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Conceptual framework of factors affecting SME development: Mediating factors on the relationship of entrepreneur traits and SME performance

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Abstract

Only a small fraction of SMEs are successful in achieving exceptional performance and sustainable growth, The literature shows that there is still a gap for effective ways to increase the size of that fraction. This paper aims to contribute in filling the gap by identifying factors affecting SME performance and, hence, their development; and to develop a conceptual framework explaining their relationships. The literature reveals that although there is positive relationship between entrepreneur traits and firm performance in the context of SMEs, the relationship is still inconclusive; suggesting that there are intervening constructs between the two constructs. Field observations and literature reviews suggest five second-order constructs serving mediating roles between entrepreneur traits and firm performance that may clarify the relationship, i.e., (1) innovative performance, (2) innovative capacity, (3) organizational search, (4) market orientation, and (5) entrepreneurial orientation. Although the relationships among the seven constructs have been extensively studied in the extant literature, this paper is one of the few efforts, if any, in investigating the seven constructs in a comprehensive framework as a basis for further studies. If empirically supported, the proposed framework may provide an effective alternative in assisting entrepreneurs and SMEs' owners to develop their firms more effectively.

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Keywords: SME; entrepreneur traits; firm performance; innovative performance; organizational search; innovative capability; entrepreneurial orientation; market orientation

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1. Introduction

By number, the majority of the SMEs population is the subsistence firms and small firms. Very few of those small firms can reach the medium size which, eventually, a portion of them have the potential to further develop into large firms depending upon the founders and the entrepreneurs of those firms (Nichter and Goldmark, 2009).

One of the main differences between SMEs and large organization is the dominance of the entrepreneurs or the owners in the SMEs' organization and management (Miller and Toulouse, 1986a, 1986b). Although there is evidence that there is positive relationship between an SME's entrepreneur(s) -or owner(s)- and the firm performance, the constructs that play important roles between the two are not yet clarified.

The purpose of this paper is to identify some of the antecedents of SME performance that affect SMEs development, and to investigate the relationships among those antecedents. Therefore, this paper develops a conceptual framework for explaining the roles of mediating constructs between the entrepreneur and the SME performance.

Literature revealed five constructs that may mediate the relationship between entrepreneur traits and firm performance, i.e., entrepreneurial orientation, market orientation, organizational search, innovative capacity, and innovative performance. This paper's contribution is in integrating those constructs into a comprehensive conceptual framework to enable a better understanding of the "what's" and the "how's" in efforts for fostering SMEs growth and development.

The remainder of this paper will be organized as follows. First, a brief description of the conceptual framework will be introduced. Then, concise literature reviews of each of the seven constructs will be presented followed by relevant hypotheses. In total, eleven hypotheses on the relationships among those seven constructs will be generated. Finally, implications for further studies will be described.

2. The proposed conceptual framework

This framework is developed based on a broad literature review to identify constructs that are significant in explaining SMEs' performance. The literature review identifies five key constructs that may mediate the relationship between entrepreneur traits and firm performance, i.e., (1) entrepreneurial orientation, (2) market orientation, (3) organizational search, (4) innovative capacity, and (5) innovative performance. Although each of the seven constructs, as well as the relationships among some of those constructs, have been studied intensively in the extant literature, the proposed conceptual framework maybe one of the few, if any, efforts to consolidate those constructs in a single framework.

The proposed conceptual framework is shown in Fig. 1. The exogenous construct is the entrepreneurial traits while the ultimate endogenous construct is SMEs performance. All the other constructs are endogenous.

3. Literature review and hypotheses development

3.1. Firm performance

Firm performance (FP) is usually measured as financial and nonfinancial performance measures. Financial performance comprises of financial efficiency measures such as return on investment and return on equity, and profit measures such as return on sales and net profit margin (Li, Huang, and Tsai, 2010).

Nonfinancial measures include customer satisfaction, sales growth, employee's growth, and market share. Some of the nonfinancial measures are end performance measures such as market share and share growth, while some of them may serve as leading indicators of end-result financial performance.

In general, most SMEs use a limited number of financial performance indicators, because they lack human resources needed to establish performance measurement and the appropriate culture to collect data for decision making purposes (Heilbrunn, Rozenes, and Vitner, 2011) and tend to use subjective measures more frequently than objective measures (Dess and Robinson, 1984). SMEs often measures their growth by turnover growth and employment growth (e.g., Leitner and Gudenberg, 2010).

In this paper FP is operationalized as cash flow, profitability, customer satisfaction, sales growth, and employee growth.

Nomenclature			
EO	entrepreneurial orientation	IP	innovative performance
ET	entrepreneur traits	MO	market orientation
FP	firm performance	OS	organizational search
IC	innovative capacity		

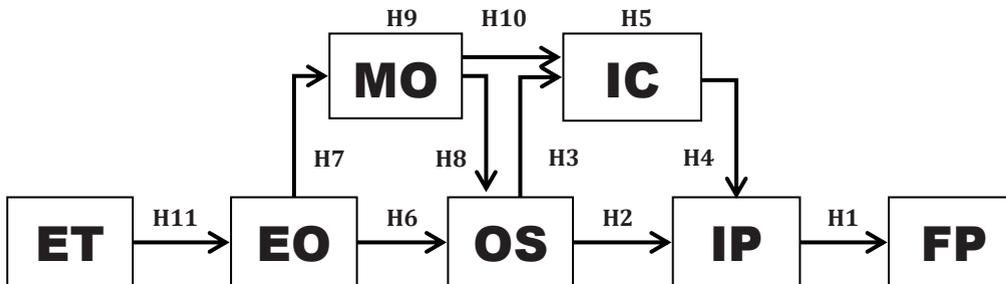


Fig. 1. The proposed conceptual framework: Mediating factors on the relationship of entrepreneurial traits and SME performance.

3.2. Entrepreneur traits

In SMEs, the key entrepreneurs or the firms’ founders function as the CEOs (Burger-Helmchen, 2008) and play a dominant role in the development of the firm (Miller and Toulouse, 1986a, 1986b; Castaldi, 1986; Wincent and Westerberg, 2005). Based on their powerful and influential position in their firms, CEOs/entrepreneurs’ subjective worldviews will greatly affect their firms’ choice of strategic directions (Kisfalvi, 2002) and therefore will affect firm performance. As leaders, their personality traits will affect their firms’ strategic direction (Peterson et al., 2003; Judge, Piccolo, and Kosalka, 2009) although findings on first order operationalization are still inconclusive (e.g., Welbourne, Cavanaugh, and Timothy, 1998).

Entrepreneur traits (ET) have been extensively studied in the literature with mixed results (e.g., Brandstatter, 1998; Wincent and Westerberg, 2005; Cools and van den Broeck, 2007/2008). Some studies convincingly asserted that that some traits have positive and significant relationship with firm performance (Hmieleski and Carr, 2008) while other studies find insignificant relationships.

As part of one’s personality, ET also shows a stable and inherent character (Ciavarella et al., 2004) that will affect how the entrepreneurs conduct their businesses. Entrepreneurs also tend to choose businesses that show a fit between their ET and the requirements for success. Additionally, they will also tend to manage their firms based on the strengths of their specific traits (Dvir, Sadeh, and Malach-Pines, 2010).

Many dimensions have been investigated as the ET’s dimensions, such as achievement motivation, risk-taking propensity, preference for innovation (Stewart, Watson, Carland, and Carland, 1999), the capacity to adapt to and tolerate ambiguity as well as other dimensions (Markman and Baron, 2003) such as self-efficacy (Markman, Balkin, and Baron, 2002), high personal perseverance, high human and social capital, superior

social skills (Baron and Markman, 2000), locus of control (Miller and Toulouse, 1986a, 1986b; Wijbenga and van Witteloostuijn, 2007), and need for achievement (Hansemark, 2003).

The proposed conceptual model will focus on a few traits that have found convergent supports in the literature, i.e., conscientiousness, locus of control, and need for achievement.

3.3. *Innovative Performance*

Innovation is “any idea practice or object that is perceived to be new by an individual or other unit of adoption” (Rogers 1995, p. 11), therefore innovation can be internally oriented in terms of being utilized by functions internal to a firm, or externally oriented in terms that it is directed for customers external to a firm. There are four types of innovations as related to a firm, *i.e.*, as product innovation, process innovation, marketing innovation, and organizational innovation. Innovation can also be classified as radical innovation that is related to something really new, or incremental innovation that is related to the improvement of existing innovations (Subramaniam and Youndt, 2005, Wincent et al., 2010).

The main purpose driving a firm to innovate is to increase its competitiveness in its chosen markets and to obtain improved business performance. Therefore, a firm’s innovations need to be measured by the effects to its market position, which is its innovative performance (IP).

In the literature, IP has been defined in many ways. In a narrow sense, IP refers to the extent to which firms actually introduce their innovations to the market, *i.e.* the rate of new products launching, new processes or new devices (Freeman and Soete, 1997; Hagedoorn and Cloods, 2003), it also refers to the extent to which a firm’s new products meet their financial and market goals once they have been launched (Rijsdijk et al., 2011; Wang and Lin, 2012).

In a broader sense, IC shows a firm’s achievements in wider forms such as new ideas, sketches, models of new devices, products, processes and systems (Freeman and Soete, 1997). In this sense, innovative performance is often represented by the number of patents obtained by a firm. Most SMEs are not driven merely by patentable innovations because most of their innovations are incremental and they face various barriers in their efforts to innovate (e.g. Hadjimanolis, 1999) This paper operationalizes innovative performance as both patent based measures and non-patent based measures (Coombs, Narandren, and Richards, 1996).

3.3.1. *Innovative performance and firm performance*

A firm’s performance is based on its market position, regardless of its size and its industry. Even when an SME has a limited scope of products and served segments, it still needs to sell their products or services in a quantity that is sufficient to go beyond break-even-point and to create profit. Therefore, an SME needs to offer products or services that are sufficiently innovative relative to its competitors. Failure to achieve this relative competitiveness will result in low or even negative financial performance. Additionally, other dimensions of firm performance such as customer satisfaction, loyalty, and growth are also preceded by the firm innovative performance as their antecedents. Therefore, it can be hypothesized that:

H1: An SME’s innovative performance will be positively correlated with its firm performance.

3.4. *Organizational search*

Organizational search (OS) has been an important issue in business-to-business marketing streams. Most extant studies in these topics focused mostly search in organizational buying context (Wind and Webster, 1972; Weiss and Heide, 1993; Barclay and Bunn, 2006) which is pre-purchase or purchase related situations. The new concept of OS is part of absorptive capacity (Cohen and Levinthal, 1989; 1990) which is a firm’s “ability

to recognize the value of new external knowledge, assimilate it and apply it to commercial ends” (Cohen and Levinthal, 1990, p. 128) comprising of four dimensions: acquisition, assimilation, transformation, and exploitation (Zahra and George, 2002; Flatten et al., 2011). The organizational search constructs is closely related to the first dimension of absorptive capacity.

Firms do not conduct search activities merely to find information on certain purchases, but also to find novel ideas that potentially may serve as useful ideas to be integrated into the extant body of knowledge and capabilities that reside in the firms’ organizations; and very often, to update and replace some older knowledge and capabilities.

This paper proposes OS as one of the antecedents of an SME performance. OS refers to a firm’s activity in finding knowledge, ideas, information, technology, tools, and skills that will bring about stronger competences and capabilities that will result in innovations that bring about a higher level of relative competitiveness. A firm can get knowledge either by passive search in the sense that the firm does not actively look for information and knowledge, or by proactive search or even ongoing search where the firm actively scanning and selecting relevant knowledge, ideas, and technology to create competitive innovations.

How a firm conducts its search activity is manifested in its search pattern (Grimpe and Sofka, 2009) that can be categorized based on its depth and breadth of the search activity (Larsen and Salter, 2006), both dimensions will characterize the firm’s level of open search strategy (Chesbrou and Crowther, 2006). There is evidence that the depth and the breadth of search will result in an inverted U-shape increase in firm performance (Larsen and Salter, 2006), indicating that there should be an optimum search activity level that is appropriate for each individual firm.

In general, SMEs have limited resources and usually have limited aspirations toward the breadth of new knowledge and ideas that they will consider to be acquired to increase the knowledge and technology base. Therefore, although alertness and open search can be problematic to multilayered larger firms (Siggelkow and Rifkin 2008), that may not be the case in the context of SMEs.

Studies in many countries reveal that most low to medium technology SMEs conduct their search in an informal way as contrasted to medium to high technology SMEs. The role of tacit knowledge may be more dominant in this case than explicit knowledge (e.g. Ren, 2008). Additionally, an SME’s search domain is defined by the boundaries of accessible knowledge sources for the firm which may be different than those of larger firms. Various sources that have been identified as effective means to conduct OS are, but not limited to, “(1) buyers, (2) suppliers, (3) competitors, (4) consultants, (5) government offices, (6) industry associations, (7) religious affiliations, (8) research institutions/ universities, (9) exhibitions, (10) magazines/ newspapers, (11) radio, (12) television, and (13) internet” (Indarti, 2011, p. 245).

3.4.1. Organizational search and innovative performance

To achieve satisfactory innovative performance, an SME must find relevant new knowledge and information that can be used to improve its competitive offerings in their chosen segments and markets. Thus, an active and ongoing search will provide potentials for further improving innovative performance, hence it can be hypothesized that,

H2: An SME’s organizational search will be positively correlated with its innovative performance.

3.5. Innovative capacity

Innovative capacity (IC) is a firm’s ability to utilize knowledge internally, regardless the newness of the knowledge for the firm (Lee and Hsieh, 2010), and its ability to match the outcomes of its innovation with the final market expectations in the changing market needs (Cohen and Levinthal, 1990; Khilji et al., 2006; Szeto, 2000). IC represents the capabilities underlying a firm’s innovative performance, that can be defined as the

application of ideas in the forms of products, processes, work organization, management, or marketing systems (Weerawardena and Cass, 2004).

Once accepted, the new knowledge needs to be absorbed or assimilated to relevant people in the firm's organization. The new knowledge can either be added to the accumulated knowledge or can be used to replace older knowledge that reside in the firm. After this step, the firm's personnels will transform and exploit the knowledge, combined with the accumulated tacit knowledge residing in the firm (Erden, Von Krogh, and Nonaka, 2008).

Unlike larger firms. SMEs rely heavily on individual know-how, especially that of entrepreneurs and key persons in the firm (Wiklund and Shepherd, 2003), and most notably on the tacit knowledge of the key personnels involved in the innovation processes (Koskinen and Vanharanta, 2002). Tacit knowledge is an individual level knowledge that is taken from everyday experience to solve real-world, practical problems (Hedlund et al., 2003) and not easy to be codified as with explicit knowledge. In general, SMEs lack the amount of explicit accumulated knowledge as compared to larger firms. In practice, however, SMEs often rely on the utilization of tacit knowledge in solving problems and coming up with incremental innovations that enable them to successfully compete with larger firms.

In the proposed framework, IC is operationalized as an SME's capabilities in screening new acquired knowledge, in absorbing into and replacing some of the extant accumulated knowledge, and in combining the knowledge to come up with new innovations, and also on the extensiveness of the use of tacit knowledge in innovating and problem solving.

3.5.1. Organizational search, innovative capacity, and innovative performance

Organizational search (OS) results in new information and knowledge for a firm. However, after being screened and absorbed, the outcome of the OS will added to the accumulated knowledge retained in the firm. Some of the new knowledge will replace outdated information and knowledge. The combined new knowledge will then be processed through the firm innovative capability and the outcome of which will be reflected in IP. Thus, IC will act as a mediating construct between OS and IP. Therefore, it can be hypothesized that

H3: An SME's organizational search will be positively correlated with its innovative capacity.

H4: An SME's innovative capacity will be positively correlated with its innovative performance.

H5: An SME's innovative capacity will mediate the relationship between its organizational search and its innovative performance.

3.6. Entrepreneurial orientation

Originally, entrepreneurial orientation (EO) is a firm-level second-order behavioral construct (Covin and Lumpkin, 2011) representing "a firm's strategic orientation, one which captures the specific entrepreneurial aspects of decision-making (Frank, Kessler, and Fink, 2010) comprising of innovativeness, proactiveness, and risk taking (Miller, 1983; Miller, 2011; Rauch et al., 2009). Innovative behavior refers to a firm's tendency to experiment, to find new ideas, and improving or replacing established practices. Proactive behavior refers to a firm's propensity to compete aggressively toward rival firms. Risk-taking behavior refers to a firm's attitude in taking risky projects or investments that are risky (Hansen et al., 2011).

EO refers to a firm behavior reflected in key processes on how the firm is run, while entrepreneur traits refers to individual entrepreneurship emphasizing on what should be done (Lumpkin and Dess, 1996). As reflected in the three operational dimensions of EO, a firm with high EO will show innovative behavior that is based on proactivity with a willingness to take on risky project. A firm with low EO will be cautious in

innovating in a more reactive ways and unwilling to take risky project. Therefore, EO's role is central in a firm competitive position.

3.6.1. Entrepreneurial orientation and organizational search

An SME with a high score on its EO will strive to keep its competitive position in its chosen markets. This aim will necessitate the firm to keep scanning its relevant environment on a regular basis and in a proactive mode to find ideas, materials, and technology to keep its stance. Hence its high EO will be reflected on a high score of its OS as well. On the other hand, an SME with a low EO will tend to conduct searches in a reactive mode. Therefore, it can be hypothesized that

H6: An SME's entrepreneurial orientation will be positively correlated with its organizational search.

3.7. Market orientation

Market Orientation (MO) refers to a part of organizational culture that serves as a key to a firm's success by emphasizing customer orientation, competitor orientation, interfunctional coordination, and responsiveness (Kohli and Jaworski, 1990; Narver and Slater, 1990; Raju et al., 2011). MO reflects the extent to which a firm achieves the satisfaction of customer needs and wants as an organizing principle (Baker and Sinkula, 2009; Jaworski and Kohli, 1993). This construct has been heavily studied by hundreds of studies, meta-analyses, and review articles in the past three decades (Johnson, Martin, and Saini, 2011).

There is evidence that MO plays a strong role in SMEs performance (Li et al., 2011; Slater and Narver, 2000). Smaller firms may exhibit different patterns than larger firms in establishing their MO by keeping abreast with customers and competitors actions as well as changes in their technology and environment (Laforet, 2008). Thus, there is a tendency for SMEs in general to behaving in a more reactive MO orientation mode with a lower orientation on future customer needs.

3.7.1. Entrepreneurial orientation, organizational search, market orientation, and innovative capacity

EO will drive a firm to monitor and understand their markets and their competitors and to orchestrate their organizational resources to enable them to serve their selected markets better. Therefore, it can be hypothesized that,

H7: An SME's entrepreneurial orientation will be positively correlated with its market orientation.

However, a higher level of MO will drive OS to focus on finding new knowledge, ideas, and suppliers' offering based on a firm's competitive issues that will improve the firm's competitiveness in its offerings to its selected markets, as well as finding relevant information about current and potential competitors. In contrast with larger firms, smaller firms tend to conduct market intelligence more informally and based on mostly secondary data such as conferences, trade journals, professional journals, and sector research or on personal contacts to customers, suppliers, or bankers (Verhees and Meulenbergh, 2004). An SME's OS will also be directed toward finding new information and knowledge that will enable the firm to be more responsive to changes in its relatively more restrictive marketplace. Therefore, it can be hypothesized that,

H8: An SME's market orientation will be positively correlated with its organizational search.

Combined, hypotheses H6, H7, and H8 show that MO is a mediating construct. Therefore, it can be hypothesized that,

H9: An SME market orientation will mediate the relationship between entrepreneurial orientation with organizational search.

A firm's MO will also drive the efforts to satisfy the firm's served segments and to gain satisfactory position in its selected segments. This drive will provide directions for the innovation process and capability. For SMEs, the same reasoning applies but with a stronger relationships because of the generally more limited resources owned by an SME as compared to larger firms and the relatively lower competitive aims. Therefore it is hypothesized that,

H10: An SME's market orientation will be positively correlated with its innovative capacity.

3.7.2. *Entrepreneur traits and entrepreneurial orientation*

A meta-analytic study on entrepreneur's personality (Zhao, Seibert, and Lumpkin, 2010) shows that ET has positive correlations with entrepreneurial intentions and entrepreneurial performance. Entrepreneurs drive their firms' performance through the actions of their organization, but their personality traits will influence the organization culture, especially their firms' EO. Therefore, it can be hypothesized that,

H11: Entrepreneur traits of the key entrepreneur(s) of an SME will be positively correlated with the SME's entrepreneurial orientation.

4. Implications for future research

This paper has provided a basic conceptual framework that could be useful in fostering SMEs performance by contributing a larger gestalt on factors affecting SMEs development. Extant literature on this issues mostly focus on a limited number of constructs, which may obscure the complexity of the bigger conceptual framework. The contribution of this framework is in providing a larger picture of the constructs and mechanisms connecting an SME's EO and its FP. Furthermore, the inconclusive role of ET to FP, which has been debated in extant literature in the past several decades may be better understood based on the complexity of mediating constructs involved between the relationship of ET and FP.

Many potentials exist to improve the conceptual framework and to further elaborate the roles of each of the constructs in the conceptual framework. First, some of the relationships between two constructs of this conceptual framework may not always linear. Inverted U-shape relationships have been reported in the literature for some pairs of constructs. Consequently, specific hypotheses developed at the operational level should take this phenomenon into account. Second, several important moderating factors need to be included in the framework, most notably, size, age, level of technology, hostility of the environment, level of internationalization, and cultural background of the entrepreneur(s) or managing founder(s). Third, most of the seven constructs in this conceptual framework are of a higher order. Studies should be conducted to test alternative first order operational measures. Fourth, many of the constructs' instruments were developed in English, those measures need to be validated or modified for empirical studies in non-English speaking populations.

The plan for further study is to develop specific research models and to test them. The first step will be conducting empirical tests in a specific economy, preferable in a transitional economy because of the richness of the SME profiles in such economies. The second step will be conducting empirical tests in several subculture within the same economy. The third step is to test the framework in several different industry clusters as moderating variables. The fifth step is to test the research models across several countries.

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