topic characteristics on the relationship between marketing activities and organization performance is emphasized. Identification of these factors contains the major part of the hypotheses in the current survey. The most important factors are related to the research topic characteristics including the measurement indexes of marketing activities, measurement indexes of organization performance, attitude of the researcher, publication year and the number of references used. Therefore, the hypotheses are stated as below:

- The indexes of marketing activities have a mediating role on the effect of marketing activities on organization performance.
- The indexes of organization performance have a mediating role on the effect of marketing activities on organization performance.
- The field of researcher's field has a mediating role on the effect of marketing activities on organization performance.
- The publication year of the research has a mediating role on the effect of marketing activities on organization performance.

- The number of references used has a mediating role on the effect of marketing activities on organization performance.

Data analysis

Given the above explanations, heterogeneity of the effect size is first examined to test the hypotheses in the meta-analysis approach. In order to identify heterogeneity, Q and I^2 tests are usually used. The obtained results of these tests are represented in Table 5.

Table 5

Test of Effect Size Heterogeneity

I^2 value	Significant	Degree of freedom	Q value	Number of studies
92.64	0.00	1031	14009.97	1033

According to the results of Tables 1-4, the value of Q statistic was equal to 14009.97 through collecting the effect size data for 1033 researches and this value was higher than that of the table. Similarly, the significance level of the Q test was equal to 0.000 that is lower than the significance level of 0.05. Hence, the heterogeneity of the effect size of the researches was confirmed. Also the value of I^2 obtained was equal to 92.64 that shows the heterogeneity of the effect size of the researches was at a high level. It can therefore be concluded that there is a significant difference between the results of the previous studies about the relationship between marketing activities and organization performance and the factors which led to such a significant difference should be identified and investigated. Characteristics of the research topic are one of these factors and their mediating role in the relationship between marketing activities and organization performance was investigated in the current survey.

The type of the meta-analysis model used to test the hypotheses is determined based on the results of the heterogeneity test. If the data is heterogeneous, the fixed effects model will be used, otherwise the random effects model will be applied. Therefore, given the heterogeneity of the data, the random effects model was used in this survey.

The effect of each intervening variable regarding the relationship between marketing activities and organization performance was studied in the framework of the conceptual model of the survey separately through suitable statistical tests. For the statistical test of the hypotheses in the present survey the statistical and mathematical shape of the hypotheses were explicated. The null hypothesis and the alternative hypothesis were explicated given the nature of the independent variable. It is shown in Table 6.

Table 6

Nature of Mediating Variables Related to Research Topic Characteristics

Method of data analysis	Scale	Sub factors	Main factor
Analysis of variance (ANOVA)	Nominal, more than two groups	Marketing activities indexes	
Analysis of variance (ANOVA)	Nominal, more than two groups	Organization performance indexes	
Analysis of variance (ANOVA)	Nominal, more than two groups	Researcher's field	Research topic characteristics
Meta regression	Continuous	Publication year of the research	
Meta regression	Continuous	Number of references used	

The hypotheses of this survey were divided into two types as given in Tables 1-4: (a) hypotheses whose independent variable has a continuous scale and (b) hypotheses whose independent variable has a nominal scale with more than two values. How the null and alternative hypotheses were formulated for each class of the above hypotheses is explained below.

If the moderating variable related to the research topic characteristics has a continuous scale, the meta-regression test is used. The null hypothesis and the alternative hypothesis are as below:

Null hypothesis: There is no significant relationship between the moderating variable regarding the research topic characteristics and the effect size of the researches related to the effect of marketing activities on organization performance.

Alternative variable: There is a significant relationship between the moderating variable regarding the research topic characteristics and the effect size of the researches related to the effect of marketing activities on organization performance.

The mathematical form of the above statistical hypotheses is as follows:

H_0: $\beta = 0$
H_1: $\beta \neq 0$

In these hypotheses β is the coefficient of the independent variable in the regression equation.

Also if the moderating variable regarding the research topic characteristics has a nominal scale with more than two values, the null hypothesis and the alternative hypothesis will be as given below: Null hypotheses: There is a significant difference between the effect size of the researches conducted at various levels of the moderating variable regarding the research topic characteristics.

Alternative hypothesis: There is no significant difference between the effect size of researches conducted at various levels of the moderating variable regarding research topic characteristics.
The mathematical form of the above statistical hypotheses is as shown below:

H_0: $M_1 = M_2 = M_3 = \ldots M_n$
H_1: At least one pair of means is different.
M_1 to M_n shows the number of levels of the moderating variable related to the research topic characteristics.

It is noteworthy that the specialized software for meta-analysis entitled Comprehensive Meta-Analysis 2 (CMA2) was used to conduct the meta-analysis tests of variance and meta-regression.

The first three hypotheses were tested using the variance analysis test. The testing of these hypotheses was performed by means of the CMA2 software and the results are displayed in Table 7.

Table 7

Test Results of Hypotheses One to Three

Significant	Q value	Number of studies	Mediating variables related to research topic characteristics	Method of test
0.00	18.909	771	Marketing activities indexes	Analysis of variance based on random effects model
0.00	98.887	941	Organization performance indexes	
0.00	31.831	958	Researcher's field	

According to hypothesis one, the marketing activities indexes give rise to differences in the results of the researches related to the effect of marketing activities on organization performance. The marketing activities indexes in the present survey were classified in a general classification into three groups: marketing resources, strategic marketing activities and tactical marketing activities. The degree of significance for the first hypothesis obtained equalled 0.00 that was lower than the significance level of 0.05. Thus, it can be concluded that the null hypothesis is confirmed and the alternative hypothesis is rejected. It means that there is a significant difference between the mean of the effect size of the researches in which different indexes were used to measure marketing activity. As a result, the first hypothesis is confirmed. It means that the marketing activity indexes have a mediating role on the effect of marketing activities on organization performance. Also the descriptive statistics show that the obtained mean of the effect size for marketing resources, strategic marketing activities and tactical marketing activities are equal to 0.198, 0.162 and 0.175 respectively. Accordingly, it can be stated that marketing resources have the highest effectiveness on organization performance. This is while the weakest effectiveness on organization performance is related to strategic marketing activities.

According to hypothesis two, organization performance indexes give rise to difference in the results of the researches related to the effect of marketing activities on organization performance. Organization performance indexes in the present survey were classified into three groups of customer performance, market performance and financial

performance in a general classification. The degree of significance for the first hypothesis obtained equalled to 0.00 that was lower than the significance level of 0.05. Thus, it can be concluded that the null hypothesis is confirmed and the alternative hypothesis is rejected. It means that there is a significant difference between mean the of the effect size of the researches in which different indexes were used to measure organization performance. As a result the first hypothesis is confirmed. It means that organization performance indexes have a mediating role on the effect of marketing activities on organization performance. Also descriptive statistics show that the obtained mean of the effect size for customer performance, market performance and financial performance are equal to 0.208, 0.198 and 0.144 respectively. Accordingly, it can be stated that marketing activities have the strongest relation with customer performance and they have the weakest relationship with financial performance.

According to hypothesis three, the researcher's field give rises to differences in the results of the researches related to the effect of marketing activities on organization performance. The researcher's field in the present survey was classified into six groups - business management, other management, non-management, business management and other managerial, business management and non-managerial, other managerial and non- managerial and a combination of different fields-in a general classification. The degree of significance for the first hypothesis was equal to 0.00 that was lower than the significance level of 0.05. Thus, it can be concluded that the null hypothesis is confirmed and the alternative hypothesis is rejected. It means that there is a significant difference between the mean of the effect size of the researches in which researchers have different fields. As a result, the first hypothesis is confirmed. It means that the researcher's field has a mediating role on the effect of marketing activities on organization performance. Also descriptive statistics show that the means of the effect size for business management, other management, non management, business management and other managerial, business management and non-managerial, other managerial and non- managerial and a combination of different fields are equal to 0.233, 0.258, 0.219, 0.181, 0.167 and 0.22 respectively. Accordingly, it can be stated that there is a stronger relationship between marketing activities and organization performance in researches in which the researcher's field is non-managerial while the weakest relationship is related to the researches in which the researcher's field is a combination of managerial and non-managerial.

Hypothesis four was tested using the meta-regression method. It was performed by means of the CMA2 software and the results are shown in Table 8.

Table 8

Test Results of Hypothesis Four

Significant	Z value	Standard error	Coefficient	Meta regression based on random effect model
0.01	-2.545	2.801	-7.13	Intercept
0.008	2.614	1.396	3.65	Publication year of the research
	1566.507			Q value
	0.00			Significant

According to the results in Table 9-4, the significance level of the coefficient of the independent variable of the publication year was equal to 0.008 and it was significant at level 0.05. As a result, the null hypothesis is rejected and H1 is accepted at the significance level of 0.05. The coefficient of the independent variable of the publication year was equal to 3.65 which showed that there is a significant positive relationship between the mean of the values of the effect size and the publication year of the research. It means that the effect of the marketing activities on organization performance has become stronger in the course of time. Therefore, hypothesis four is confirmed, i.e. the publication year of research has a mediating role on the effect of marketing activities on organization performance.

Hypothesis five was tested using the meta-regression method. It was performed by means of the CMA2 software and the results are shown in Table 9.

According to the results in Table 9-4, the significance level of the coefficient of the independent variable of the number of references used was obtained equal to 0.163 and it was not significant at the 0.05 level. As a result, H1 is rejected and the null hypothesis is accepted at

the significance level of 0.05. Therefore, hypothesis five is rejected, i.e. the number of references used does not have a mediating role on the effect of marketing activities on organization performance.

Table 9

Test Results of Hypothesis Five

Significant	Z value	Standard error	Coefficient	Meta regression based on random effect model
0.00	12.26	0.017	0.218	Intercept
0.163	-1.393	0.026	-0.037	Number of references used
1506.308				Q value
0.00				Significant

Conclusion

Marketing is an organization task and a set of transactional processes that is conducted in order to reach an agreement over common evidences to exchange with different groups. The purpose of marketing is to improve performance of the organization through the recognition of the needs and demands of customers. Studying the effect of marketing activities on organization performance in recent years has had a special significance due to the importance of marketing as well as its desirable performance and value for companies. On the other hand, despite various studies about the relationship between marketing activities and organization performance the obtained results are usually contrasting and confusing. It was tried in this survey to identify the causes of such a difference in the results of the researches regarding marketing activities-organization performance using the meta-analysis approach.

The obtained results demonstrate that the research topic characteristics are one of the major causes of divergence in the intended researches. Based on the data analysis of the data collected from various studies it means that the variables of measurement indexes of marketing activities, measurement indexes of organization performance, attitude of the researcher and the publication year of the research

result in a significant difference in the results of the studies regarding the effect of marketing activities on organization performance. But the moderating role of the number of the applied references in the research for the relationship between marketing activities and organization performance was not confirmed. Also descriptive statistics of the survey show that marketing resources have the highest effectiveness on organization performance; while the weakest effectiveness on organization performance was related to strategic marketing activities. Moreover, marketing activities have the strongest relationship with customer performance and they have the weakest relationship with financial performance. Finally there is a stronger relationship between marketing activities and organization performance in the researches in which the researcher's field is non-managerial while the weakest relationship is related to the researches in which the researcher's field is a combination of managerial and non-managerial.

According to the results the following recommendations can be made:

- It is recommended to use all indexes of marketing activities in studying the effect of marketing activities on organization performance to minimize the difference in research results.
- It is recommended to use all indexes of organization performance in studying the effect of marketing activities on organization performance to minimize the difference in research results.
- Researchers with specialized managerial and non-managerial backgrounds study the effect of marketing activities on financial performance so that the difference in research results is decreased.

Also, it is recommended to future researchers to identify the moderating variables in the relationship between marketing activities and organization performance such as sample characteristics, research structure, subjects and so on and so forth by applying other suitable statistical methods. Besides, it is recommended to identify the reasons for the effectiveness of the intended mediating variables in the relationship between the marketing activities indexes and organization performance through more investigations.

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