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Moderating Effects of Entrepreneurial Behavior on the Relationship Between Marketing Capabilities and Marketing Performance of Food and Beverage Industry Smes in Malaysia

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Abstract: This study discusses the role of entrepreneurial behavior and its influence on the marketing capabilities and the marketing performance of SMEs in the food and beverage industry in Malaysia. Our understanding of the entrepreneurship process is significantly handicapped upon discounting the role of the individual entrepreneur. Entrepreneurs believe that they are better informed than others and thus they exploit their supposed informational advantage in pursuit of profitable opportunities. We aim to explain this phenomenon within the domestic level. We selected 243 medium-size food and beverages manufacturing firms throughout Malaysia as respondents for this study. Data collection was conducted through a structured questionnaire survey directed to the CEOs/owner-managers, general manager, marketing/sales managers and production/operation managers of each firm. Hierarchical regression was employed to test the role of entrepreneurial behavior in influencing marketing capabilities and marketing performance. Entrepreneurial behavior was found to have the greatest positive advantage on innovativeness than on risk-taking and proactiveness. The emphasis on innovativeness from the MSFBMF perspective appears to be the most important entrepreneurial behavior component. This factor aids in enhancing the marketing performance through capabilities of the firm. The findings of this study strengthen the notion that owner-managers who possess an entrepreneurial nature (innovative, proactive and risk taker) would benefit by developing strong market-driven capabilities in market intelligence gathering and dissemination.

Key words: Marketing capabilities, marketing performance, Food and Beverage Industry, Malaysia, SME

INTRODUCTION

The food and beverage industry of Malaysia is rich in terms of tropical and agricultural resources. The abundance of resources reflects the cultural diversity of Malaysian society. Malays, Chinese, Indians and other indigenous groups all contributed to the fascinating range of processed food and beverages with an Asian twist. However, the increasing consumer awareness of nutritional value and food fortification has created the demand for functional, healthy and minimally processed food and beverage. A growing preference exists for fresh organic food and beverage and natural food flavors extracted from plants and seafood (MIDA, 2010).

In line with government emphasis on the agricultural sector, the processed food and beverage industry has become an important component of the agro-based industry. In 2008, the food and beverage processing industry contributed about 10% to the Malaysian manufacturing output. The industry is predominantly Malaysian-owned. In 2008, employment in the processed food and beverage industry increased by 1.4% to 45,418 which is comparable to value of 44,778 in 2007. Labor costs for the industry remain competitive and unit labor cost has decreased by 8.2%. The decrease reflects efficient resource utilization and management. Around 70 projects with investments of 1.5 billion RM were approved in 2008. Small-and medium-sized enterprises represent >80% of the total number of establishments in the processed food sector. These establishments are mainly involved in sub-sectors such as fish and fish products, livestock and livestock products, fruits and vegetables and cocoa-based products (MIDA, 2010). The beverage sector covers soft drink and mineral water production.

A closer look at selected subsectors reveals interesting observations. The subsector for fish products includes processed sea food products such as frozen and canned fish, crustaceans and mollusks and shrimp and

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Table 1: Definition of SMEs in Malaysia (based on sales turnover)

Category and size of firms	Manufacturing (inclusive of Agro-based and Manufacturing-related services)	Services Sector (inclusive of ICT and primary agriculture)
Micro	<250,000 RM	<200,000 RM
Small	Between 250,000 RM but <10 million RM	Between 200,000 RM but <1 million RM
Medium	Between 10-25 million RM	Between 1-5 million RM

Data were obtained and adapted from SME Corporation Malaysia, Malaysia, 2008, pg.18

shrimp products. This subsector remains the main contributor of processed food exports. The Malaysian livestock subsector is the third largest poultry meat producer in the Asia Pacific region. Malaysia is self-sufficient in poultry, pork and eggs. However, the country imports about 80% of its beef requirements. Among the dairy products produced are milk powder, sweetened condensed milk, pasteurized or sterilized liquid milk, ice cream, yogurt and other fermented milk products. Malaysia is currently the largest cocoa processor in Asia and ranks fifth in the world. Cocoa production outputs, however have been declining because of the significant reduction in the cultivation area in Sabah. In addition, intensive replanting activities influenced the decrease in production. Consequently, most cocoa beans are now imported. Malaysia is also one of the major spice producers of the world.

The fruits subsector largely thrives on the sale of mangoes, star fruits and papayas. However, the cultivation of pittaya (dragon fruit) has recently gained the interest of farmers. Most of these fruits cater to the domestic market. According to the Ninth Malaysia Plan (9MP), fruits and vegetable productions are targeted to reach 2.56 and 1.13 milliontons, respectively, by 2010. Vegetables are mainly grown on a small scale for freshness and are exported primarily to Singapore. Johor, Pahang, Kelantan and Perak are the major vegetable cultivation areas.

Functional or healthy food produced in Malaysia mainly come in the form of enriched food products. Food manufacturers require food ingredients, such as customized formulations because natural food additives and flavors have the potential for further growth.

According to the Malaysian Industry Development Authority (MIDA, 2010), the present global retail sales in food and beverage products are estimated to be worth around 3.5 trillion USD. The current value is expected to grow at an annual rate of 4.8% to 6.4trillion USD by 2020. SME development was highlighted in the 9MP. The National SME Development Council (NSDC) was formed to guide and to advise government policies and to coordinate all development initiatives and other related matters. The NSDC is the highest policymaking body related to SME development. The Prime Minister is the chair of the NSDC. The council is composed of 18 ministries and government agencies who are involved in SME development.

Before further exploring Malaysian SMEs, we must first understand that more than one SME definition is promoted by many agencies. In Malaysia, different agencies define firms as small, medium, or large based on their own criteria. Firms usually benchmark against annual sale turnovers and the number of fulltime employees. The SME Corporation of Malaysia an entity in the Ministry of International Trade and Industries (MITI), approved the common SME definitions across economic sectors on January 9, 2009. These definitions were adopted by all government ministries and agencies involved in SME development as well as financial institutions. The SME definition by MITI is based on two criteria for wider coverage and application. These criteria pertain to the number of employees and the annual sales turnover. Table 1 further elaborates on the criteria.

Literature review: Entrepreneurial behavior has received an increasing amount of attention in literature. This attention coincides with the growth and the legitimization of entrepreneurship as a field of study. Miller and Friesen (1983) originally developed the most commonly used scale for measuring entrepreneurial behavior. Covin and Slevin (1989) modified the model of Miller later. Following the vast majority of research on entrepreneurial behavior, the same scale has been used to measure the entrepreneurial behavior of the top managers of the MSFBMFs in this study.

The three dimensions of entrepreneurial behavior refer to proactiveness, innovativeness and risktaking. These dimensions are measured using three modified items from a scale reported by Covin and Slevin (1989), Tan (1996), Lumpkin and Dess (2001), Li *et al.* (2008) and Chandrakumara *et al.* (2011). The scale was slightly adapted from its original form to reflect directly individual perceptions of the entrepreneurial behavior of the top managers. Specifically, the scale measured three behavioral dimensions, namely, innovativeness, proactiveness and risktaking behavior. Survey questions were based on a 7point Likert scale. Following the theoretical arguments of Covin and Slevin (1989) and Green and Salkin (2008), a collective measure of the entrepreneurial behavior construct was utilized. Survey question responses related to the innovativeness, proactiveness and risktaking dimensions were used on the Likert scale. Parts of the instrument to measure

entrepreneurial behavior were modified versions similar to that used by Covin and Slevin (1989). The measurement instrument was based on a 7point Likert scale.

The willingness of entrepreneurs to exploit opportunities is a function of various individual differences. Psychological and demographic characteristics represent examples of these individual differences. Hence, these characteristics affect the likelihood that an individual will engage in entrepreneurial activity (Kristiansen and Indarti, 2004). In addition, research has suggested that the personality characteristics of entrepreneurs are correlated with long-term venture survivability (Ciavarella *et al*., 2004). Covin and Slevin (1989) forwarded the notion that there is a relationship between top manager entrepreneurial behavior and firm performance. They suggested entrepreneurial styles measured the degree to which top managers favored innovative activities, inclined to take business related risks and able to compete proactively with other firms. Using this same entrepreneurial behavior framework, the current study assesses the individual entrepreneurial behavior of top managers.

Lately, the view of entrepreneurial behavior as an individual level variable has gained traction. Aloulou and Fayolle (2005) found that individual leaders of entrepreneurial firms are more willing to exhibit innovative, proactive and risk-taking characteristics. Lumpkin and Dess (2001) described entrepreneurial innovativeness as a willingness to support creativity and experimentation with respect to the introduction of new products or services, technological leadership and research and development. These authors focused mainly on corporate entrepreneurial activities. Recent research has identified individual innovative work behavior as a contributing factor to firm performance (Dorenbosch *et al*., 2005; Ramamoorthy *et al*., 2005).

Entrepreneurial behavior comprises several variables. The first variable refers to innovativeness or the development of new and unique products, services or processes. The second variable refers to risktaking, or the will to pursue risky opportunities despite the possibility of failure. Finally, the third variable refers to proactiveness or the emphasis on necessary persistence and creativity, which underlie the ability to overcome obstacles, until an innovativeness concept is fully implemented (Miller and Friesen 1983). The measures were adapted from the original scales developed by Miller and Friesen in 1983. Measures from other scales developed by Covin and Slevin (1989), Zahra (1993) and Lumpkin and Dess (2001) were also employed to measure the concept of entrepreneurial behavior.

Table 2: Miller's Scale of entrepreneurial behavior

Dimensions	Items	Alpha value
Risk-taking	Entrepreneur's tendency to engage in risky projects	0.64
Proactiveness	Entrepreneur's tendency to follow competitors	0.71
	towards growth and through entrepreneurial policies	0.73
Innovativeness	Entrepreneur's emphasis to research and development	0.65

Cumulative explained variance = 56%. Values <0.5 were suppressed

With reference to Miller and Friesen (1983) these scales included 15 items. Four items were related to risktaking, three items were related to proactiveness and six items were related to innovativeness. The items of the scale focused on different aspects of strategic positions and were subjected to factorial analysis to establish dimension or "factorial validity." Reliability was calculated using Cronbach's alpha test on the three entrepreneurial behavior scale variables. An average alpha value of 0.68 was used (Table 2). Therefore, we contend that managers with stronger individual entrepreneurial behavior positively affect organizational performance. The three dimensions of innovativeness, proactiveness and risk-taking collectively enable a leader to identify and to exploit emerging opportunities in an environment. Hence, the leader can establish entrepreneurial strategies that lead to firm growth. The combination of these three variables has a collective effect that enables firms to create an entrepreneurial advantage. Hence, based on entrepreneurial behavior, we expect top managers to choose strategies that are entrepreneurial in nature and are aimed at the enhancement of firm performance. The presents study investigates the moderating effects of entrepreneurial behavior variables, namely, innovativeness, risk taking and proactiveness on the relationship between marketing capabilities and marketing performance in the context of Malaysian MSFBMFs.

MATERIALS AND METHODS

The data for this research were obtained from a cross-sectional survey on 243 medium-size food and beverage-manufacturing firms in Malaysia. Data collection was performed using a structured questionnaire survey. These surveys were directed to CEOs/owner-managers, general managers, marketing/sales managers and production/operation managers of each firm. The response rate was 31.4% which was satisfactory for the study purpose. Hierarchical regression analysis was employed to test the moderating effect of entrepreneurial behavior on the relationship between marketing capabilities and marketing performance.

Research hypotheses: Entrepreneurial behavior moderates the relationship between marketing capabilities and marketing performance.

Corollary hypotheses:

- H_1:Innovativeness moderates the relationship between marketing capabilities and marketing performance
  - $H._{1a}$:Innovativeness moderates the relationship between marketing research and marketing performance
  - $H._{1b}$:Innovativeness moderates the relationship between pricing and marketing performance
  - $H._{1c}$: Innovativeness moderates the relationship between product development and marketing performance
  - H.: Innovativeness moderates the relationship between distribution channels and marketing performance
  - $H._{1e}$: Innovativeness moderates the relationship between promotion and marketing performance
  - $H._{1f}$: Innovativeness moderates the relationship between marketing management and marketing performance
- H_2: Risk-taking moderates the relationship between marketing capabilities and marketing performance
  - $H._{2a}$: Risk-taking moderates the relationship between marketing research and marketing performance
  - $H._{2b}$: Risk-taking moderates the relationship between pricing and marketing performance
  - $H._{2c}$: Risk-taking moderates the relationship between product development and marketing performance
  - $H._{2d}$: Risk-taking moderates the relationship between distribution channels and marketing performance
  - $H._{2e}$: Risk-taking moderates the relationship between promotion and marketing performance
  - $H._{2f}$: Risk-taking moderates the relationship between marketing management and marketing performance
- $H._3$: Proactiveness moderates the relationship between marketing capabilities and marketing performance
  - $H._{3a}$: Proactiveness moderates the relationship between marketing research and marketing performance
  - $H._{3b}$: Proactiveness moderates the relationship between pricing and marketing performance
  - $H._{3c}$: Proactiveness moderates the relationship between product development and marketing performance
  - $H._{3d}$: Proactiveness moderates the relationship between distribution channels and marketing performance
  - $H._{3e}$: Proactiveness moderates the relationship between promotion and marketing performance
  - $H._{3f}$: Proactiveness moderates the relationship between marketing management and marketing performance

RESULTS AND DISCUSSION

Hierarchical regression analysis: Hierarchical regression was chosen rather than a structural equation approach because of the obtained sample size (Frazier, *et al*., 2004). To examine the hypotheses of this study, a 4-step hierarchical regression was utilized. Various authors have recommended the use of hierarchical regression in research concerned with moderator variable detection (Aiken and West, 1991; Cohen *et al*., 1983). However, Baron and Kenny (1986) suggested that the moderating effect can be tested by using multiple regression. In step 1, the control variable size and capacity utilization were regressed with the dependent variable. In step 2, the independent variables and control variables were regressed with the dependent variable. In step 3, the moderator was included and regressed with the dependent variable. Lastly, the control variables, independent variables, moderator, moderator interaction and the independent variable were regressed with the dependent variable. However, before proceeding with further analysis, four main assumptions had to be satisfied. These assumptions pertained to normality, linearity, residual independence and homoscedasticity (Hair *et al*., 1989). Relevant tests were performed to ensure that the assumptions were satisfied.

Cooper and Schindler articulated that a moderator variable is the independent qualitative or quantitative variable that affects the relationship of the dependent and independent variables. In correlation, a moderator is a third variable that affects the correlation of two variables. In a casual relationship if x is the predictor variable and y is a causal variable then z is the moderator variable that affects the causal relationship of x and y. Most moderator variables measure causal relationships by using regression coefficients. In ANOVA, the moderator variable effect is represented by the infraction effect between the dependent and the factor variables. According to Sekaran, the moderating variable has a strong contingent effect on the relationship between independent and dependent variables. Hence, the presence of a third variable modifies the original relationship between independent and dependent variables.

Hierarchical regression analysis was utilized to test for the moderating effects of the two variables on the relationship between marketing capabilities and marketing

performance. Based on study of Sharma *et al.* (1981), a 3-step hierarchical regression analysis was conducted for each moderator. Particularly, the model variables were entered first, followed by the moderator variable and lastly, the interaction between the moderator and the independent variables. Overall, 12 hierarchical regression analyses were used to test the moderating effects of the three entrepreneurial behavior dimensions on the relationship between the three dimensions marketing capabilities versus marketing performance. In each case, outliers were identified and removed by using a case-wise approach. The results of the hierarchical regression analyses are discussed as follows.

To test these hypotheses, a 4-step hierarchical regression analysis was conducted (Baron and Kenny, 1986; Sharma *et al.*, 1981) for each moderator. In the first step, the control variables were entered. In the second step, the predictor variables were entered into the regression equation. In the third step, the moderating variable was entered into the regression equation. This measure aimed to test if the moderating variable has an isolated effect on the criterion variable. In the fourth step, the process required the introduction of a multiplicative interaction term into the regression equation. Accordingly, four multiplicative interaction terms were created after multiplying the values of niche marketing strategy by the values of hypothesized entrepreneurial behavior.

Three maximum conditions were used to demonstrate the moderator effect on the proposed relationship. First, the final model is significant. Second, the F change is significant. Third, the multiplicative interaction term is also statistically significant. Additionally, this research applied the criteria mentioned by Sharma *et al.* (1981) to establish whether the moderator variable is pure or quasi-moderating. If the coefficients of both the multiplicative interaction terms and the moderator variable are significant then the moderator is a quasi-moderator. However, if the coefficient of the multiplicative interaction term is significant, but the coefficient of the moderator variable effect is not then the moderator is a pure moderator. A pure moderator effect implies that the moderator variables (entrepreneurial behavior) modify the relationship (i.e., the regression coefficient) between the predictor variable (marketing capabilities) and the criterion variable (the four dimensions of niche marketing strategy).

Moderating effects of entrepreneurial behavior on the relationship between marketing capabilities and marketing performance: Based on our hypotheses, we predict that the three dimensions of entrepreneurial behavior (innovativeness, risk-taking and proactiveness) moderate the relationship between marketing capabilities (marketing research, product development, promotion, distribution channels and pricing) and marketing performance. This condition is shown in Fig.1

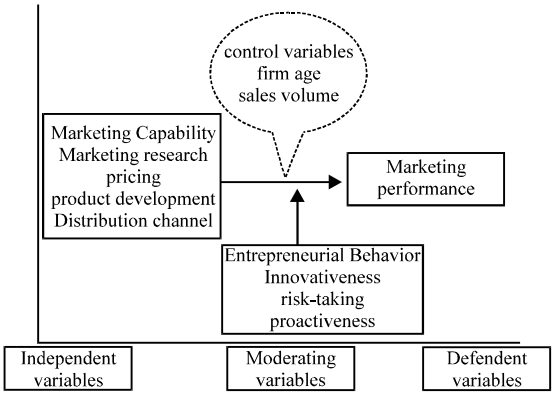

Fig. 1: Moderating effects of entrepreneurial behavior on the relationship between marketing capabilities and marketing performance

A graphical representation for each significant effect illustrated the nature of the moderator effect. This process was carried out to test the moderating effect of each of the three moderator variables (innovativeness, risk-taking and proactiveness) on each of the five-linked components of marketing capabilities (marketing research, product development, promotion, distribution channel and pricing). This study divided each marketing capability component into two groups (low and high) by using percentiles. This measure was undertaken to verify the exact manifestations of the moderator effects on the relationship. The analyses began with innovativeness followed by risk-taking and finally proactiveness.

According to Sharma *et al.* (1981), a typology of moderator variables distinguishes types of moderator variables. Some moderator variables specifically affect the strength of the relationship between predictor and criterion. Other moderator variables affect the form of the relationship. Moderator variables that affect the form of the relationship can be quasi-moderator or pure moderator variables. A quasi-moderator is indicated if a moderator variable interacts with the predictor variable and is directly related to the criterion variable. By contrast, a pure moderator occurs when a moderator variable only interacts with the predictor variable.

Moderating effect of innovativeness on the relationship between marketing capabilities and marketing performance: Table 3 summarizes, the results of the moderating effects of innovativeness on the relationship between marketing capabilities and marketing

Table 3: Moderating effect of innovativeness on the relationship between marketing capabilities and marketing performance

	DV: Marketing performance			
Variables	Step 1 (Std. Beta)	Step 2 (Std. Beta)	Step 3 (Std. Beta)	Step 4 (Std. Beta)
Control variables:				
Company age	0.258***	0.253***	0.247***	0.240***
Company sales volume	0.071	0.063	051	025
Predictor variables:				
Marketing research	0.065	039	0 -.183	
Product development	0.118	0 .106	0 .688**	
Promotion	0.168***	0.151**	0.760***	
Distribution channels	0-.164**	0-.205***	0-.132	
Pricing	0.079	0.041	0.017	
Moderating variable:				
Innovativeness			0.216***	1.368***
Interaction terms:				
MCMRXEBIN				0.517**
MCPDXEBIN				0-.973**
MCPRXEBIN				0-1.175**
MCCDXEBIN				0-.082
MCPCXEBIN				0.042
F value	9.827***	5.893***	6.751***	5.355***
R^2	0.076	0.149	0.188	0.233
Adjusted R^2	0.068	0.124	0.160	0.190
R^2 change	0.076	0.074	0.038	0.046
F change	9.827***	4.069***	10.998***	2.723***

Level of significance: *,**,***p<0.10, 0.05, 0.01

performance. The results showed that the F change was significant in all four steps. The results revealed that innovativeness moderated the relationship among three components of marketing capability (marketing research: $\beta = 0.517$, $p<0.05$; product development: $\beta = 0.973$, $p<0.05$ and promotion: $\beta = 1.175$, $p<0.05$) (Table 3).

In step four, the introduction of interaction terms increased R^2 by about 5%. The model as a whole was significant ($F = 5.355$, $p<0.00$). However, innovativeness showed no moderating effect on the relationship between distribution channels and marketing performance. Innovativeness also did not have a moderating effect on the relationship between pricing and marketing performance. Further inspection revealed that the coefficient of the innovativeness effect was significant. This outcome indicated that innovativeness was a quasi-moderator.

Moderating effect of risk-taking on the relationship between marketing capabilities and marketing performance: Table 4 summarizes the results of the moderating effect of risk-taking on the relationship between marketing capabilities and marketing performance. The results showed that the F change was significant in all four steps. The results also revealed that risk-taking moderated the relationship between the three marketing capability components (marketing research: $\beta = 0.689$, $p<0.00$; promotion: $\beta = 0.847$, $p<0.00$ and pricing: $\beta = 0.439$, $p<0.00$). In step four, the introduction of interaction terms increased R^2 by about 6%. The model as a whole was significant ($F = 4.820$, $p<0.00$) (Table 4).

However, risk-taking showed no moderating effect on the relationship between distribution channels and marketing performance. Risk-taking also did not have a moderating effect on the relationship between product development and marketing performance. Further inspection revealed that the coefficient of the risk-taking effect was significant. As such the risk-taking coefficient is a quasi-moderator.

Moderating Effect of Proactiveness on the Relationship between Marketing Capabilities and Marketing Performance: Table 5 summarizes the results of the moderating effect of proactiveness on the relationship between marketing capabilities and marketing performance. The results showed that the Fchange was significant in all four steps. The results also revealed that proactiveness moderates the relationship among the three components of marketing capability (promotion: $\beta = 1.23$, $p<0.00$ and pricing: $\beta = 1.39$, $p<0.00$) (Table 5).

In step four, the introduction of the interaction terms increased R^2 by about 4%. The model as a whole was significant ($F = 3.64$, $p<0.00$). However, proactiveness had no moderating effect on the relationship between distribution channels and marketing performance and between marketing research and marketing performance. Proactiveness did not have a moderating effect on the relationship between product development and marketing performance. Further inspection revealed that the coefficient of effect of proactiveness was significant. This outcome indicates that proactiveness is a quasi-moderator.

Table 4: Moderating Effect of Risk-taking on the Relationship between Marketing Capabilities and Marketing Performance

	DV: Marketing Performance			
Variables	Step 1 (Std. Beta)	Step 2 (Std. Beta)	Step 3 (Std. Beta)	Step 4 (Std. Beta)
Control variables:				
Company age	0.202***	0.204***	0.223***	0.242***
Company sales volume	0.143**	0.135*	0.121**	0.105**
Predictor variables:				
Marketing research		0.094	0.036	0-.200
Product development		0.082	0.083	0.228
Promotion		0.121**	0.122**	0.510***
Distribution channels		0.144**	0-.144**	0.257
Pricing.		0.055	0.034	0-.207
Moderating variable:				
Risk-taking			0.210***	0.884***
Interaction terms:				
MCMRXEBRT				0.689***
MCPDXEBRT				0.404
MCPRXEBRT				0-.847***
MCCDXEBRT				0-.677
MCPCXEBRT				0.439***
F value	8.736***	4.269***	5.220***	4.820***
R^2	0.068	0.113	0.151	0.215
Adjusted R^2	0.060	0.086	0.122	0.170
R^2 change	0.068	0.045	0.039	0.063
F change	8.736***	2.382**	10.649***	3.698***

Table 5: Moderating effect of proactiveness on the relationship between marketing capabilities and marketing performance

	DV: Marketing performance			
Variables	Step 1 (Std. Beta)	Step 2 (Std. Beta)	Step 3 (Std. Beta)	Step 4 (Std. Beta)
Control variables:				
Company age	0.138**	0.154**	0.148**	0.153**
Company sales volume	0.145**	0.139**	0.129**	0.118**
Predictor variables:				
Marketing research		0.157**	0.128	0.318
Product development		0.005	0.014	0.358
Promotion	0.087		0.089	0.843**
Distribution channels		0-.145**	0-.160**	0.332
Pricing	0.120		0 .063	0-0.826*
Moderating variable:				
Proactiveness			0.181***	1.332**
Interaction terms:				
MCMRXEBP				0-.388
MCPDXEBP				0.516
MCPRXEBP				1.229***
MCCDXEBP				0.695
MCPCXEBP				1.388***
F value	5.504***	3.973***	4.450***	3.635***
R2	0.044	0.106	0.132	0.171
Adjusted R^2	0.036	0.079	0.102	0.124
R2 change	0.044	0.062	0.026	0.039
F change	5.504***	3.258***	7.067***	2.155**

Level of significance: *,**,***p<0.10, 0.05, 0.01

Table 6: Summary of hierarchical regression results for moderating effects of entrepreneurial behavior on marketing capabilities-marketing performance

		Moderating variables		
Predictor variables (Independent variables)	Criterion variables (Dependent variables)	Innovativeness	Risk-taking	Proactiveness
Marketing research	Marketing performance	√	√	-
Product development	Marketing performance	√	-	-
Promotion	Marketing performance	√	√	-
Distribution channels	Marketing performance	-	-	-
Pricing	Marketing performance	-	√	√

supported, -not supported

Summary of hierarchical regression results for moderating effects of entrepreneurial behavior on marketing capabilities-marketing performance: Table 6 summarizes the hierarchical results for the moderating effects of entrepreneurial behavior on the relationship between marketing capabilities and marketing performance. While the literature generally shows a positive relationship between marketing capabilities and

marketing performance, entrepreneurial behavior may moderate the effects of some of the dimensions in that relationship. We believe that the relationship between innovativeness, risk-taking and proactiveness may depend on the organizational context and the entrepreneurs managing the enterprise. Consistent with our hypotheses, we found that innovativeness and risk-taking were distinct dimensions of entrepreneurial behavior which was positively associated with marketing performance. This finding means that the entrepreneurial behavior construct seems to have great influence across marketing capabilities dimensions. Our findings suggest that the construct is also valid and relevant in important firm marketing performance. Hence, this finding adds to the growing body of research that elucidates fine-grained aspects of the entrepreneurial behavior constructs (Lumpkin and Dess, 2001; Rauch and Frese, 2007) and adds further to its validity and usefulness in entrepreneurial practice.

CONCLUSION

The proposed hypotheses in this study require the use of hierarchical regression analysis. These hypotheses consist of 15 sub-hypotheses corollaries that predict the moderating effects of entrepreneurial behavior on the relationship between marketing capabilities and marketing performance. The three dimensions of entrepreneurial behavior were introduced to examine if the moderating variables behaved as a predictor of the dependent variable. Consequently, the interaction term between the independent variables and moderating variable was entered to test the effect of the interaction term on the dependent variable.

The results showed that the first moderator of entrepreneurial behavior (i.e., innovativeness) positively moderates three marketing capability dimensions. For the first dimension, innovativeness positively moderates the relationship between marketing research and marketing performance. This dimension was positively retained within the context of a direct relationship and with the introduction of innovativeness. In the second dimension, innovativeness positively moderates the relationship between product development and marketing performance. We found that the earlier direct relationship was not positive. However, the conditions changed towards a significantly positive relationship with the introduction of innovativeness as a moderator. This outcome signifies the strong positive influence of innovativeness in this instance. For the third dimension, innovativeness positively moderates the relationship between promotion and marketing performance. This outcome corresponds well with the earlier direct positive relationship. Two dimensions of marketing capabilities have a direct positive relationship with marketing performance. However, the relationship was negatively affected upon the introduction of innovativeness (i.e., distribution channels and pricing). As such, we tested the first five sub-hypotheses corollaries of the influence of entrepreneurial behavior on marketing capabilities-marketing performance relationship.

The results for the second moderator of entrepreneurial behavior (i.e., risk-taking) happened to moderate positively the three marketing capability dimensions. In the first dimension, risk-taking positively moderates the relationship between marketing research and marketing performance. This dimension was positively retained in the direct relationship and upon the introduction of risk-taking. For the second dimension, risk-taking positively moderates the relationship between promotion and marketing performance. This dimension was also positively retained in the direct relationship and upon the introduction of risk-taking. For the third dimension, risk-taking positively moderates the relationship between pricing and marketing performance. This outcome corresponds well with the earlier direct positive relationship. However, one marketing capability dimension had a direct positive relationship with marketing performance. This relationship was then negatively affected upon the introduction of risk-taking (i.e., distribution channels). Another marketing capability dimension (product development) was confirmed to have a negative effect on the earlier direct relationship and upon the introduction of risk-taking. This outcome signifies the strong negative influence in this particular instance. Therefore, the second set of five sub-hypotheses corollaries on the Influence of entrepreneurial behavior on the marketing capabilities-marketing performance relationship have been examined.

The results for the third moderator of entrepreneurial behavior (i.e., proactiveness) appeared to moderate positively only one marketing capability dimension. Proactiveness positively moderates the relationship between pricing and marketing performance. This dimension was positively retained in the direct relationship and upon the introduction of proactiveness. With regard to the remaining four dimensions, proactiveness negatively moderates the relationship among marketing research, product development, promotion, distribution channels and marketing performance. These dimensions were all positively retained in the direct relationship and upon the introduction of risk-taking. Proactiveness presents a strong negative influence in these instances. Therefore,

the third and final five sub-hypotheses corollaries of the influence of entrepreneurial behavior on the marketing capabilities-marketing performance relationship were tested.

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