

Understanding the Effect of Corporate Entrepreneurship on Firm Performance

Sylvia Nabila Azwa Ambad¹, Kalsom Abdul Wahab²

¹MARA University of Technology, Malaysia,

²Islamic Science University of Malaysia, Malaysia

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Abstract

The present study is focused on the effect of corporate entrepreneurship (CE) on the performance of the public-listed companies (PLCs) in Malaysia. These companies are currently facing more challenging environments compared to the past as their survival rates are declining and suffering from low level of profitability. In this new era where the resources are tight and highly competitive, the rapid technological changes have shortened the product life cycles and have caused uncertain business environment. The firms that do not practice CE will be competed out of the market. Thus, the entrepreneurial orientation (EO) and corporate venturing (CV) are utilized as a proxy of CE. The actual data of sales growth; return on Assets (ROA) and return on sales (ROS) are used as the indicators of firm performance. This study also investigates the moderating influence of environmental dynamism on CE dimensions and firm performance. The data has been collected from 130 companies listed in the main market of Bursa Malaysia. In order to analyse the survey data, the study has used Partial Least Squares (PLS) approach to Structural Equation Modelling (SEM). This study has concluded that the EO is positively related to firm's profitability but has no relationship with firm's growth whereas CV is positively related to firm's growth but has no relationship with firm's profitability. The environmental dynamism moderates these relationships.

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1.0 INTRODUCTION

Studies on strategic management have shown that CE is the main source of superior firm performance (Antoncic & Hisrich, 2003; Zahra & Garvis, 2000; Zahra & Covin, 1995). Even though there is no consensus among the researchers on the dimensions of CE. However, EO and CV are widely used as a proxy of CE. Recently EO has been commonly accepted as an instrument for capturing a firm's inclination toward entrepreneurship that is conceptualized as possessing three main characteristics, innovativeness, risk-taking, and proactiveness (Covin & Wales, 2011; Rauch et al, 2009; Wiklund, 1999). The CV is always associated with CE or labelled as "intrapreneuring" by Gifford Pinchot due to the fact that it is an entrepreneurial effort to create new business within existing firm (Dess & Lumpkin, 2005). The CE is a term used to explain the entrepreneurial efforts of an established and large organisation (Burns, 2005). Various authors have used various terms to describe entrepreneurial behaviour inside existing firms (Sharma & Chrisman, 1999). Among the terms used to describe entrepreneurial behaviour at the firm level is intrapreneuring (Pinchot, 1985), corporate entrepreneurship (Burgelman, 1983; Guth & Ginsberg, 1990; Covin & Miles, 1999; Morris et al., 2008; Sharma & Chrisman, 1999), corporate venturing (von Hippel, 1977; MacMillan, 1986; Vesper, 1990), innovative (Miller & Friesen, 1983), firm-level entrepreneurial posture (Covin, 1991; Covin & Slevin, 1986), firm's EO (Knight, 1997; Lumpkin & Dess, 1996), and organisational entrepreneurship (Handfield et al., 2009; Stevenson et al., 1985). However, CE is the term that is often used to describe entrepreneurial behaviour of large firms.

Despite a large body of literature that has empirically studied the effect of the CE on performance, limited empirical research existed on studies about the public-listed companies (Miller & Miller-Breton, 2011). The performance of the PLCs has been a major concern as today they are facing more challenging environments as compared to the challenges faced in the past. This is an evident as the survival rates of the listed firms have been found declining (Fama & French, 2004).

Moreover when the firm becomes a public company, they suffer from low level of profitability even more often their, profitability becomes negative (Demer & Joos, 2007). Sometimes they also fail to present a quality, balanced and meaningful strategy (Raja Suzana & Rahim, 2008). Hence, the PLCs have to find appropriate business strategies in order to improve their performance.

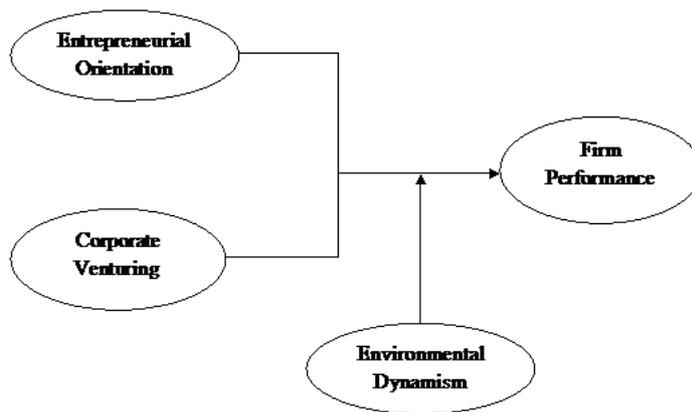
In this current study, it is aimed to investigate the effect of the CE dimensions namely the EO and CV on the firm's actual profitability and growth within the context of the large firms in Malaysia. In addition, the impact of the environmental dynamism has been analysed as moderating variable between CE and firm performance. This research study has made important contributions to at least three areas of research. Firstly, usually 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 the large firm faces different challenges than the challenges faced by the small firms. This is generally because both types of the firm have different organisational design and management styles. Secondly, the current research contributes to extend the literature on CE because in Malaysia the research on CE is still infancy. To the best of author's

knowledge, this research is the first study to simultaneously test the EO and CV on actual large firm performance by adding the moderating effect of the environmental dynamism. Thirdly, this research study contributed towards the methodology of research, whereas, the previous studies on CE have usually used primary data and combination of firm performance. This study has used objective data and multidimensional construct of 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, the discussion of methodology has been used in this study. Then, the result of empirical analyses has been presented. The paper ends with discussion and conclusion part.

2.0 Literature Review

Figure 1: Conceptual Model of the Study



The theoretical framework above (Figure 1) is based on the objective of the study that is to examine the effect of CE dimensions on large firm performance. The hypotheses in this study is also formulated which is based on this theoretical framework as discussed in the later sections.

2.1 Entrepreneurial Orientation (EO) and Firm Performance

Entrepreneurial orientation refers to the processes, practices and decision-making activities that lead to new entry as characterized by one or more of the following dimensions: a willingness to innovate and take-risks and proactive relative to market place opportunities (Lumpkin & Dess, 1996:136-137). These three characteristics namely, the innovativeness, proactiveness and risk taking are the dimensions of EO and the main ingredient for the firm to be entrepreneurial.

The relationship between EO and firm performance has received huge attention within the literature in various fields due to its importance on the firm's competitiveness. Even though there searchers have agreed that EO as a part of CE but it has attracted more attention as compared to the CE itself (Covin & Lumpkin, 2011). There is a significant increase on the article regarding EO and firm performance because it is believed that EO is essential for firm's growth and profitability (Covin &

Slevin, 1991; Lumpkin & Dess, 1996; Soininen et al., 2011; Zahra & Garvis, 2000). This has been supported by the results of recent meta-analysis suggesting that EO is indeed a significant predictor of firm performance (Rauch et al., 2009). The previous results also showed that study on EO-firm performance is not only sustainable in a short term but also this relationship has increased over a long term (Wiklund, 1999; Zahra & Covin, 1995; Zahra, 1991). Hence, the investment in EO may be worthwhile for the firm not only in short term but also in the following years (Wiklund, 1999).

Although the majority of the researchers have agreed that EO contributes to better firm performance but the link between EO and firm performance has remained inconsistent (Lumpkin & Dess, 1996). The studies concluded that the EO-performance relationship has gained different results across studies. Some studies have established strong correlations between EO and firm performance (Covin & Slevin, 1988; Wiklund & Shepherd, 2003; Hult et al., 2004; Kraus et al., 2005; Kreiser & Davis, 2010), while other studies have reported weak relationship (Zahra, 1991; Dimitratos et al., 2004; Baker & Sinkula, 2009). There are also studies, which have failed to find a positive relationship between EO and firm performance (Covin et al., 1994; George et al., 2001; Tang & Koveos, 2004). Most of these researches were conducted in developed countries like U.S. and European Union. The business environments and management style for developed and developing countries are fundamentally different. Hence, it is important to conduct a research on this area. The differences in business environment possessed by each country bring different effects on EO research.

Despite all these arguments, the importance of the EO to firm performance is remarkable and has been recognized as one of the most important factors for a firm's growth and profitability (Antoncic, 2007; Kayhan & Tajeddini, 2010; Kreiser et al., 2002; Stevenson & Jarillo, 1990). Thus, growth and profitability of the firm is the result of innovativeness, proactiveness and risk taking behavior, which are the ingredients of EO. Thus, two hypotheses were formulated for the direct effect between EO and firm's profitability and growth as follows:

Hypothesis 1a: There is a direct positive relationship between entrepreneurial orientation (EO) and large firms' profitability.

Hypothesis 1b: There is a direct positive relationship between entrepreneurial orientation (EO) and large firms' growth.

2.2 Corporate Venturing (CV) and Firm Performance

Corporate venturing is one of the CE components that emphasises on the creation of new business inside or outside the existing organization (Sharma & Chrisman, 1999). Among CV activities, are entering new industries, acquisition, sponsoring new venture activities, and launching new business (Dalziel, 2005; Zahra, 1991). The purpose to launch CV in established firms is varied. Generally, the firms frequently use CV to gain access to ideas, discoveries, technologies, innovations, and business practices and to enhance business growth and profitability (Narayanan et al., 2009).

Previous research has shown that CV activities generate economic benefits for the parent corporation and improve its financial performance (Antoncic & Hisrich, 2001). The research by Antoncic and Hisrich (2001) has showed a strong relationship between CV and financial performance (return on assets, return on equity, and relative profitability). CV is also often used as a strategy in the declining businesses whereby their corporation is transformed into new core businesses with better opportunities for growth (Donahoe et al., 2001). For this situation, Nokia is the best example as they have successfully transformed their core business from manufacturing to telecommunications. Thus, two hypotheses were formulated for the direct effect between CV and firm's profitability and growth as follows:

Hypothesis 2a: There is a direct positive relationship between corporate venturing (CV) and large firms' profitability.

Hypothesis 2b: There is a direct positive relationship between corporate venturing (CV) and large firms' growth.

2.3 Environmental dynamism as a Moderating Variables

The importance of dynamic nature of the environment to the relationship between firm's CE and firm performance have repeatedly confirmed by the scholars (Wiklund & Shepherd, 2005). The dynamism is often called as uncertainty (Miller & Friesen, 1983). It is characterized by the rate of change and innovation of the industry and also the unpredictable actions by competitors and customers (Miller & Friesen, 1983; Lawrence & Lorsch, 1967; Burns & Stalker, 1961). The literature suggests that the influence of CE on performance has become more intense when the firm operates in a dynamic environment (Moreno & Casillas, 2008). In other words, highly entrepreneurial firm will achieve better performance in dynamic environment (Lumpkin & Dess, 2001).

The previous studies also concluded that the dynamicity of environment encourages firms to take part in new product innovation activities than those operating in stable environment (Miller, 1983; Miller, 1988; Zahra, 1993). The firm's failure to respond to dynamic environment results a loss in market shares and sales, hence they are left out of the competition (Miller, 1988). The persuasion of revolutionary technologies and progressive activities is a great way for setting up a dynamic environment which is a plus point for the firm over its competitors (Zahra & Bogner, 2000; Zahra, 1996).

The dynamic environments trigger the effort of the firm to venture into new business to respond to the challenges and change in the business environment. In dynamic environment setting, the condition of an industry is unstable and changing continuously. The social, political, technological, and economic changes bring new ideas for the firms to venture into new markets and broadening the firm's niche (Zahra, 1991). The change in the environment creates more opportunities that enables the firm to pursue new innovative ventures to benefit from these environment characteristics. Thus, in order to pursue into a venture, the firm will employ newer technologies and innovative marketing practices (Oster, 1990). In addition, the firm will diversify its business to cope with the intensified environment and to avoid failure. Hence, venturing into new business helps the firm to respond to the intense

competition and taking the opportunities for growth. Thus, in order to test the interaction effects model, four additional hypotheses were formulated as follows:

Hypothesis 3a: Environmental dynamism moderates the relationship between EO and large firm's profitability. EO is more positively associated with large firm's profitability in dynamic environments.

Hypothesis 3b: Environmental dynamism moderates the relationship between CV and large firm's profitability. EO is more positively associated with large firm's profitability in dynamic environments.

Hypothesis 4a: Environmental dynamism moderates the relationship between EO and large firm's growth .CV is more positively associated with large firm's growth in dynamic environments.

Hypothesis 4b: Environmental dynamism moderates the relationship between CV and large firm's growth. CV is more positively associated with large firm's growth in dynamic environments.

3.0 Methodology

3.1 Instrumentation and Measures

Table 1 indicates the measures of the study variables used in the study. The instrument items have been adapted and modified from previous studies for independent variables. The dependent variables are used as actual data obtained from annual reports in order to reduce the potential for common method variance.

Table 1: Instrumentation of Study Variables

Variables	No. of Item	Source of Scale	Type of Scale
EO Dimensions:- (innovativeness, proactiveness and risk taking)	15	Modified from Lumpkin and Dess (2001) and Lumpkin (1996)	7-Point Scale
Corporate Venturing	6	Modified from Zahra (1991) and Dalziel (2005)	7-Point Scale
Environmental Dynamism	5	Adapted from Miller and Friesen (1982)	7-Point Scale
Profitability:- Return on Assets (ROA) Return on Sales (ROS)	2	Adapted from Zahra and Covin (1995)	Actual data
Growth:- Sales Growth	1		

3.2 Sample Characteristics and Data Collection Method

The study has been carried out on PLCs listed in main market, Bursa Malaysia. The primary data has been collected through a mail survey done by a structured questionnaire. The questionnaires were addressed to a top or senior management team within the 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 respondent firms were ranged across the 14 industrial sectors, where 38 firms (29.2%) were in the industrial product sector, which was 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 had more than 300 employees and 31 (23.8%) had less than 300 employees.

In terms of the individual respondent's characteristics, it was revealed that the majority of the respondents were male, 83 (63.8%) and 47 (36.2%) were female respondents. Most of the respondents were above 30 years old, 122 (93.9%) and 62 (47.7%) were Chinese followed closely by Malay, 56 (43.1%) respondents. In regard to the respondents' educational qualification, more than half of the respondents had a Bachelor Degree, 56.9% (74). With respect to the working experience, as 81.5% (106) of the respondents had more than 10 years of working experience.

In order to analyse the survey data, two statistical techniques were used. First, the Statistical Package for Social Sciences (SPSS) version 19.0 was used. Next, the second statistical technique used was Partial Least Squares (PLS) approach to Structural Equation Modelling (SEM). The analysis and interpretation of a PLS model is a two-staged process. First is the assessment of the reliability and validity to the measurement model and second is the assessment of the structural model to test the hypotheses under study (Barclay et al., 1995).

4.0 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. It was ensured 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 was to test that how well an instrument was developed to measure the particular concept it is intended to measure (Sekaran & Bougie, 2010). Validity can be analysed using construct validity, convergent validity, and discriminant validity. The purpose of reliability analysis was to test how consistently a measuring instrument can measure the concept of a study (Sekaran & Bougie, 2010).

The individual item reliabilities used the loadings of the items to their respective constructs. According to Hair et al. (2010) standardized loadings should be greater

than 0.50. In this study, since EO has been used as one-dimensional construct, an analysis of principal components to assess the validity and reliability of the three dimensions in EO using SPSS 19.0 was carried out. The result showed that all items had a loading of higher than 0.50. Accordingly, the mean of the 15 items that measured the innovativeness, proactiveness and risk taking were taken as a proxy of EO. However, it can be seen in Table 2 and Table 3 that there were few items in CV and environmental dynamism constructs that were dropped due to low loadings. In addition, all the items that were measuring a particular construct were loaded highly on that construct and were loaded lower on the other constructs thus confirming to construct validity.

In PLS, the composite reliability analysis was used to assess the reliability of the construct, interpreted like a Cronbach's alpha for internal consistency reliability estimate, a composite reliability of 0.70 or greater is considered acceptable (Fornell & Larcker, 1981). It can be seen in Table 2 and Table 3 that, the composite reliability values range between 0.811 and 1.00, which is more than the suggested cut off value of 0.7. Thus, the survey instrument that had been used in this study was reliable.

Next, the assessment of convergent validity requires the examination of the average variance extracted (AVE) measure (Fornell & Larcker, 1981). The purpose of the AVE was to measure the amount of variance of the indicator which was accounted by the construct relative to the amount due to the measurement error. Thus, the AVE exceeded from 0.5, which is indicating that more than 50% of the indicators' variance can be captured by construct (Boßow-Thies & Albers, 2010, p. 596). From Table 2 and Table 3, the AVE values exceeded the recommended value of 0.5 (Hair et al., 2010) which was in the range of 0.524 to 1.00. The results illustrated adequate convergent validity and unidimensionality. Thus, all the constructs were the valid measures of their respective constructs based on their parameter estimates (Chow & Chan, 2008).

The discriminant validity is the complement of the convergent validity. It indicates the degree to which one construct differs from the others. The square root of the AVE is calculated to determine the construct discriminant validity. Thus, the square root of AVE should be greater than each of the construct correlations (Compeau et al. 1999). All the constructs of this study fulfilled these conditions because the diagonal elements were greater than the off-diagonal elements in the corresponding rows and columns. Thus, it can be concluded that the measurement model demonstrated adequate discriminant validity.

Table 2: Measurement Model for Firms' Profitability

Construct	Loading	Composite reliability (CR)	Average variance extracted (AVE)
EO		1.000	1.000
CV		0.916	0.648
CV_1	0.804		
CV_2	0.867		
CV_3	0.823		
CV_4	0.836		
CV_5	0.808		
CV_6	0.651		
Dynamism			
ED_1	0.664		
ED_2	0.841		
ED_3	0.640		
ED_4	0.819		
ED_5	Dropped		

Table 3: Measurement Model for Firms' Growth

Construct	Loading	Composite reliability (CR)	Average variance extracted (AVE)
EO		1.000	1.000
CV		0.895	0.635
CV_1	0.9264		
CV_2	0.7726		
CV_3	0.8247		
CV_4	0.8024		
CV_5	0.6281		
CV_6	Dropped		
Dynamism		0.811	0.524
ED_1	Dropped		
ED_2	0.852		
ED_3	0.737		
ED_4	0.735		
ED_5	0.534		

4.2 Assessment of the Structural Model

In the second stage, the structural models were assessed in order to test the relationships among hypothetical constructs. The bootstrapping was used to assess the structural model in PLS. The number of bootstrap samples used in this study was 1,000 and the number of cases were equal to the number of observations in the original sample which was 130 samples in this study.

The dependent variables which are the firm's performance is divided into two dimensions, growth and profitability. This multidimensional of firm's performance

were assessed because CE may influence growth and profitability differently. Thus, this study comprises of two different models.

4.2.1 The Main Effects Model

Table 4 and 5 shows the main effects model for both; firm's profitability and growth. Table 4, which reports the result for firm's profitability, shows that only EO (Hypothesis 1a) was significant and positively related to firm's profitability ($\beta = 0.279$, $p < 0.01$). This model explained 0.8% of variance in firm's profitability. For firm's growth, Model 5 also shows that only one hypothesis was supported, which is the CV (Hypothesis 2b). The CV was positive and significantly related to firm's growth and explained 0.6% of variance in firm's growth ($\beta = 0.204$, $p < 0.01$).

**Table 4: Hypotheses and Results for Main Effect Model
(Firms' Profitability as the Dependent Variable)**

Hypothesis	Relationship	Path Coefficient	t Value	Supported
H1a	EO → firms' profitability	0.279	3.065***	Yes
H1b	CV → firms' profitability	0.010	0.124	No
R^2			0.080	

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

**Table 5: Hypotheses and Results for Direct Effects
(Firms' Growth as the Dependent Variable)**

Hypothesis	Relationship	Path Coefficient	t Value	Supported
H2a	EO → firms' growth	0.002	0.038	No
H2b	CV → firms' growth	0.204	2.069***	Yes
R^2			0.060	

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

4.2.2 The Moderating Effect of Environmental Dynamism on the CE-Firm Performance Relationship

Environmental dynamism was used as the moderating variable in this study. Of Out of four hypotheses formulated, two hypotheses were supported. The environmental dynamism positively moderated the relationship between EO and firm's profitability ($\beta = 0.204$, $p < 0.05$) and CV and firm's growth ($\beta = 0.322$, $p < 0.01$). This supports the Hypothesis 3a. These results have been shown in Table 6 and Table 5. The variance explained were 14.0% for firm's profitability model and 19.2% variance explained for firms' growth model.

**Table 6: Hypotheses and Results for Interaction Effect Model
(Firms' Profitability as the Dependent Variable)**

Hypothesis	Relationship	Path Coefficient	t Value	Supported
H3a	EO*Dynamism → firms' profitability	0.158	1.896**	Yes
H3b	CV*Dynamism → firms' profitability	-0.122	1.515	No
R^2			0.140	

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

**Table 7: Hypotheses and Results for Moderating Effects
(Firms' Growth as the Dependent Variable)**

Hypothesis	Relationship	Path Coefficient	t Value	Supported
H4a	EO*Dynamism → firms' growth	0.032	0.649	No
H4b	CV *Dynamism → firms' growth	0.322	2.242***	No
R^2			0.192	

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

4.2.3 Moderating Effect Size (f^2)

Subsequently, after inspecting the R^2 of all endogenous variables and checking the result of the hypotheses, the effect size or moderating effect were assessed. The change in the R^2 showed whether the moderating variables have a substantial contribution in the model. According to Cohen (1988), f^2 is assessed as: 0.02 is a small effect, 0.15 is a medium effect and 0.35 is a large effect. The moderating effect can be assessed by comparing the proportion of variance explained (R^2) of the main effect model (without moderator) with the variance explained (R^2) of the full model (with moderator) (Henseler & Fassot, 2010). The profitability Model had a moderating effect size (f^2) of 0.07, thus it indicated that the effect of the environmental dynamism as a moderator is small. On the other hand the growth Model had medium contribution to the model which had 0.163 of a moderating effect size.

5.0 Conclusion

This study investigated the relationship between CE dimensions and firm performance among large firms in Malaysia. Consistent with the previous research findings, this study also revealed that the CE practices in large firms have significant effect on the firm performance. Large companies in Malaysia are important for economic development such as the largest contributor to the national earning export and gross domestic product. Therefore, an examination of their performance is a worthwhile scholarly endeavour.

The EO was found to increase the firm's profitability but no significant relationship with firm's growth. In other words, the innovativeness, proactiveness and risk taking of the large firm contributes positively towards firm's profitability and this relationship is also moderated by the environmental dynamism. Whereas, the environment which is highly uncertain and unpredictable, the firms are more entrepreneurial and leads to higher firm's profitability (Miller, 1983; Miller, 1988; Zahra, 1993). The impact of environmental dynamism as a moderator was found to be small in this model.

In contrast, the CV was only positively and significantly related to firm's growth but has no significant relationship with firm's profitability. The possible reason for this is because the profitability of the firm may be affected in short term due to the expenses in purchasing the new venture, cost of merger, alliances and funding new venture (Zahra & Garvis, 2000). This relationship is also moderated by the environmental dynamism. The CV is positively related to a firm's growth because the business expands and addition in current products or services line increases the sales of the firm. This is similar to previous research conducted among 58 large and middle sized Chinese enterprises that the venturing activities are positively related to overall perceptual firm performance but has no positive effect on ROI and net profit (Chen et al., 2005).

Although this study made significant contribution to the body of knowledge and to the determinant factors of the large firm's performance. Unlike other studies it also have some limitations and suggest some avenues for future research. First of all, the models that have been used in this research are somewhat simple. As a result, it is essential to consider additional variables such as those related to other business strategies and to the firm's performance dimensions. This is better to capture the relationship between the EO and the various dimensions of performance. Secondly, in this study cross-sectional design has been used rather than a longitudinal design. The future research should consider exploring the causal relationships among the research variables using longitudinal design for a better premise. It is also hoped that these results encourage future researchers to explore the unique role of each dimension in EO (innovativeness, proactiveness, and risk taking) and CV (internal CV and external CV). Repeating this given survey in the future will mitigate this problem.

6.0 References

- Antoncic, B. (2007) 'Intrapreneurship: A comparative structural equation modeling study', *Industrial Management & Data Systems*, vol. 107, no. 3, pp. 309-325.
- Antoncic, B., and Hisrich, R. D. (2001) 'Intrapreneurship: Construct refinement and cross-cultural validation', *Journal of Business Venturing*, vol. 16, no. 5, pp. 495-527.
- Antoncic, B., and Hisrich, R. D. (2003) 'Clarifying the intrapreneurship concept', *Journal of Small Business and Enterprise Development*, vol.10, no.1, pp. 7-24.
- Baker, W. E., and Sinkula, J. M. (2009) 'The complementary effects of market orientation and entrepreneurial orientation on innovation success and profitability', *Journal of Small Business Management*, vol. 47(October), pp. 443-464.
- Barclay, D., Higgins, C., and Thompson, R. (1995) 'The Partial Least Squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration [Special Issue on Research Methodology]', *Technology Studies*, vol. 2, no. 2, pp. 285-309.
- Boßow-Thies, S., and Albers, S. (2010) Chapter 25: Application of PLS in marketing: Content strategies on the internet. In V. E. Vinzi, W. W. Chin, J. Henseler & H. Wang (Eds.), *handbook of partial least squares: Concepts, methods and applications* (pp. 589-604): Springer.
- Burns, P. (2005) *Corporate Entrepreneurship*, UK: Palgrave Macmillan.
- Burns, T., and Stalker, G. (1961) *The Management of Innovation*, Chicago: Quadrangle Books.
- Chen, J., Zhu, Z., and Anquan, W. (2005) 'A system model for corporate entrepreneurship' *International Journal of Manpower*, vol. 26, no. 6, pp. 529 - 543.
- Chow, W. S., and Chan, L. S. (2008) 'Social network and shared goals in organizational knowledge sharing', *Information Management*, vol. 45, no. 7, pp. 24-30.
- Cohen, J. (1988) *Statistical Power Analysis for the Behavioral Sciences*, Hillsdale, NJ: Lawrence Erlbaum Associate.
- Compeau, D. R., Higgins, C. A., and Huff, S. (1999) 'Social cognitive theory and individual reactions to computing technology: A longitudinal-Study', *MIS Q*, vol. 23, no. 2, pp. 145-158.
- Covin, J. G. (1991) 'Entrepreneurial vs. conservative firms: A comparison of strategies and performance', *Journal of Management Studies*, vol. 25, no.5, pp. 439-462.

- Covin, J. G., and Lumpkin, G. T. (2011) 'Entrepreneurial orientation theory and research: reflections and needed construct', *Entrepreneurship Theory and Practice*, pp. 856-872.
- Covin, J. G., and Slevin, D. P. (1986) *The development and testing of an organizational-level entrepreneurship scale*, Wellesley, Massachusetts: Babson College.
- Covin, J. G., and Slevin, D. P. (1988) 'The influence of organization structure on the utility of an entrepreneurial top management style', *Journal of Management Studies*, vol. 25, no. 3, pp. 217-234.
- Covin, J. G., and Slevin, D. P. (1991) 'A conceptual model of entrepreneurship as firm behaviour', *Entrepreneurship Theory and Practice*, vol. 16, pp. 7-25.
- Covin, J. G., and Wales, W. J. (2011) 'The measurement of entrepreneurial orientation', *Entrepreneurship Theory and Practice*, vol. 36, no. 4, pp. 677-702.
- Covin, J. G., Slevin, D. P., and Schultz, R. L. (1994) 'Implementing strategic missions: Effective strategic, structural, and tactical choices', *Journal of Management Studies*, vol. 31, no. 4, pp. 481-503.
- Covin, J., and Miles, M. P. (1999) 'Corporate entrepreneurship and pursuit of competitive advantage', *Entrepreneurship Theory and Practice*, vol. 23, no. 3, pp. 47-63.
- Dalziel, T. (2005) *The influence of boards and top management teams on corporate entrepreneurship*, PhD. thesis, University of Cincinnati.
- Demer, E., and Joos, P. (2007) 'IPO failure risk', *Journal of Accounting Research*, vol. 45, no. 2, pp. 333-372.
- Dimitratos, P., Lioukas, S., and Carter, S. (2004) 'The relationship between entrepreneurship and international performance: the importance of domestic environment' *International Business Review*, vol. 13, pp. 19-41.
- Fama, E., and French, K. (2004) 'New lists: fundamentals and survival rates'. *Journal of Financial Economics*, vol. 73(2004), pp. 229-269.
- Fornell, C., and Lacker, D. F. (1981) 'Evaluating structural equation models with unobservable variables and measurement error' *Journal of Marketing Research*, vol. 18, pp. 39-50.
- George, G., Wood, D. R., Jr., and Khan, R. (2001) 'Networking Strategy Of Boards: Implications for Small and Medium-Sized Enterprises', *Entrepreneurship and Regional Development*, vol. 13, no. 3, pp. 269-285.
- Guth, W., and Ginsberg, A. (1990) 'Guest editors' introduction: Corporate entrepreneurship', *Strategic Management Journal*, Vol. 11, pp. 5-15.
- Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2010) *Multivariate data analysis*. Upper Saddle River: Prentice-Hall.

- Handfield, R., Petersen, K., Cousins, P., and Lawson, B. (2009) 'An organizational entrepreneurship model of supply management integration and performance outcomes'. *International Journal of Operations & Production Management*, Vol. 29, no. 2, pp. 100-126.
- Henseler, J., and Fassot, G. (2010) Testing moderating effects in pls path models: an illustration of available procedures, in W. W. C. V. E. Vinzi, J. Henseler, & H. Wang (Ed.), *Handbook of partial least square* (pp. 713-735). Berlin: Springer Verlag.
- Hult, G. T. M., Hurley, R. F., and Knight, G. A. (2004) 'Innovativeness: Its antecedents and impact on business performance', *Industrial Marketing and Management*, vol. 33, pp. 429-438.
- Knight, G. A. (1997) 'Cross-Cultural reliability and validity of a scale to measure firm entrepreneurial orientation', *Journal of Business Venturing*, vol. 12, no. 3, pp. 213-225.
- Krauss, S. I., Frese, M., Freidrich, C., and Unger, J. M. (2005) 'Entrepreneurial orientation: a psychological model of success among Southern African small business owners', *European Journal of Work and Organizational Psychology*, vol. 14, no. 3, pp. 315-344.
- Kreiser, P. M., and Davis, J. (2010) 'Entrepreneurial Orientation and Firm Performance: The Unique Impact of Innovativeness, Proactiveness and Risk Taking', *Journal of Small Business and Entrepreneurship*, vol/ 23, no. 1, pp. 39-51.
- Kreiser, P., Marino, L., and Weaver, M. (2002) 'Assessing the psychometric properties of the entrepreneurial orientation scale: a multi-country analysis', *Entrepreneurship Theory and Practice*, vol. 26.
- Lawrence, P., & Lorsch, J. (1967) *Organizations and environment*, Boston: Harvard University Press.
- Lumpkin, G. T., and Dess, G. G. (1996) 'Clarifying the entrepreneurial orientation construct and linking it to performance', *The Academy of Management Review*, vol. 21, no. 1, pp. 135-172.
- Lumpkin, G. T., and Dess, G. G. (2001) 'Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and life cycle', *Journal of Business Venturing*, vol. 16, pp. 429-451.
- Miller, D. (1988). 'Relating Porter's business strategies to environment and structure: analysis and performance implications', *Academy of Management Journal*, vol. 31, no. 2, pp. 280-308.
- Miller, D., and Breton-Miller, I. L. (2011) 'Governance, social identity, and entrepreneurial orientation in closely held public companies', *Entrepreneurship Theory and Practice*, vol. 35, no. 5, pp. 1051-1076.

- Miller, D., & Friesen, P. H. (1982) 'Innovation in conservative and entrepreneurial firms: Two models of strategic momentum, *Strategic Management Journal*, vol. 3, no. 1, pp. 1-26.
- Miller, D., and Friesen, P. H. (1983) 'Strategy-making and environment: The third link', *Strategic Management Journal*, vol. 4, pp. 221-235.
- Moreno, A. M., and Cassilas, J. C. (2008) 'Entrepreneurial orientation and growth of SMEs: a causal model, *Entrepreneurship Theory and Practice*, vol. 32, no. 3, pp. 507-528.
- Morris, M. H., Kuratko, D. F., and Covin, J. G. (2008) *Corporate Entrepreneurship and Innovation* (2nd ed.). Mason: South-Western Cengage Learning.
- Narayanan, V. K., Yang, Y., and Zahra, S. A. (2009) 'Corporate venturing and value creation: A review and proposed framework', *Research Policy*, vol. 38, no. 1, pp. 58-76.
- Oster, S. (1990) *Modern strategic analysis*, New York: Oxford University Press.
- Raja Suzana, R. K., and Rahim, M. S. (2008) 'The contributions of public-listed organizations to knowledge-based development in Malaysia, *The International Journal of Knowledge, Culture and Change Management*, vol. 8, no. 7, pp. 1-16.
- Rauch, A., Wiklund, J., Lumpkin, G. T., and Frese, M. (2009) 'Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future', *Entrepreneurship Theory and Practice*, vol. 33, no. 3, pp. 761-787.
- Sekaran, U., and Bougie, R. (2010) *Research methods for business: A skill building approach*, West Sussex, United Kingdom: John Wiley & Son Ltd.
- Sharma, P., and Chrisman, J. (1999) 'Towards the reconciliation of the definitional issues in the field of corporate entrepreneurship', *Entrepreneurship Theory and Practice*, vol. 19, no. 3, pp. 11-28.
- Soininen, J., Martikainen, M., Puumalainen, K., and Kylaheiko, K. (2011) 'Entrepreneurial orientation: growth and profitability of Finnish small- and medium-sized enterprises', *International Journal of Production Economics*, vol. 140, no. 2, pp. 614-621.
- Stevenson, H. H., and Jarillo, J. C. (1990) 'A paradigm of entrepreneurship: Entrepreneurial Management' *Strategic Management Journal*. Vol.11, pp. 17-27.
- Stevenson, H. H., Roberts, M. J., and Grousbeck, H. I. (1985) *New Business Ventures and the Entrepreneur*, Homewood, Ill: R. D. Irwin.
- Tajeddini, K. (2010). 'Effect of customer orientation and entrepreneurial orientation on innovativeness: evidence from the hotel industry in Switzerland', *Tourism Management*, vol. 31 (2010), pp. 221-231.

- Tang, L., and Koveos, P. E. (2004) 'Venture entrepreneurship, innovation entrepreneurship, and economic growth', *Journal of Developmental Entrepreneurship*, vol. 9, no. 2, pp.161-171.
- Vesper, K. H. (1990) *New Venture Strategies* (Rev. ed.). Englewood Cliffs, NJ: Prentice-Hall.
- von Hippel, E. (1977) 'Successful and failing internal corporate ventures: An empirical analysis', *Industrial Marketing Management*, vol. 6, no. 3, pp. 163-174.
- Wiklund, J. (1999) 'The sustainability of the entrepreneurial orientation—Performance relationship' *Entrepreneurship Theory and Practice*, vol. 24, no. 1, pp. 37-48.
- Wiklund, J., and Shepherd, D. (2003) 'Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses', *Strategic Management Journal*, vol. 24, no. 13, pp. 1307-1314.
- Wiklund, J., and Shepherd, D. (2005) 'Entrepreneurial orientation and small business performance: a configurational approach', *Journal of Business Venturing*, vol. 20, pp. 71-91.
- Zahra, S. A. (1991) 'Predictors and financial outcomes of corporate entrepreneurship: an exploratory study', *Journal of Business Venturing*, vol. 6, no. 4, pp. 259-285.
- Zahra, S. A. (1993) 'A conceptual model of entrepreneurship as firm behavior; A critique and extension. *Entrepreneurship: Theory & Practice*, vol. 17, no. 4, pp. 5-22.
- Zahra, S. A. (1996) 'Governance, ownership, and corporate entrepreneurship: the moderating impact of industry technological opportunities', *Academy of Management Journal*, vol. 39, no. 6, pp. 1713-1735.
- Zahra, S. A., and Bogner, J. G. (2000) 'Technology strategy and software new ventures' performance: exploring the moderating effect of the competitive environment', *Journal of Business Venturing*, vol. 15, pp. 135-173.
- Zahra, S. A., and Garvis, D. M. (2000) 'International corporate entrepreneurship and firm performance: the moderating effect of international environmental hostility', *Journal of Business Venturing*, vol. 15, pp. 469-492.

