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ENTREPRENEURIAL ORIENTATION AS THE DETERMINANT OF ENTREPRENEURIAL MARKETING BEHAVIORS

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ABSTRACT

Although entrepreneurial marketing (EM) behaviors are widely reported, there is little discussion on what determines the level of a firm's behaviors. This study contributes to the knowledge in the fields of entrepreneurship and entrepreneurial marketing by proposing EO, entrepreneurial orientation, as an antecedent of EM behaviors and arguing that EO acts as a multidimensional construct when affecting EM behaviors. The relationships between EO and EM behaviors are empirically investigated using multi-group confirmatory factor analysis and structural equation modeling techniques. Results from the analyses support the hypothesis that EM behaviors are driven by EO. Firms with a higher level of EO engaged in EM behaviors more than firms with a lower level of EO. At the dimension level, innovativeness, proactiveness, and risk-taking are found to independently affect EM behaviors. With innovativeness having the strongest impact, this study concludes that innovativeness is the leading essence of EM behaviors. The results support a new consensus among entrepreneurship research scholars who suggest a direction toward multidimensional EO.

Keywords: Entrepreneurial orientation, Entrepreneurial marketing, Marketing behavior, Structural equation model, Multi-group confirmatory factor analysis, Multidimensional

INTRODUCTION

Firms today operate in a rapidly changing environment with fierce competition and increasingly demanding customers. Firms have a limited ability to forecast customer demand and their market boundaries are hard to define (Day & Montgomery, 1999). Entrepreneurial marketing (EM), an interface between marketing and entrepreneurship, has emerged as a marketing practice for firms operating in highly dynamic environments. Entrepreneurial marketing integrates marketing and entrepreneurship through the concepts shared by the two fields (Morris, Schindehutte, & LaForge, 2002). Those concepts are innovativeness in their approach to management, having customers as an intense focal point, and a requirement to cope with risk and uncertainty (Hills & LaForge, 1992). Accordingly, researchers suggest that EM can help firms to cope with change, identify viable opportunities, and develop their innovative skills (Collinson, 2002). Prior research identified several characteristics of EM behaviors, such as calculated risk-taking (Carson & Grant, 1998), decisions based on intuition and experience (Siu & Kirby, 1999), inherent focus on recognition of opportunities (Hills & Singh, 1998), flexible approaches to markets (Sashittal & Jassawalla, 2001; Shaw, 1999), and exploitation of smaller market niches (Stasch, 1999).

Although EM behaviors are widely reported, there is little discussion on what determines the level of firms' EM behaviors and why EM behaviors are more evident in one firm than another. Evidence from prior literature seems to suggest that EM behaviors are more evident in smaller firms than in larger firms and in younger firms than in older firms. Researchers have identified several differences between marketing practices in small firms and large firms (Bjerke & Hultman, 2002; Carson, Cromie, McGowan & Hill, 1995; Coviello, Brodie, & Munro, 2000) and claimed that firm age is an important factor in firms' marketing strategy and practices (Schwartz, Teach, & Tarpley, 1993). Therefore, the researchers seem to suggest that firm size and age are determinants of EM. Results from a recent study, nonetheless, have shown that firms' characteristics alone may not be a good measure for identifying the level of a firm's EM behaviors (Kilenthong, Hultman, & Hills, 2016).

This study argues that EM behaviors were evident in small or young firms (as reported in extant research) because those firms have a high level of entrepreneurship. The argument is based on the findings from prior studies illustrating that the level of firms' entrepreneurship (represented by entrepreneurial orientation, or EO) is not only correlated to firms' general business activities, but also to specific marketing activities. Researchers find that EO affects firms' capacity to innovate (Carrillat, Jaramillo, & Locander, 2004), ability to create new product applications (Covin & Slevin, 1991), marketing strategy making process (Menon, Bharadwaj, Adidam & Edison, 1999), intention to enter new markets (Atuahene-Gima & Ko, 2001), and ability to cope with complex market environments (Knight, 2000). As a result, it is an aim of this study to examine a systematic relationship between the level of firms' entrepreneurship, represented by EO, and EM behaviors. In particular, this study proposes that firms with a higher level of EO are expected to engage more in EM behaviors than firms with a lower level of EO.

In addition to the systematic relationship between EO and EM behaviors, this study also investigates the relationship at the level of the EO dimensions. Prior entrepreneurship literature does not always have a consensus on

the dimensionality of EO when examining the relationships of interest. Some studies treat EO as a unidimensional concept (Covin, 1991; Covin & Slevin, 1989; Miller, 1983), while others treat EO as a multidimensional concept (Dai, Maksimov, Gilbert, & Fernhaber, 2014; Kreiser, Marino, Kuratko, & Weaver, 2013; Venkatraman, 1989; Zahra, 1996). This study investigates in detail whether EO acts as a multidimensional construct, where all three dimensions of EO can independently affect EM behaviors, or as a unidimensional construct, where all three dimensions of EO simultaneously affect EM behaviors. To our knowledge, this study is the first to empirically investigate the relationship between EO and EM behaviors at the dimension level.

This study proceeds as follows. The next section briefly elaborates on the EM and EO constructs. Then the models illustrating relationships between EO and EM are proposed. In the methodology section, we introduce our data source and measurements and then conduct the analysis. In testing our hypotheses, the relationship between EO and EM is initially investigated using multi-group confirmatory factor analysis by treating EO dimensions as observed variables. Then, structural equation modeling (SEM) is used to investigate the relationship by treating EO dimensions as latent variables. In examining the dimensionality of EO, the SEM model depicting EO as a multidimensional construct is compared with SEM model depicting EO as a unidimensional construct. This study determined the best model by comparing how they fit with the empirical data. In the final section, we discuss our findings and their implications.

THEORETICAL BACKGROUND AND HYPOTHESES

Entrepreneurial Marketing: Marketing at the Interface Entrepreneurial marketing (EM) originates from an interface between marketing and entrepreneurship. The EM concept has evolved significantly over the past three decades. In the early days, EM primarily focused on marketing practice in small firms, young firms, and entrepreneur-operated firms. Later on, the EM concept was expanded to cover several types of marketing activities, such as marketing that deviates from mainstream marketing (Morris et al. 2002), marketing activities in firms aiming toward growth (Bjerke & Hultman, 2002), marketing activities in highly successful firms (Buskirk & Lavik, 2004), and entrepreneurial marketing activities in larger firms (Miles & Darroh, 2006). With these developments, Hills and Hultman (2006) proposed that EM should be viewed as an umbrella strategy which acknowledges three broad areas of research including marketing in new ventures or SMEs, entrepreneurship activities within larger organizations, and innovative and cost-effective marketing strategies that provoke market change.

In recent years, there has been an increasing number of studies empirically investigating EM dimensions and the literature can be categorized into two research streams. Studies in the first stream of research have focused on confirming the seven dimensions of EM proposed by Morris et al.'s 2002 study (Fiore, Niehm, Hurst, Son, & Sadachar, 2013; Kocak, 2004; Schmid, 2012). To date, however, no study has confirmed a construct that fully corresponds with Morris et al.'s framework. The EM dimensions confirmed by the researchers varied across studies. While Kocak (2004) confirmed five dimensions of EM in a study of small firms in Turkey, Schmid (2012) confirmed four dimensions in a study of SMEs in Austria, and Fiore et al. (2013) confirmed four dimensions in a study of the US firms, respectively.

Studies in the second stream of research have developed new EM frameworks by analyzing data from various contexts such as born global firms (Mort, Weerawardena & Liesch, 2012), and SMEs (Jones & Rowley, 2009). The EM dimensions identified in this research stream also differ in terms of number and content. While Jones and Rowley (2009) developed a framework called "EMICO", which comprises fifteen EM dimensions based on firms' levels of entrepreneurial orientation (EO), innovation orientation (IO), market orientation (MO), and customer orientation (CO), Mort et al. (2012) identified four dimensions of EM in Australian firms that are not categorized by such orientations.

With the lack of consensus on the number of EM dimensions and an increasing number of studies suggesting that a firm's level of entrepreneurship can affect the firm's marketing activities, this study does not include EO as an EM dimension. This study investigates the impact of EO on the six dimensions of EM behaviors that were conceptually identified based on a review of empirical studies published in marketing and entrepreneurship journals, and were then empirically tested using a large survey data set (Kilenthong, Hills, & Hultman, 2015). The dimensions include growth orientation, opportunity orientation, total customer focus, value creation through networks, informal market analysis, and closeness to the market. All dimensions are closely related and they encompass all important elements that were suggested in prior research as essential elements of EM behaviors.

Entrepreneurial Orientation and its relationship with Entrepreneurial Marketing Behaviors

Entrepreneurial orientation (EO) originates from the literature in strategic management as strategic postures that explain a firm's behavior (Khandwalla, 1977; Mintzberg, 1973). Researchers categorize firms according to their strategic postures by placing them along a continuum ranging from conservative to entrepreneurial (Covin, 1991; Covin & Slevin, 1989; Miller, 1983). Miller (1983) defined an entrepreneurial firm as the "one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with proactive innovations, beating competitors to the punch." (p.771) According to this definition, an entrepreneurial firm can be described using three strategic postures: innovativeness, risk-taking, and proactiveness. These three strategic postures have become important dimensions of EO.

In the literature, researchers usually use the level of firm's EO to represent the level of firms' entrepreneurship. Prior research suggested that EO could have an influence on how firms perform their general business and marketing activities. Firms with different strategic types were reported to have different views regarding the marketing mix and market research (McDaniel & Kolari, 1987). Researchers acknowledged that an organization culture with a high level of EO could encourage the flow of innovative ideas in the firm's marketing strategy-making process (Menon, Bharadwaj, Adidam, & Edison, 1999) and enable firms to adopt a proactive marketing practice during times of recession (Srinivasan, Rangaswamy, & Lilien, 2005).

Specifically to marketing activities, extant research have both empirically and conceptually identified that the marketing behaviors of firms with a higher level of EO are different from the marketing behaviors of firms with a lower level of EO. Empirically, researchers reported that a higher level of EO is related to a higher intention to enter new

markets (Atuahene-Gima & Ko, 2001) and a higher level of marketing capabilities, such as marketing research and promotion (Qureshi & Kratzer, 2011).While Morris and Paul (1987) and Davis, Morris, and Allen (1991) found that a higher level of firm's EO was correlated with a higher level of firms' marketing orientation, Knight (2000) also found that firms with a higher level of EO emphasized more on innovative marketing techniques in their marketing strategy.

Conceptually, Covin and Slevin (1991) proposed that EO is positively correlated with the firm's ability to bring new products to market, identify opportunities for product-market development, and create new product applications from generic technologies (p.16). In a framework developed by Carrillat et al., (2004), a high level of EO was projected to increase firms' ability to create market-driving innovation. Covin (1991) had reported that several EM behaviors were evident in entrepreneurial firms than in non-entrepreneurial firms. Those behaviors includes offering more extensive customer support, paying more attention to product quality, and being more concerned with industry and market trends (p.451). Accordingly, Hills and Hultman (2006) had explicitly proposed that EM behaviors are driven by EO.

Based on the above mentioned empirical and conceptual evidence, this study proposes that a higher level of EO leads to a higher level of engagement of EM behaviors. That is, EM behaviors are driven by EO. Therefore, the first hypothesis is as follows.

Hypothesis 1*: *Firms with a higher level of entrepreneurial orientation are more likely to engage in entrepreneurial marketing than firms with a lower level of entrepreneurial orientation.

Entrepreneurial Orientation: Unidimensional or Multidimensional

Entrepreneurship literature has no consensus regarding how researchers should operate the EO construct at its dimension level. Some studies treat EO as a unidimensional concept (Covin, 1991; Naman & Slevin, 1993), while some studies treat it as a multidimensional concept (Venkatraman, 1989; Zahra, 1996).

On the one hand, researchers followed the idea of Miller (1983), who suggested that an entrepreneurial firm needs to have a high level of all the dimensions of EO at one time, and they used an aggregated or average score of sub-dimensions of EO to measure EO. The examples of such studies were a study by Covin (1991) who used an average scores of innovativeness, risk-taking, and proactiveness to measure EO when examining a firm's strategies and performance, and a study by Naman and Slevin (1993) who used an aggregated score of innovativeness, risk-taking, and proactiveness to investigate entrepreneurship and the concept of fit in small and medium high-tech firms. In addition, Rauch, Wiklund, Lumpkin, and Frese (2009) had also suggested that an aggregated score of EO dimensions could be reasonably used to explain firm performance, because they did not find the difference in the magnitude of the relationship between EO and performance, whether EO was measured as an aggregated measure or by its sub-dimensions.

On the other hand, researchers have indicated that the sub-dimensions of EO may vary independently (Lumpkin & Dess, 1996; Stetz, Howell, Stewart, Blair, & Fottler, 2000; Kreiser, Marino, Kuratko, & Weaver, 2002). Lumpkin and Dess (1996) suggested that the idea that entrepreneurial behaviors should be restricted to reflect only the case in which all dimensions of EO are high may prevent researchers from being able to explain types of

entrepreneurship. They suggested that entrepreneurial orientation dimensions may occur in different combinations depending on the environment and organizational context, and the type of entrepreneurial opportunities a firm pursues.

Empirical results from prior studies also suggested that firms do not necessarily have all dimensions of EO high (or low) at one time. Brockhaus (1980) found that a firm's risk-taking tendency may vary depending on the duration it has been in business. A study by Santos and Eisenhardt (2009) showed firms using a proactive but non-innovative marketing strategy to define their market boundaries. Researchers also reported that innovativeness, proactiveness, and risk-taking had different effects on SME performance (Kreiser et al., 2013) and on the ability of firms to broaden its scope across international markets (Dai et al., 2014). Moreover, Morris et al. (2002) suggested that innovativeness, proactiveness, and risk-taking can occur in different combinations and indicate that "not all the dimensions of entrepreneurial marketing need to be operating at once for entrepreneurial marketing to occur."

More recently, researchers have increasingly recognized a need for alternative approach to measuring EO (Covin, Green, & Slevin, 2006; Dai et al., 2014; Rauch, Wiklund, Lumpkin, & Frese, 2009). In his 2011 article, Miller (2011) also suggested that researchers should not always treat EO as an aggregated construct, but may treat it as a multidimensional construct because different dimensions of EO may have different relationships with variables that the researchers examine. In addition, Rauch et al. (2009) indicated that a multi-dimensional measure of EO might be more appropriate in a study examining antecedences and consequences of EO.

Since this study focuses on EM as an outcome of EO, we believe that it is appropriate to treat EO as a multidimensional construct. Accordingly, based on prior empirical and conceptual evidence, we set up the next hypothesis as follows.

Hypothesis 2: *Proactiveness, innovativeness, and risk-taking can independently affect entrepreneurial marketing behavior.*

METHODS

Data

This study is from a sample developed under the direction of the authors. The dataset collected was sponsored by the National Federation of Independent Business (NFIB) Research Foundation, by the executive interviewing group of The Gallup Organization. Individual interviews were conducted from a national sample of 752 business owners in the US. Business owners were defined as those that employed at least one individual in addition to the owner(s) and no more than 249. A sampling frame was drawn for the survey from the files of the Dun and Bradstreet Corporation (not NFIB members). A random stratified sample was used to compensate for the highly skewed distribution of business owners by employee size of firm. Using a list-wise (casewise) missing data deletion, 545 observations remained for our analysis. Key characteristics of the sample are shown in Table 1.

Table 1
Key characteristics of the sample.

Item	Category	Percentage
a. Size	1 - 9 employees	43.9
	10 - 250 employees	56.1
b. Age	< 1 year old	1.3
	1- 6 years old	23.4
	> 6 years old	74.9
c. Growth Rate (change in sales over 3 years)	Decreased	10.2
	1- 10 percent growth	18.7
	> 10 percent growth	66.2
d. Sector	Commodity/Construction/Transportation	17.1
	Wholesale/ Retail	17.8
	Professional Services	12.1
	Accommodation/Food	11.4
	Manufacturing	9.5
	Financial/ Insurance/ Real Estate	9.3
	Other Services	22.4

Note: The percentage is based on the sample of 545 observations and may not sum up to 100 due to missing values.

Measures

Dependent Variable. Entrepreneurial marketing behaviors are dependent variables in this study. They are measured by 20 variables. Five-point Likert scales anchored by "Strongly disagree" (1) and "Strongly agree" (5) were used for these variables. Each question was framed as follows: "Please tell me if you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, or strongly disagree with the following statements about marketing as it is done in your business." The variables are categorized according to the EM dimensions that they measure. Growth orientation, closeness to the market, value creation through networks, and informal market analysis are each measured by 3 variables, while opportunity orientation and total customer focus are each measured by 4 variables.

Independent Variable. Entrepreneurial orientation is an independent variable in this study. It is measured by variables that have been extensively validated in prior research. Innovativeness is measured by two items, asking how much firms place an emphasis on innovative products and how much they make drastic changes to their products. Proactiveness is measured by two items, asking how often firms initiate actions to which competitors respond and how often they are the first to introduce their products. Risk taking is measured by two items, asking how inclined firms are toward behaving cautiously and how inclined they are toward taking high-risk projects. The response options for each item range from 1(low level) to 3 (high level). A complete list of the variables measuring all EM and EO dimensions is given in the Appendix.

Data Analysis

Relationships between each dimension of EO and each dimension of EM behaviors are investigated in two steps. In the first step, we investigate the relationships by conducting three multi-group confirmatory factor analyses (multi-group CFA), treating EO as an observed variable. In the second step, we investigate the relationships using structural equation modeling (SEM), treating EO as an unobserved variable. Since conceptually EO should be treated as a latent variable, we expect results from the second step of the analysis will give a clearer picture of the relationship between EO and EM behaviors.

In the first step of the analysis, firms are categorized into two groups according to the summated scores of the two measurement items measuring the same EO dimension. For each EO dimension, firms with a summated score of 2 or 3 are considered to be firms with a low level of EO, while firms with a summated score of 4, 5, or 6 are considered to be firms with a high level of EO. With this categorization, we obtain 221 more innovative firms versus 324 less innovative firms, 202 more risk-taking firms versus 343 less risk-taking firms, and 371 more proactive firms versus 174 less proactive firms.

In the second step of the analysis, the relationships are examined under two models including a model examining EO as a unidimensional construct, and a model examining EO as a multidimensional construct. The fit indices from both models are later compared in order to determine which model fits better with the data.

RESULTS

Entrepreneurial Orientation's Impact on Entrepreneurial Marketing: The First Look

This section is a preliminary investigation of the impact of EO on EM behaviors. Three multi-group confirmatory factor analyses are conducted to test whether the latent means for factors underlying EM behaviors in the group of firms with a higher level of innovativeness, proactiveness, or risk-taking are higher than the latent means for factors underlying EM behaviors in the group of firms with a lower level of innovativeness, proactiveness, or risk-taking. Results from the analyses are shown in Table 2 below.

Table 2

Mean differences in two-group confirmatory factor analysis by EO dimension, using a group of firms with a lower level of EO as a reference [a]

EM dimension	EO dimension		
	Innovativeness	Risk-taking	Proactiveness
Growth Orientation	0.18***	0.14***	0.18**
Opportunity Orientation	0.35***	0.31***	0.36***
Total Customer Focus	0.04**	0.07	0.18**
Value Creation through Networks	0.05	0.10*	-0.13**
Informal Market Analysis	-0.24***	-0.05	-0.11
Closeness to the Market	-0.02	0.03	0.07

[a] Note: *** =$p < 0.01$, ** = $p < 0.05$, * = $p < 0.10$.

What we know now.

Results from our multi-group CFA analysis suggest that there is a systematic relationship between the level of a firm's EO and the level of a firm's EM behaviors. Out of the five dimensions of EM behaviors investigated, firms with higher levels of innovativeness, proactiveness, or risk-taking behaviors are found to have higher means for the factors underlying two dimensions of EM behaviors, including growth orientation and opportunity orientation.

The results show that all three dimensions of EO have a positive relationship with the growth orientation and opportunity orientation dimensions of EM behaviors. This is empirical evidence confirming a proposal in the previous literature that entrepreneurial firms aim to grow and expand their customer base rather than starting out small and staying small (Bjerke & Hultman, 2002). The results also confirmed the suggestion that entrepreneurial firms look to exploiting opportunities and lead customers through their innovations (Christensen, Johnson, & Rigby, 2002; Hamel & Prahalad, 1991).

In more detail, the group of more innovative firms scores 0.35 units higher in factor underlying opportunity orientation, and 0.18 units higher in factor underlying growth orientation dimension than the group of less innovative firms. The group of more risk-taking firms scores 0.31 units higher in the factor underlying opportunity orientation, and 0.14 units higher in the factor underlying growth orientation dimension than the group of less risk-taking firms. Similarly, the group of more proactive firms scores 0.36 units higher in the factor underlying opportunity orientation, and 0.18 units higher in the factor underlying growth orientation dimension than the group of less proactive firms.

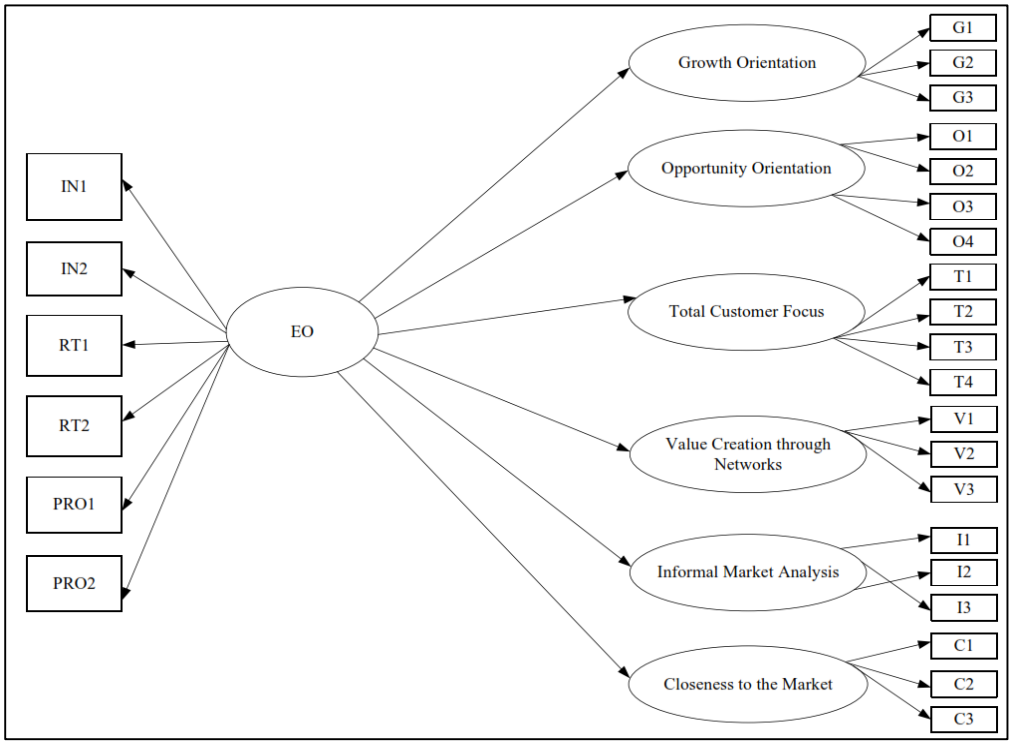
Nonetheless, results also show that the group of more innovative firms scores 0.24 units lower than the group of less innovative firms in factor underlying informal market analysis dimension of EM behaviors. In a similar manner, the group of more proactive firms also scores 0.13 units lower than the group of less proactive firms in factor underlying value creation through networks dimension. Based on these results, we concluded that Hypothesis 1 is supported.

In addition, the results above show that not all dimensions of EO affect the same EM behaviors in the same direction. While more risk-taking firms were found to utilize their networks and alliances more than less risk-taking firms (the difference between the two groups is 0.10 units), it is the opposite in the case of more proactive firms versus less proactive firms (the difference between the two groups is - 0.13 units). This implies that each EO dimension can affect EM behaviors differently and that EO may be treated as a multidimensional construct. In the next section, we investigate further whether EO should be treated as a multidimensional construct when affecting EM behaviors.

Relationship between Entrepreneurial Orientation and Entrepreneurial Marketing: Unidimensional or Multidimensional

With the results from the preliminary analysis suggesting that there is a systematic relationship between the level of a firm's EO and the level of a firm's EM behaviors, this study further analyzes the relationship between EO and EM behaviors by treating EO as an unobservable construct. In this section, we test whether EO acts as a multidimensional or unidimensional construct affecting EM behaviors. The analysis is conducted using two structural equational SEM models.

Figure 1. *Structural equation model with EO as a unidimensional construct*

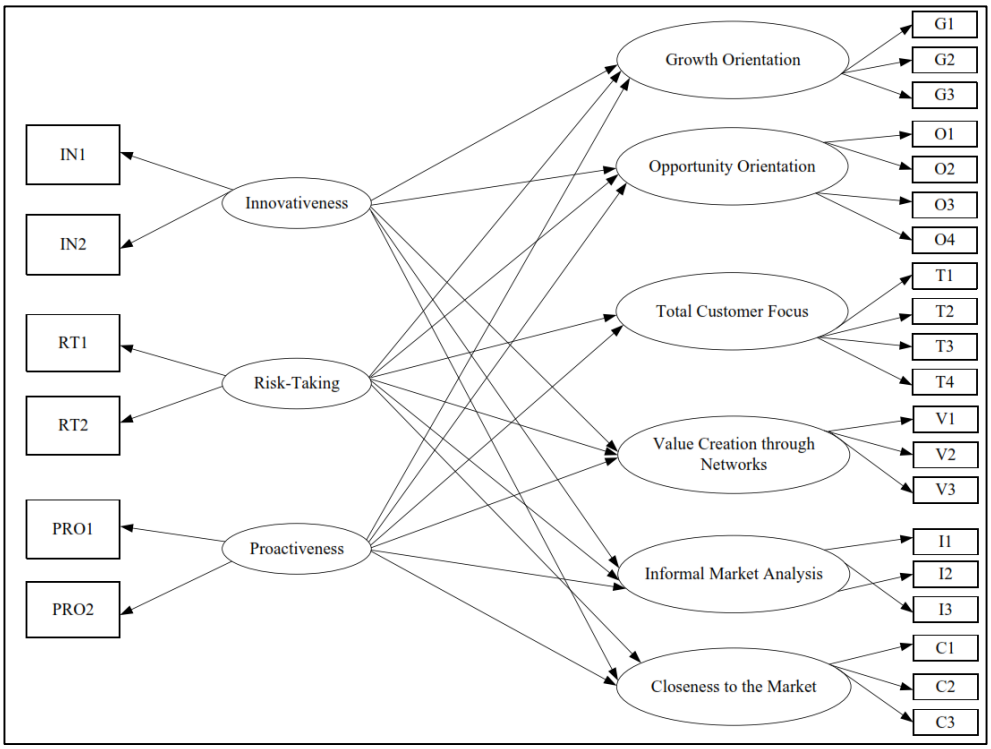


In the first SEM model, EO is treated as a unidimensional construct in which risk taking, innovativeness, and proactiveness are projected to simultaneously affect EM behaviors. In this model, six items measuring the three EO dimensions are designed to affect all dimensions of EM behaviors through one latent factor called "EO". Figure 1 displays the schematic representation of the model.

In the second SEM model, EO is treated as a multi-dimensional construct, in which innovativeness, risk-taking, and proactiveness are projected to independently affect each dimension of EM behavior. In this model, six items measuring EO are designed to affect all dimensions of EM behaviors through three latent factors called "innovativeness", "proactiveness", and "risk-taking", respectively. The schematic representation of the model is shown in Figure 2.

The objective of SEM analysis is to determine the extent to which the hypothesized model is supported by the sample data. The proposed SEM models are estimated using the maximum likelihood procedure, which is the most widely used. AMOS reports several goodness-of-fit indices which are used to determine the model's fit; these include the chi-square statistic, the Tucker Lewis fit index (TLI), the root mean square error of approximation (RMSEA), and the Comparative Fit Index (CFI). The models also allow for an assessment of path loadings and whether or not they are significantly different from zero. The multidimensional EO will be supported if the goodness-of-fit indices indicate that the SEM model depicting three sub-dimensions of EO has a better fit with the data than the SEM model with one EO dimension. Conversely, the unidimensional EO will be supported if the goodness-of-fit indices indicate that the SEM model depicting EO as an aggregate measure has a better fit with the data.

Figure 2. *Structural equation model with EO as a multidimensional construct*



Unidimensional Entrepreneurial Orientation and Entrepreneurial Marketing Behaviors.

The path coefficients from the SEM model with unidimensional EO are shown in Table 3. The results show that EO, as a latent variable, has a statistically significant positive impact on all dimensions of EM behaviors. This confirms the argument that firms with a higher level of EO engage more in EM behaviors that firms with a lower level of EO.

Table 3

Path coefficients in the structural equation model with unidimensional EO [a]

EM dimension	Coefficient
Growth Orientation	1.78***
Opportunity Orientation	2.76***
Total Customer Focus	0.96***
Value Creation through Networks	1.17***
Informal Market Analysis	0.36*
Closeness to the Market	1.56***

[a] Note: *** =$p < 0.01$, ** = $p < 0.05$, * = $p < 0.10$

Multidimensional Entrepreneurial Orientation and Entrepreneurial Marketing behaviors.

Treating EO as a multidimensional construct gives a clearer picture of how EO affects EM behaviors. Results in Table 4 shows that innovativeness dominates the other EO dimensions in terms of its effects on EM behaviors. The argument that EO is a multidimensional construct seems to be supported by the path coefficients in this model. The path coefficients illustrating the impact of innovativeness, proactiveness and risk-taking on EM behaviors do not always follow the same direction. While all the path coefficients from innovativeness to EM behaviors are positive, this is not the case for risk-taking and proactiveness. The two EO dimensions have both positive and negative path coefficients to EM behaviors.

Table 4
Path coefficients in the structural equation model with multidimensional EO (All) [a]

EM dimension	EO dimension		
	Innovativeness	Risk-taking	Proactiveness
Growth Orientation	3.33***	0.11	0.64***
Opportunity Orientation	4.93***	0.29**	0.68***
Total Customer Focus	2.51**	-0.07	-0.08
Value Creation through Networks	3.06**	0.08	-0.32*
Informal Market Analysis	1.38**	-0.12	-0.33
Closeness to the Market	4.18**	-0.05	-0.38

[a] Note: *** =$p < 0.01$, ** = $p < 0.05$, * = $p < 0.10$.

Although the majority of these negative path coefficients are not statistically significant, the fact that the multidimensional model gives both positive and negative path coefficients is evidence suggesting that each dimension of EO can independently affect EM behaviors. That is, all dimensions of EO do not always have to affect EM behaviors simultaneously.

Note also that the size of the impact of innovativeness dimension of EO on EM behaviors is larger than the impact of the risk-taking and proactiveness. The average size of the coefficients for innovativeness dimension is 3.23, while it is 0.12 for the risk-taking dimension and 0.40 for the proactiveness dimension. This underscores the importance of innovativeness on EM behaviors.

By treating EO as a latent factor, we can also see the impact of EO dimensions on EM behaviors more clearly. Innovativeness was shown to give mixed results when it was examined in the CFA analysis, but it was shown to have statistically significant and positive impact on all dimensions of EM behaviors under the SEM analysis. This may imply that the treatment of the variable and the use of different statistical techniques can significantly affect the results.

Models comparison. The fit indices of the two SEM models are shown in Table 5. The majority of the fit indices suggest that the

model with multidimensional EO fits the data better than the model with unidimensional EO. The CFI index for the multidimensional model was 0.77, while it was 0.74 for the unidimensional model. The RMSEA index for the multidimensional model was 0.044, while it was 0.047 for the unidimensional model. In addition, the TLI index for the multidimensional model was 0.74, while it was 0.71 for the unidimensional model. Nonetheless, the BIC index is found to favor the unidimensional model (with a value of 1003.68) rather than the multidimensional model (with a value of 1015.99). The standard RMR (SRMR) values for both models are also equal. Based on the results, a clear-cut conclusion cannot be made whether EO acts as a multidimensional construct or a unidimensional construct when it affects EM behaviors.

It is widely claimed that the BIC index gives larger penalties to models with more parameters, meaning that models with more parameters get higher values of BIC. This may be the reason why the BIC value is lower for the unidimensional EO model. In order to justify the EO dimensionality in regards to EM behaviors, therefore, a third SEM model called partial multidimensional EO is created.

Table 5
Fit indices of SEM models with multidimensional EO versus unidimensional EO [a]

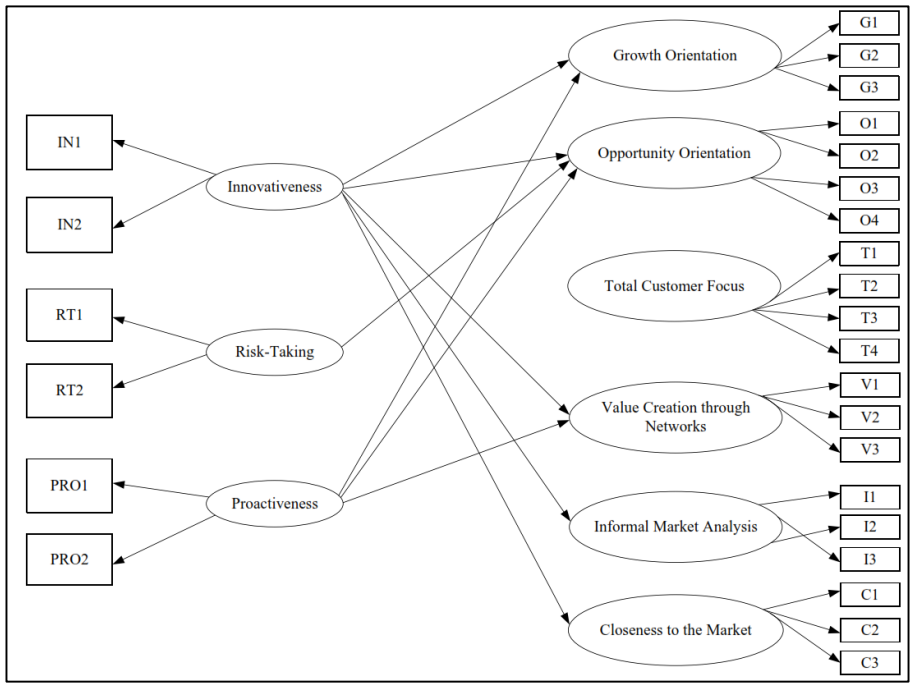
Fit Index	Structural Equation Model with		
	Multidimensional EO all	Unidimensional EO	Multidimensional EO partial
CFI	0.77	0.74	0.78
RMSEA	0.04	0.05	0.04
SRMR	0.06	0.06	0.06
TLI	0.74	0.71	0.75
BIC	1015.99	1003.68	967.09

[a] Note: $n = 545$.

The model is based on the significant relationships between some EO dimensions and some dimensions of EM behaviors in the original multidimensional model. The schematic representation of the third model is shown in Figure 3. With fewer numbers of parameters to be estimated, the partial multidimensional model should win over the unidimensional model according to the BIC criteria. If that is the case, the argument that EO should be treated as a multidimensional construct will be supported.

The goodness-of-fit indices identifying the fit of the third SEM model with the data are shown in the fourth column of Table 5. The indices show that this partial multidimensional model fits best with the data, compared to the original multidimensional model (where each EO is anticipated to affect all EM behaviors) and the SEM model with unidimensional EO. As a result, the argument that researchers should treat EO as a multidimensional construct when they investigate EO's impact on EM behaviors is supported. As a result, this study concludes that Hypothesis 2 is supported. That is, EO acts as a multidimensional construct, where all three dimensions of EO can independently affect EM behaviors**.**

Figure 3. *Structural equation model with EO as a multidimensional construct (Partial)*



DISCUSSION AND CONCLUSIONS

Although entrepreneurial marketing (EM) behaviors are frequently reported, there is little evidence of research identifying factors influencing firms' adoption of EM behaviors. This study closes the gap in the literature by empirically examining the relationship between entrepreneurial orientation (EO) and EM behaviors and testing the hypothesis stating that firms' EM behaviors are driven by EO. Relationships between three dimensions of EO and EM behaviors are investigated using multi-group confirmatory factor analysis (CFA) and structural equation modeling (SEM).

Results from both analyses supported the hypothesis that EM behaviors are driven by EO. Firms with a higher level of EO were found to engage in EM behaviors more than firms with a lower level of EO. Based on the results, this study concludes that firms' EM behaviors do not just happen randomly, but they are systematically related to the level of firms' EO.

In addition, this study test the relationship between EO and EM behaviours at the dimension level and found that innovativeness, proactiveness, and risk-taking dimensions of EO can independently affect EM behaviors at different magnitudes. Accordingly, this study concludes that EO acts as a multidimensional construct when affecting EM behaviors. That is, firms do not have to have higher level of all EO dimensions in order to adopt EM behaviors. Our findings support a seemingly new consensus among entrepreneurship research scholars who seem to suggest a new movement toward multidimensional EO when researchers want to clarify relationships between each EO dimension and the variables of interest (Covin & Wales, 2012; Miller, 2011).

This study also finds that innovativeness dimension of the EO has the strongest impact

on EM behaviors, compared to proactiveness and risk-taking. This result implies that innovativeness is a leading essence of EM behaviors and may also be a justification for why this dimension of EO receives so much attention from marketing scholars. Prior studies have suggested that innovativeness is a source of growth (Christensen et al., 2002) and it makes firms search for new innovative product concepts (Hamel & Prahalad, 1991). Accordingly, this study concludes that innovativeness is a factor distinguishing entrepreneurial marketing from non-entrepreneurial marketing.

The fact that EM behaviors are largely driven by innovativeness also suggests that EM is inherently innovative. The result has a significant implication for non-innovative firms who want to establish EM behaviors in their organizations. An optimum strategy for those firms might be to foster innovativeness in their firms. This suggestion is in line with a prior study stating that innovativeness could help firms to form a foundation for success in a market-driving strategy, and the marketing-driving process could be started by several activities, such as establishing competitive teams to develop innovative ideas, and offering multiple channels for approval of new ideas (Kumar, Scheer, & Kotler, 2000).

This study is not without limitations. Firstly, due to limited availability of the data, this study investigates only three dimensions of EO. Since the results show that different EO dimensions can have different effects on different dimensions of EM behaviors, future research might want to investigate the impacts of competitive aggressiveness and autonomy dimensions as well. Secondly, this study focuses only on firms in the US. Since it is often suggested that marketing practice is affected by national differences (Clark, 1990; Nakata & Sivakumar, 1996), firms in different countries may behave differently than US firms. Future research should expand the scope of this study to replicate the results found in this study using cross-national data. Such a study would benefit the field of entrepreneurial marketing substantially. Thirdly, this study does not take into account the impact of firms' environmental conditions on the relationship between EO and EM behaviors. Prior studies had reported that environmental changes can have a major impact on firms marketing activities (Deleersnyder, 2003), and that different levels of environmental hostility can have different impact on firms' use of marketing research (Khandwalla, 1977). As a result, moderating factors, such as the level of environment hostility, could be taken into account when examining the relationship between EO and EM behaviors in the future.

Despite the limitations, this study contributes to the knowledge in the field of entrepreneurship and entrepreneurial marketing by linking EO, a widely used construct of entrepreneurship, to EM behaviors and identifies EO as an antecedent of EM behaviors. To our knowledge, this study is the first attempt to explicitly address and quantify the impact of EO on EM behaviors. Also, by suggesting that EO should be treated as a multidimensional construct when affecting EM, this study expands the knowledge about the EO construct in the field of entrepreneurship. Since this study investigates the hypotheses using a large survey dataset, the results from this study should be able to confirm the robustness of findings in prior empirical studies, which usually examine EM behaviors using qualitative methods. We believe that this study contributes important new knowledge regarding the entrepreneurship and marketing interface.

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Appendix: Questionnaire items.

A. Entrepreneurial Marketing Behavior.

Growth Orientation

(G1) Long-term growth is more important than immediate profit.

(G2) Our primary objective is to grow the business.

(G3) We try to expand our present customer base aggressively.

Opportunity Orientation

(O1) We constantly look for new business opportunities.

(O2) Our marketing efforts lead customers, rather than respond to them.

(O3) Adding innovative products or services is important to our success.

(O4) Creativity stimulates good marketing decisions.

Total Customer Focus

(T1) Most of our marketing decisions are based on what we learn from day-to-day customer contact.

(T2) Our customers require us to be very flexible and adapt to their special requirements**.**

(T3) Everyone in this firm makes customers a top priority.

(T4) We adjust quickly to meet changing customer expectations

Value Creation through Networks

(V1) We learn from our competitors.

(V2) We use our key industry friends and partners extensively to help us develop and market our products and services**.**

(V3) Most of our marketing decisions are based on exchanging information with those in our personal and professional networks**.**

Informal Market Analysis

(I1) Introducing new products or services usually involves little formal market research and analysis**.**

(I2) Our marketing decisions are based more on informal customer feedback than on formal market research.

(I3) It is important to rely on gut feeling when making marketing decisions.

Closeness to the Market

(C1) Customer demand is usually the reason we introduce a new product and/or service.

(C2) We usually introduce new products and services based on the recommendations of our suppliers**.**

(C3) We rely heavily on experience when making marketing decisions**.**

B. Entrepreneurial Orientation (Recoding scores are in parentheses)

Innovativeness

(IN1) My business places a strong emphasis on

Tried and tested practice, equipment, and products/services (1)
Innovation, technological leadership, and R&D (3)
Equally, the same (2)

(IN2) In the last 3 years, changes in my products/services have been

Mostly of a minor nature (1)
Usually quite dramatic (3)
Equally, the same (2)

Risk-Taking

(RT1) My business is inclined toward

Low risk projects with certain and normal rate of return (1)
High risk projects with chance of very high returns (3)
Equally, the same (2)

(RT2) Due to the nature of my business environment, it is best to

Explore potential opportunities gradually, through cautious behavior (1)
Take wide-ranging bold actions to achieve the firm's objectives (3)
Equally, the same (2)

Proactiveness

(PRO1) My business typically

Responds to initiative my competitors take (1)
Initiates action to which my competitors respond (3)
Equally, the same (2)

(PRO2) My business is—the first to introduce new products/services

Often (3)
Seldom (1)
Equally, the same (2)