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Personal characteristics and strategic orientation: Entrepreneurs in Canadian manufacturing companies

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PERSONAL CHARACTERISTICS AND STRATEGIC ORIENTATION: ENTREPRENEURS IN CANADIAN MANUFACTURING COMPANIES

Abstract

Purpose. Extant theories suggest that entrepreneurs' personal characteristics have substantial impacts on their firm's performance. From a resource-based view, we consider an entrepreneur's personal characteristics to be a unique resource endowment to their firm. This paper investigates how entrepreneurs utilize such resource realize its benefits.

Methodology. Data were collected through a national survey of owners and senior managers of small- to medium-sized Canadian manufacturing companies. Mediation relationships were tested with hierarchical regression analyses.

Findings. Consistent with our hypotheses, we find entrepreneurs' personal characteristics, such as need for achievement, need for cognition, and internal locus of control, to have positive influences on firm performance. Furthermore, we demonstrate that their strategic orientations mediated these influences. Our data indicate that entrepreneurs with higher levels of internal locus of control are more likely to adopt an entrepreneurial orientation than a market orientation.

Value. This paper helps to better understand why entrepreneurs make different strategic decisions under seemingly similar competitive environments. Our findings suggest that entrepreneurs do not simply react mechanically to external environmental changes. Instead, how they seek and interpret information and formulate organizational strategies is partially influenced by their personal characteristics. Entrepreneurs develop their own ways of utilizing the human capital that they bring to their firms.

PERSONAL CHARACTERISTICS AND STRATEGIC ORIENTATION: ENTREPRENEURS IN CANADIAN MANUFACTURING COMPANIES

The success of small businesses heavily depends on the human capital of their owner-managers (Jones, Macpherson, Thorpe, and Ghecham, 2007). When an entrepreneur starts a business, they bring a unique set of human capital to their business as a part of resource endowment to the firm, including, but not limited to, their skills, experience, and personality. As such, the business becomes an extension of the entrepreneur as an individual (Hambrick and Mason 1984).

The resource-based view of the firm (RBV) posits that each organization is endowed with a finite amount of resources. Some of these resources are rare, valuable, and difficult for competitors to copy, and therefore provide the firm with opportunities to gain sustainable competitive advantages (Peteraf, 1993; Barney, 1991; Hunt and Morgan, 1995; Penrose, 1959). Penrose (1959) maintains that human capital, such as the entrepreneur's skills, experience, and other personal characteristics, are key resource endowments. This paper investigates how entrepreneurs utilize their skills and experiences to influence their firm's performance. More specifically, we will demonstrate that the entrepreneur's personal characteristics influence their strategic choices, which in turn influence the firm's performance.

Many researchers have investigated entrepreneurial characteristics by applying Hambrick and Mason's (1984) upper echelon theory, which regards a firm as a reflection and extension of its owner. Research has revealed, for example, the firm's strategic choices, behaviours, and performances are to a large extent influenced by the demographic characteristics of its owners or top managers (Smith et al., 1996), their social connections (Geletkanycz and Hambrick, 1997), their perceptions of the environment (Kiesler and Sproull, 1982), and their decision-making

styles (Eisenhardt, 1999). Essentially, the upper echelon theory, a special case of RBV, enriches the strategy formulation and resource allocation processes described by Child and Francis (1977) by considering the influence of entrepreneurial characteristics. Recent empirical evidence supports the view that entrepreneurs' and top managers' personal characteristics have a substantial direct impact on firm performance (Switzer and Huang, 2007; Adams, Almeida, and Ferreira, 2005), and an indirect impact on performance, mediated by decision-making speed, decision type, and strategy formulation (Karami, Analoui, and Kakabadse, 2006).

Seymour (2006) critiques classic approaches in business research, arguing that making direct links between factors such as resources and performance, or environment and strategy, is overly objective and lacks subjectivity. Ketchen, Hult, and Slater (2007) argue that resource endowment alone may not automatically lead to superior firm performance. Instead, they propose that entrepreneurs and managers must deploy resources wisely to maximize potential benefits. In other words, they argue that the resource-performance link is mediated by a firm's strategic choices. Macpherson and Holt (2006) further highlight the complexity of interactions among human capital, organizational systems, and firm growth.

Commenting on knowledge utilization in organizations, Tsoukas (2002) draws our attention to "developing a distinctive way of utilizing resources" and the "inherently creative potential of human action" (p. 420). Evidence suggests that even under seemingly similar external environmental conditions, some firms might opt to place greater emphasis on understanding the market, while others might focus on innovation (Atuahene-Gima and Ko, 2007). Grinstein (2008) argues that research should shift away from assessing the efficacy of a singular strategy to examining strategic options and potentially combination strategies. In this

paper, we examine how entrepreneurs consider both market and entrepreneurial orientations when developing strategic decisions.

According to Ketchen et al.'s (2007) propositions, the RBV should be extended to include strategic choices that mediate the relationship between resource endowment and firm performance. Macpherson and Holt (2006) clearly favor holistic studies, as well. For practical purposes, we have limited the scope of our study to include a small number of variables in each category of constructs. Considered as human capital resource endowment, we investigate a sample of personal characteristics: internal locus of control, need for cognition, and need for achievement. Considered as organizational strategic choices, we examine whether the organization is more market-oriented or entrepreneurial-oriented. For firm performance, we consider a multitude of finance-based indicators including revenue, return on investment, and return on assets. In the course of this paper, we review and summarize the literature on market orientation, entrepreneurial orientation, and various relevant personal characteristics. We then hypothesize their relationships and describe our empirical study designed to test these relationships. Finally, we discuss the implications of our findings.

1. Literature Review

Considerable effort has been invested in identifying the set of desirable personal characteristics for starting or effectively managing businesses. For example, researchers have identified that achievement motivation positively affects an entrepreneur's speed of decision-making (Kauer, Waldeck, and Schaffer, 2007), risk-taking attitudes influence an entrepreneur's strategic decisions whether to form alliances with other businesses (Pansiri, 2007), professional experience and education are likely to lead and enable an entrepreneur to develop formal

strategic plans (Karami et al., 2006), and intuition leads an entrepreneur to prefer a prospector strategy (Gallen, 2006).

Although researchers have uncovered a host of personal characteristics that are critical antecedents to firm performance, as Dobbs, and Hamilton (2007) observe, knowledge about the relationship among the characteristics of entrepreneurs, their strategic decisions, and the performance of their firms is still fragmented, and that no research to date has produced a coherent theory. The following discussion elucidates these prior findings and attempts to join them together.

2.1 Market Orientation

Market orientation (MO) is the organization-wide concerted effort in generating market intelligence pertaining to current and future customer needs, disseminating intelligence across departments, and responding to such intelligence (Kohli and Jaworski, 1990). Market-oriented firms embrace a collection of special behaviours that place primary emphasis on customers. It has also been argued that an organization's ability to respond to the market depends on the extent of its knowledge of both customers and competitors (Narver and Slater, 1990). That is, a market-oriented firm must have an organizational culture that encourages and facilitates all activities involved in both acquiring information about customers and competitors in the target market and disseminating the information throughout the business. Hence, MO is a composite construct that encompasses three distinct components: customer orientation, competitor orientation, and inter-functional coordination. Both Narver and Slater's (1990) and Kohli and Jaworski's (1990) conceptualizations of market orientation have been extensively employed in the stream of research that followed their work. Empirical findings from both perspectives generally converge

to support the conclusion that MO has a robust positive influence on firm performance (Kirca, Jayachandran, and Bearden, 2005; Cano, Carrillat, and Jaramillo, 2004).

Notwithstanding the solid impact of MO on performance, other strategic options are available for managers to consider. For example, Sin, Tse, Yau, Lee, and Chow (2002) have shown that relationship marketing orientation (RMO), which focuses on cultivating a mutually beneficial long-term relationship between buyers and sellers, also has positive effects on firm performance. These researchers have also demonstrated that, depending on industry and economic ideology, RMO may be more effective than MO in some cases (Sin et al., 2005).

A notable shortcoming of MO is its reliance on entities external to the firm (e.g., customers and competitors) to guide its actions. Jaworski, Kohli, and Sahay (2000) have warned that firms should avoid being market-driven and, instead, should attempt to drive the market. In order to achieve such goals, some have identified innovation, proactivity, and risk-taking as complementary elements to MO. For example, Atuahene-Gima and Ko (2001) demonstrate that entrepreneurial orientation (EO) is an alternative to MO. When a firm aligns both MO and EO it would have superior performance in the commercialization of new products. Zhou, Yim, and Tse (2005) also consider EO as an alternative strategic orientation to MO.

2.2 Entrepreneurial Orientation

EO relates to the processes, practices, and decision-making activities that lead to a new entry (Lumpkin and Dess, 1996). EO involves not only the intentions but also the actions of key players in a dynamic generative process aimed at new venture creation. The fundamental dimensions that characterize EO, Lumpkin and Dess assert, include a propensity to act autonomously, a willingness to innovate and take risks, a tendency to be aggressive toward competitors, and proactively pursuing market opportunities. Covin and Slevin (1991) maintain

that, in addition to influencing new venture creation, EO also influences a firm's on-going performance. Therefore, EO is an important strategic orientation for existing firms as well. Empirical evidence suggests that firms with a high level of EO are much more likely to engage in innovation (Manimala, 1992) and enjoy better overall organizational performance (Smart and Conant, 1994). The positive influence of EO on performance is extensive, and the strength of this influence increases over time. Therefore, researchers argue that investment in EO is financially worthwhile as it will pay off over an extended period of time (Wiklund, 1999).

Atuahene-Gima and Ko (2001) demonstrate that firms adopt various combinations of strategic orientation. Some place their emphasis more heavily on either MO or EO. Those that integrate both MO and EO, however, achieve the strongest performances in the commercialization of innovation. Zhang, Bruning, and Sivaramakrishnan (2007) further demonstrate that, while both MO and EO have unique and significant positive influences on firm performance, these two strategic orientations influence performance via different paths. Entrepreneurial-oriented firms are more likely to concentrate on direct links to financial performance, whereas market-oriented firms are more likely to focus on customers and gaining long-term financial return through improved satisfaction and loyalty.

Environmental factors have typically been conceptualized as moderators for both MO (Kohli and Jaworski, 1990) and EO (Lumpkin and Dess, 1996). Only a few studies have examined the factors that lead managers to choose either strategic orientation. Zhang et al. (2007) suggest that certain market environmental factors, such as munificence, competitive intensity, and market turbulence, might affect managers' selection of strategic orientations. Kohli and Jaworski (1990) have stipulated that the top manager's emphasis is an important antecedent

to MO. We suspect that it could also be the case in EO. In the following subsection, we seek to identify what type of entrepreneurs is more likely to adopt MO or EO.

2.3 Managerial Characteristics in Management Literature

There is a rich body of management literature that seeks to identify certain sets of desirable personal characteristics for entrepreneurs starting new businesses and for managers running companies effectively. A large number of managerial characteristics have been examined in the management literature. For example, prior research has shown that managers with higher levels of achievement motivation make decisions faster (Kauer et al., 2007), owner-manager's personal visions correlate with above average annual sales levels (Mazzarol, Reboud, and Soutar, 2009), managers with higher levels of education are more likely to develop formal strategic plans (Karami et al., 2006), managerial cognition plays a vital role in managerial conduct and performance (Panagiotou, 2006), and managers with an internal locus of control tend to be more innovative (Miller and Toulouse, 1986) and effective (Govindarajan, 1989). Prior research has considered achievement motivation and internal locus of control as critical characteristics of successful entrepreneurs (Littenen, 2000; Hansemark, 1998). However, extant knowledge on this topic is fragmented (Dobbs and Hamilton, 2007). More research is needed to provide a holistic picture of entrepreneurial behaviours (Macpherson and Holt, 2006).

In our study, we take a resource-based view and consider the entrepreneur's personal characteristics as human capital resource endowments, and examine them in the context of strategy and performance. In terms of variables, we examine three frequently investigated personal characteristics in the entrepreneurship research: need for achievement, need for cognition, and internal locus of control.

Need for Achievement. The need for achievement (NFA) construct has a long history in psychology. It generally refers to a stable, learned characteristic in which satisfaction is obtained by striving for and attaining higher levels of excellence (Feldman, 1999). Although NFA was originally conceptualized as a stable personal trait, more recent studies have demonstrated that it can evolve over time, particularly through the acquisition of advanced education, such as an MBA programme. One study found that students substantially increased their achievement needs after enrolling in an MBA programme (Hansemark, 1998). Prior research also indicates that there is a positive relationship between NFA and entrepreneurship (Johnson, 1990). Research also suggests that angel investors typically have a higher NFA (Duxbury, Haines, and Riding, 1996); entrepreneurs with a higher NFA are more likely to be successful (Johnson and Ma, 1995). In some cases, NFA is one of the selection criteria for entering entrepreneurship training programmes (Gupta, 1989). There seems to be a consensus on the positive relationship between managerial NFA and successful performance.

Several studies have examined NFA's influence on firm strategies. For example, it was found that a CEO's NFA affects the rationality of the strategic decision-making processes by increasing organizational formalization and integration (Miller, Droge, and Toulouse, 1988). When a CEO has a high level of NFA, they are more likely to adopt broadly focused strategies and be proactive (Miller and Toulouse, 1986). Being proactive is one of the key elements of entrepreneurial orientation (Lumpkin and Dess, 1996). Therefore, we suspect that entrepreneurs with higher levels of NFA are likely to adopt entrepreneurial-oriented strategies.

Lumpkin and Dess (1996) have also theorized a positive relationship between NFA and EO. They predict that entrepreneurs and managers with higher levels of NFA are more likely to adopt EO, which in turn contributes to superior firm performance. The literature, however, is

relatively silent on the relationship between NFA and MO. In summary, extant literature supports the idea that entrepreneurs with higher levels of NFA are more likely to cultivate an organizational culture that is more competitive and proactive. We hypothesize that an entrepreneur's NFA has a significant direct impact on the firm's strategy and an indirect on performance.

H1: An entrepreneur with a higher level of NFA is likely to adopt entrepreneurial orientation to achieve superior firm performance.

Internal Locus of Control. According to Rotter (1966), internal locus of control (ILOC) versus external locus of control conceptualizes how individuals see their own actions affecting events that surround their lives. Individuals with ILOC tend to believe that events are the results of their own actions (Rotter, 1966), while individuals with external locus of control tend to attribute events to external environmental factors, such as powerful others or chance (Levenson, 1973).

If we put the concept of ILOC in the context of an entrepreneur running their business in a competitive environment, we can imagine that an entrepreneur with a strong ILOC would believe that they can make things happen, and that the success or failure of their business is the result of their own actions. In contrast, an entrepreneur with an external locus of control might consider that the external environment is the main reason for their business success or failure.

Market-oriented organizational culture requires that a firm be attuned to its customers, and design and deliver products and services that fulfill customer needs and wants. In other words, a market orientation assumes the customers as the locus of control. An entrepreneur with a high level of ILOC may not be willing to surrender the control of their organizations and seek directions from customers, competitors, or other external entities. They would rather take matters

into their own hands and formulate a competitive organizational culture that is internally driven by their own innovative and creative ideas.

ILOC is a signature characteristic of angel investors and entrepreneurs (Johnson and Ma, 1995). Entrepreneurs with high levels of ILOC tend to perceive themselves as having more managerial discretion and power (Carpenter and Golden, 1997). Managers and entrepreneurs with ILOC also tend to be more innovative (Miller and Toulouse, 1986) and effective (Govindarajan, 1989). Prior research have also indicated that the positive impact of ILOC on firm performance is mediated by the entrepreneur's risk-taking behaviours (Boone, de Brabander, and van Witteloostuijn, 1996). The extant literature clearly indicates a positive relationship between ILOC and entrepreneurial behaviours. Consistent with prior findings, we hypothesize that an entrepreneur's ILOC has direct and indirect positive impacts on the firm's performance, and the entrepreneur with a high level of ILOC is more likely to adopt EO.

H2: An entrepreneur with a high level of ILOC is likely to adopt entrepreneurial orientation to achieve superior firm performance.

Need for Cognition. A need for cognition (NFC) is a tendency to engage in and enjoy thinking (Cacioppo and Petty, 1982). The psychology literature suggests that individuals naturally differ in their levels of NFC (Cacioppo et al., 1996). Those with higher levels of NFC possess positive attitudes toward complex stimuli that require thinking (Cacioppo et al., 1986). Individuals with higher levels of NFC also favour extensive information searches, whereas those with lower levels of NFC prefer interpersonal sources of information and are more likely to act upon perceptions and gut feelings (Mourali, Laroche, and Pons, 2005).

Although the NFC construct was originally developed in psychology, it has been widely applied in the marketing field, particularly in consumer behaviour and advertising research. For

example, in the context of assessing the effects of reference group opinions, it has been found that individuals with high levels of NFC place greater emphasis on the logical evaluation of topic-relevant arguments, while individuals with low levels of NFC make their decisions based on affective attitudes toward the information (Areni, Ferrell, and Wilcox, 2000). Campbell and Kirmani (2000) have found that consumers with higher levels of NFC and cognitive capacity are more capable of activating their knowledge base. Those with higher levels of formal education are thought to have more cognitive capacity and higher NFC, and are more likely to engage in rational reasoning (Cacioppo et al., 1986). In an advertising context, researchers have found that individuals with higher levels of NFC are more capable of understanding complex advertisements (Putrevu, Tan, and Lord, 2004).

While NFC has not been extensively examined in the domains of strategic management and entrepreneurship, evidence shows that managers and entrepreneurs with higher NFC are more successful at adaptive decision-making (Levin, Huneke, and Jasper, 2000). If individuals with higher levels of NFC behave in certain patterns, it would be reasonable to deduce that entrepreneurs with higher levels of NFC would behave similarly. We would expect that an entrepreneur with a higher level of NFC would place greater emphasis on logical arguments and make their strategic decisions based on extensive market research rather than on intuition. MO encourages the entrepreneur to generate extensive market intelligence. The market intelligence can be complex, and it requires a high level of cognitive capacity to effectively analyze and respond. We hypothesize, therefore, that an entrepreneur's NFC has a significant impact on a firm's strategy and performance, and the entrepreneur with a high level of NFC is likely to be market-oriented.

H3: An entrepreneur with a higher level of NFC is likely to adopt market orientation to achieve superior firm performance

Essentially, we propose a contextual model based on the extended resource-based view (Ketchen, Hult, and Slater, 2007). We believe an entrepreneur's personal characteristics will influence their strategic orientations, which ultimately leads to business performance (see Figure 1).

Insert Figure 1 about here

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2. Research Methods

3.1 Procedure

We have hypothesized several relationships among entrepreneurs' personal characteristics, their firm's strategic orientations, and performances. A cross-sectional survey-based method is suitable for testing the study hypotheses because data on a large number of organizations can be collected systematically via this method (Babbie, 1973). The survey method is the least susceptible to researcher bias in data collection, analysis, and interpretation (Busha and Harter, 1980).

A mail survey was administered to small to medium sized enterprises (SMEs) in Canadian manufacturing industry. A sample of 2,200 companies was selected from approximately 100,000 Canadian companies listed in Profile Canada's database. This selection was a compromise between a wide cross-industry sample and a focused sample. The companies in our sample are all in the manufacturing industry but they produce a wide variety of products, including processed food, clothing, furniture, and industrial equipments. A cross-industry sampling approach would allow broader generalization but errors may occur because each industry has its unique competitive environment. A focused sample would limit the influence of

industry factors but limit the generalizability of the findings. We have chosen to sample the highly populated and relatively diverse manufacturing industry in order to allow our results to be generalized to a larger population, yet at the same time keep the environmental factors relatively comparable. Our sample does not include, for example, companies in financial services or oil and gas sectors where competitive behaviours are considerably different because of oligopoly and government regulations. The manufacturing industry has been a favourite sample frame for many prior studies of a similar nature (Pelham, 1999; Menguc and Auh, 2006; Matsuno and Mentzer, 2000; Knight, 2000; Avlonitis and Gounaris, 1999).

The business owners or general managers of the selected companies were contacted by mail, informed of the nature of our study, and asked to complete a survey questionnaire. Follow-up reminder postcards were sent two weeks after the initial mail-out. Of the 2,200 packets mailed, 198 were returned as undeliverable. One hundred and sixty-three respondents returned the completed survey questionnaires. Two of these were deleted due to a large amount of missing data. The survey, therefore, yielded 161 usable responses, representing an 8% response rate.

The descriptive statistics of the companies that responded to our survey are reported in Table 1. These companies, on average, have been in business for 32 years, with 72 employees, and have approximately $27 million dollars in annual revenue. These statistics will be used to build a base model and as control variables in regression analyses.

Insert Table 1 about here

As suggested by Armstrong and Overton (1977), we conducted a t-test to compare the early respondents (those who responded within the first three weeks of mailing) and the late

respondents along a number of major variables, including MO and EO. This did not reveal any statistically significant difference between the two groups (see Table 2).

We know very little about the companies that did not respond to our survey except for their approximate number of employees and estimated revenue. We were unable to compare revenue between responding and non-responding companies because of a large percentage of missing data. Therefore, we compared respondents' number of employees with that of the overall sample; no significant difference was found. Hence, we believe that non-response bias is not a major concern in this data.

Insert Table 2 about here

As a preventative measure to potential common method bias, which refers to the artificially high correlation among constructs due to a single measurement method (Podsakoff et al., 2003), we rigorously followed the recommendations made by methodologists such as Busha and Harter (1980), Podsakoff et al. (2003), and Klein (2007). For example, we used previously published scales with demonstrated validity and reliability wherever possible, and we did not mix the measurement items. We also inserted several open-ended questions and varied question types among Likert scales and semantic differential scales. While these techniques reduce common method bias, they do not eliminate it. We tested common method bias post hoc using Harman's single-factor test (Podsakoff and Organ, 1986). The test revealed 27 factors with Eigen values greater than 1.00, suggesting that common method bias is not a major concern in our data.

3.2 Construct Measurement

Market Orientation (MO). Jaworski, Kohli, and Kumar (1993) and Narver and Slater (1990) developed two different measurement scales to capture the MO construct. Both scales have been used extensively. Over the years, several scholars have extended, shortened, and modified these scales to suit their respective research context (Gainer and Padanyi, 2005; Mavondo, Chimhanzi and Stewart 2005; Hult, Ketchen and Slater, 2005; Zhou, Yim and Tse, 2005). Particularly, Matsuno et al. (2005) have demonstrated that Narver and Slater's scale captures MO slightly better. Hence, we used a 12-item, 7-point Likert scale, originally developed by Narver and Slater, to capture each respondent's perceptions of his/her company's customer orientation, competitor orientation, and inter-functional coordination (see Appendix A for items included in our questionnaire). These 12 items demonstrated good reliability, with a Conbach's alpha of 0.847. We averaged these 12 items to create a MO composite index.

Entrepreneurial Orientation (EO). This was measured with a 9-item, 7-point semantic differential scale based on the work of Naman and Slevin (1993). The items were designed to capture a firm's innovativeness, pro-activeness, and risk-taking behaviour. These items also demonstrated good reliability, with a Cronbach's alpha of 0.841. These items were subsequently averaged into a single EO composite index.

Need for Achievement (NFA). The NFA was measured with a 5-item, 7-point Likert scale. The items were selected from the need for achievement subscale of Needs Assessment Questionnaire (Heckert et al., 1999). These items demonstrated good scale reliability, with a Cronbach's alpha of 0.886. We averaged these 5 items to create an index score for NFA.

Internal Locus of Control (ILOC). This was measured with a 7-item, 7-point Likert scale. Three items, measuring internal locus of control, were based on the work of Rotter (1966), and the remaining four, measuring external locus of control, were based on the work of

Levenson (1973). In order to test their loading, we conducted an exploratory factor analysis with varimax rotation, which revealed that one single factor underlies the 7 items measured. Accordingly, we reverse-coded the 4 items that were designed to capture external locus of control. The resulting 7 items demonstrated good reliability, with a Cronbach's alpha of 0.801. We then averaged these 7 items into one ILOC composite index.

Need for Cognition (NFC). Cacioppo, Petty, and Kao (1984) developed two versions of a scale to measure NFC: a 34-item long scale and an 18-item shorter version. A recent study reported that NFC consists of four key components: enjoyment of cognitive stimulation, preference for complexity, commitment of cognitive effort, and desire for understanding (Lord and Putrevu, 2006). Accordingly, we designed a 4-item measure to capture these aspects of NFC. One item did not load well and was later dropped. The remaining 3 items exhibited reasonable reliability (Cronbach's alpha = 0.704). We averaged these remaining items to create an NFC index.

Firm Performance (FP). This was measured with a 3-item, 7-point perceptual measure of a firm's performance relative to competition. Respondents were asked to indicate their firm's overall sales revenue, return on investment (ROI), and return on assets (ROA) relative to its major competitors. Such a measure has been used by Jaworski and Kohli (1993). These 3 items demonstrated an excellent reliability (Cronbach's alpha = 0.903). We averaged these 3 items into one firm performance index.

3.3 Results

The correlation matrix among the constructs is presented in Table 3. Notice that MO and EO are only moderately correlated (Pearson's correlation r=0.328, p=0.000). We calculated a

90% confidence interval of their covariance. Such confidence interval does not contain the value of 1. Therefore, the discriminate validity between MO and EO has been met.

Insert Table 3 about here

We established a base model, using firm performance as the dependent variable, and firm age, number of employees, and estimated annual revenue as the independent variables.

$FP = \beta_1*Age + \beta_2*Employee + \beta_3*Revenue$

The result indicates this model is not statistically significant (p=0.265) and none of the independent variables has significant relationship with the dependent variable (p=0.889, 0.110, 0.733, respectively). Together, these three variables explain a very small portion of the variance in the dependent variable (Adjusted-R^2=0.009).

H1 predicts a classic mediation relationship of NFA→EO→FP. Following the method prescribed by Baron and Kenny (1986), we tested a group of regression models:

$FP = \beta*NFA$
$FP = \beta*EO$; $EO = \beta*NFA$;
$FP = \beta_1*EO + \beta_2*NFA$

The results are presented in Table 4. The data confirm that NFA has a statistically significant positive influence on performance (β=0.267, p=0.001); NFA has a positive and significant influence on EO (β=0.413, p=0.000); and EO has a positive influence on performance (β=0.348, p=0.000). The relationship between NFA and performance reduces its magnitude but remains statistically significant (from β=0.267, p=0.001 to β=0.185, p=0.031) when both NFA and EO

are considered in the same regression model. Hence, it appears that EO partially mediates NFA's influence on FP. H1 is supported.

Insert Table 4 about here

The regression model FP = β1*NFA + β2*EO is statistically significant (p=0.000). Its adjusted-R^2 is 0.149. When the control variables are added, the adjusted-R^2 reduces to 0.126 due to added model complexity without additional explanatory power. But it is still an improvement compared to the base model (ΔR^2=0.117).

We also compared the relationships between NFA→EO (β=0.413, p=0.000) and NFA→MO (β=0.513, p=0.000). Contrary to what we had expected, the relationship between NFA and MO was strong. We interpret this result to mean that entrepreneurs with high levels of NFA may regard both MO and EO as viable means for their achievement objectives. A prior research has revealed a strong relationship between NFA and EO (Lumpkin and Dess, 1996). The strong relationship we discovered between NFA and MO is new and interesting. One possible explanation is the overlap between MO and EO (correlation=0.328, p<0.01). This overlap might indicate that MO and EO are not mutually exclusive options. Rather, there may be synergies between the two strategic orientations. Atuahene-Gima and Ko (2001), for example, argue that companies that are both market- and entrepreneurial-oriented would have the best performance outcomes.

H2 predicts a mediating relationship ILOC→EO→FP. Using the same method prescribed by Baron and Kenny (1986), we tested a group of regression models:

FP = β*ILOC
FP = β*EO; EO = β*ILOC;

$FP = \beta_1 * EO + \beta_2 * ILOC$

The results are presented in Table 5. The data confirm that ILOC has a statistically significant positive influence on FP (β=0.372, p=0.000); ILOC also has a positive and significant influence on EO (β=0.452, p=0.000). The data also suggest that the relationship between ILOC and FP, while still statistically significant, reduces in magnitude (from β=0.372, p=0.000 to β=0.300, p=0.012) when both ILOC and EO are considered in the same regression model. Hence, ILOC's influence on FP is partially mediated via EO. H2 is also supported.

The relationship between ILOC and EO (β=0.452, p=0.000) is much stronger than that between ILOC and MO (β=0.165, p=0.039). Entrepreneurs with strong ILOC tend to place more emphasis on entrepreneurial orientation and less on market orientation, as the latter focuses on external entities, such as customers and competitors.

Insert Table 5 about here

The regression model FP = β1*ILOC + β2*EO is statistically significant (p=0.000). Its adjusted-R^2 is 0.182. When the control variables are added, the adjusted-R^2 reduces to 0.138 due to added model complexity. But it is a considerable improvement compared to the base model (ΔR^2=0.129).

H3 predicts that NFC has a positive influence on FP, and that such influence is mediated via MO. We tested a group of four regression models:

$FP = \beta * NFC$
$FP = \beta * MO$; $MO = \beta * NFC$;
$FP = \beta_1 * MO + \beta_2 * NFC$

The results are presented in Table 6. The data confirm that NFC has a marginally significant positive influence on FP (β=0.152, p=0.062). The data also suggest that NFC has a significant influence on MO (β=0.262, p=0.001), and MO has a significant influence on FP (β=0.182, p=0.025). NFC's influence on FP is reduced to insignificant (β=0.112, p=0.181) when both NFC and MO are considered in the same regression model. Hence, NFC's influence on FP is completely mediated via MO. H3 is supported.

Insert Table 6 about

The regression model FP = β1*NFC + β2*MO is statistically significant (p=0.035). Its adjusted-R^2 is 0.032. When the control variables are added, the adjusted-R^2 reduces to 0.015 due to added model complexity. But it is an improvement compared to the base model (ΔR^2=0.006).

Our data reveal that both NFC-MO (β=0.262, p=0.001) and NFC-EO (β=0.352, p=0.000) relationships are significant indicating entrepreneurs with high levels of NFC might have carefully assessed the benefits of MO and EO, and decided to adopt both strategic orientations.

3. Discussion and Conclusions

Scholars have long studied what criteria make entrepreneurial firms more likely to succeed. However, a comprehensive theory of success is still absent. This paper adds new knowledge to the strategic management of small businesses by bridging previously segregated streams of literature. Upper echelon theory has generally posited that an entrepreneur's personal characteristics play critically important roles in their firm's behaviours and performance. RBV considers human resources, including the entrepreneurs' skills, experiences, and personal characteristics, as strategically important organizational resources, and as having a positive

impact on firm performance (Barney, 1991). More recently, Ketchen et al. (2007) proposed that the relationship between organizational resource endowments and performance is mediated through behavioural variables. Such behaviours include the formation of a particular type of strategic orientation for a firm.

Consistent with these prior studies and theories, this paper provides empirical support for the positive direct and indirect links between an entrepreneur's personal characteristics (including internal locus of control, need for achievement, and need for cognition) and their firm's financial performance. Thus, our findings fit well with the resource-based view of firms and support the notion that human capital is an important resource endowment (Penrose, 1959), and the owners and managers of SMEs play critical roles in the success of their firms (Jones et al. 2007). Such direct relationships have been documented in the extant literature (Hansemark, 1998; Littenen, 2000).

More importantly, our data provide empirical support for the idea that entrepreneurs' decisions and organizational behaviours are the mechanisms by which firms take advantage of resource endowments and realize their benefits. By carefully developing appropriate strategic orientations for their company, entrepreneurs and their senior management teams have found effective ways of utilizing their personal contribution to create a sustainable competitive advantage for the firm, as Tsoukas (2002) predicted. Our data confirm that the linkages between resource endowments and firm performance are mediated by strategic choices. When entrepreneurs believe, for example, "We will have the best products and services" (high NFA), they combine both market orientation and entrepreneurial orientation to gain intimate understanding of what their customers want and need, and provide their customers with the best products and services through creativity and innovation.

Our data also indicate that there are strategic orientation options available to entrepreneurs. Depending on the type of available resource endowments, entrepreneurs and managers make different strategic decisions. Prior studies have revealed that external environmental factors affect entrepreneurs' choice of organizational strategic orientations. For example, in a munificent environment, where growth opportunities are abundant, entrepreneurs are more likely to be creative and innovative. In contrast, entrepreneurs in a more competitive environment tend to be more cautious and are more likely to follow market signals carefully (Zhang et al., 2007). In this paper, we demonstrate that entrepreneurs' internal personality factors also play a role. Our data show that entrepreneurs with internal locus of control are likely to adopt an entrepreneurial orientation; that is, to be more proactive, innovative, and risk-taking. Interestingly, our data indicate that possessing a higher need for achievement does not preclude an entrepreneur from adopting a market-based strategic orientation. Even though Lumpkin and Dess (1996) predicted a strong relationship between NFA and EO, our data suggest that highly motivated entrepreneurs utilize multiple means to achieve their goals for success. In other words, high-achieving entrepreneurs fuel their innovation and creativity with market intelligence. Their risk-taking behaviours are calculated because they understand their customers' needs.

Logical and pragmatic entrepreneurs with high levels of need for cognition thrive when dealing with complex problems. They know that they must be innovative and proactive in order to meet the market demands. In all cases, the impacts of entrepreneurial characteristics on firm performance are mediated by either market or entrepreneurial orientation, sometimes both.

Prior research reveals that while both MO and EO are positively correlated with firm performance, it asserts their influences via different paths (Zhang et al., 2007). Market-oriented firms achieve market success by appealing to their customers, ensuring customer satisfaction,

and cultivating customer loyalty. By comparison, entrepreneurial-oriented firms opt to pursue product-related innovation or aggressive market expansion even if it means temporarily sacrificing the satisfaction of existing customers. This paper helps to better understand what have influenced entrepreneurs' decisions.

Our data support the idea that entrepreneurs do not simply react to environmental factors (Morgan and Smircich, 1980). Instead, their way of seeking and interpreting information, and subsequently making strategy choices, is subjective and partially influenced by their personal characteristics. By understanding the potential antecedents and consequences of strategic choices of organizational orientations, entrepreneurs are able to strategically seek and acquire certain types of resources, and cultivate the most suitable organizational culture.

Although personality-related characteristics might be difficult to change, entrepreneurs can seek strategic alliances with partners who might be endowed with complementary characteristics or cultivate desirable characteristics. For example, in the context of education, Perry, Hladkyj, Pekrun, and Pelletier (2001) experimented with attribution retraining programmes to change students' perceptions of self-efficacy and locus of control. They documented students' successful improvement in academic achievement and enhanced feelings of being in control. Hansemark (1998) also documented how certain entrepreneurship training programmes can increase participants' NFA and ILOC. Although developing specific strategies for improving NFA, NFC, or ILOC is beyond the scope of this paper, we demonstrate that these entrepreneurial characteristics have both direct and indirect positive impacts on firm performance. These characteristics are special leadership competencies worthy of future investigations (Spencer, McClelland, and Spencer, 1994) because small firms often rely upon

their owner-managers' strategizing abilities and leadership to achieve higher organizational performance (Jones et al, 2007).

4. Limitations and Future Research

One major limitation of this study is that we relied upon cross-sectional data. Ideally, it would be interesting to investigate the evolution of entrepreneurial strategies and the dynamic between strategic choices, and the change in resource endowment or selective resource acquisition. A longitudinal research design would be required to systematically track the strategy evolution over time.

Second, this paper is still limited by the scope of its investigation. We only included a small fraction of diverse organizational resource endowments in our model. From the resource-based view, any resource that is scarce and valuable can be considered a source of competitive advantage. That might include financial resources, human resources, or technology. We only investigated entrepreneurs' need for achievement, need for cognition, and internal locus of control. Entrepreneurs' strategy formulation and evolution is affected by a large number of internal and external factors. These factors could be macro-economic, cultural, social, or political. They could also be accidental, personal, or totally serendipitous. Future research in these areas is needed to investigate the related and relevant variables. Similarly, many other strategic orientations such as relationship marketing orientation, technology orientation, and strategy types (such as the strategy typology proposed by Miles and Snow, 1978), are also viable alternatives to MO and EO.

The low response rate and small sample size are also important limitations to this study. We verified that there was no systematic difference between early respondents and late respondents in our sample. However, this verification only provides a certain level of comfort

and confidence in our data. It does not change the fact that only a small percentage of managers whom we contacted returned our survey. Therefore, the generalizability of the findings is seriously compromised. Also, because of the low response rate, we had a relatively small data set to work with. The small sample size placed limitations on the type of analysis that we could perform. In future studies, we aim to obtain larger data sets so as to conduct more dynamic and comprehensive testing, such as using structural equation modeling to test multi-stage, multi-path, simultaneous relationships.

Moreover, future research is needed in both upstream and downstream directions. In the upstream direction, we would be interested in investigating motivational aspects of the pre-start stage of entrepreneurship. Why are certain individuals motivated to start an entrepreneurial venture? Do they have a clear plan and are strategically engaged in resource acquisition suited to their end goals? In the downstream direction, we are also interested in investigating the implementation process of entrepreneurs' strategies. In so doing, a more inclusive picture of entrepreneurship as a process would be revealed. Such a process might include motivation to resource acquisition, strategic choice, strategy implementation, and firm performance.

As the global economy becomes more integrated, diversity management is also a challenge. In some cultures, individual achievements are highly rewarded, while in others group efforts and collaboration are more valued. It would be of great interest to explore how a national culture acts as an antecedent or moderator of the relationship between an entrepreneur's personal characteristics and his/her firm's strategic orientations.

Appendix A: Measurement Scales included in the Survey

Market Orientation

1. Our principal business goal is to satisfy the needs of our customers.
2. We use customers as an important source of service ideas.
3. We constantly monitor our level of commitment to our customers.
4. Our strategy for competitive advantage is based on our understanding of our customers' needs.
5. We measure customer satisfaction systematically.
6. We regularly share information within our company concerning competitor strategies.
7. We respond rapidly to competitive actions that threaten us.
8. Our company regularly scans competitors' strengths and weaknesses.
9. In our company, information is shared among various functional areas
10. In our company, many resources are shared among various functional areas
11. In our company, all functional areas have integrated strategy.
12. In our company, all functions contribute to customer value.

Entrepreneurial Orientation

1. In general, the top managers of our company favour …

A strong emphasis on the marketing of tried and true products or service.	1 2 3 4 5 6 7	A strong emphasis on RandD, techno-logical leadership, and innovation.

2. How many new lines of products/services has your company marketed in the past 5 years?

None at all.	1 2 3 4 5 6 7	Very many.

3. The changes in our products/services, if any, have been

Mostly of a minor nature.	1 2 3 4 5 6 7	Usually quite dramatic.

4. In dealing with competitors, our company…

Typically responds to the actions that the competitors initiated.	1 2 3 4 5 6 7	Typically initiates actions to which Competitors then respond.

5.

We are very seldom the first business to introduce new products and services, administrative techniques, or operating systems.	1 2 3 4 5 6 7	We are often the first business to introduce new products/services, administrative techniques, operating technologies, etc.

6.

Typically seeks to avoid competitive clashes, preferring a "live-and-let-live" posture.	1 2 3 4 5 6 7	Typically adopts a very competitive "undo-the-competitors" posture.

7. In general, the top managers of our company prefer …

Low risk projects with normal and certain return.	1 2 3 4 5 6 7	High risk projects with chances of very high return.

8. In general, the top managers of our company believe that …

It is best to explore gradually via cautious, incremental behaviour.	1 2 3 4 5 6 7	Bold, wide-ranging acts are necessary to achieve the firm's objectives.

9. When confronted with decision-making situations involving uncertainty, our company …

Typically adopts a cautious "wait and see" posture in order to minimize the probability of making costly decisions.	1 2 3 4 5 6 7	Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities.

Locus of Control

1. As a company, we are responsible for our successes.
2. We can do just about anything we really set our mind to.
3. As a company, we are responsible for our own failures.
4. The really good things that happen to us are mostly luck.
5. There's no sense in planning a lot—if something good is going to happen, it will.
6. We have little control over the bad things that happen to our company.
7. Most of our company's problems are due to poor industry conditions.

Need for Achievement

1. We try to be the best in our industry.
2. We work very hard.
3. It is important for us to have the best products and services.
4. We push ourselves to "be all that we can be."
5. We try very hard to improve on our performance.

Need for Cognition

1. Our company prefers and places emphasis on tasks that involve coming up with new solutions to problems.
2. We thrive in dealing with complex problems.
3. In our company, it is enough for us to know that something gets the job done; we don't care how or why it works.
4. We only think as hard as we have to.

Financial Performance

1. Over the last 3 years, relative to major competitors, our company's overall ***sales revenue*** has been …
2. Over the last 3 years, relative to major competitors, our company's overall ***return on investment (ROI)*** has been …
3. Over the last 3 years, relative to major competitors, our company's overall ***return on assets (ROA)*** has been …

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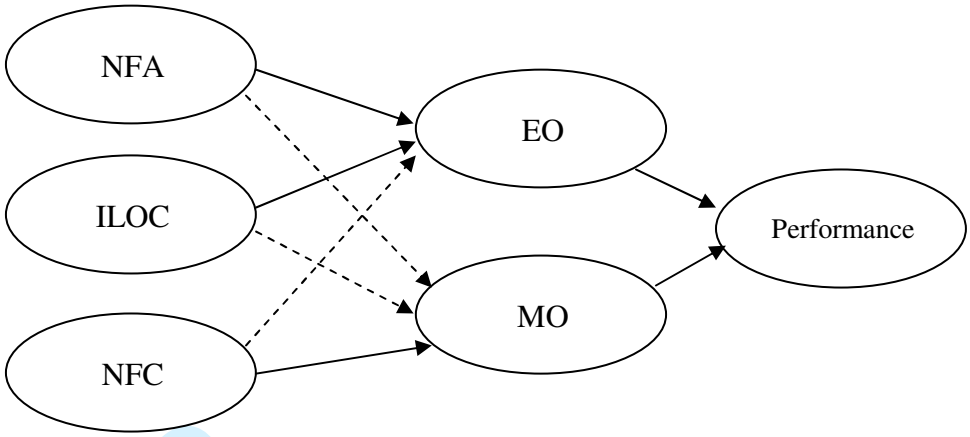
Figure 1: ***Hypothesized model***



Note: Solid lines signify hypothesized positive relationships.
Dashed lines signify relationships that are not hypothesized.
NFA = Need for achievement
ILOC = Internal locus of control
NFC = Need for cognition
EO = Entrepreneurial orientation
MO = Market orientation

Table 1: ***Descriptive Statistics of the Respondents***

Variables	**N**	**Minimum**	**Maximum**	**Mean**
Years in Business	144	2	85	32
Number of employees	144	1	700	72
Revenue	118	$20,000	$900,000,000	$27,000,000

Table 2: ***Early Respondent-Late Respondent t-test***

Variables	Group	N	Mean	SD	t-value	Sig.
MO	Early	108	5.24	.84	.803	.424
	Late	53	5.13	.79		
EO	Early	108	4.03	1.10	.002	.998
	Late	53	4.03	1.23		

Table 3: ***Correlation Matrix***

Variables	MO	EO	NFA	ILOC	NFC	FP
MO	1					
EO	.328***	1				
NFA	.513***	.413***	1			
ILOC	.165**	.452***	.483***	1		
NFC	.262***	.352***	.429***	.481***	1	
FP	.182**	.348*	.267***	.372***	.152**	1

* Correlation is significant at the p<0.10 level (2 tailed).
** Correlation is significant at the p<0.05 level (2 tailed).
*** Correlation is significant at the p<0.01 level (2 tailed).

Table 4: ***NFA and its Direct and Indirect Effects***

DV	IV	Adjusted-R^2	Standardized Beta	Sig.
FP	NFA	.071	.267	.001
EO	NFA	.170	.413	.000
FP	EO	.121	.348	.000
FP	NFA EO	.149	.185 .268	.031 .002

Table 5: ***ILOC and its Direct and Indirect Effects***

DV	IV	Adjusted-R2	Standardized Beta	Sig.
FP	ILOC	.132	.372	.000
EO	ILOC	.199	.452	.000
FP	EO	.115	.348	.000
FP	ILOC	.182	.300	.000
	EO		.213	.012

Table 6: ***NFC and its Direct and Indirect Effects***

DV	IV	Adjusted R^2	Standardized Beta	Sig.
FP	NFC	.023	.152	.062
MO	NFC	.063	.262	.001
FP	MO	.027	.182	.025
FP	NFC MO	.032	.112 .153	.181 .069