

## **Entrepreneurial Orientation among Large Firms in Malaysia: Contingent Effects of Hostile Environments**

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### **Abstract**

*This research's aim is to investigate the effect of entrepreneurial orientation dimensions on firm performance of large companies in Malaysia. In addition, the moderating effect of environmental hostility to these relationships was also examined. The entrepreneurial orientation is recognized as the driver of growth and profitability. In order to analyze the data, this study employed Partial Least Square (PLS). Objective data was used to measure the firm performance whilst subjective data was used to measure the independent and moderating variables. The findings showed that innovativeness and risk taking affect firm performance positively. In contrast, proactiveness did not. However, when business environment is perceived as hostile, proactiveness affects firm performance positively. The key contribution of this study is the empirical evidence on the importance of being entrepreneurial among large firms in Malaysia, which comprise of public listed companies.*

**Key Words:** Entrepreneurial orientation, firm performance, hostile environments, public listed companies, and large firms.

### **1.0 Introduction**

Research on entrepreneurial orientation has increased rapidly in many fields, reflecting attempts to fill the gap in literature in the context of firm level entrepreneurship. Consequently, the overwhelming researches on the entrepreneurial orientation have led to recognition of entrepreneurial orientation as a major construct in the field of strategic management and entrepreneurship literature (Morris & Kuratko, 2002). The entrepreneurial orientation refers to decision making with regards to the firm's strategy to embark on innovation, proactiveness and risk taking (Lumpkin and Dess, 1996; Cools & Van den Broeck, 2007/2008). Lumpkin and Dess (2001:431) defined the individual dimensions of entrepreneurial orientation as, firstly, innovativeness, referring to willingness to support creativity and experimentation in introducing new products/services besides novelty, technological leadership, and R&D in developing new processes. Secondly, risk taking which means tendency to take bold actions such as venturing into unknown new markets, committing a large portion of resources to venture with uncertain outcomes, and/or borrowing heavily. Lastly, proactiveness is defined as an opportunity-seeking, forward-looking perspective involving introducing new products or services ahead of the competition and acting in anticipation of future demand to create change and shape the environment.

There have been a significant increase in articles regarding entrepreneurial orientation and firm performance because it is believed that entrepreneurial orientation is essential for a firm's growth (e.g. Covin et al., 2006; Soininen et al., 2011), profitability (e.g. Antoncic, 2007; Lumpkin & Dess, 2001) and overall performance (e.g. Jantunen et al., 2005; Keh, Nguyen & Ng, 2007; Tajeddini, 2010). Thus, the entrepreneurial orientation practices are essential for the firm's survival, growth and profit. The secret to sustainable competitive advantage for large firms in this era is not only simply to lower costs or restructure for efficiency but also the necessity to act in an entrepreneurial manner (Burns, 2008).

Therefore, the objective of this study is to investigate the effects of entrepreneurial orientation on the performance of larger firms. In this vein, this study was conducted among large firms which are listed in the main market of Bursa Malaysia. The National SME Development Council, Malaysia defines large firm according to two types of industries. Firstly, those in manufacturing, manufacturing-related services and agro-based industries, must have more than 150 employees or more than RM25 million in annual sales turnover. Secondly, firms in services, primary agriculture and Information and Communication Technology (ICT) must have more than 50 employees or annual sales turnover of more than RM5 million.

In developing countries like Malaysia, most of the researches on entrepreneurship are based on small firms or individual entrepreneurs (Miller & Breton-Miller, 2011). Fundamentally, a large firm faces different challenges than the challenges faced by a small firm. This is generally because both types of firms have different organisational designs and management styles. Studies found that the manufacturing and innovation strategies employed by large and small firms also differ (Wagner & Hansen, 2005; Zahra & Garvis, 2000). Accordingly, it is important to conduct separate studies on the effects of entrepreneurial orientation on firm performance according to firm size. This is because it is questionable whether the results of studies on small firms can be generalized to larger firms and vice versa, largely due to the fact that all core references with small firms as samples use perceptual performance data (Andersen, 2010).

This study aims to investigate the effect of the entrepreneurial orientation dimensions on firm performance and the moderating effect of the hostile environment to these relationships. Therefore, this study will make important contributions to at least three areas of research. Firstly, in developing countries like Malaysia, most of the researches on entrepreneurship have been carried out predominantly on small firms or individual entrepreneurs (Miller & Breton-Miller, 2011) but in reality large firms face different challenges than small firms. Secondly, the current research contributes to extend the literature on entrepreneurial orientation because in Malaysia the research on entrepreneurial orientation is still infancy. Besides, studies on the effects of entrepreneurial orientation on firm performance among the public listed companies are also rare (Miller & Breton-Miller, 2011). Thus, this research adds to the theoretical and practical understanding of this area. Thirdly, this research study contributes towards the methodology of research, whereas, the previous studies on entrepreneurial orientation used subjective data of firm performance. Moreover in this study, objective data is used to measure firm performance.

This article has been organized as follows: the first section summarizes the most relevant literature upon which the theoretical framework and hypotheses are based. Next section is the discussion of methodology which has been used in this study. Then, the results of empirical analyses are presented on the following section. The paper ends with discussion and conclusion section.

## **2.0 Literature Review**

### **2.1 Theoretical Framework**

The theoretical framework (Figure 1) is based on the objectives of the study that is to examine the effect of entrepreneurial orientation dimensions on large firm performance and the moderating effect of environmental hostility. The instruments used was adapted and modified from the widely used measure by Lumpkin (1998). There are three independent variables in this study; innovativeness, proactiveness and risk taking. There is one dependent variable, which is firm performance. The actual firm's profitability which is return on assets (ROA) and Return on Sales are used as proxies of firm performance. For moderating variable, the environmental hostility is used.

### **2.2 Entrepreneurial Orientation and Firm Performance**

Entrepreneurial orientation is becoming increasingly important for firms at all sizes, ages, and industries due to its positive effect on firm's profitability and growth (Kraus, 2013; Ireland, Covin & Kuratko, 2009). This positive effect is not only sustainable in short time but the relationship is stronger over long periods of time (Wiklund, 1999). This relationship is also said to be contingent on environmental context in which the business is operating (Kreiser, Marino & Weaver 2002a; Kraus et al., 2012; Martins & Rialp, 2013; Lumpkin & Dess, 2001). This current study investigates the effect of entrepreneurial orientation on firm performance, and is measured using profitability. Profitability is a key issue for every profit-oriented firm to ensure survival in the industry.

Thus, aiming at maximizing its profit is the goal of the firm (Hisrich & Peters, 1989). In order to achieve higher profitability, every firm has its own strategy to adapt to today's rapid changing business environment. Entrepreneurial orientation, which consists of innovativeness, proactiveness and risks taking of the firms are associated positively with the firm profitability and growth. In other words, the firm with higher entrepreneurial orientation will achieve higher firm performance.

The cross-cultural study found that the entrepreneurial orientation of the small firms in the US and Netherlands showed positive effect on profitability (Kemelgor, 2012). Another cross-cultural study among 1671 of small and medium enterprises also found that all three dimensions of entrepreneurial orientation were positively related to firm's profitability (Kreiser, Marino, & Weaver, 2002b). The profitability of the Korean micro and small firms were also higher when the firms increased its innovativeness, proactiveness and risk taking (Yoo, 2001). Recent study among the public listed companies in Istanbul, Turkey also found that innovativeness, proactiveness and risk taking were positively related to financial performance (Karacaoglu, Bayrakdaroglu & San, 2013). Zahra & Garvis (2000) found that the entrepreneurial orientation of the small and large firms in the US was positively related to firm's profitability.

In Malaysia, the majority of researches on entrepreneurial orientation are focused on small and medium enterprises (SMEs). Based on the findings, most of the results found positive effect of entrepreneurial orientation on firm performance. For example, Poon, Ainuddin and Junit (2006) found that there was a positive relationship between SMEs' entrepreneurial orientation and firm performance. The study conducted among 162 SMEs in Klang Valley also found similar results (Zainol & Wan Daud, 2011). Other studies conducted among the SMEs in Malaysia also supported these findings such as those done by Mahmood and Hanafi (2013). In the same vein, Zain and Hassan (2007) who conducted study among the construction companies listed in Bursa Malaysia also found that the entrepreneurial orientation of the firms had positive impact on the firm's growth. In this research, the entrepreneurial orientation is examined as a multidimensional constructs as suggested by Lumpkin and Dess (2001) and Wang and Yen (2012). It is believed that each dimensions influence firm performance differently and thus will add to theoretical and practical understanding. The next subsections describe the relationship between each of the entrepreneurial orientation dimensions and firm performance.

### **2.2.1 Innovativeness and Firm Performance**

Innovation within a firm is found to be positively related to overall profitability and the objective measures of firm performance in terms of return on investment, return on assets, and return on sales (Calantone, Cavusgil, & Zhao, 2002). The empirical research among small to medium size firms in Spain found that innovativeness and firms' growth (sales, assets, and employment growth) are positively related (Casillas & Moreno, 2010). There are also positive relationships between process innovation and sales performance and employment growth (Klomp & van Leeuwen, 2001). Moreover, studies on the effect of new products and market performance have shown to be significantly positive (Li & Calantone, 1998). Recent study conducted among Taiwanese SMEs in China also found that innovativeness is positively related to firm performance (Wang & Yen, 2012). These findings are similar to the findings among SMEs in Pakistan (Hameed & Ali, 2011), Korea (Yoo, 2001) and the recent study among publicly traded firms in Istanbul (Karacaoglu, Bayrakdaroglu & San, 2013).

Large and established firms always adopt innovation to seek growth by developing new products that lead to incremental changes in current product lines (O'Connor & DeMartino, 2006). Introducing newness in the market will help to apprehend the intense competition of today's global economy. The innovations may be new to the world and may create totally new markets. The firm that has the ability to offer various lines of product and excellent technological support within an organization will obtain greater financial rewards (Sorescu, Chandy, & Prabhu, 2003). Therefore, an innovative strategic posture is considered to have a positive impact on firm performance by capitalizing on emerging-market opportunities (Wiklund, 1999). Therefore, it can be hypothesized that,

**Hypothesis 1: There is a direct positive relationship between the entrepreneurial orientation dimensions of innovativeness and large firm performance.**

### **2.2.2 Proactiveness and Firm Performance**

Proactive firm would have advantages from its first mover status because it is able to capitalize on market opportunities.

This is the best strategy to compete in the business world. As the first to introduce new products or services, the firm can capture extraordinarily high profits and have a head start in establishing brand recognition (Lumpkin & Dess, 1996). Being the first to introduce products or services would generate customer loyalty due to the high switching costs. Thus, it is important for the firm to anticipate future needs and demands. The ability to anticipate future problems, needs, or change allows the firm to shape the environment and direction of competition to its advantage (Morgan & Strong, 2003). However, according to the study by Coulthard (2007), start-up companies were more suited to use proactiveness compared to established firms in franchise industry. This is may be due to the firm's size as larger firms have bureaucratic structures and lack the ability to capitalize on the first mover advantage (Burns, 2008).

Proactive firms are not only proactive in pursuing opportunities but also respond aggressively to competitors (Lumpkin & Dess, 1996). This behavior enables a firm to compete with its rivals and obtain superior performance. The characteristics of proactive firms such as being responsive to market signals, having access to scarce resources, and strongly committed to improving product and service offerings enable high performance returns (Day & Wensley, 1988; Green, Barclay, & Ryans, 1995; Wright et al., 1995). The more proactive the firms in developing aggressive move towards capturing of new business opportunities, the greater the growth rates of the firms as found among the small and medium firms in Spain (Casillas & Moreno, 2010). In addition, proactiveness also showed positive effect on the sales of the firms among small firms in the US (Becherer & Maurer, 1999) and Taiwanese SMEs in China (Wang & Yen, 2012). Therefore, it can be hypothesized that,

**Hypothesis 2: There is a direct positive relationship between the entrepreneurial orientation dimensions of proactiveness and large firm performance.**

### **2.2.3 Risk Taking and Firm Performance**

The tendency to move from a predictable situation to a position where it can seize opportunities and commit large resources with less knowledge about the new situation also constitute risk taking behaviour (Covin & Slevin, 1991; Wiklund & Shepherd, 2005). Empirical research using primary data in 167 large New Zealand firms found that a higher risk taking profile would lead to higher financial performance ( $\beta=0.22$ ,  $p < 0.05$ ) (Gibb & Haar, 2010). This is supported by recent study among Taiwanese SMEs in China which also found that risk taking is positively related to firm performance (Wang & Yen, 2012). The meta-analysis results by Rauch et al. (2004) revealed that the risk taking dimension is positively related to firm performance even if it is significantly smaller than other entrepreneurial orientation dimensions. The positive effect of risk taking on firm performance is due to the fact that firms that have the courage to make a significant resource commitment to high-risk projects with high returns would definitely have the advantage of boosting their firms' incomes. Therefore, it can be hypothesized that,

**Hypothesis 3: There is a direct positive relationship between the entrepreneurial orientation dimensions of risk taking and large firm performance.**

### **2.3 Environmental Hostility as a Moderating Variable**

There were consensus among the previous researchers that environment factors may affect the success of entrepreneurial efforts of the firm (Zahra & Garvis, 2000). According to Khandwalla (1977), the environments are hostile when it is risky, stressful, and dominating. Hostility is manifested by the degree of threat to the firm and characterized by unsafe industry setting, intense competition, and lack of business opportunities (Covin & Slevin, 1989). Hostility is always regarded as the opposite of munificence (Lumpkin & Dess, 2001).

The contingency relationship is important because the strength of the entrepreneurial orientation-relationship varies with the presence of a third variable such as organizational structure, environment, and others. For example, empirical research found that there is no positive direct effect of entrepreneurial orientation on firm performance but, when the environmental uncertainty is included as a moderating factor, entrepreneurial orientation is positively related to firm performance (Li, Zhang & Chan, 2005). Thus, in this study the environmental hostility is used as a moderating variable.

Previous research found that the environmental hostility moderated the relationship between entrepreneurial orientation and firm performance among the SMEs in China (Li, Zhang & Chan, 2005; Mu & Benedetto, 2011), Spain, (Martins & Rialp, 2013), and Netherlands (Kraus et al., 2012).

This is also supported by cross-cultural study conducted by Kreiser, Marino & Weaver (2002a) among 1671 SMEs in Australia, Costa Rica, Finland, Greece, Indonesia, Mexico, the Netherlands, Norway, and Sweden. It is agreed that the effect of entrepreneurial orientation is stronger when the environment is hostile where the business environment is the unfavourable result from radical industry changes, intense competition, and regulatory burdens in industry (Werner, Brouthers, & Brouthers, 1996). Thus it can be hypothesized that,

**Hypothesis 4a: The hostility of the environment will positively moderate the relationship between innovativeness and large firm performance.**

**Hypothesis 4b: The hostility of the environment will positively moderate the relationship between proactiveness and large firm performance.**

**Hypothesis 4c: The hostility of the environment will positively moderate the relationship between risk taking and large firm performance.**

### **3.0 Methodology**

#### **3.1 Data and Measures**

The primary data for independent and moderating variable have been collected through a mail survey done by a structured questionnaire. The details of the survey instrumentation are illustrated in Table 1. The questionnaires were addressed to a top management team within a company with designation of senior manager, chief executive officer, vice president, president, or executive director. Out of 660 mailed surveys, only 130 were returned with a usable response, resulting in 19.6% response rate.

The independent variables instrumentation, which is the entrepreneurial orientation, was adapted from Lumpkin (1998). For moderating variable, which is the environmental hostility, it was adapted from Miller and Friesen (1982). All responses were measured using seven-point scale items, ranging from “1=strongly disagree” to “7=strongly agree”. The actual data for firm performance such as Returned on Assets (ROA) and Return on Sales (ROS) were obtained from the company’s annual reports.

To prepare the secondary data for firm performance, the difference between a company's performance score and its industry average was computed, and then divided by the industry's average (for the past three years). The outcome of this process was then multiplied by 100. The results showed how much better (or worse) a company performed than its average industry competitor (Zahra & Covin, 1995:53). This step is important because the sample consists of various industries. Thus, it is essential to control the variations in industry performance prior to testing the hypotheses. This was done following the approach suggested by Sousa de Vasconcellos e Sa and Hambrick (1989), and Zahra and Covin (1995).

#### **3.2 Sample Characteristics and Data Collection Method**

The respondent firms ranged across 14 industrial sectors, where 38 firms (29.2%) are in the industrial product sector, which is the highest number of firms in a particular sector, followed by consumer product sector with 34 firms (26.2%). Only 8.5% firms have been established in less than 10 years, while the rest have been established within 10 years and above. 113 (86.8%) firms have been public listed more than 5 years and only 17 (13.2%) firms have been established in less than 15 years. Lastly, in terms of the number of employees, 99 (76.2%) firms have more than 300 employees and 31 (23.8%) have less than 300 employees. In terms of the individual respondent's characteristics, majority of the respondents are male, 83 (63.8%) and 47 (36.2%) are female respondents. Most of the respondents are above 30 years old, 122 (93.9%) and 62 (47.7%) are Chinese followed closely by Malay, 56 (43.1%) respondents.

In regard to the respondents’ educational qualification, more than half of the respondents have a Bachelor's Degree, 56.9% (74). With respect to working experience, 81.5% (106) of the respondents have more than 10 years of working experience. All hypothesized causal paths were analyzed using Partial Least Squares (PLS) approach to Structural Equation Modelling (SEM). The analysis and interpretation of a PLS model is a two-staged process. Firstly, the assessment of the reliability and validity to the measurement model and secondly, the assessment of the structural model to test the hypotheses under study (Barclay et al., 1995). These assessments are presented in the next subsections.

### **3.0 Data Analysis and Results**

#### **4.1 Assessment of the Measurement Model**

The first step in PLS analysis was to analyze the measurement model (or outer model) to determine how well the indicators (items in the constructs) load on the theoretically defined constructs. This is to ensure that the survey instrument is reliable and valid to measure the construct that were designed to measure. Thus, the reliability and validity analysis were performed to assess the measurement model. The purpose of the validity analysis is to test how well an instrument was developed to measure the particular concept it was intended to measure (Sekaran & Bougie, 2010). Reliability analysis was used to test how consistently a measuring instrument can measure the concept of a study (Sekaran & Bougie, 2010). Four validations must be performed to test the validity and reliability which is the internal consistency, indicator reliability, convergent validity and discriminant validity (Lewis, Templeton, & Byrd, 2005; Straub, Boudreau, & Gefen, 2004).

##### **4.1.1 Internal Consistency**

Interpreted like the Cronbach's alpha for internal consistency reliability (CR) estimation, a composite reliability of 0.70 or greater is considered acceptable (Fornell & Larcker, 1981). The composite reliability focuses on individual item's loadings based on indicator inter-correlations. In contrast, the Cronbach's alpha assumes that each item contributes similarly to its construct (Barclay et al., 1995). In this study, the internal consistency of the each constructs ranges from 0.887 to 0.941 and are above the recommended threshold value of 0.70 as shown in Table 2. Thus, the results point out that the items used to represent construct have satisfactory internal consistency reliability.

##### **4.1.2 Indicator Reliability**

The indicator reliability can be measured by examining the items loading. Thus, it is important to have a satisfactory indicator reliability for a measurement model, whereby, each item's loading is at least 0.70 (Chin, 1998). In other words, the items should be eliminated from measurement models if their loadings are smaller than 0.70. In this study, it can be seen in Table 2 that, 2 items were eliminated for innovativeness and risk taking, and 1 item eliminated for hostility construct due to low loadings. Only items that have loading above 0.70 were retained for further analysis.

##### **4.1.3 Convergent Validity**

In order to test the convergent validity, the average variance extracted (AVE) was used to measure the variance captured by the indicators relative to measurement error, and it should be greater than 0.50 to justify using a construct (Barclay et al., 1995). The result of the analysis shows that all constructs have AVE ranging from 0.743 to 0.797, which demonstrates adequate convergent validity.

##### **4.1.4 Discriminant Validity**

Discriminant validity is the complement of the convergent validity. It indicates the degree to which one construct differs from the other. It can be assessed using two measures; i) cross loading, and; ii) Fornell Larcker's (1981) criterion. Firstly, the loadings of the indicators must be higher on their respective construct compared to other constructs. In this vein, Table 3 shows the indicators' loading with respect to all constructs correlations. From Table 3, it can be seen that all measurement items loaded are higher in its construct compared to other constructs, and loading of each block is higher than any other block in the same row and columns. It is obvious that, the loading clearly separates each construct as theorised in the conceptual model. Therefore, the cross loading of the items in measurement model's discriminant validity are satisfied.

The second measure used for the discriminant validity is the Fornell-Larcker criterion. There are two ways of assessing the Fornell-Larcker criterion (Chin, 2010); i) compare the square root of AVE to construct correlations, and; ii) compare the AVE with the squared correlations among the construct correlations. The aim is to make sure the AVE / square root of AVE to be greater than each of the construct correlations. This is so to ensure that the measurement model demonstrated adequate discriminant validity (Fornell & Larcker, 1981). From Table 4, all square roots of AVE exceed the off-diagonal elements in their corresponding row and column. Thus, the result confirmed that Fornell and Larker's criterion is met.

## 4.2 Hypotheses Testing for Direct Effects

Table 5 represents the results of the hypotheses for direct effects. The  $R^2$  value was 0.113, suggesting that 11.3% of the variance in the firm performance can be explained by the innovativeness, proactiveness and risk taking. The innovativeness and risk taking were positively related to firm performance. Only proactiveness was not a significant predictor of firm performance among the large firms in Malaysia. Thus, Hypothesis 1 and Hypothesis 3 of this study were supported whereas Hypothesis 2 was not. It can be seen in Table 5 that risk taking ( $\beta = 0.252$ ,  $p < 0.01$ ) was the most significant predictor of firm performance followed by innovativeness ( $\beta = 0.125$ ,  $p < 0.01$ ).

## 4.3 The Interaction Effect of Environmental Hostility

Environmental hostility was used as the moderating variable in this study. It can be seen at Table 6 that, out of three hypotheses formulated, two hypotheses were supported. The environmental hostility positively moderated the relationship between proactiveness and firm performance ( $\beta = 0.173$ ,  $p < 0.01$ ) and risk taking and firm performance ( $\beta = 0.089$ ,  $p < 0.1$ ). Thus Hypothesis 4b and Hypothesis 4c were supported whereas Hypothesis 4a was not. The variance explained for this interaction effects model was 19.0%.

## 5.0 Discussion and Conclusion

The key contribution of this research is the empirical evidence of the entrepreneurial orientation on large firms' performance. Since most of the studies on the entrepreneurial orientation and firm performance have been conducted among the small and medium size firms, this research shed some light on the large firms' settings. Their performances are a major concern due to their vast economic contributions to the nation such as the largest contributors to the national export earnings and gross domestic product. Thus, it is imperative that they implement appropriate strategies to enhance their performance and ensure their survival, especially in this turbulent economic time.

The entrepreneurial orientation is not only essential for the small and medium size firms for survival and growth but also affect the large firms' profitability. This current study found that, the entrepreneurial orientation dimensions of innovativeness and risk taking have direct positive effect on firm performance. This findings are similar to previous studies such as Calantone et al. (2002), Casillas and Moreno (2010), Gibb and Haar (2010), Klomp and van Leeuwen (2001), Rauch et al. (2004), and Wang and Yen (2012). In contrast, the proactiveness dimension has no direct relationship with firm performance but this relationship is moderated by the environmental hostility. This means that when the environment is unfavourable or hostile, proactiveness can enhance firm performance. The relationship between risk taking and firm performance is also moderated by environmental hostility, thus, this findings are consistent with previous studies (Martins & Rialp, 2013; Lee, Zhang & Chan, 2005; Zahra & Garvis, 2000). Conducting business in stable and favorable environments is rather different from doing business in risky, unfavorable, hostile and unstable environments. Thus, using the same business strategy for both environments may not work and may jeopardize the survival of one's business. Using different strategies for these environments will turn the risky and hostile environments into opportunities and ensure handsome profits are gained. The hostile environments can either be a game of survival or a golden opportunity depending on how the firm perceives the market.

Although this study makes significant contributions to the body of knowledge about the effect of entrepreneurial orientation on large firm performance, the study is also constrained by some limitations. These limitations however open up various avenues for future research. Firstly, there is limitation in the sample size. Thus, future research could include all large firms' establishments and not only be restricted to public listed companies. As at 2010, there were 17,803 large firm establishments compared to only 842 public listed companies. Secondly, this study used cross-sectional data or one time occasion research. For a short term, entrepreneurial strategies such as innovativeness and risk taking require large resource commitments, especially in research and development and investments in high risk projects. As a result, these huge expenses may jeopardise the firm's profits. Thus, firms may need to sacrifice profits in the short term especially if they intend to stay on the cutting edge technology for long-term innovations. In this light, future researchers can embark on longitudinal research design.



## 6.0 References

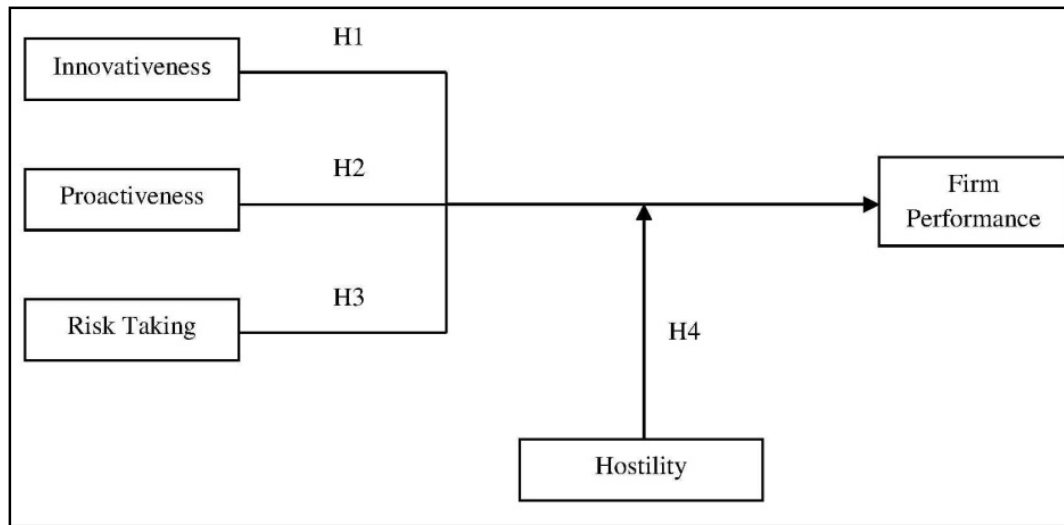
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**Figure 1 : Theoretical Framework of the Study**



**Table 1: Instrumentation of Study Variables**

Variables	No. of Item	Literature	Type of Scale
<b>EO Dimensions:-</b> (innovativeness, proactiveness and risk taking)	15	Lumpkin (1998)	7-Point Scale
<b>Environmental Hostility</b>	3	Miller and Friesen (1982)	7-Point Scale
Return on Assets (ROA)	1	Zahra and Covin (1995)	Actual Data
Return on Sales (ROS)	1	Zahra and Covin (1995)	Actual Data

**Table 2: Internal Consistency, Indicator Reliability, and Convergent Validity**

Construct / Items	Loading	Composite reliability (CR)	Average variance extracted (AVE)
<b>Innovativeness</b>		0.901	0.752
Innov_1	0.808		
Innov_3	0.946		
Innov_5	0.841		
<b>Proactiveness</b>		0.941	0.761
Pro_1	0.897		
Pro_2	0.848		
Pro_3	0.848		
Pro_4	0.866		
Pro_5	0.901		
<b>Risk Taking</b>		0.896	0.743
Risk_1	0.858		
Risk_2	0.836		
Risk_3	0.890		
<b>Hostility</b>		0.887	0.797
Hos_1	0.826		
Hos_3	0.956		

Table 3: Discriminant Validity: Cross Loadings

Construct	Innovativeness	Proactiveness	Risk Taking	Hostility
<b>Innovativeness</b>				
Innov_1	<b>0.944</b>	0.315	0.212	-0.029
Innov_3	<b>0.812</b>	0.181	-0.005	-0.054
Innov_5	<b>0.839</b>	0.22	0.05	-0.099
<b>Proactiveness</b>				
Pro_1	0.264	<b>0.897</b>	0.352	-0.077
Pro_2	0.237	<b>0.848</b>	0.361	-0.045
Pro_3	0.256	<b>0.848</b>	0.347	-0.048
Pro_4	0.194	<b>0.866</b>	0.441	0.059
Pro_5	0.311	<b>0.901</b>	0.428	0.033
<b>Risk Taking</b>				
Risk_1	0.187	0.441	<b>0.858</b>	0.091
Risk_2	0.023	0.326	<b>0.836</b>	0.22
Risk_3	0.095	0.377	<b>0.890</b>	0.156
<b>Hostility</b>				
Hos_1	-0.021	-0.034	0.173	<b>0.826</b>
Hos_3	-0.072	0.013	0.144	<b>0.956</b>

Bold values are loadings for items which are above the recommended value of 0.5

Table 4: Discriminant Validity: Fornell-Larcker criterion

	1	2	3	4
<b>1.Hostility</b>	<b>0.894</b>			
<b>2.Innovativeness</b>	-0.060	<b>0.872</b>		
<b>3.Proactiveness</b>	-0.003	0.291	<b>0.889</b>	
<b>4.Risk Taking</b>	0.169	0.132	0.299	<b>0.867</b>

Diagonals (in bold) represent the square root of AVE while the other entries represent the correlations

Table 5: Hypotheses and Results for Direct Effects

Hypothesis	Relationship	Path Coefficient	t Value	Supported
H1	Innovativeness → Firms Performance	0.125	2.040***	Yes
H2	Proactiveness → Firms Performance	0.068	1.094	No
H3	Risk Taking → Firms Performance	0.252	3.313***	Yes
$R^2$			0.113	

\* p < .10; \*\* p < .05; \*\*\* p < .01

Table 6: Hypotheses and Results for Interaction Effect

Hypothesis	Relationship	Path Coefficient	t Value	Supported
H4a	Innovativeness*Hostility → Firms Performance	0.030	0.490	No
H4b	Proactiveness*Hostility → Firms Performance	0.173	2.213***	Yes
H4c	Risk taking*Hostility → Firms Performance	0.089	1.300*	Yes
$R^2$			0.190	

\* p < .10; \*\* p < .05; \*\*\* p < .01