

Entrepreneurship and International Business Operations: An Empirical Study of Small Manufacturing Companies

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ABSTRACT: *This study examines the relationship between a firm's entrepreneurship and its international business operations. Draws on the resource-based view, the study conceptualizes a firm's entrepreneurial orientation (EO) influences its international operations strategy development, which, in turn, affects overseas market performance. This assumption was empirically tested using data collected from 236 small manufacturing firms located in an emerging market. Structural equation modeling (SEM) was employed to assess the causal effect. The results verify the presumption suggesting EO beneficial to the development of small firms' international strategies which lead to a better market performance. Specifically, high level of entrepreneurial-oriented companies incline to adopt an aggressive international market expansion strategy. They are also likely to take greater risks and commit more resources in product innovations that satisfy overseas customer needs. In addition, high level of entrepreneurial-oriented manufacturing firms are more willing to adopt a flexible production approach. These international operations strategies, in turn, enhance the firms' overseas market performance. The research finding also suggests a direct but relatively weak causal connection between EO and overseas market performance. This partial mediation evidence provides a better understanding of how a firm's entrepreneurship relates to its market performance.*

Keywords: *Entrepreneurial Orientation, International Operations Strategy, Resource-Based View, SEM.*

I. INTRODUCTION

Significant progress has been made in the area of entrepreneurial orientation over the past three decades. Scholars have focused on the concept, definition, measurement, and the impact of an entrepreneurial orientation (EO). In particular, the effect of EO on firms' performance has attracted enormous attention in the literature; numerous studies have been carried out worldwide to unveil the linkage between the two variables. Most of these studies, however, have focused on business operations in the domestic context, while the impact of EO on international business activities of small manufacturing firms is still not well understood. Extant studies have shown that small companies face many unique challenges when expanding business operations beyond the home country market. Specifically, they have identified factors such as shortage of resources, inability to acquire foreign market information, and failure to recognize overseas opportunities as the primary causes of small and medium enterprises' (SMEs) low level of involvement and performance in the international arena (Julien and Ramangalahy 2003; Knight 2001; OECD 2009; Milanzi 2012).

The development of EO is presumed to overcome such constraints and reinforce a firm's international involvement (Patel and D'Souza 2009; Peinado 2009). EO refers to "the process, practices and decision-making activities that lead to new entry" (Lumpkin, 1996). The construct is presumed to help managers overcome psychological barriers and engage in strategies oriented towards innovation and expansion (Brown et al. 2001; Covin and Slevin 1991; Ibeh 2004). Others have pointed out further that the construct is of particular importance to small companies trying to organize resources effectually and conceive operative strategies that make use of business opportunities (Ireland et al. 2003; Lumpkin and Dess 1996; Wiklund and Shepherd 2003; Zahra and Garvis 2000). It provides a basic means for companies to take an appropriate strategic response to market turbulence (Dess et al. 1997). Knight (2001) reiterates the above viewpoints and suggests "when applied to international business, an organization characterized by this [entrepreneurial orientation] construct is likely to engender the development and activation of key strategies that give rise to superior performance...."

This study extends from previous research and explores the impact of EO on international business operations of small manufacturing firms. Drawing on the resource-based view, the study conceptualizes international operations strategy as the intermediate variable between EO and overseas market performance, in a sense that firms with greater EO will develop a particular type of international strategies, and these strategies will lead to different scales of performance. The aim of this study is to draw together the perspective of strategic entrepreneurship and international business operations and examine whether small manufacturing firms would be able to exploit the entrepreneurial value to develop effective international strategies. The companies studied are relatively small, around 70% of the firms have a capital less than US\$615,000 and employ less than 100 people. Given small companies, particularly those in the small home market, are increasingly under pressure to expand their business operations internationally, understanding the role of EO in these firms' international strategic behavior would, therefore, be of interest.

II. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Lumpkin and Dess (1996) regard EO as the processes, practices, and activities that lead to the development of new and innovative products that can differentiate a business from its competitors. The central idea underlying the concept is a new entry, entering new or established markets with new or existing goods or services. The construct is conceptualized as a set of distinct but related conducts that contribute to a firm's innovativeness, proactiveness, risk taking, competitive aggressiveness, and autonomy. *Innovativeness* refers to a firm's predisposition to engage in creative processes, pursuing new ideas, which lead to the development of new production methods and/or creation of new products or services (Lumpkin & Dess, 1996). It reflects an organization's efforts in pursuing the new combinations that improve operations or provide a new basis for meeting consumer needs (Pearce, Kramer, & Robbins, 1997). *Proactiveness* concerns with a firm posture of anticipating and acting on future market needs and wants and thereby creating a first-mover advantage (Lumpkin & Dess, 1996). It rests on the firm's entrepreneurial willingness to dominate competitors through a combination of proactive and aggressive moves such as market expansion (Lieberman & Montgomery, 1988). The emphasis is placed on being the first to take action. *Competitive aggressiveness* is a general managerial disposition reflected in a firm's willingness to take on and desire to dominate competitors through a combination of proactive moves and innovative efforts. Competitive aggressive firms are often the first to introduce new products, administrative techniques, and/or operating technologies (Colin & Colin, 1990). Competitive aggressiveness differs from proactiveness in that the focus of the former is on growth in existing markets at the expense of other firms, the latter emphasizes on being the first. Risk-taking propensity refers to the willingness to commit significant resources to exploit new market opportunities or engage in business strategies in which the cost of failure may be high (Keh, Foo, & Lim, 2002; Miller & Friesen, 1982). This includes expanding into unknown markets or investing in untried technologies (Baird & Thomas, 1985; Lumpkin & Dess, 1996; Miller & Friesen, 1982). *Autonomy* is the freedom and independence of organization members to work, make decisions, and take action and thus entrepreneurial initiatives are enacted (Lumpkin, Cogliser, & Schneider, 2009). It is a vital aspect of entrepreneurial value creation and central to the strategic entrepreneurship (Ireland, Hitt, & Sirmon, 2003; Lumpkin et al. 2009). The practice of autonomy enables a firm to exploit existing strength, explore new opportunities beyond current capabilities, and encourage the development of new business practices (Ireland, et al., 2003; Kanter, North, Bernstein, & Williams, 1990).

The resource-based view (RBV) suggests that companies extend a competitive advantage by deploying valuable resources that are superior, scarce, and inimitable (Barney 1991; Hooley and Greenley 2005). Resources refer to "tangible and intangible assets [that] firms use to conceive and implement their strategies" (Barney and Arkan 2001; p. 138). They are vital to a firm's competitive advantage and ultimately superior performance (Barney et al. 2011; Hooley and Greenley 2005). Barney and Hesterly (2012) further point out that resources are useful if they enable companies to develop and implement strategies that effectively exploit market opportunities and improve operations. Entrepreneurial orientation constitutes such resources (Brouthers et al. 2015; Teng 2007); it represents an organizational embedded nontransferable firm-specific asset (Knight 1997; Lumpkin and Dess 1996). The construct engenders the development and activation of key operations strategies which ultimately have a bearing on a firm's success (Hult et al. 2002; Knight 2001; Yalcinkaya et al. 2007). Evidence suggests that this organizational competency works more effectively for small and young organizations and in a turbulent market environment (Hult et al. 2003; Smart et al. 1997). EO should, therefore, strengthen small firms' strategy development and market performance in today's global arena where competition increasingly intensifies, product and business model life cycles become shortened, and companies need to search constantly for new opportunities (Hamel 2000; Wiklund and Shepherd 2005). According to Knight and Cavusgil (2004), a favorable innovation culture and proclivity pursuing international opportunities would facilitate international expansion of enterprises. By the same token, a strong EO culture characterized by innovativeness, proactiveness, and risk-taking propensity should help small manufacturing firms' international operations (Langenkamp 2000).

Porter (1985) asserts that an effective strategy must focus on the long-term competitive advantage. It needs to fit between a firm's resources and its external environment (Hofer and Schendel 1978). Miles and Snow (1978) further point out that the success of SMEs in international markets depends mainly on the formulation and implementation of the strategy that responds to the challenges and opportunities. As competing paradigms are continuously shifting due to technological advances and changing consumer tastes, SMEs are under increasing pressure to sustain their competitiveness by competing simultaneously along different dimensions. A review of the literature suggests that small manufacturing firms can adopt a variety of strategies to compete in the international market. These include international market expansion strategy (Chiarvesio et al. 2003; Knight 2001; Luo 2000), product development strategy (Chiarvesio et al. 2003; Hoang 1998; Sethi 2000; Singh et al. 2008) and production strategy (Anand and Ward, 2004; Fiegenbaum and Karnani 1991; Singh et al. 2008). Andersen and Kheam (1998) point out that, from the resource-based perspective, these strategies (or

capabilities) have played a significant role in a firm's international performance. The present study will incorporate these three strategies into the research model and examine their mediation role in the EO-performance relationship.

2.1 EO and international market expansion

International market development or expansion is a significant strategic action leading to competitive advantage (Brouthers and Xu 2002; Morgan et al. 2004; Theodosiou and Leonidou 2003; Twarowska and Kakol 2013). It is the means to enhance the value of assets (Casson 1990; Lu and Beamish 2001) and realize profit and growth (Moen et al. 2010). The approach is particularly important for small firms whose business scope is often geographically confined and resources are not fully exploited (Barringer and Greening 1998; Lu and Beamish 2001). Implementing such strategies, however, may encounter many unique challenges for such firms. For one thing, international business operations are often associated with higher risks and demand greater resources, including physical assets and competencies (Barney and Arikan 2001; Collis and Montgomery 1995; Hall 1992). In this regard, Flatten and colleagues (2014) have observed that rather than relying on physical resources, small businesses are increasingly dependent on intangible assets like marketing capabilities to stay competitive. Luo (2000) also contends, to succeed in today's highly volatile market environment, companies need to foster international expansion capabilities. Likewise, Kraus and associates (2007) insist, for small firms, cultivating a market development capability that enables them to exploit overseas opportunities effectively is particularly imperative given their limited physical resources.

Past studies have shown, as an organizational competency, EO enables companies to organize resources efficiently and conceive operative strategies that make use of business opportunities (Ireland et al. 2003; Wiklund and Shepherd 2003; Zahra and Garvis 2000). The construct also helps managers overcome psychic barriers and engage in strategies oriented towards innovation and expansion (Brown et al. 2001; Ibeh 2004). It facilitates a firm's foreign market entry and reinforces its international commitment (Patel and D'Souza 2009; Ripollés-Meliá et al. 2009). Langenkamp (2000) echoes the above viewpoint and suggests that innovativeness and risk-taking propensity would promote the entry of small entrepreneurial firms into overseas markets. Other scholars contend further that the proactive and flexible nature of small entrepreneurial firms enable them to exploit business opportunities more quickly and respond more promptly to new market demands (Dess et al. 1997; Miles and Arnold 1991), thereby, creating the first-mover advantage that has a positive result in performance (Lumpkin and Dess 1996; Miller and Friesen 1978).

H₁: A firm's entrepreneurial orientation has a positive influence on its international market development strategy, which, in turn, affects overseas market performance.

2.2 EO and new product development

Introducing new products successfully on the market has become a critical issue in today's marketing activities (Blum 2005; Hoffman 2005). Evidence suggests that companies are increasingly under pressure to develop new products that are timely and responsive to market needs as global competition intensifies, technological advances, and continuous shifting consumer tastes (Amue and Adiele 2012). In particular, they are required to deliver products with a degree of novelty, quality, and uniqueness (Sethi 2000; US Department of Commerce 2006). Nikolaoes and colleagues (2004) echo the above viewpoints and suggest new products well attuned to customer needs and launched ahead of competitors confer competitive advantages including first-mover one. Manufacturing companies, thus need to cultivate a product development capability, which allows them to develop new products that satisfy market needs with minimal risk. Blum (2005) defines product development capabilities as company ability to use and integrate organizational competencies to create and prolong new product success. The present study regards international product development capability as the extent to which international manufacturing companies effectively develop and deliver innovative products to meet the needs of foreign markets. Studies have demonstrated that product development capabilities allow manufacturing firms to leverage market knowledge and internal R&D competences (De Luca and Atuahene-Gima 2007; Li and Caluntone 1998). Others suggest the approach is a way to realize superior technological and management performance (Banerjee and Soberman 2013; Rangone 1999). It is the root of new product success (Blum 2005).

Avlonitis and Salavou (2007) have argued that innovation is an inherited condition in the field of entrepreneurship, therefore, studies should focus on combining the key concepts of EO and product innovativeness. In this vein, Brouthers and others (Brouthers et al. 2015; Knight 1997; Lumpkin and Dess 1996; Teng 2007) suggest EO represents an organizational embedded nontransferable firm-specific asset or competency, which engenders the development and activation of key strategies, including product innovations that have a bearing on a firm's success (Knight 2001; Yalcinkayan et al. 2007). Blum (2005) also believes there is a connection between organizational competencies and the success of new products. Others maintain EO is important for firms trying to organize resources efficiently and conceive effective strategies that make use of market opportunities (Ireland et al. 2003; Wiklund and Shepherd 2003). The construct necessitates businesses to

“innovate boldly and regularly” (Miller and Friesen 1982) and calls for their effort in seeking the new combinations that improve operations or provide a new basis for meeting consumers’ needs (Keh et al. 2002; US Department of Commerce 2006).

H₂: A firm’s entrepreneurial orientation has a positive influence on its international product development strategy, which, in turn, affects overseas market performance.

2.3 EO and production capability

Rangone (1999) has argued, from resource-based view, production or manufacturing capability is one of the critical and primary resources of small manufacturing firms. Hayes and associates (Hayes and Pisano 1994; Hayes and Upton 1998) also insist production capability plays an important role in how firms compete in product markets. Other studies have linked production capability to market outcomes and financial performance measures (Fiegenbaum and Karnani 1991; Gupta and Somers 1996). Rangone (1999) considers the production capability as a firm’s ability to produce and deliver products to customers while maintaining competing priorities like flexibility and reliability. In this regard, Bengtsson and Olhager (2002) emphasize the need to have some degrees of flexibility to stay competitive and profitable in today’s highly volatile market environment. Lau (1996) and Fiegenbaum and Karnani (1991) further point out that flexible production is a necessary means for small manufacturing firms to attain or enhance competitiveness. Anand and Ward (2004) regard flexible production as a firm’s ability to alter production and manage product and process diversity.

A company’s EO, as discussed, reflects its tendency to seek new market opportunities and concerns with its posture of anticipating and acting on customers’ needs and wants (Lumpkin and Dess 1996). It necessitates small manufacturing firms to take greater risks and commit more resources to exploit overseas market opportunities (Langenkamp 2000; Ripollés-Meliá et al. 2009). Such companies, due to their size, are likely to focus their marketing effort on particular niches to avoid direct competition with larger opponents and spread resources too thin (Kraus et al. 2007). They are also likely to adopt a product differentiation approach and provide their overseas customers with unique and customized products (Keh et al. 2002; US Department of Commerce 2006). These necessitate the adoption of flexible production that enables the firms to produce products in various sizes and shapes.

H₃: A firm’s entrepreneurial orientation has a positive influence on its international production strategy, which, in turn, affects overseas market performance.

III. RESEARCH METHODOLOGY

3.1. Measure development

The study developed the construct measurement scales in several stages. First, it either adopted or developed the tentative measures from the existing literature. The items were then professionally translated into the Chinese Mandarin language with back translation to ensure conceptual equivalence (Hoskisson et al. 2000). Second, to establish content validity, a list of defined constructs and measures was presented to three strategic management professors. They were asked to assign each measure to the construct they deemed appropriate, and to note whether the construct could be represented by other measures. As a result, the study amended wordings of some questions and added or removed several measurement items. Third, five senior executives from the international manufacturing industry were asked to comment on the clarity and relevance of the measures from the revised questionnaire; amendments were made accordingly. Finally, the revised questionnaire was pretested with eight international manufacturing firms.

The study assumed Lumpkin and Dess’s (1996) EO concept and regarded it as an aggregate (unidimensional) construct comprising innovativeness, proactiveness, risk-taking propensity, autonomy, and competitive aggressiveness while acknowledging the wide acceptance of Miller’s (1983) three-dimension EO construct in the literature. The extent of a firm’s EO was assessed using 15 measurement items adopted or derived from Chen (2003), Hughes and Morgan (2007), Jambulingama, Kathuriab, and Doucette (2005), Lumpkin and Dess (2001), Miller (1983), and Tsai (2002). The study treated it as a second-order factor with five first-order factors: innovativeness, proactiveness, risk-taking propensity, autonomy, and competitive aggressiveness.

Three international operations strategies were appraised using 12 measurement items derived from Anand and Ward (2004), Hoang (1998), Lages and Montgomery (2004), and Pagell and Krause (2004). These items intended to capture a firm’s level of international activity, the degree of newness and uniqueness of products offered, and the extent to which the firm is willing to engage in flexible production. All the EO and international strategy questions were presented in 5-point Likert scales, ranging from 1=strongly disagree to agree 5=strongly agree.

Existing studies suggest that entrepreneurial research should include multiple performance measures that span over some years. Such measures may consist of sales growth and profitability (Lumpkin and Dess 1996). A review of the international literature suggests sales and profit are also the main objectives of small firms' international expansion (Hoang 1998; Lages and Montgomery 2004). In this study, overseas market performance was assessed using two items derived from Hoang (1998) and Knight (2001). These are average overseas sales growth in the past three years and average overseas profit growth in the same period.

3.2. Instrument and sample

The Taiwanese small and medium-sized international manufacturing firms were chosen to test the hypotheses for several reasons. Firstly, Taiwan is a small island whose economy has been undergoing a rapid transition in recent years (Ministry of Economic Affairs 2015). Companies are under increasing pressure to innovate and expand internationally. Second, SMEs made up 97.7% of the total businesses in Taiwan and contributed about 30% of the total sales and 17% of the total exports. Avlonitis and Salavou (2007) have observed that small firms possess a strong potential in entrepreneurship and innovation strengths like flexibility, adaptability, and nimbleness.

Questionnaire protocol served as the primary means for data collection. The completed questionnaires were sent to 650 small and medium-size international manufacturing firms. For the purpose of the study, other companies, such as domestic operations, foreign subsidiaries, service companies, and pure original equipment manufacturers (OEMs) were excluded from the survey. The enclosed letters and envelopes were addressed specifically to the name of company presidents or senior executives, and a summary of the research findings offered as an incentive. About two weeks after the initial posting, the study initiated follow-ups, including telephone calls and re-sending the questionnaires. As a result, 236 usable responses were received (6 incomplete questionnaires were discarded), yielding a valid response rate of 36.3%. These firms are relatively small, around 70% of the firms have a capital of less than US\$615, 000 and employ less than 100 people. They are also relatively young, about 64% have engaged in international operations ten years or less, and 65% identify mainland China and ASEAN as their primary markets.

The successive waves – extrapolation method suggested by Armstrong and Overton (1977) was used to assess the degree of non-response biases. The study selected two groups of firms based on the response waves (70% initially and 30% follow-up), and Chi-square test was conducted. The result indicated that the two sub-samples did not differ significantly regarding total sales (value=5.346, DF=2, significance=.0773) and years of engaging in international operations (value=3.915, DF=2, significance=.1411) suggesting non-response bias does not influence the empirical results to any significant extent. Missing data accounts for around 3% of the sample, and they distribute randomly in different variables. The Bayesian imputation method was used to deal with missing data.

3.3 Data analysis

Consistent with the two-step approach suggested by Anderson and Gerbing (1988), the overall measurement model was examined before estimating the structural portions of the overall design. Confirmatory factor analysis was used to test the hypothesized factor structure as recommended by Byrne (2001), and AMOS 17 with the maximum likelihood (ML) method adopted to assess the overall measurement model. AMOS test for normality and outliers was used to verify the normality of the observed variables, and the result suggested that the data used in this study satisfied the normality requirement. The univariate skewness of each variable in the EO model were <0.787, and the univariate kurtosis of each variable were <1.017 in absolute value. The univariate skewness of each variable in the international operations strategy model were <0.740, and the univariate kurtosis of each variable was <1.209 in absolute value.

First-order confirmatory analysis. Next, the study performed first-order confirmatory factor analysis of the measurement model. The results indicated the measurement model attained a good fit, a $\chi^2 = 379.92$, DF = 296, and normed $\chi^2 = 1.28$, with significant loadings for each of the measurement items. Since the χ^2 statistic could overestimate the fit for some samples and, for that reason, additional fit indicators were examined. As shown in Table 1, RMSEA = 0.03, CFI = 0.96, GFI = 0.89, and TLI = 0.95, suggesting that the measurement models attained a good fit recommended by Hu and Bender (1999).

Second-order confirmatory factor analysis. The study then performed the second-order confirmatory factor analysis of the EO model. The result shows all of the factors in the first-order load well onto the second-order EO construct. The regression weights were very close (ranging from 0.51 to 0.8), with all critical ratios exceeding 1.96 (ranging from 5.1 to 9.7). The model fit indices showed similar results as the first-order confirmatory factor analysis: $\chi^2 = 147.76$, DF = 85, normed $\chi^2 = 1.73$, GFI = 0.92, CFI = 0.95, and RMSEA = 0.05. The slight difference in the first-order and second-order estimations occurs due to the emergence of different degrees of freedom between executing the first-order and second-order measurement models.

The study assessed the convergent validity in several ways. First, the factor loadings were examined.

The result suggests all factor loadings (ranging from 0.51 to 0.80) were greater than the 0.5 thresholds recommended by Fornell and Larcker (1981) to demonstrate convergent validity, and were all highly significant (t -values ranging from 3.84 to 13.10). Second, the average variance extracted (AVE) was calculated for each latent construct in the measurement model. The AVE estimates were all greater than 0.5 (ranging from 0.51 to 0.61), indicating the constructs attained adequate convergent validity. Next, the construct reliability (CR) was calculated for each construct of interest. The construct reliability estimates all exceed 0.7 (ranging from 0.72 to 0.8), suggesting the measures were consistently representing. Together, the evidence provides support for the convergent validity of the EO and international operations strategy measurement model.

Finally, discriminant validity was examined to ensure a construct is indeed distinct from other constructs. The study calculated the squared interconstruct correlations (SIC) from the interconstruct correlations (IC) obtained from the correlation table in the AMOS printout. The study compared the AVE estimates for each factor with the squared interconstruct correlations associated with that factor. All constructs AVE estimates were larger than the corresponding SIC estimates; this indicates the measured variables have more in common with the construct they associated with than they do with the other constructs. The result suggests all measures have reached the discriminant validity.

3.3.1 Hypotheses testing

Before testing the mediation role of international operations strategies, the study follows Baron and Kenny's (1986) suggestion and examines the direct causal relationship between EO and overseas market performance. The research outcome indicates EO significantly influences a firm's overseas market performance (standard coefficient=0.40, $p<0.001$; CFI=0.93, NNFI=0.91, GFI=0.91, and RMSEA=0.06). Next, the structural equation modelling with the maximum likelihood estimation method was employed to test the hypothesized model. The result shows the standardized coefficients and the significant levels (t -values) as indicators of the strength of the relationships among constructs and the significance of these relationships. The goodness of fit statistics reveals the extent to which a given structural model is consistent with observed business behaviors. The research outcome reveals the theorized structural equation model attains a goodness of fit: the RMSEA is .047, well below .08; the CFI is .901, above .90; the GFI is .87; and the normed chi-square is 1.51, within the recommended level of 1 to 3. The t -value associated with each of the factor loadings in the hypothetical model indicates they exceed the critical values for the 0.001 significant level; the t -values range from 3.95 to 9.87.

IV. FINDINGS AND DISCUSSION

This study extends the EO concept and explores the effect of the construct on international business operations of small manufacturing firms. The study draws on the resource-based view and conceptualizes international operations strategy as the intermediate variable between EO and overseas market performance, in a sense that firms with greater EO will develop a particular type of international strategy, and these strategies will lead to different scales of performance. This presumption was empirically tested using data collected from 236 relatively small manufacturing firms. The research result indicates that EO influences small manufacturing companies' overseas market performance directly as well as indirectly. First, the research outcome verifies the direct causal link between EO and overseas market performance ($\beta=0.40$, $p<0.001$), small manufacturing companies with a great EO tend to perform better in foreign markets regarding sales and profits. The correlation between the two variables is relatively strong with the standard coefficient = 0.40. Second, the research finding substantiates the mediation postulation, suggesting EO facilitates the formation of international operations strategies, which, in turn, positively influence a firm's overseas market performance. As shown, EO also influences overseas market performance directly, but with a much smaller standard coefficient of $\beta=0.10$ ($p<0.001$). This *partial mediational* evidence provides a further understanding of how a company's EO is related to its overseas market performance. It helps to explain the inconsistent findings reported in the literature that has focused on the exploration of the direct causal relationship between EO and performance.

Specifically, the research result validates a firm's EO influences the formation of international market development strategy, which, in turn, affects its overseas market performance (H_1). The finding highlights the mediation role of international strategy and the indirect EO-performance relationship. It suggests that small manufacturing firms with a great EO are more likely to adopt an aggressive international expansion approach. These companies actively participate in overseas operations. They are regularly searching for new business opportunities, including those considered to be more distant and uncertain, and willing to invest more resources in exploiting these opportunities. As a result, they attain a better market performance. The research outcome in part verifies the supposition suggesting that EO, as an organization capability, facilitates the exploitation of new market opportunities and expedite foreign market entry of small firms. Further inquiry shows that over 60% of the companies surveyed involve in business operations in the emerging markets of China, India, and the ASEAN. These markets are considered to be risky and difficult to enter because of political tensions, economic volatility, and lack of transparency.

The research result also confirms the postulation that EO influences a firm's international product strategy, which then affects its overseas market performance (H_2). The finding verifies the role of international product development strategy as an intermediate variable between EO and overseas market performance. It shows that firms with greater EO are more receptive to innovation and more willing to take risks and commit resources to fill the emergent or unexploited overseas markets with new or customized products. This marketing effort leads to a better performance in term of profit and sales. The finding validates the presumption indicating that firms with high level of EO are more willing to take risks and engage in creative processes, pursuing new ideas that lead to the development of new/customized products. Finally, the research result substantiates the hypothesis that a firm's EO influences the formation of international production strategy, which, in turn, affects its overseas market performance (H_3). The finding verifies the mediation role of international production strategy in the EO-performance relationship. The research outcome shows that small manufacturing firms with greater EO are more willing to adopt a flexible production approach, and more yearning to accept customized production orders and adjust production facilities/schedules to meet customers' demands. The finding verifies the contention that EO, as organization capability, necessitates businesses to commit resources and take risks to fill the emergent or unexploited markets with new or customized products, which necessitate the practice of flexible production to produce the tailored products in different lot sizes and shapes. It also reinforces the argument that small businesses need to be flexible and proactive to remain competitive in a volatile market environment.

4.1 Managerial implications

The precept that EO facilitates the enhancement of organizational performance has already gained a wide recognition among practitioners. However, the manner to go about implementing this process remains somewhat unclear. The finding of this study provides support that international operations strategies facilitate the conversion of entrepreneurial-oriented business culture into superior overseas market performance. In particular, the research results suggest small manufacturing firms that engage in international business operations can benefit from the development of EO in several ways. First, the construct helps small businesses overcome the psychic barrier in the emerging markets. According to the OECD (2009), perceiving uncertainties and risks, among others, are the major factors obstructing small businesses to expand and perform in the international market, and this can overcome to some extent by developing an EO (Ibeh 2004; Knight 2001). The result of this study suggests companies with greater EO are more willing to commit resources and take risks to exploit the emerging markets. Their proactive and aggressive behaviors lead to better sales and profit.

Second, the research result shows small manufacturing companies with greater EO tend to exploit new opportunities more quickly. These firms are also inclined to take greater risks and engage in creative processes, pursuing new ideas, and developing innovative products. These product development capabilities enable them to fill the emergent or unexploited overseas markets with unique and customized products, which engender greater sales and profit. The research outcome verifies the viewpoints that EO promotes values such as being highly proactive toward market opportunities, tolerance of risk, and receptive to innovations. It reconfirms Avlonitis and Salavou's (2007) suggestion proposing the linkage between the key concepts of EO and product innovativeness. Third, the research result reveals a connection between EO and a firm's production capability, high EO firms are more likely to pursue a flexible production strategy. These companies are more willing to fill small customized orders and adjust production facilities and schedules to accommodate different market needs that enable them to attain a better performance. The finding reinforces the notion that small manufacturing companies need to be innovative and willing to provide the emergent or unexploited markets with unique/customized products that necessitate the practice of flexible production.

4.2 Limitations and future research

This study advances research on the mediating role of international strategies in the relationship of EO and market performance in two aspects. First, the study develops a conceptual framework linking EO, international operations strategy, and overseas market performance. Second, it validates the conceptualization using data collected from 236 small and medium-sized international manufacturing firms. The research result offers several implications. The first area is the mediating role of international operations strategies in the entrepreneurial orientation-market performance relationship. The research result verifies the indirect nature of EO-market performance relationship. However, the outcome also indicates a direct causal link between EO and market performance. This *partial mediation* evidence provides a better understanding of how an EO may relate to a firm's performance and helps to explain the inconsistent research outcomes reported in the entrepreneurship literature. The research result lays the groundwork for further research on this issue. Future studies should expand to include other variables and industries. The longitudinal design spanning over several years will certainly enrich the understanding of the dynamic relationship of EO, international strategy, and market performance.

The second area relates to the dimensions of EO, which has been extensively debated in the past. While most scholars have adopted Miller's (1983) three-dimensional construct and eight-item measurement scale, others contend that these dimensions and measurement items may not adequately reflect a "true" EO concept. Additional dimensions and measurement scales are thus needed. The finding of this study supports the five dimensions EO construct proposed by Lumpkin and Dess (1996). As shown in Fig 1, these five dimensions contribute significantly to the EO construct. The means of the five EO dimensions are: Innovativeness = 4.06; proactiveness = 4.04; autonomy = 3.68; risk-taking = 3.35; and competitive aggressiveness = 3.44. The figures highlight the importance of innovativeness and proactiveness of small manufacturing firms competing in international markets.

Finally, the study evaluates the EO construct at the firm level, suggesting the concept permeates an organization uniformly across all hierarchical levels. In their recent study, however, Wales et al. (2011) argue that the pervasiveness of an EO may manifest in the organization in a heterogeneous manner. This is particularly the case of large, diversified, multi-industry firms that consist of numerous business units (Slevin and Terjesen 2011). Future research should examine a firm's entrepreneurial orientation at the business unit level.

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