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**Entrepreneurial Regulatory Foci and Startup Firm Strategies**

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# **Entrepreneurial Regulatory Foci and Startup Firm Strategies**

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Regulatory foci, a personality variable, differentially regulate the way in which individuals pursue goals based on different levels of pain avoidance and pleasure pursuit tendency. This variable is particularly relevant to entrepreneurial processes. This is because entrepreneurs, similar to other individuals, tend to frame many sub-tasks in the processes as either gain vs. non-gain or loss vs. non-loss games. Thus, the mechanism with which regulatory foci influence individuals' decision making and choices similarly applies to those of entrepreneurs and their startup firms. Despite this high relevance, this variable has received inadequate attention from entrepreneurship scholars. This study tries to fill in this research gap by examining how an entrepreneur's regulatory foci influence various aspects of strategy processes and strategy content of new venture development.

## Table of Contents

List of Tables .....	viii
List of Figures .....	ix
Chapter 1: Introduction .....	1
Context of the study .....	1
Significance of the Study .....	4
Structure of The Study .....	7
Chapter 2: Literature Review .....	9
Regulatory Foci .....	9
Regulatory Foci in Psychology Literature .....	9
Regulatory Foci in Strategic Management and Entrepreneurship .....	14
Concepts Relevant to Regulatory Foci .....	16
New Venture Strategy Processes and Formulation .....	22
New Venture Strategy Process .....	23
New Venture Strategy Formulation .....	27
Chapter 3: Theory Development .....	35
Regulatory foci and new venture strategy process .....	36
Entrepreneurial Orientation .....	36
Decision Comprehensiveness .....	42
Decision Speed .....	45
Regulatory Foci and New Venture Development Activities .....	47
Completing a Business Plan .....	47
Establishing Legal Entity .....	49
Office Space Rental .....	50
Acquisition of Customers and Strategic Partners .....	51
Speed-to-Market .....	54
Chapter 4: Methodology .....	57
Sample Frame .....	57

Questionnaire Surveys .....	59
Variables and Measurement.....	63
Independent Variables .....	63
Dependent Variables.....	63
Control Variables .....	67
Descriptive Statistics and Data Reliability .....	74
Chapter 5: Results.....	78
Chapter 6: Conclusions.....	87
Summary of Findings.....	87
Contributions to the Literature.....	88
Implications to Practices .....	90
Limitations and Future Studies .....	91
Appendix A: Questionnaire for the Lead Entrepreneur.....	116
Appendix B: Questionnaire for the other Key Informant.....	126
References.....	131

## List of Tables

Table 4-1: Variables, Measures, and Data Sources .....	95
Table 4-2: Descriptive Statistics: Means, Standard Deviations, and Correlations	99
Table 4-2: Descriptive Statistics (Continued).....	100
Table 4-3: Reliability Statistics: Cronbach’s Alphas, Composite Reliability, AVE, ICC(1), ICC(2), and $r_{wg}$ .....	101
Table 5-1: Entrepreneurial Orientation.....	102
Table 5-2: Decision Comprehensiveness.....	103
Table 5-3: Decision Speed (the bigger the quicker) .....	104
Table 5-4: Business Plan Completion.....	105
Table 5-5(A): Legal Entity Establishment (the larger, the slower) .....	106
Table 5-5(B): Legal Entity Establishment (the larger, the slower).....	107
Table 5-6: Office Rent Expense.....	108
Table 5-7: Number of Customers .....	109
Table 5-8: Number of Strategic Partners .....	110
Table 5-9: Prestige of Customers.....	111
Table 5-10: Prestige of Strategic Partners .....	112
Table 5-11: First Product Speed (the larger, the slower) .....	113
Table 5-12: Summary of Regression Results.....	114

## List of Figures

Figure 3-1: Regulatory foci and their outcomes .....	115
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## **Chapter 1: Introduction**

### **CONTEXT OF THE STUDY**

The extant literature on upper echelon theory has proposed and produced considerable evidence that top executives inject a great deal of themselves – their experiences, preferences, and dispositions – into their decisions and leadership behaviors in relatively mature firms (e.g. Carpenter, Geletkanycz, & Sander, 2004; Finkelstein & Hambrick, 1996; Hambrick, 2007; Busenitz et al., 2003). Top executive characteristics, such as their prior experiences in relevant industry and functional background, have already been heavily studied by researchers. Upper echelon scholars further argued that such influences are especially salient when top executives possess significant managerial discretion over relevant firm issues (Finkelstein et al. 2009).

In startup firms, entrepreneurs, usually assuming the role of top executives themselves, may exert an even more significant influence on various aspects of firm behaviors and performances than in mature firms. This is because startup firms are of young age and usually of small size. In these firms, organizational routines are usually not as institutionalized as in firms with longer history, which makes the decisions of top managers less constrained by various institutions that will not be in existence until later. In addition, the hierarchical structure of small-sized firms is flatter, which may allow the decisions of top managers to be implemented more quickly than in larger firms with both less distortion in the implementation and less attrition in the intended effects. Therefore, scholars of organizational studies can apply the reasoning of upper echelon theory derived from mature firm settings to the settings of startup firms. Such application will be useful in addressing the unique problems that exist in startup firms, such as behavioral styles of firms, strategy processes, and specific new venture development activities. It is

reasonable to expect even more significant effects that entrepreneurs can exert on their ventures. Thus, consistent with what upper echelon theory has advocated, the past entrepreneurship literature also demonstrated that entrepreneurs' educational backgrounds, family backgrounds, and personal networks are essential to the creation, survival, and performances of new ventures (e.g., Evans & Leighton, 1989; Honig, 2001; Honig & Karlsson, 2004; Reynolds, 1997). Similarly, the above argument is also consistent with the "imprinting" role of founding entrepreneurs, that is, the characteristics of founders may have long-lasting effects on many aspects of firm's operations, strategies, and performances well beyond their incumbency periods (e.g., Boeker, 1988; Burton & Beckman, 2007).

Despite the importance of top executives to new ventures as recognized by these entrepreneurship studies, one important type of entrepreneurial characteristics -- their dispositions -- has received relatively little empirical scrutiny by scholars in both upper echelons and entrepreneurship studies. In the upper echelon literature, scholars (e.g., Finkelstein & Hambrick, 1996; Kark & Van Dijk, 2007; Wowak & Hambrick, 2010) have long argued for the importance of CEOs' dispositions to firm behaviors. However, only a few studies have attempted to empirically examine the relationship between top executive dispositions and firm behaviors. For example, Miller, De Vries, and Toulouse (1982) examined the influence of top managers' locus of control on corporate strategy, and Chatterjee and Hambrick (2007) explored the influence of CEO narcissism on the conformity and dynamism of firm strategy. Despite its scarcity, the findings of such research does indicate that the dispositions of top managers can exert significant influences on certain aspects of firm strategic behaviors.

In contrast to upper echelon theory on startup firms that paid particular attention to the relationship between top managers and *process* variables such as firm behavioral styles and strategy formulation, early entrepreneurship research focused almost exclusively (with few exceptions such as Gatewood et al., 1995) on examining the relationship between individual factors of top managers (e.g., personality traits such as self efficacy, locus of control, and need for achievement) and *performance* variables of new business ventures such as the success of these new ventures (ref., Low & McMillan, 1988). No unanimity of opinion or findings exists among research on this issue (ref. House & Singh, 1987). Further, this sole focus on the individual entrepreneurs has been criticized for overpersonalizing the determinants of entrepreneurial success (Low & McMillan, 1988). Much remains to be known about the processes through which entrepreneurs influence organizational outcome (Bass, 1990; House & Aditya, 1997). Particularly, it is still unclear to us how entrepreneurial personality may influence both the strategy process (such as entrepreneurial orientation, decision comprehensiveness and speed) and strategy formulation (such as business entity registration, business plan completion, the acquisition of operational resources, customers and business partners, and the introduction of first product to market) of new ventures.

Therefore, the management field has been long calling for entrepreneurial studies that go beyond the simple focus on the psychology of the entrepreneur to examine the process in which individual characteristics affect organizational outcomes (Low & McMillan, 1988). This is resonated in a more recent call for research that can answer the question of “why, when faced with same information, some see opportunities whereas others do not” by studying the interface between entrepreneurs and the organizational and

macro-economic environments where they are located (Shane & Eckhardt, 2003; Venkataraman, 1997).

In response to this call, the emphasis of this dissertation project is on the relationship among regulatory foci, an individual difference variable, its consequent influence on entrepreneurs' cognition and strategic inclinations, and some mid-range firm behavioral variables that in turn influence final firm performances. These mid-range variables include both start-up firm strategic processes variables (such as entrepreneurial orientation, decision comprehensiveness, and decision speed) and choices and activities associated with firm creation and development (such as business plan writing, firm registration, and customer and business partner acquisition). The extant literature indicated that these mid-range variables would influence firm performance under certain circumstances (e.g., Delmar & Shane, 2004; Fredrickson, 1984). By focusing on such intervening variables, such as strategy process variables and specific startup activities, this study aim to open the black box linking entrepreneurs' personalities and their firms.

#### **SIGNIFICANCE OF THE STUDY**

Among many unexplored personality traits of top managers, regulatory foci stand out as a potentially significant predictor to some important characteristics of new venture strategic style and choices, and subsequently, to firm performance. Regulatory foci are chosen in this study because, in comparison to other personality attributes such as Big Five that are more frequently studied by entrepreneurship scholars, regulatory foci are more comprehensive in terms of their relevance to the entrepreneurship context and effects on entrepreneurial strategy process and formulation. Thus, examining regulatory foci provides a unique cut point to examining the determinants of some firm strategy process and formulation variables.

Regulatory focus theory (Higgins, 1997) posits two separate and independent self-regulatory orientations: prevention and promotion. These two regulatory foci regulate the influences that an individual would be exposed to in decision-making process and determine the different ways that individual achieves his or her goal. A promotion focus emphasizes hopes, accomplishments, and advancement needs whereas a prevention focus emphasizes safety, responsibility, and security needs. Correspondingly, individuals with a promotion focus view goals as ideals and thus have a strategic concern with approaching gains (the presence of positives) and avoiding non-gains (the absence of positives). Individuals with a prevention focus, however, view goals as oughts and thus have a strategic concern with approaching non-losses (the absence of negatives) and avoiding losses (the presence of negatives).

Each regulatory orientation is associated with different preferred strategy in goal pursuit process. An eager strategy ensures the presence of positives (gains) and ensures against the absence of positives (non-gains), which is compatible with the focus of a promotion orientation. A vigilant strategy ensures the absence of negatives (non-losses) and ensures against the presence of negatives (losses), which is compatible with the focus of a prevention orientation. Thus, individuals with a promotion focus tend to prefer a vigilant strategy, and individuals with a prevention focus tend to prefer an eager strategy (Crowe & Higgins, 1997).

This personality variable is strongly related to individual level choices and decision making (e.g., Florack & Hartman, 2007; Higgins, 1997). It is thus reasonable to conjecture that such individual level choice and decision making styles may be amplified to the firm level and help explain some important firm strategy process and formulation variables. The conceptual study of Brockner et al. (2004) has, in fact, argued that

regulatory foci of entrepreneurs differentially influence the success of new ventures in different stages of entrepreneurial processes. Specifically, they proposed that the two sides of entrepreneurial foci, i.e., promotion focus and prevention focus, differentially influence two important personal-level antecedents of entrepreneurial success, i.e., creativity and inspirational leadership on the one hand and perseverance and hard work on the other hand, and thus exert differential influences on entrepreneurial success. Hmieleski and Baron (2008) and Wallace et al. (2010) have conducted empirical studies of the relationship between entrepreneurial regulatory foci and firm performance. These studies found a positive relationship between entrepreneurs' promotion focus and venture performance. Such a positive relationship gets accentuated in dynamic environment but attenuated in stable environment. On the other hand, entrepreneur's prevention focus is positively related to venture performance in stable environment but negatively related to venture performance in dynamic environment.

These studies suggest the importance of incorporating regulatory foci as an important predictor of entrepreneurial behaviors in explaining firm performances. They however do not thoroughly examine whether and how entrepreneurial regulatory foci will influence some mid-range variables that were demonstrated to further influence firm performance. More specifically, we do not know whether entrepreneurial regulatory foci influence either the strategic process or the strategic content of new ventures. Without knowing how regulatory foci influence these firm-level midrange variables, the mechanisms through which regulatory foci determine new venture successes cannot be fully understood.

In addition, the determinants of venture strategy processes and formulation themselves are little known and thus a topic of interest to strategy, organization theory,

and entrepreneurship researchers. The extant literature on firm strategy and decision making process has long treated firm strategy process variables, such as entrepreneurial orientation, decision comprehensiveness, and speed, as exogenous (e.g., Bourgeois & Eisenhardt, 1988; Covin & Slevin, 1989; Fredrickson, 1984). In contrast, this research may change this long held assumption by delving deeper into these variables and exploring how they are endogenously influenced by entrepreneurial regulatory foci. To address these research gaps, this dissertation research aims to answer the following question: *whether and how entrepreneurial regulatory foci influence certain important aspects of new venture strategy processes and formulation.*

This dissertation will also provide pragmatic value to startup entrepreneurs by offering them a personality indicator that they may use to form and deploy the entrepreneurial teams. These entrepreneurial team members (including lead entrepreneurs themselves) may have complementary skills and strategic inclinations and thus need to assigned to tasks that better fit these inclinations.

## **STRUCTURE OF THE STUDY**

Based on Higgins' original theoretical work and the subsequent empirical studies on the influence of regulatory focus on individual perception, motivations, decision making, and behaviors, this dissertation studies how entrepreneurial regulatory foci influence new venture's strategic orientation, strategy process, and strategic activities related to new venture development.

The rest of this dissertation is organized as follows. Chapter 2 provides a literature overview of the variables examined in this study, in particular, regulatory foci, entrepreneur decision making, strategy process, and strategic activities. The chapter compares and contrasts regulatory foci and other similar concepts that have been studied

in upper echelon or entrepreneurship literature and concludes with how these similar concepts may exert influences on different aspects of strategy making and differentially influences on the same entrepreneurial strategy making activities and outcomes.

In Chapter 3, relevant literature is integrated to highlight the relevance of self-regulatory foci to entrepreneurial decision making and choice outcomes, followed by hypotheses about how entrepreneurial regulatory foci influence start-up firms' strategy process and strategic decision making as well as new venture development activities. Specifically, I propose and demonstrate that entrepreneurial regulatory foci substantially contribute to the variance in comprehensiveness and speed of strategic decision making (e.g., Fredrickson 1984; Heavey et al. 2009; Talaulicar et al. 2005) and the strategic orientation of the firm (Covin & Slevin, 1989; Lumpkin & Dess, 1996). In addition to strategy process and decision making variables, I also examine how entrepreneurial regulatory foci influence entrepreneurs' specific choices regarding startup activities such as new product development speed, firm registration, and others.

Chapter 4 explains the research design, data collection, and methodology of the study, followed by the empirical results presented in Chapter 5. Chapter 6 discusses the implications of these findings, contribution to theory and practice, limitations of this dissertation study, and future research directions.

## **Chapter 2: Literature Review**

This dissertation examines how entrepreneurial regulatory foci influence new venture's strategic orientation, strategy process, and strategic activities related to new venture development. This chapter therefore provides a literature overview of the variables examined in this study, in particular, regulatory foci, entrepreneur decision making, strategy process, and strategic activities. The chapter compares and contrasts regulatory foci and other similar concepts that have been studied in upper echelon or entrepreneurship literature.

### **REGULATORY FOCI**

Regulatory foci have been heavily studied in psychology, but is still a relatively new concept in the context of strategic management and entrepreneurship. I will start with a discussion of this concept in psychology.

#### **Regulatory Foci in Psychology Literature**

Higgins et al. (2001) first developed regulatory focus theory, proposing that an individual's approach to pleasure and avoidance of pain derive from a unique principle of motivation—regulatory focus. That is, people have two basic self-regulation systems, one regulating the achievement of rewards and focusing individuals on promotion goals, and the other regulating the avoidance of punishments and focusing individuals on prevention goals (Kark & Van Dijk, 2007). The former system, known as the promotion focus, is concerned with positive outcomes and associated with a tendency to obtain desired end-states via what Higgins et al. termed approach means. The latter system, or the prevention focus, is concerned with negative outcomes and associated with a tendency to obtain desired end-states via what is termed avoidance means.

Subsequent studies in psychology, marketing, and behavioral decision making have discussed the differential consequences of these two regulatory foci on perception, decision making, as well as individuals' motivation and behavior. These studies are summarized below based on the following effects:

*Endowment effect.* The classic endowment effect (Thaler, 1980) indicates that individuals place an extra value on things they already own, and therefore avert to selling them or passing them on, or they expect more compensation to give up them, i.e., individuals prefer what they already possess over something new. Regulatory focus is associated with this effect. Higgins (1997, 1998) predicts that a promotion focus will be associated with openness to change, whereas a prevention focus will be associated with a preference for stability. The ensuing experimental studies (Chernev, 2004; Liberman et al., 1999) found that individuals with a prevention focus were more inclined than individuals with a promotion focus to resume an interrupted task rather than do a substitute task, and exhibit a reluctance to exchange currently possessed objects. In fact, the endowment effect completely disappeared in those studies for promotion-focused individuals; however, individuals with a prevention focus could not avoid this effect. Consistent with these findings, Higgins et al. (2000) found when people learn of the accessibility of a better alternative course of actions, a promotion focus will lead to a stronger preference to cut bait and switch to the new better alternative.

*Tasks of generating alternatives.* There is strong evidence that promotion-focused individuals are better than prevention-focused individuals in tasks requiring subjects to come up with as many alternatives as possible. Studies have found that individuals with a promotion focus not only are able to generate more alternatives than individuals in a prevention focus (Crowe & Higgins, 1997), but also are more creative (Friedman &

Forster, 2001, 2002, 2005). Brockner et al. (2004) provided more detailed arguments. For example, in experiments designed for participants to classify and list characteristics of different objects, Crowe and Higgins (1997) found that, compared to prevention-focused participants, promotion-focused participants generated more alternatives and used more criteria, and generated more unique dimensions for the characteristic listing task.

*Type I/Type II error (accuracy/quantity).* The alternative generation tasks (Crowe & Higgins, 1997) also revealed that when individuals worked on a signal detection task that required them to decide whether they did or did not detect a signal, those with a promotion focus did have a "risky" response bias and paid particular attention to the number of "hits" instead of accuracy, and those in a prevention focus did have a "conservative" response bias and thus took more time to respond to ensure accuracy (Crowe & Higgins, 1997). This indicated that promotion-focused individuals have strong strategic inclination to generate as many different alternatives as possible (avoid type I error), but prevention-focused individuals are inclined to avoid errors of commission (avoid type II error). Another stream of research (Forster et al., 2001; Forster et al., 2003) found that accuracy/quality increased (mistakes decreased) as those high in prevention focus moved closer to task completion whereas accuracy/quality actually decreased as those higher in promotion focus moved closer to task completion.

*Disjunctive/Conjunctive thinking.* Brockner et al. (2002) and Friedman (1999) argued that for individuals with high promotion focus, "any successful route to a promotion goal is a sufficient route"; and for individuals with high prevention focus, "danger cannot be averted with certainty unless *all* paths to danger are effectively overcome." This difference in thinking is found to be different between promotion focused people and prevention focused people. Brockner et al. (2002) found that individuals with

high promotion focus tend to think disjunctively, that is, promotion focus is associated with the belief that any of a number of action steps are sufficient for goal attainment; in contrast, individuals with high prevention focus tend to think conjunctively, that is, prevention focus is associated with the belief that all action steps are necessary for goal attainment. For example, individuals in a promotion focus tend to perceive the task of job hunting as a disjunctive event in which he or she may only need to send out resumes and applications to many organizations and once getting an offer the task will be done. In contrast, individuals in a prevention focus may perceive job hunting as a more complicated process that involves consecutively obtaining company information, preparing resumes and cover letters, and going through phone and on-site interviews, etc.

*Illusion of control and impulsivity.* Langens (2007) found that individuals in a promotion focus emphasize a congruence between an action and its intended outcome, which may foster illusions of control even in the absence of an objective relationship between action and outcome; however, individuals in a prevention focus are little affected by the same effect. With regard to decision impulsiveness, Higgins et al. (2001) demonstrated that higher promotion scores had a significant, positive relation to “impulsivity” (with items related to being careless and reckless), whereas higher prevention scores had no relation to such impulsivity. These two studies further imply that a certain level of carelessness and impulsivity is involved in the decision making of promotion focused individuals whereas the prevention focused individuals are less influenced.

*Negotiation.* Galinsky, Leonardelli, et al. (2005) demonstrated that negotiators with a promotion focus could consistently obtain superior outcomes than negotiators with a prevention focus. These promotion-focused negotiators achieve success by both

claiming and creating more resources that benefit both parties at the bargaining table. In terms of the prevention focus, no study indicated that, in comparison to individuals (control groups) on average, prevention focused people clearly suffer from disadvantage in negotiating deals with the other party (e.g., Galinsky et al., 2005).

*Tolerance for variance in outcomes.* Compared with prevention-focused individuals, promotion-focused individuals may also be better able to tolerate high variance in performance results. Zhang and Mittal (2007) found that promotion-focused individuals are likely to choose composite outcome sets which contain extreme outcomes (enriched options) but prevention focused individuals are likely to choose outcome sets containing relatively evenly dispersed outcomes (impoverished options). That is, promotion focused individuals are more willing to accept particularly low outcomes in return for the possibility of obtaining particularly valuable outcomes than are prevention-focused individuals. *Relational elaboration.* Zhu and Meyers-Levy (2007) identified the cognitive mechanism that underlies the effects of regulatory foci and found that promotion-focus individuals engage in relational elaboration, which entails identifying commonalities or abstract relationships among seemingly disparate items. On the other hand, prevention-focus individuals engage in item-specific elaboration, which involves focusing on specific attributes of each item independent of others. In contrast, given seemingly disparate items, prevention-focused individuals tend to engage in item-specific elaboration which involves focusing on specific attributes of each item independent of others (Zhu & Meyers-Levy, 2007), and in more risk-averse and perseverant task processing (Friedman & Forster, 2001).

*Motivation.* Shah and Higgins (1997) found that when outcome value is high, prevention-focused individuals perceive the activity as a necessity, something that they

must do; therefore, they can be strongly motivated even when the chance of realizing the valued outcome is relatively slim.

### **Regulatory Foci in Strategic Management and Entrepreneurship**

Despite the abundance of regulatory foci research in other disciplines, there exists a paucity of such research in the context of strategic management and entrepreneurship with two exceptions that examined the effect of regulatory foci on individual level antecedents of firm performance and on firm performance directly. First, Brockner et al. (2004) argued that the two sides of regulatory foci of entrepreneurs differentially influence two important individual level antecedents of entrepreneurial success, i.e., creativity and inspirational leadership on the one hand, and perseverance and hard work on the other hand. These antecedents then exert differential influences on the success of new ventures in the four consecutive stages of entrepreneurial processes, i.e., conceiving and screening business ideas, procuring resources, and implementing the finalized business model. Second, Hmieleski & Baron (2008) and Wallace et al. (2010) conducted empirical studies on the relationship between entrepreneurial regulatory foci and firm performance. The general pattern that they found is that entrepreneurs' promotion focus is positively associated with venture performance and such a positive relationship gets accentuated in dynamic environments but lessened in stable environments. They also found that entrepreneur's prevention focus in general positively influences venture performance in stable environments but negatively influences venture performance in dynamic environments.

There are two points worth noting before we proceed to the influences of regulatory foci on strategy formulation and process in the context of startup firms. First, promotion and prevention foci are two distinct systems that direct people's mental

framing of outcomes (Higgins, et al., 2001), and they are not two ends on a continuum in specific situations. Which system dominates depends on the strength of these two chronic personality traits and their relative temporary salience. Therefore, the overall performance of a task is influenced by the operation of a mixture of prevention and promotion with individuals more prone to one focus than the other (Higgins, 1997). However, at any given moment during task execution the activation of one system (i.e., prevention or promotion) is likely to minimize the other. To highlight, take the common delivery driver as an example. A delivery driver desires to deliver a package quickly and safely. While driving the delivery truck he or she might employ a promotion focus (e.g., I know this path and can get there fast) but external stimuli (e.g., road construction) might facilitate a change of focus (e.g., better be careful, not sure about this). Therefore, it is believed that promotion and prevention are not contradictory to each other, but operate as separate systems. Higgins et al. (2001) supported this point by finding essentially no correlation (e.g.,  $r = -.007$ ) between the two foci when using the Regulatory Focus Questionnaire, a measure of one's stable tendency to employ a prevention or promotion focus across situations. In addition, there is a distinction between chronic and situational regulatory foci. The former remains relatively stable within a certain period of time, but the latter may get situationally heightened by external cues. This dissertation study only measures the chronic regulatory foci of lead entrepreneurs and examines the relationship between their chronic regulatory foci and startup firm strategies.

Second, it may be assumed that entrepreneurial activities mainly require the effects of strong promotion focus because entrepreneurs need to generate inspirational and creative ideas to be successful. Therefore, the homo-social reproduction process (Elliott & Smith, 2004), i.e., selecting candidates that most closely reflect themselves,

and the competitive selection process, have uniformly favored and selected promotion-focused individuals to be top managers. In addition, people with strong promotion focus self select into being entrepreneurs. However, Brockner et al. (2004) argued that prevention focus is also needed in certain phases of entrepreneurial processes, such as screening out potentially unsuccessful ideas and painstakingly present original and innovative ideas to fund providers. This dissertation research will further demonstrate that both prevention and promotion foci influence how new venture strategy process unfolds and proceeds, and whether and how entrepreneurs engage in certain venture development activities.

#### **CONCEPTS RELEVANT TO REGULATORY FOCI**

Regulatory focus is a well established construct that was validated and has been repeatedly studied by scholars in many other disciplines. However, in strategic management and entrepreneurship, it has received limited attention. It is important to clarify how regulatory foci differ from more frequently used personality constructs, such as the BIG Five variables, risk tolerance, ambiguity tolerance, locus of control, self-efficacy, transformational and transactional leadership, and the need for achievement. Most importantly, these variables are empirically measured along a continuum, whereas the two regulatory foci are two different cognitive patterns associated with behavioral and emotional outcomes. In the rest of this section, I will discuss some other similarities and differences of these constructs with regulatory focus.

*The Big Five Personality Traits.* The Big Five, including extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience, are five broad factors (dimensions) of traits to describe personality. Each of the Big Five factors is broad and consists of a range of more specific traits (e.g. extraversion includes more

specific traits such as talkativeness, energeticism, and assertiveness). Bak (2009)'s regression analyses indicated that regulatory foci are significantly related to some dimensions of the five factor model. Specifically, dispositional promotion focus is best predicted by extraversion and neuroticism (the role of openness and conscientiousness is unclear and needs further verification), while dispositional prevention focus is best predicted by conscientiousness. In another study, Vaughn, Baumann et al. (2008) found that people higher in openness to experience were more motivated to pursue promotion-related goals and less motivated to pursue prevention-related goals.

Overall, however, the correlations between the Big Five traits and regulatory foci are of low to moderate degree. For example, eight out of ten correlation scores between a regulatory foci measure (Regulatory Focus Questionnaire measure, a widely accepted measure of regulatory foci) and the Big Five traits are significant (Bak, 2009). And among these eight, six correlation scores are of moderate degree (scores between .25 and .50) and two are of low degree (scores below .25). These findings indicate that there might be much variance in regulatory foci that could not be explained by The Big Five traits.

In addition, regulatory foci are a clearer lens to the mechanisms of motivations underlying information processing and behavioral choices that are specific to the context of entrepreneurship. That is, its definition inherently implies that, depending on the strength of an individual's regulatory foci, he or she tends to frame the same choice outcome differently (gains vs. non-gains, and losses vs. non-losses) and accordingly take very different actions. This implication is particularly relevant to the entrepreneurial processes that involve many activities, each containing even more ambiguous elements and consequently producing outcomes whose valences are contingent on the subjective

interpretations of the entrepreneurs. The Big Five and its sub-dimensions do not necessarily involve such valence-laden interpretation of ambiguous situations or outcomes. Therefore, in comparison to the Big Five, regulatory foci may stand out as a stronger predictor of certain activities and aspects of entrepreneurial processes, especially those involving loss (non-loss) and gain (non-gain) framing by entrepreneurs.

*Risk-taking and Tolerance for Ambiguity.* Some studies indicated that promotion-focused individuals are more risk-taking than prevention focused individuals across different settings. Specifically, promotion-focused individuals display more risk-biases in decision making (Higgins, 2002), information processing (Förster et al., 2003), probability weighting (Kluger et al., 2004), and outcome categorization (Molden & Higgins, 2004); on the other hand, prevention-focused individuals are more likely to display conservative biases in these same studies. However, some study indicated that promotion and prevention foci are each associated with different types of risks (Bryant & Dunford, 2008). Therefore, regulatory foci and risk-taking are not equivalent concepts.

Similar to decision making scenarios involving risks, ambiguity is another challenge with which startup entrepreneurs often need to face. Tolerance for ambiguity is the ability to perceive ambiguity in information and behaviors in a neutral and open way. Regulatory foci is a different construct from tolerance for ambiguity. Prior research has shown that faced with a risky option and an ambiguous option, individuals tend to prefer the former to the latter (Liu, 2011). Liu (2011) demonstrated that individuals' regulatory focus might influence their ambiguity aversion in a way that promotion-focused individuals show less ambiguity aversion than prevention-focused ones.

*Transformational/transactional leadership.* Some studies imply that transformational/transactional leadership styles are likely to be found in

promotion/prevention-focused entrepreneurs, respectively. Benjamin and Flynn (2006) showed that transformational leadership will be more effective in increasing motivation and eliciting positive evaluations from people more of a locomotion mode (those who focus on movement from one state to another) rather than from people more of an assessment mode (those who make comparisons and judgments before acting). In addition, according to Brockner and Higgins (2001), given the uncertain nature of work environments, organizational authorities as “makers of meaning” may influence organizational members’ regulatory focus by using language and symbols. The more the rhetoric of authorities focuses on ideals, the more likely organizational members will develop a promotion focus. In contrast, the more the rhetoric of authorities focuses on responsibilities, the more likely organization members will develop a prevention focus. These research findings indicate that there is a regulatory fit between transformational leadership and the promotion focus in subordinates. More directly, some studies (e.g., Tseng & Kang, 2010) found that a significant positive relationship between a leader’s promotion focus and his/her transformational leadership scores but no relationship between leaders’ prevention focus and transformational leadership style. Thus, despite the close association between regulatory foci and leadership styles, they are two distinctive constructs. Transformational and transactional leadership emphasize various aspects of leader-member exchanges, such as inspirational communication, intellectual stimulation, supportive leadership, and personal recognition (Rafferty & Griffin, 2004). In contrast, regulatory foci emphasize the general motivation, cognition, information processing, and strategic inclinations at an individual level. Regulatory foci may be antecedents of transformational/transactional leadership style; however, there is no perfect match between these two constructs. For example, the coefficient between

prevention focus and transformational leadership is .314 in Tseng and Kang (2010)'s structural equation model.

*Locus of control and self-efficacy.* These two constructs are also related to regulatory foci. Locus of control is defined as the extent to which individuals believe that they can control events that affect them. The concept emphasizes the location of the cause—internal (dispositional) or external (situational) to the person. In contrast to those with a strong external locus of control who believe that powerful others, fate, or chance primarily determine the occurrence of certain events, individuals with a strong internal locus of control believe that the occurrence of the same events primarily result from their own behaviors and actions and thus are more likely to believe that they can effectively change their environment and the path of certain events.

A concept closely related to locus of control is self-efficacy, although they differ from each other in a subtle way. Conceptually, an individual may believe that how some future event turns out is under his or her control, but he or she may not necessarily believe that he or she is capable of behaving in certain way that will produce the desired result. For example, a student may believe that studying ten hours a day would result in a marked improvement in test performance (an internal locus of control orientation) but not believe that he or she is capable of studying that hard (a low sense of self-efficacy). In terms of measurement, locus of control is generally a measure of cross-situational beliefs about control, whereas self-efficacy relates to more circumscribed situations and activities.

Except for Langens (2007)'s study where he found that promotion focus is associated with illusion of control, but prevention focus is not, few empirical and theoretical studies have examined the similarities and differences between regulatory foci

and locus of control or self-efficacy. However, such similarities and differences are clear conceptually. For example, individuals with promotion pride, i.e., those with a subjective history of successfully dealing with promotion-related activities, may feel efficacious themselves in dealing with promotion-related tasks. On the contrary, individuals with prevention pride, i.e., those with a subjective history of successfully preventing losses, may feel efficacious themselves in dealing with prevention-related tasks. Similar to self-efficacy, internal locus of control could also be positively associated with either promotion or prevention focus under different task contexts.

As reflected in the above discussion, despite the association of regulatory foci with locus of control and self-efficacy, they remain very different constructs. Locus of control and self-efficacy might be associated with regulatory foci only when there is a fit between specific tasks and the two different aspects of regulatory foci.

*Need for achievement and narcissism.* It is possible that those with a high need for achievement utilize regulatory style that is more focused on promotion than prevention. Thus, need for achievement, which is theoretically similar to the antecedents of promotion (i.e., nurturance needs, strong ideals, and gains), would relate positively to a promotion focused regulatory style and negatively to a prevention-focused regulatory style. Empirical work (e.g., Wallace & Chen, 2006) supported this prediction. However, need for achievement differs from regulatory foci in that it lacks certain features: cheerfulness/dejection (associated with promotion focus) and quiescence/agitation emotions (associated with prevention focus).

Narcissism and regulatory foci share similarities but also differ along the motivational dimension. Promotion-focused individuals and narcissistic individuals may both have high need for achievement and therefore are motivated by rewards and

achievements. Thus, similar to promotion focus, narcissism may also lead to risk-taking behavior. However, a narcissistic individual has an intense need to reaffirm one's superiority and a craving for further admiration (Chatterjee & Hambrick, 2007), which regulatory foci may not encompass. Therefore, the mechanisms linking these two constructs to risk-taking work slightly differently in the context of new ventures. Narcissistic CEOs may single out potentially high-paying projects that are usually of high objective risk but suit particularly well their personal preferences for their narcissistic needs, and assign particularly high subjective expectancy to these choices (Chatterjee & Hambrick, 2007). High risk projects are likely to offer the greatest "narcissistic supply" (Kernberg, 1975), or the greatest potential for attention and applause. As a result, narcissistic entrepreneurs may not only be willing to take risks in exchange for certain amount of economic returns for new ventures, but also derive mental pleasure from risk taking because of such extra "narcissistic supply". In other words, they may have very high tolerance for risks and are thus risk loving instead of risk averse.

However, promotion-focused entrepreneurs are less likely to search for such high risk projects if these projects are not necessarily good for firm performance that narcissistic entrepreneurs are particularly attracted to. Although some projects with both high rewards and high risk may be appealing to promotion-focused entrepreneurs (in other words, the value of these projects looms larger to promotion-focused entrepreneurs), such high perceived value will not change the direction of risk preference of these entrepreneurs (Forster et al., 1998).

## **NEW VENTURE STRATEGY PROCESSES AND FORMULATION**

As mentioned in the previous chapter, regulatory foci may exert their influences comprehensively on various mid-range variables. This dissertation includes these mid-

range variables as dependent variables that can be categorized into two groups: strategy process variables, including decision comprehensiveness, decision speed, and entrepreneurial orientation, and strategy formulation variables, including startup creation strategies (business plan completion, speed of legal entity establishment, and office rental space), legitimation strategies (the number and prestige of strategic partners and customers,), and product strategies (first product speed).

### **New Venture Strategy Process**

Although much of strategic management research focuses on strategy content, strategy process has long been a topic of great interest in both organization theory and strategic management. Strategy process scholars treat strategy as a process, not a state, and thus think strategic management is processual in character (e.g. Mintzberg, 1978). More specifically, these scholars have argued and demonstrated that certain characteristics of the strategy and decision process influence firm performances and other ultimate organizational outcomes (e.g., Covin & Slevin, 1989; Fredrickson, 1984; Fredrickson & Mitchell, 1984; Souitaris & Maestro, 2010). Among many process variables, entrepreneurial orientation, decision comprehensiveness, and decision speed are most frequently studied ones that have been well demonstrated to influence firm performances.

*Entrepreneurial orientation.* Researchers have suggested that strategic decisions evolve from a set of organizational processes (Hart, 1992; Rajagopalan, Rasheed, & Datta, 1993). These processes take the form of patterns or modes that can be characterized and identified across organizations (Hart, 1992). Entrepreneurial orientation is such a firm level strategy process variable that refers to a new venture's overall competitive posture (thus also known as "entrepreneurial posture," Covin & Slevin,

1989). Entrepreneurial Orientation (EO, Lumpkin & Dess, 1996) is an entrepreneurial strategy-making process that often exists in a firm that “engages in product market innovation, undertakes somewhat risky ventures and is first to come up with “proactive” innovations, beating competitors to the punch” (Miller, 1983: 771). This concept is consistent with a type of organization-wide entrepreneurial strategy-making processes described in previous research. For example, entrepreneurially-orientated firms are similar to those prospector firms (Miles & Snow, 1978) and proactive entrepreneurial organizations (Mintzberg, 1973). Therefore, for managers confronting challenging and intense competitive environment, entrepreneurial orientation represents an important strategy-making process (Dess, Lumpkin, et al. 1997). Indeed, this concept has received substantial conceptual and empirical attention and has been found to be substantially and robustly associated with firm performance across different operationalizations of key constructs as well as cultural contexts, representing one of the few areas in entrepreneurship research where a cumulative body of knowledge is developing (see Rauch, Wiklund, et al. 2009 for a comprehensive review of the literature).

Miller (1983) included "proactiveness," "risk taking," and "innovativeness" as the three dimensions of entrepreneurship. Numerous researchers have followed Miller's original conceptualization (e.g., Covin & Slevin, 1989; Ginsberg, 1985; Morris & Paul, 1987; Naman & Slevin, 1993; Schafer, 1990). The importance of risking-taking and innovativeness to entrepreneurial firm is obvious, so I will elaborate more on the functionality of proactiveness in the entrepreneurial process.

As a dimension of entrepreneurial orientation, *proactiveness* suggests a forward-looking perspective characteristic of a firm that has the foresight to act in anticipation of future demand and to shape the environment (Lumpkin & Dess, 1996). This is consistent

with Miller and Friesen's (1978) view of proactiveness as the ability to change the environment by introducing new products and technologies, with Venkatraman's (1989) definition of proactiveness as "seeking new opportunities which may or may not be related to the present line of operations, introduction of new products and brands ahead of competition, strategically eliminating operations which are in the mature or declining stages of life cycle" (Venkatraman, 1989a: 949), and is closely related to the construct of strategic dynamism, i.e., the degree of change in an organization's strategy (Chatterjee & Hambrick, 2007).

Proactiveness is related not only to new venture opportunity creation, but more importantly to a new venture's avoidance of early evolutionary lock-ins. Specifically, while the management and organization theory literature has advocated increasingly for more flexible or even fluid "new" organizational forms (e.g., Rindova & Kotha, 2001), studies stressing organizational inertia and the historical imprinting of decision making ("history matters") have come to the fore (Sydow, Schreyogg et al. 2009). In order to maintain a balance between these two seemingly diverging trends, some scholars (e.g. Arthur, 1994; Sydow, Schreyogg et al. 2009) have recommend effectively restoring a choice situation, that is, the insertion of more alternative courses of action because the process of becoming path dependent is associated with progressively eliminating the scope of decision making. Certain level of proactiveness, according to this view, may thus be a necessary condition for breaking undesirable evolutionary lock-ins resulting from organizational path dependence. Particularly, in the context of new ventures, an adequate amount of strategic dynamism is needed. This is because new ventures, with more limited funds for growth, may particularly need entrepreneurs' insight in deciding and ability to stop short of investment when there are indicators signaling the necessity of

discontinuing a project, or further raise and invest more capital and exert continuous effort on a project when it is likely to generate high profits in the future.

*Decision comprehensiveness*, the second process variable studied in this dissertation, is defined as the extent to which an organization attempts to be exhaustive and inclusive in making and integrating strategic decisions (Fredrickson, 1984; Fredrickson & Mitchell, 1984). The implication of decision comprehensiveness to firm performance is a research area that strategy process scholars have long been interested in. In general, scholars found a negative relationship between comprehensiveness and organizational performance in industries with an unstable environment and a positive one between comprehensiveness and performance in a stable environment (Fredrickson, 1984; Fredrickson & Mitchell, 1984). However, some inductive work suggested the opposite (Bourgeois & Eisenhardt, 1988).

While most of the early work focused on the performance consequences of decision comprehensiveness (e.g., Fredrickson, 1984; Fredrickson & Mitchell, 1984), recent development in the literature has started to explore the determinants of decision comprehensiveness (Baum & Wally, 2003; Fredrickson & Iaquinto, 1989; Iaquinto & Fredrickson, 1997; Miller, Burke 1998; Talaulicar, Grundei et al. 2005). Scholars examined factors determining decision comprehensiveness mainly from the perspective of top management team (TMT) structures, such as TMT cognitive diversity (Miller, Burke 1998), TMT labor division and CEO dominance in TMT (Talaulicar, Grundei et al. 2005). In addition, the extant literature on decision comprehensiveness exclusively used mature and stabilized firms as their empirical settings. Therefore, it remains unclear whether the determinants to decision comprehensiveness of nascent firms are similar to those in the mature firms.

The final process variable discussed in this dissertation is *decision speed*. Speeding up firm decision processes is one of the basic needs in rapidly growing, high velocity businesses with increasing competitiveness and technological dynamism (cf. Bhide, 1994; Flood et al., 1997; Perlow et al. 2002; Schoonhoven et al., 1990). Research on the antecedents of strategic decision-making speed is even less developed than research on comprehensiveness. With two exceptions (Baum & Wally, 2003; Forbes, 2005), few studies discussed the factors that influence decision speed in the entrepreneurship and strategic management literature. Such a lack of research, however, is a result not so much of the triviality of the research topic itself as of the difficulties involved in collecting data from startup firms.

### **New Venture Strategy Formulation**

Entrepreneurial process not only involves the general characteristics associated with the process but also specific activities that form the substantive parts of the process. The choices concerning these specific activities are the other half of the dependent variables in this dissertation. These startup strategy content variables cover three different aspects: venture development strategies (business plan completion, and speed of legal entity establishment), resource acquisition strategies (the number and prestige of strategic partners and customers, and office rental space), and product strategy (first product speed).

The first group of variables, including business plan completion and speed of legal entity establishment, concerns the startup creation activities.

*Business plan completion.* Legitimacy, the institutional support from external actors, is a crucial determinant of new venture success due to the “liabilities of newness” (Aldrich and Auster, 1986; Stinchcombe, 1965). That is, new ventures have no track

records and thus face a lack of confidence in the venture's ability to survive among potential and distant stakeholders who therefore have little reason to provide patronage. New ventures, therefore, have to create an impression of reputability and legitimacy in order to get external support. Without legitimacy and reputation, the business may not even start at all, or start only after fateful delays and bearing the debilitating costs associated with such delays. The lack of legitimacy associated with startup firm leads to the reluctance of resource holders to commit resources to these new ventures (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; Zimmerman & Zeit, 2002; Zott & Huy, 2007; Stinchcombe, 1965). Intense competition among new ventures for resources (Carroll & Hannan, 1989), along with the scarcity of these resources, means that nascent firms cannot wait passively for resource providers to notice them and to invest in their activities (Schoohoven & Romanelli, 2001).

One mechanism through which entrepreneurs establish legitimacy is the use of symbolic communication, especially when external validation is not possible (Aldrich, 1999; Delmar & Shane, 2004). To persuade potential stakeholders to support their new ventures with little observable evidence of their value, firm founders may especially need to rely on the stories they tell others about their vision of the future. Entrepreneurial stories facilitate the formation of a new venture identity that serves as a basis upon which legitimacy may be conferred by investors, competitors, and consumers, opening up access to new capital and market opportunities (Lounsbury & Glynn, 2001). Story telling shifts stakeholders' attention from external validation to internal consistency of the new venture because stories are evaluated on the latter criterion rather than on the former one (Fisher, 1985) and thus by doing so founders make a case that "their ventures are compatible with more widely established sets of activities" (Aldrich, 2007). As a result,

founder entrepreneurs “frame issues in ways that increase their credibility with others [and] use stories and other means of symbolic communication to assure others that the new venture is on the right track and actually has a future” (Aldrich, 1999).

The institutionalized mechanism for telling the founders’ stories about the future of the venture is the business plan (Delmar & Shane, 2004). They further proposed in the following way. Business plans are “documents in which founders present their vision for the future of a venture. In particular, business plans allow founders to explain their decisions and plans in a way that demonstrates internal consistency. For example, business plans provide information about whether the founder’s proposal for generating revenues is consistent with his or her plan for obtaining raw materials. In fact, investors often evaluate business plans by looking for the internal consistency of different parts of the document” (Delmar & Shane, 2004). Moreover, completing a business plan is a “visible, voluntary, irreversible act that demonstrates the founder’s commitment to the new venture” (Salancik, 1977). Delmar and Shane (2004) argued that external stakeholders are likely to consider a new venture with a business plan as more legitimate than one without because “the free and public choice to develop a plan institutionalizes the founder’s intentions to develop the venture.”

Therefore, by spending their precious time and attention in completing business plans, firm founders will make their ventures appear more legitimate to external stakeholders, and this in turn facilitates the survival of new ventures. In addition to gaining legitimacy, business plan writing helps entrepreneurs themselves realize the potential difficulties and problems that their startup firms may face and allows them to work out solutions during this narrative process.

*Legal entity establishment.* Institutional theorists explain that another important mechanism through which firms obtain legitimacy is adherence to different elements of social institutions, such as adherence to legal authority, one of the three pillars of institutions (Scott, 2007). This is because legal-rational behavior is considered the most legitimate type of behavior (Weber, 1947). Delmar and Shane (2004) further argued for the importance of establishing legal entities, which is one type of adherence to legal authority, for new ventures: “Because almost all established organizations in the modern business world are legal entities that adhere to the norms of rational legal authority, firm founders need to demonstrate equivalent adherence to these norms to operate in the legitimate business community. Therefore, firm founders often undertake activities to show that they adhere to the norms of legal authority, such as registering with tax authorities, and obtaining any necessary permission from regulatory agencies and localities when they begin their operations. Without this legalizing activity, firm founders could still create new organizations, but they would find it more difficult to obtain resources or approval from important external constituents. Moreover, the legitimacy of new venture is increased by the degree to which founders demonstrate their commitment to it (Aldrich, 1999). Demonstrating adherence to legal norms is a visible, voluntary act that is irreversible (Salancik, 1977). By publicizing their adherence to legal norms, firm founders provide evidence of their commitment to the new venture.”

The second group of variables, including the number and prestige of strategic partners and customers, as well as office rental expenditure, concerns the legitimation of startup firms.

*Acquisition of strategic partners and customers.* Quickly acquiring first wave of strategic partners and customers, especially those with high prestige, not only is a desired

end itself but also serves as an effective means for startup firms to overcome the legitimacy problems associated with them. Past research has found that connections with other actors in the industry provide a focal firm with organizational endorsements and certifications of quality, and thus lead to perceptions of higher quality than less connected rivals (Benjamin & Podolny, 1999; Podolny, 1993). Relationships with influential third parties serve as an endorsement or certification of the new venture's quality, because such parties are believed to be better able to evaluate the new venture (Gulati & Higgins, 2003; Higgins & Gulati, 2003; Stuart, 2000; Stuart, Hoang et al., 1999). Following similar logic, Podolny and Stuart (1995) found that the high status of actors associated with an innovation increases the likelihood of the innovation to be seen as important and thus developed, regardless of the innovation's quality. Further, Stuart (2000) shows that the size and innovativeness of a focal firm's alliance partners predict its innovation rate and growth. This effect is especially strong for new and small firms, which suggests that new ventures benefit most from the signaling effect of partners on their reputation (Sanders & Boivie, 2004; Stuart, 2000; Stuart et al., 1999). Therefore, one quick way for new ventures to gain legitimacy and reputation is to obtain them through association and endorsement, rather than building them from scratch (Starr & MacMillan, 1990). Such association will communicate a credibility to the customers who are a critical factor in securing the first few orders of new ventures.

Consistent with previous research (Baum, Calabrese et al., 2000; Rao, Davis et al., 2000; Stuart, 2000; Stuart, Hoang, et al., 1999), Petkova's (2006) exploratory study argued that securing an early influential customer helped a new venture build reputation and legitimacy with other potential customers and stakeholder groups, and such affiliation reduced the public's uncertainty regarding the firm's prospects and reliability.

Informants in the study consistently mentioned the importance of building strong relationships with one or more prestigious customers and industry players very early in the life of the new venture. The ensuing empirical tests in Petkova (2006) found significant relationship between customer prestige and new venture's reputation. Two types of relationships are particularly valuable for a new venture's reputation and legitimacy – those with customers and with strategic partners.

*Office rental expenditure.* During the startup process, choosing an appropriate size of and allocating expenditure for its office space signifies to external stakeholders the entrepreneurs' commitment to the development of the startup firms. This is because rental expenditure on office space is relatively fixed over a certain period of time and thus could be considered as a sunk cost during the contract period. Entrepreneurs need to choose a suitable amount from their limited budget on office rental expenditure to optimize both its commitment signaling and practical functionalities.

In addition to signaling commitment, office rental expenditure is a substantive part of the entry scope choice of startup firms, especially for R&D intensive firms. Entry scope is central to the development of a venture's strategies, although it is unclear what kind of scope is most beneficiary.

Much of the conventional wisdom of earlier entrepreneurship literature has advised ventures to pursue narrow or focused strategies (Hobson & Morrison, 1983). For example, Cooper (1993) and Bruderl et al. (1992) indicated that a narrow scope strategy avoids direct competition with large firms (Broom et al., 1983) and thus reduces strain on limited resources (Low & MacMillan, 1988). This thereby allows growth to proceed incrementally (Van de Ven et al., 1984). However, Bruderl et al. (1992) found no significant difference in chances of survival between ventures pursuing broad or narrow

strategies. Further, Cooper (1993) proposed that dependence upon narrow markets may actually lead to unstable performance.

On the other hand, Lambkin (1988) found pioneer-generalists (broad scope) are most likely to display the highest level of long term performance. Many other studies also supported the positive effect of broad scope on new venture performance (Miller & Camp, 1985; Tsai et al., 1991). Researchers thus started to examine additional factors involved such as the moderating role of industry. Stearns et al. (1995) found significant interactions between scope and industry in determining new venture performance. In addition, McDougall et al. (1994) and Romanelli (1989) found new ventures in high growth industries tend to enter the market on a larger, more aggressive scale than new ventures in low growth industries.

These results have indicated that narrow and broad scope seems, in some cases, to function differently and offer differential benefits to new venture performance. No matter whether large or small entry scale benefits new entrants, the above studies all indicate that market entry scope matters to the performance of a new venture.

*First product speed.* The final strategy variable considered in this study is first product speed. Past research has identified producing and shipping the first product as a major milestone in the start-up process (Petkova, 2006; Schoonhoven, Eisenhardt, et al. 1990; Wasserman, 2003). The speed with which an organization ships its first product to market is important not only to gaining early cash-flow for greater financial independence and early market share, but also to gaining external visibility and legitimacy as soon as possible, both of which in turn will increase the likelihood of survival. In general, the more quickly a new venture develops its first product and ships it to the first wave of customers, the more quickly it will embark on the path to greater

legitimacy and financial success. This is partially because shipping a first product may signal to stakeholders that the new venture is on the right track and likely to produce desired outcomes. On the contrary, progressing too slowly towards completing the first output may send negative signals to stakeholders and thus harm a new venture's reputation and legitimacy. Petkova's (2006) empirical study supported this argument that product development speed has a significantly positive effect on firm reputation.

Schoonhoven et al. (1990) conducted a comprehensive study of the determinants of the waiting time to first product shipment, including technological innovation, characteristics of entrepreneurial team, organization structure, available financial resources, external power and influence, and external environment conditions. According to Schoonhoven et al. (1990), new firms with both marketing and manufacturing functions are quick at delivering first product. This finding is consistent with Brockner et al. (2004) who claimed that new product development and introduction belongs to a "rollout process" stage in entrepreneurial process.

In summary, in the extant literature, only a limited number of empirical studies exist in the extant literature on the mid-range variables. In addition, the majority of the studies have been skewed toward the effects of these variables and only a few were on their determinants. However, as previously mentioned, this gap in research is a result not so much of the triviality of the strategy formulation and process variables as of the difficulties involved in collecting data from startup firms. Considering the importance of these dependent variables and paucity of relevant studies in this dissertation, I will examine and test the relationships between entrepreneurial regulatory foci and these variables.

### **Chapter 3: Theory Development**

In this chapter, I propose that the two sides of regulatory foci, i.e., promotion focus and prevention focus, differentially influence the behavioral styles and choices of entrepreneurs through their effects on entrepreneurial motivation and information processing. Such individual-level behavioral styles and choices will be projected onto the startup firms and affect startup firm behaviors and processes – the dependent variables in this dissertation study. These mid-range firm-level variables have, in turn, been demonstrated by various studies to further influence new venture performances.

The framework proposed by this dissertation project attempts to fill the gaps in the existing literature on how personality variables influence the strategy process and formulation of startup firms. Brockner et al. (2004) suggested that the two different sides of regulatory foci are necessary to different aspects of entrepreneurial process (e.g., generating potential ideas to achieve success and doing the “due diligence” when screening ideas respectively) and thus differentially influence the success of each of the four phases of such process, including conceiving and screening business ideas, procuring resources, and implementing the finalized business model. Their framework emphasized the link between regulatory foci and the success of each phase, but did not attempt to further discuss what specific activities or processes lead to such successes. Similarly, Hmieleski and Baron (2008) and Wallace et al. (2010) conducted studies of the relationship between entrepreneurial regulatory foci and firm performance and added environmental dynamism as a moderator for the relationship. However, it is unclear from these studies how regulatory foci influence the strategy formulation and processes in the entrepreneurial processes. Thus, this current study of the relationship between regulatory

foci and these mid-range variables may help us further pry into the mechanisms through which regulatory foci influence final performance variables. In addition, these strategy formulation and process variables themselves are of interest to entrepreneurship and strategy scholars.

Figure 3-1 presents the theoretical framework of this dissertation research. In the rest of this section I will respectively examine how a lead entrepreneur's regulatory foci influence each of the mid-range variables, including entrepreneurial strategy processes (decision comprehensiveness and speed, and level of entrepreneurial orientation), new venture creation and development strategies (business plan writing, legal entity establishment, office space rental), legitimation strategies (number and prestige of strategic partners and customers), and product strategy (speed-to-market).

#### **REGULATORY FOCI AND NEW VENTURE STRATEGY PROCESS**

Entrepreneurial orientation, decision comprehensiveness, and decision speed are the three most frequently studied firm strategy process variables. They have each been well demonstrated by various studies to influence firm performances. However, we have a limited understanding of the antecedents of the three variables. In the remaining part of this chapter, I will argue that entrepreneurial regulatory foci will influence these three strategy process variables under new venture settings.

#### **Entrepreneurial Orientation**

In the following section I discuss how the two sides of regulatory foci differentially influence all three aspects of entrepreneurial orientation: proactiveness, risk-taking, and innovativeness.

*Proactiveness.* A lead entrepreneur's promotion and prevention foci may influence a new venture's proactiveness in the following way. As proposed and demonstrated by a series of research (Chernev, 2004; Higgins, 1997 & 1998; Liberman, Idson, et al., 1999), a promotion focus will be associated with openness to change, whereas a prevention focus will be associated with a preference for stability. That is, individuals with a promotion focus are not influenced by the classic endowment effect, i.e., the effect that people place an extra value on things they already own, and therefore avert to selling them or passing them on or expect more compensation to give up them.

In the context of entrepreneurial strategy making, when facing a new opportunity that may generate future cash flows or other benefits for the new venture, the entrepreneur needs to decide whether to prepare and invest more money and exert more efforts on the new opportunity or to only focus on the current course of action. When facing a project that is currently losing money or showing no promise, the entrepreneur also needs to decide whether to stop short of it or to further invest more money, energy, and time to revitalize it. It is reasonable to infer from the above empirical results that, because promotion-focused entrepreneurs are less likely to be influenced by the endowment effect than are prevention-focused entrepreneurs, the former will be more likely to pursue the new opportunity and the latter will be more likely to maintain the new venture's current course of actions, which will usually stabilize a firm's strategy. Considering the above arguments, I propose there might be a positive relationship between entrepreneur's promotion focus and the proactiveness of new venture and a negative relationship between entrepreneur's prevention focus and the proactiveness of new ventures.

*Risk Taking.* Risk taking is another dimension of entrepreneurial strategy making process (e.g., Covin & Slevin, 1989; Lumpkin & Dess, 1996). Entrepreneurial regulatory foci are associated with firm risk taking for the following reasons. First, there is some evidence that regulatory foci is associated with individuals' risk taking or risk averse information processing style. For example, when individuals worked on a signal detection task that required them to decide whether they did or did not detect a signal, those in a promotion focus did have a "risky" response bias and paid particular attention to the number of "hits" instead of accuracy, and those in a prevention focus did have a "conservative" response bias and thus took more time to respond to ensure accuracy (Crowe & Higgins, 1997).

Second, in addition to the above effect, Langens (2007) found that individuals with a promotion focus tend to have illusion of control whereas individuals with a prevention focus are less affected by the same effect. Brockner et al. (2002) and Friedman (1999) found that in contrast to prevention-focused individuals, promotion-focused individuals are less able to avoid a tendency to overestimate the likelihood of conjunctive events, in which all component tasks of a project must be accomplished in order to successfully complete the project. For example, finishing a dissertation involves finding a good research topic, developing testable hypotheses, designing and finishing data collection, empirically testing the hypotheses, and writing and defending the dissertation. If the probability of successfully completing each of the five steps is 0.8, then the final probability of completing the dissertation is only about 0.33. However, promotion-focused individuals may assign a probability higher than 0.33 to the possible outcome of successfully completing this conjunctive event. In the entrepreneurial context, this means that promotion-focused entrepreneurs will tend to think disjunctively (i.e., in

extreme cases, completion of any step in a task is sufficient for the successful completion of this task). In other words, they are especially optimistic about their abilities to finish entrepreneurial projects that usually involve successful completion of many smaller component steps, even if sometimes there is no basis for such optimism. Such optimism may further encourage entrepreneurs to take unnecessary risks and thus increase their risk-taking tendency (or risk tolerance).

One thing that we need to note is that entrepreneurial process is not so much a stream of disjunctive events as of conjunctive ones. This means that successful completion of only one or two events within the entrepreneurial process is not sufficient for the final entrepreneurial success. The entrepreneur needs to finish all the steps successfully in such a stream of events in order to realize his or her goal for entrepreneurial success.

Based on the disjunctive/conjunctive thinking argument and promotion-focused individuals' eagerness for "hits" (Crow & Higgins, 1997), I propose that promotion-focused entrepreneurs tend to choose risky but potentially highly-paying projects although the actual chance of successfully completing them may be lower than what it is perceived to be. Note that such a difference in individuals' self mental framing usually does change their degree of risk tolerance but does not change the directionality of their risk preference (risk aversion vs. risk loving).

Finally, in terms of preferences for potential strategic outcome sets, compared with prevention-focused individuals, promotion-focused individuals may be better able to tolerate high variance in performance results (Zhang & Mittal, 2007). That is, promotion focused individuals are more willing to accept particularly low outcomes in return for the possibility of obtaining particularly valuable outcomes than are prevention-focused

individuals. The implications of this mechanism in the context of new ventures is that promotion-focused entrepreneurs will be more tolerant of a diverse performance outcome set than prevention-focused entrepreneurs, which in turn, will contribute to the riskiness of and fluctuations in their choices of strategic expenditures and other ordinal strategic choices. Considering the above arguments, I therefore propose that there might be a positive relationship between entrepreneur's promotion focus and the risk taking of new venture and a negative relationship between entrepreneur's prevention focus and the risk taking of new venture.

*Innovativeness.* The third dimension of entrepreneurial orientation is innovativeness. Being innovative requires not only generating new possibilities, being open to changes, but also discovering hidden possibilities and novel uses (Brockner, Higgins, et al., 2004). First, there is strong evidence that promotion-focused individuals are better than prevention-focused individuals in generating alternatives and the generated alternatives tend to be more novel and creative (Crowe & Higgins; Friedman and Forster, 2001, 2002 & 2005; for more details see Chapter 2). Second, in terms of openness to change, i.e., willingness to consider new possibilities, Liberman et al. (1999) found that individuals in a promotion focus were totally unaffected by the classic "endowment effect" (Thaler, 1980), i.e., the preference for what one already possesses over something new. However, individuals in a prevention focus could not avoid this effect. Finally, there is also evidence that people are more creative when they are in a promotion focus than a prevention focus in terms of discovering hidden possibilities and novel uses (Friedman & Forster, 2004).

Thus, in the context of venture startup where a wide range of ideas need to be generated and contemplated to eventually come up with a winning idea, we may expect

to see that promotion-focused entrepreneurs will be better able to identify opportunities, invent or adopt novel and innovative products, and create innovative production methods than prevention-focused entrepreneurs.

Therefore, the new ventures led by promotion-focused entrepreneurs will display a general innovative style. Considering the above arguments for the link between entrepreneur's regulatory foci and innovativeness, I therefore propose a positive relationship between entrepreneur's promotion focus and the innovativeness of the new venture, and a negative relationship between entrepreneur's prevention focus and the innovativeness of the new venture.

With the positive relationships between all the three dimensions of entrepreneurial orientation and promotion focus and the negative relationships between all the three dimensions of entrepreneurial and prevention focus, I therefore propose:

*Hypothesis 1a: Entrepreneur's promotion focus is positively related to the entrepreneurial orientation of new venture.*

*Hypothesis 1b: Entrepreneur's prevention focus is negatively related to the entrepreneurial orientation of new venture.*

The second and third strategy process variables are decision comprehensiveness and speed. There has long been an interest in decision comprehensiveness and speed in both strategic management and entrepreneurship literature. However, with few exceptions (Baum & Wally, 2003; Miller, Burke et al. 1998; Talaulicar, Brundei et al. 2005), most of such research focused on the consequences of decision comprehensiveness and speed, especially firm performance, and has left the antecedents of these two decision process variables largely unexplored. In the rest of this section, I

examine the implications of regulatory foci to behavioral and strategic inclination of managers and its consequent effects on decision making comprehensiveness and speed.

### **Decision Comprehensiveness**

Unlike previous research that emphasized the performance effect and structural determinants of decision comprehensiveness, this study takes a different approach and argues that decision comprehensiveness and speed will be influenced not only by structural properties of TMT but also by some personal disposition such as regulatory focus of the lead entrepreneurs in start-up firms. Depending on their regulatory foci, entrepreneurs will frame similar strategic problems and decisions differently and thus engage themselves in strategic decision making processes with differential levels of comprehensiveness. This is achieved through different information processing styles and motivations involved in the information processing.

In terms of information processing, the empirical results of the following two studies indicate that promotion-focused individuals tend to check more aspects of a problem than prevention-focused individuals. First, the experimental study by Crow and Higgins (1997) demonstrated that when working on a task that requires generating any number of alternatives, promotion-focused individuals have a strong strategic inclination to generate as many different alternatives as possible (avoid type I error), but prevention-focused individuals are inclined to avoid errors of commission (avoid type II error). The effort to avoid errors of commission intrinsically involves checking more aspects of a problem or choice than does the effort to avoid missing potential opportunities.

Second, in addition to developing as many alternative solutions or plans as possible, entrepreneurs need to check every aspect of alternative plans to ensure their internal validity and then choose among them an optimal one (or at least one perceived to

be so) when making decisions. Some research results have lent support to the possibility that entrepreneurs in a prevention focus tend to delineate and engage themselves in such a decision making task in a more complicated and subtle way whereas entrepreneurs in a promotion focus tend to simplify the same task. Brockner et al. (2002) found that to individuals with high promotion focus, “any successful route to a promotion goal is a sufficient route” (disjunctive thinking); and for individuals with high prevention focus, “danger cannot be averted with certainty unless all paths to danger are effectively overcome” (conjunctive thinking) (Brockner et al. 2002; Friedman, 1999; for more details, see Chapter 2). Entrepreneurial decision making process involves the entrepreneurs’ subjective delineating and defining necessary steps leading to a desired final outcome. Thus, entrepreneurs in a prevention focus tend to classify a decision scenario into more tiny consecutive steps and will exhaustively check as many aspects as possible before making a final decision. In contrast, entrepreneurs in a promotion focus tend to simplify the same decision scenario and engage themselves in a less comprehensive decision making process.

In addition to these two studies, Zhu and Meyers-Levy (2007) found that promotion-focus individuals tend to identify commonalities or abstract relationships among seemingly disparate items (relational elaboration), whereas prevention-focus individuals tend to focus on specific attributes of each item independent of others (item-specific elaboration). This finding implies that promotion-focused entrepreneurs are better able to associate seemingly unrelated events or objects surrounding them and integrate them with a discernible pattern. This reminds readers of Steve Jobs’ “linking dots” capability, or the ability to effectively link all seemingly unrelated past experiences and acquired skills, similar to unconnected dots, into integrated productive forces that

greatly contributed to his later success. Such associative capabilities are particularly needed in certain circumstances (e.g., bricolage) during the entrepreneurial processes. Thus, this research result also implies that despite having less comprehensive decision making entrepreneurs with a promotion focus do not necessarily make decision with negative connotations. In contrast, given seemingly disparate items, prevention-focused individuals tend to engage in item-specific elaboration which involves focusing on specific attributes of each item independent of others (Zhu & Meyers-Levy, 2007), and in more risk-averse and perseverant task processing (Friedman & Forster, 2001). Because of this disinclination to think intuitively and heuristically, prevention-focused entrepreneurs may need to engage in more formal reasoning methods, such as deductive and exhaustive inductive thinking, in decision making processes. In comparison to intuitive information processing, deductive and inductive processing need to cover more aspects of a decision comprehensively.

As for the motivations involved in the information processing process, the following two studies further imply that a higher level of carelessness and impulsivity is involved in the decision making of promotion focused individuals than in that of the prevention focused individuals. First, as previously mentioned, individuals in a promotion focus cannot avoid the influence of illusions of control but individuals in a prevention focus are less affected (Langens, 2002). Promotion-focused individuals, therefore, feel less need to carefully examine all the aspects of a decision. Second, Higgins et al. (2001) demonstrated that higher prevention scores had a significant negative relation to “impulsivity” (with items related to being careless and reckless), whereas higher promotion scores had no relation to such impulsivity. This difference further contributes to the possibility that promotion focused individuals tend to simplify

whereas prevention focused individuals tend to complicate their decision making processes.

Thus prevention-oriented individuals need to check more items in their checklists until they feel confident that a desired outcome will be realized through their effort in decision making; and conversely, promotion-focused individuals do not feel the need to check as many aspects of a course of actions as other individuals because their succumbence to illusion of control, and tendency toward intuitive information processing make them believe that any route that they believe will lead to desired results is sufficient for the realization of their goals. Applied to the settings of new ventures, these findings imply that promotion-oriented entrepreneurs will be mainly concerned about making omission errors, relying more on intuitive abductive thinking (Van de Ven, 2007). More strongly influenced by illusion of control, these entrepreneurs will consequently be inclined towards less comprehensive decision processes. In contrast, prevention-oriented entrepreneurs will be mainly concerned about commission errors, relying on more exhaustive deductive and inductive thinking, and will have the propensity to vigilant information processing that requires comprehensive scrutiny over many aspects of a course of actions. Therefore, with the above arguments, I propose:

*Hypothesis 2a: Entrepreneur's promotion focus is negatively related to the decision comprehensiveness of new ventures.*

*Hypothesis 2b: Entrepreneur's prevention focus is positively related to the decision comprehensiveness of new ventures.*

## **Decision Speed**

Speeding up firm decision processes is one of the basic needs in rapidly growing, high velocity businesses with increasing competitiveness and technological dynamism

(cf. Bhide, 1994; Flood et al., 1997; Schoonhoven et al., 1990). Research on the antecedents of strategic decision-making speed is even less developed than research on comprehensiveness. With only one exception (Baum & Wally, 2003), there exists few papers discussing what factors influence decision speed in the entrepreneurship and strategic management literature.

Some studies indicate that decision comprehensiveness reduces the speed of decision making because extensive analyses take considerable amount of time. Consistent with this perspective, because of their relatively complicated information processing styles (Brockner et al. 2002; Crowe & Higgins 1997; Pham & Avnet, 2009), prevention-oriented individuals may spend considerably more time on decision making than promotion-focused individuals because they need to eliminate many possibilities that could lead to the failure of their goals. On the other hand, as previously discussed, because of the intuitiveness associated with heuristic and abductive reasoning and potential fallacies allowed by this approach, people engaging in heuristic and abductive reasoning are also likely to reach their concept associating process quickly. Therefore, individuals with promotion focus may reach their decision quickly. In contrast, prevention-focused individuals rely more on deductive and inductive thinking to eliminate implausible alternatives and reach a final decision. Therefore, they tend to make slower decisions.

The empirical results of two experimental studies are consistent with the above argument. First, Forster et al. (2003) found that as individuals move closer to the goal of completing tasks, information processing speed increases for participants with a promotion focus whereas speed decreases for individuals with a prevention focus. Second, Chen et al. (2005) found that when making purchase decisions, Western subjects,

who are theorized and measured as promotion focused, display more impatience and make quicker purchase decisions than Eastern-oriented people, who are theorized and measured as prevention focused. Therefore, I propose the following hypotheses:

*Hypothesis 3a: Entrepreneur's promotion focus is positively associated with the decision speed of new venture (quick).*

*Hypothesis 3b: Entrepreneur's prevention focus is negatively associated with the decision speed of new venture (slow).*

### **REGULATORY FOCI AND NEW VENTURE DEVELOPMENT ACTIVITIES**

Entrepreneur's regulatory foci may not only influence entrepreneurial strategy making process and decision making process, but also influence specific firm startup activities. As revealed by the extant literature, activities such as acquisition of customers and business partners, speed to market, completion of business plan, legal entity registration, and scope of market entry are crucial to the survival and success of new ventures. In the rest of this chapter, I discuss how regulatory foci affect these substantive aspects of new venture development.

#### **Completing a Business Plan**

Founder entrepreneur's regulatory foci may, as I will argue in the following part of this section, influence their decision to start and complete a business plan. Business plan writing is a process in which an entrepreneur asks him- or herself whether and which of the originally conceived ideas are feasible and how he or she should combine available and future resources to form production and marketing capability. That is, when writing a business plan, entrepreneurs need to ask the hard questions, which typically call attention to ways in which the venture might fail. Therefore, business plan writing is akin to a

“due diligence” stage (Brockner et al., 2004) that typically requires entrepreneurs to consider, and hopefully ultimately rule out, reasons not to go forward. “Once one moves from the idea conception to the screening or reality-testing stage of the process, it seems that being prevention-focused would be relatively advantageous” (Brockner et al. 2004). This is because when assessing an idea and arguing for its internal consistency, it is important to be careful and accurate. Therefore, it is not a time to be impulsive or over-eager for generating as many novel possibilities as possible (i.e., quantity), but a time to be concerned with quality of the idea. According to Forster et al. (2001) and Forster et al. (2003), accuracy/quality increased (mistakes decreased) as those high in prevention focus moved closer to task completion whereas accuracy/quality actually decreased as those higher in promotion focus moved closer to task completion. Therefore, it is likely that entrepreneurs with a prevention focus will have an advantage over entrepreneurs with a promotion focus in writing business plans for the following reasons. First, business plan writing requires due diligence and accurate information processing that prevention focused entrepreneurs are particularly good at. Second, the focus of prevention-focused entrepreneurs on accuracy and quality may actually allow them to be better aware of the importance of a well planned vision. Additionally, the ability to plan carefully and organize resources in an internally consistent way also influences entrepreneur’s willingness to take the actual steps to finish the writing process. And finally, as previously mentioned, prevention focused individuals have a tendency towards conjunctive thinking. That is, they tend to meticulously check as many aspects of a plan as possible to insure its final success. This will further motivate prevention focused entrepreneurs to engage in business plan writing as this will facilitate and ease the cognitive process of visioning and its later validity checks.

On the contrary, after conceiving a business idea, promotion-focused entrepreneurs may frame it as a gain instead of non-loss; therefore, it puts less pressure on them to initiate and finish these seemingly less urgent steps in business plan writing. Second, they also tend to think disjunctively, that is, to simplify the needed steps required to finish the entrepreneurial vision. This will in turn de-motivate the entrepreneurs to think thoroughly through the process and resort to a written document facilitating such a thinking process. Therefore, I propose:

*Hypothesis 4a: Entrepreneur's promotion focus is negatively associated with the completion of a written business plan.*

*Hypothesis 4b: Entrepreneur's prevention focus is positively associated with the completion of a written business plan.*

The benefits of completing a business plan to new venture survival are most evident in the initial months of the new venture's life because story telling strongly influences the willingness of external stakeholders to provide support to the new venture (Delmar & Shane, 2004). In the early months of new venture life, the relationship between financial performance and survival is less closely coupled since most external stakeholders have to use business plans as the major basis for evaluating new ventures.

### **Establishing Legal Entity**

As discussed in Chapter 2, one important mechanism through which firms obtain legitimacy is adherence to different elements of social institutions, such as legal authority. Establishing legal entities is a specific form of such adherence.

I argue that similar to finishing a business plan, regulatory foci may also influence the entrepreneur's decision to establish a legal entity for the new venture. Establishing a legal entity involves taking certain steps to satisfy the requirements imposed by

conferring institutions and then applying for it. Therefore, an entrepreneur needs to make sure there will be nothing wrong in any of the steps that consecutively lead to the success of the application. Therefore, in terms of legal entity establishment, prevention-focused entrepreneurs may have an advantage over promotion-focused entrepreneurs because successful completion of all these steps requires careful attention to details and the motivation and ability to prevent possibilities that will have undesirable consequences. In addition, taking the initiative to finish legal entity establishment in the hope of avoiding potential undesirable results and obtaining necessary legitimacy is also compatible with prevention concerns and avoidance approach to problems of the prevention-focused entrepreneur. On the contrary, applying the same logic as in business plan writing, after conceiving a business idea, promotion-focused entrepreneurs may frame it as a gain instead of non loss and feels less pressure to quickly initiate this important step in the entrepreneurial process. In addition, the disjunctive thinking associated with promotion focused entrepreneurs may also make them less aware of the complications involved in the application process. It thus takes longer time for them to successfully finish the application. Considering the above arguments, I therefore propose:

*Hypothesis 5a: Entrepreneur's promotion focus is negatively associated with the speed of establishing a legal entity.*

*Hypothesis 5b: Entrepreneur's prevention focus is positively associated with the speed of establishing a legal entity.*

### **Office Space Rental**

Here I propose that entrepreneur's regulatory foci will also influence new venture's decision on office space rental expenditure. As previously mentioned, promotion-focused individuals are eager for "hits", which inclines them towards the

quantity of output. In the context of startup firms, it may imply that promotion-focused entrepreneurs tend to put larger stake on sunk cost investments such as equipment and office space in order to reap the benefits of such investments more quickly. In contrast, prevention-focused individuals are vigilant against making mistakes (errors of commission) and this strategic vigilance inclines them towards accuracy and quality of output (Crowe & Higgins, 1997). Therefore, in terms of market entry, prevention-focused entrepreneurs will limit their scope of attention by investing less and adopting a trial-and-error approach to search for the optimal investment size. Therefore, I propose:

*Hypothesis 6a: Entrepreneur's promotion focus is positively associated with the office space rental expenditure.*

*Hypothesis 6b: Entrepreneur's prevention focus is negatively associated with the office space rental expenditure.*

### **Acquisition of Customers and Strategic Partners**

Entrepreneurs' regulatory foci may differentially influence their ability to acquire a new venture's first few customers and strategic partners through the following mechanism. Entrepreneur's regulatory foci may differentially influence their success with negotiating and closing deals with potential customers and business partners and thus their chance of securing an early customer and business partner base. Galinsky, Leonardelli, et al. (2005) demonstrated that negotiators with a promotion focused individual could always gain superior outcomes than negotiators with a prevention focused individual. A promotion-focused negotiator tend to not only claim more resources at hand and but also to create more collaborative methods to use these resources with the other party of the negotiation. However, a prevention-focused negotiator does not display such a negotiation-related advantage in the same experiments.

To a large extent, new ventures' efforts to secure the first wave of customers and strategic partners are a process of intensive persuasions and negotiations. Thus, this finding implies that entrepreneurs with promotion focus may be better able to creatively illustrate to the potential business partners the potential benefits from the cooperation of the two parties, or to work cooperatively with their potential customers and strategic partners on new ways to synergize the resources and capabilities that both parties possess. Therefore, promotion-focused entrepreneurs will likely be more persuasive and thus succeed in their efforts to win over the other parties' decisions to do business with them.

In addition, it could also be argued that the many positive and inspirational elements emphasized and displayed by promotion-focused entrepreneurs in many other aspects of personal and business life, may also help them form friendship or other types of useful ties with potential customers and strategic partners even prior to the operations of the new business. This, in turn, will further facilitate the formation of strategic partnership and supplier-customer relationship when conditions become mature.

The importance of friendship or other pre-existing ties and better negotiation skills of entrepreneurs may loom especially large when business ties form among smaller firms. This is because these informal ties, conferring or signaling certain credibility and attractiveness of new ventures, may play even more important roles when the not-yet-bureaucratized intra-firm environment lacks certain routines or other institutionalized practices facilitating and screening the formation of business ties. Considering the above arguments, I propose:

*Hypothesis 7a: Entrepreneur's promotion focus is positively associated with the number of new venture's customers.*

*Hypothesis 7b: Entrepreneur's promotion focus is positively associated with the number of new venture's strategic partners.*

In terms of the prevention focus, no study indicates that, in comparison to individuals (control groups) on average, prevention focused people clearly suffer from disadvantages in negotiating deals with the other party in negotiation studies (e.g., Galinsky, Leonardelli, et al., 2005). In addition, there is no reason to justify that, in comparison to people on average, prevention-focused individuals will be necessarily in a disadvantageous position in terms of forming friendship or other ties. Therefore, I will not propose a significant relationship between prevention focus and the number of customers or strategic partners.

Customers and strategic partners that are of high prestige, such as government agents and Fortune 1,000 companies, play a disproportionately important role in conferring credibility to new ventures. Association with these customers or strategic partners will greatly enhance the legitimacy of new ventures and their chance to obtain necessary resources for further development. Therefore, new ventures tend to pay more attention to these customer and strategic partners than less prestigious ones. When both parties of a potential collaboration initiate a talk, prestigious firms may be attracted to the inspirations and better inter-personal skills displayed by a promotion-focused entrepreneur who can convey their business ideas to these prestigious firms better. In addition, prestigious firms may even expect actively and seek such a trait from their potential collaborators. This is because the better interpersonal skills associated with this trait may grease not only the future relationship and communications between both parties themselves, but also those between the startup firm and its other stakeholders, the latter of which also contributes to the success of the startup firms and the long term

viability of the relationship between the startup firm and the prestigious firm. Therefore, I proposed that:

*Hypothesis 8a: Entrepreneur's promotion focus is positively associated with the prestige of new venture's customers.*

*Hypothesis 8b: Entrepreneur's promotion focus is positively associated with the prestige of new venture's strategic partners.*

However, when more prestigious companies choose among potential strategic partners and suppliers, they also tend to have more bureaucratized screening process when assessing applicants for their suppliers and strategic partners. This screening process is more formal and strict. And it depends less on personal connections that confer firm credibility but more on impersonal assessments and judgments of the internal consistency and viability of the business cooperation envisioned and proposed by their potential partners. Therefore, these aspects of such a screening process may favor meticulousness associated with prevention-focused entrepreneurs who tend to painstakingly stick to details and the internal consistency and viability aspects when presenting his or her collaboration proposal to potential partners. Therefore, I propose that:

*Hypothesis 9a: Entrepreneur's prevention focus is positively associated with the prestige of new venture's customers.*

*Hypothesis 9b: Entrepreneur's prevention focus is positively associated with the prestige of new venture's strategic partners.*

### **Speed-to-Market**

Promotion focus and prevention focus may both influence the speed with which the first product is developed and introduced to the market. Entrepreneurial promotion focus facilitates this process in two ways. First, to motivate followers when the

organization have few tangible rewards to offer, entrepreneurs may have to use their visionary skills, which are built on ideals and aspirations, to keep employees' eyes on the great potential gains that the new venture may bring to them. Therefore promotion-focused leadership activities are needed from lead entrepreneurs. Second, in addition to continuously needing encouragements and inspirations to organizational members, some other circumstances during new product development requires entrepreneurs to make wise decisions to either continue with its past course of actions or change directions to speed up and optimize the process. Higgins et al. (2000) found given a better alternative course of actions, those with a promotion focus displayed a stronger preference to cut bait and switch to the new better alternative. In other words, entrepreneurs with strong promotion focus are less susceptible to this type of sunk cost errors.

On the other hand, new product development is a process that also needs the tenacity of the entrepreneur and his or her followers. A prevention focus will benefit the process for the following two reasons. First, Shah and Higgins (1997) found that when outcome value is high, prevention-focused individuals perceive the activity as a necessity, as something that they must do; therefore, they can be strongly motivated even when the chance of realizing the valued outcome is relatively slim. Therefore, when obstacles and difficulties arise in the first product development process, thereby lowering the likelihood of success in using these valuable resources, prevention-focused entrepreneurs tend to persevere more than promotion-focused individuals. Second, in the development of the first product and its introduction to market, it is necessary to make sure that all the mundane tasks in implementing the details associated with the entrepreneurial vision proceed as envisioned and planned. Though there are certain moments that require entrepreneurs to make quick, bold, and innovative decisions, most

of these tasks are often simply a matter of avoiding mistakes. Prevention-focused entrepreneurs clearly have an advantage in these types of tasks. Therefore, I propose:

*Hypothesis 10a: Entrepreneur's promotion focus is positively associated with the speed of the first product to market.*

*Hypothesis 10b: Entrepreneur's prevention focus is positively associated with the speed of the first product to market.*

## **Chapter 4: Methodology**

### **SAMPLE FRAME**

To test the hypotheses, I chose to examine firms operating in high-technology sectors in the Austin metropolitan area in Texas. The population of this study included all private startup firms that were founded in the year of 2010 in several high tech industries. These firms were surveyed with the endorsement of the Herb Kelleher Center for Entrepreneurship at The University of Texas at Austin.

I restricted the surveyed startup firms to R&D intensive industries, including biotechnological products, computer software, pharmaceutical equipment and devices, and commercial research etc., that are ranked high in R&D intensity and of high impact to the economy. I chose R&D intensive industry because entrepreneurship scholars restricted their definition of entrepreneurs to people involved in building up ventures that are of high growth potentials, usually firms in industries with heavy research and development expenditure. In fact, in comparison to traditional industries where firm development can follow and is thus predetermined by certain pre-existing templates, the trajectory of firm development in high tech industries usually finds no existing patterns to follow. Thus, the general behavioral styles and choices of the lead entrepreneurs tend to exert a stronger influence on the startup firms in these industries. Therefore, these industries provide a better test bed for the proposed hypotheses in this dissertation. The total number of such startup firms was 597 in the area, representing the whole population of the firms that were founded in the year of 2010 in these industries. The names of the top executives and physical and mail addresses of these firms were obtained from Dun and Bradstreet database.

*Dun & Bradstreet* compiles what is considered to be the most exhaustive database of young firms founded in the United States (Kalleberg et al., 1990). The vast majority of new ventures within the United States must file with *Dun & Bradstreet* in order to create a business credit record that is an important source that companies use to decide whether to do business with each other (Hmieleski & Baron, 2008). *Dun & Bradstreet* provides the names and addresses of the firms and their top management team leader (i.e., chief executive officer).

To further check the validity of the data provided by Dun and Bradstreet, I searched for the same firms in ReferenceUSA database, another database of business directory and firm-level business data. Among the 596 sampled firms from Dun and Bradstreet database, 112 could be also found in ReferenceUSA database. The lists of firms' top executives from the two different databases were matched, and the correlation between the only numerical data existing in both databases, the size of the employment, was 0.97 ( $p < 0.01$ ).

Following Hmieleski & Baron (2008), I operationalized a lead entrepreneur for the purposes of the current study as an individual who is both the founder/one of the founders of the surveyed firm and the member of the top management team of the firm. It was particularly important that the key participants were the lead entrepreneurs in their firms, rather than simply a member of the founding team. This is because the lead entrepreneur has been found to have a powerful impact on developing the vision and strategic direction of the firm and, thus, most directly impacts firm performance (Baum, Locke et al., 1998; Hmieleski & Baron, 2008).

## **QUESTIONNAIRE SURVEYS**

The original measures were pilot-tested on a small group of experienced entrepreneurs and then modified according to the test results and the feedbacks and advice of the pilot subjects.

The data were collected in two stages of questionnaire surveys. The first stage (Stage 1) mainly gathered data on the regulatory foci scores from lead entrepreneurs, who were both founder (or one of the founders) and member of the top management team of the new ventures, and firm-level dependent and control variables from both the lead entrepreneurs and at least one other key informant in the new venture in April, May, and June in 2011. The second stage (Stage 2) of the survey followed up with the responding lead entrepreneurs in Stage 1 and gathered data on their responses to the same multi-item firm-level dependent and control variables that these same lead entrepreneurs and the other key informants in the firms provided in Stage 1.

In the data collection in Stage 1, the firms in the sample frame were visited by the author and 8 undergraduate students hired to collect questionnaire responses. One week prior to each visit, a postcard was sent to the lead entrepreneur identified from the database, informing him or her of this study and the purpose of the visit. A firm was visited for a second time if the lead entrepreneur could not be reached or could not fill out the questionnaire during the first visit, and the firm or the lead entrepreneur had not explicitly declined the survey workers' request to revisit the firm at a later time. In rare cases, a third visit was made if the targeted lead entrepreneur could not fill out the questionnaire or be reached but firmly confirmed during the second visits that he or she would finish the questionnaire later. Among all the 597 firms, 78 were visited for the second time, and 23 were visited for the third time.

During Stage 1 visits, the survey workers first told the lead entrepreneurs about the purpose of the visit and requested for their cooperation to fill out the questionnaires that measure their regulatory foci and firm level dependent and control variables. Each entrepreneur who finished the questionnaires was provided with a gift card on site as a token of appreciation.

Second respondent corroboration is a common robustness check for firm- and team-level data (as in Blum, Fields, and Goodman, 1994). Therefore, for the purpose of confirming the validity of the firm-level data, the survey workers were also instructed to request the lead entrepreneurs to recommend another entrepreneurial team member identified in the database to fill out a shorter questionnaire. This short questionnaire contained the items measuring the same multi-item firm level control and dependent variables in the long questionnaire. In rare cases, if no entrepreneurial team members identified in the database were available at that time, the lead entrepreneur would be asked to identify and recommend an additional executive or entrepreneurial team member who was available to fill out the questionnaire at that moment. Such a procedure for identifying top management team members by querying a key informant has been used successfully in previous research (e.g., Martin, 1997; Smith et al., 1994). The other key informant was given another type of gift card as a token of appreciation upon the completion of the given questionnaire. The phone numbers or email addresses of the lead entrepreneurs were also collected, and additional phone calls were made if further clarifications of the questionnaire responses were needed. During Stage 1, both the long questionnaires from the lead entrepreneurs and the short questionnaires from the other key informants were collected from 233 (132 in the 1st round, 78 in the 2nd round, and 23 in the 3rd round) out of the 597 new ventures. Fifteen were dropped from the 233

firms because of missing responses in items measuring regulatory foci. Therefore, 218 pairs of survey questionnaires were collected in the Stage 1 data collection.

The potential for non-response bias was explored. T-tests were conducted to compare the basic statistics such as firm size, sales, and facility sizes of both the responding firms and non-responding firms. No significant differences were found between these two groups.

In order to mitigate potential single-source biases common in many survey studies, 6 or 7 months after the first-round data collection was done (Jan of 2012), the lead entrepreneurs of the remaining 218 firms were contacted again for a short questionnaire survey. They were contacted using the email addresses or phone numbers that they provided in the first round of survey or that were identified and collected from the database or online. The survey was made available both on paper and online. They were asked to provide responses to a short list of multi-item measures of the firm-level control and dependent variables, such as strategic orientation, decision comprehensiveness and speed. Responses to the same items were already collected from both the key informants of the short survey and the same lead entrepreneurs during Stage 1 data collection. Among all 218 lead entrepreneurs contacted, 191 finished the questionnaires. This thus represented a cumulative response rate of 32% in both stages of data collection (191 among 597 firms). The results of comparing data from different sources or from the same sources in different periods are provided in the later descriptive statistics and measurement section.

The business phone numbers listed in the database of the non-responding firms were called to further confirm their existence, and the firms of all 37 non-responding lead entrepreneurs still existed to the point when the data collection was done. T-tests

comparing the size, sales, and facility size of the firms of the responding and non-responding lead entrepreneurs were done and no significant differences were found among the two groups.

To further check the validity of the data collected in the survey, I searched in ReferenceUSA database and found that 45 among the 191 responding firms in both stages of data collection could be found. I thus retrieved the data on both office rent expenses and employment size of these 45 firms, and compared them with those collected from questionnaire surveys from the same firms. The correlations between the two data sources were 0.95 ( $p < 0.01$ ) for office rental expense and 0.93 ( $p < 0.01$ ) for employment size respectively. Even though ReferenceUSA database did not contain variables that were collected in the survey questionnaires, the high correlations of these two variables from the two different sources indicate that the data collected from the survey questionnaires are to a certain degree reliable.

To minimize the possibility of common method bias in the data collection process, I adopted the approach suggested by Atuahene-Gima and Li (2004), Papadakis et al. (1998), and Souritas and Maestro (2010). First, as mentioned previously, I checked the validity of some survey measures by comparing them to similar variables from archival sources. Second, in the survey questionnaires, I reversed some scale anchors to mitigate the potential rise of undesired response patterns. Third, also as previously mentioned, I collected the same data from different respondents and from the same respondents in different time periods.

## VARIABLES AND MEASUREMENT

### Independent Variables

Regulatory foci were measured using Regulatory Focus Questionnaire (RFQ) (Higgins et al. 2001) in the long questionnaires targeted at the lead entrepreneurs in Stage 1 data collection. A strong dispositional indicator of regulatory foci, RFQ is a well-validated multi-item measure that has been widely accepted by both psychology and business researchers. Using a scale from 1 to 5, it contained 11 items, six of which measured promotion focus and 5 measured prevention focus. Specific items are listed in Appendix 1. The Cronbach's alpha coefficient of the measure was 0.87, indicating a high reliability of the measure (Table 4-3). Confirmatory factor analyses indicated that a two factor model best fitted the observed data, with items intended to measure promotion and prevention foci yielding high enough loadings on the two factors representing the promotion and prevention foci respectively.

### Dependent Variables

The items with 1-to-7 Likert scale from Covin and Slevin (1989) were adapted to the start-up firm context to measure *entrepreneurial orientation*. The original measure contains nine items that capture the three different dimensions: risk taking, innovativeness, and proactiveness. However, the two original innovativeness items did not fit into the new venture settings and thus were modified. Specific items are listed in Appendix A.

Because of the controversy over the dimensionality of *entrepreneurial orientation* (Hansen, Deitz, et al. 2001), these items were factor analyzed to assess their dimensionality or "factorial validity" (Allen & Yen, 1979). Consistent with Covin and Slevin (1989), all of the items loaded above 0.54 on a single-factor (average loading =

0.67), indicating that it was appropriate to combine these items in a single scale. High loadings on a single factor suggested that, although the items focused on different aspects of strategic posture, they were empirically related and constitute a distinct, uni-dimensional strategic orientation (Covin & Slevin, 1989). The mean ratings on these items were used as the firms' entrepreneurial orientation. Like all other firm level variables with multi-item measures, the average of the ratings given by lead entrepreneurs in Stages 1 and 2 data collection and other key firm informants in Stage 1 were used in the final statistical analysis. The higher the score was, the more entrepreneurial the strategic posture was.

*Decision comprehensiveness* was measured with validated items adopted from Atuahene-Gima and Li (2004). Similar scales have been developed and successfully used in previous studies (e.g., Knight et al., 1999; Simons et al., 1999; Simons & Peterson, 2000; Smith et al., 1994). Many other measures of decision comprehensiveness were developed and used in the extant literature, but most of them were designed for relatively mature firms. This measure was chosen because it was particularly developed to fit high technology startup firms. The coefficient alpha for this scale was 0.85 (see Table 4-3). Respondents were asked to rate these questions from 1 (totally disagree) to 7 (totally agree). Specific items are included in Appendices A and B. Average scores of this measure across the three sources were calculated for the scale and used in the subsequent analyses.

*Decision speed* was measured using the three-item scale of general speed from Souitaris et al. (2010) rather than the duration measures of decision speed (e.g., Forbes, 2005; Judge & Miller, 1991, i.e., a measure asking respondents to find an important past decision scenario and estimate the total number of days taken to reach a final decision).

The choice was motivated by the concern that measuring the duration of the most important decision depends too much on the respondent's decision choice and on the nature of this one decision. This choice of using three-item measure was also supported by empirical evidence that such general speed scales and duration measures are in agreement when rated by the same respondent and statistical checks indicated high inter-rater agreement for the two respondents (Wally & Baum, 1994).

*Completion of business plan* was measured using a dummy variable with "1" indicating that a new venture has a completed written business plan by the time of the first round data collection, and "0" indicating otherwise.

*Speed of legal entity establishment* was measured in two ways. The first measure was calculated as the total number of months past between the month in which the legal entity of a firm was established and the month in which the lead entrepreneur first came up with the idea of establishing the current new venture. The second measure of speed was the total number of months past between the month in which a legal entity was established and the month in which the lead entrepreneur formally decided to devote him- or herself to the creation of the firm, i.e., seriously engaged in new venture building. Therefore, the lead entrepreneurs were asked to indicate the months in which the above events occurred in both the first and second stages of data collection. Despite some subjectiveness in lead entrepreneurs' responses to the survey questions, the correlation between calculated time intervals obtained in Stage 1 and Stage 2 is 0.98 ( $p < 0.01$ ), to a certain degree indicating there was a high test-retest agreement for this measure. Like many other firm level variables, the final value used in the subsequent statistical analyses was an average of the durations calculated from data obtained in Stage 1 and Stage 2.

*Number of strategic partners* was counted as the total number of strategic partners that a new venture has by the time of the first round data collection. In the questionnaires collected in Stage 1, both the lead entrepreneur and key informant were first given the description of what strategic partners were and then asked to indicate the number of strategic partners that the new venture has had at the time of the survey. The correlation between the responses of the lead entrepreneurs and the key informants was very high (0.97,  $p < 0.01$ ), indicating the high reliability of the data provided by the respondents. *Prestige of strategic partners* was measured as a dummy variable with “1” indicating there was at least one strategic partner who was either government agencies or organizations or among Fortune 1000 firms, and “0” indicating otherwise.

*Number of customers* was an ordinal variable with “1” indicating a number below 50 and “6” indicating a number above 250, and “2”, “3” and “4” indicating even categories between 50 and 250. The decision that an ordinal variable, instead of a count number, was used to measure the total number of customers, was based on two suggestions given in the pilot test. First, some of the entrepreneur participants expressed their slight discomfort in answering the original question that asked for the actual number of customers, and advised to use a less obtrusive measurement. Second, most of them expressed difficulties in figuring out an exact number of customers that their firms had at the point of the survey. Similar to the prestige of strategic partners, *prestige of customers* was measured as a dummy variable with “1” indicating at least one customer who was either government agencies or organizations or among Fortune 1000 firms, and “0” indicating otherwise.

*Speed-to-market* was measured in two ways. First, five items were adapted from the items used in Chen et al. (2005), and Kessler and Chakrabarti (1999), and Lynn et al.

(1999) to measure the speed with which a new firm introduces its first product to the market. The statistics presented in Table 4-3 show its measurement reliability. Second, the same variable was measured as the total number of months past between the time when the legal entity of the firm was established and the time when the first product was introduced to the market. The correlation between the two measures was 0.83 ( $p < 0.01$ ).

A firm's office rental expense six months after it was established was chosen as a proxy for its scope of market entry. This measure was chosen after discussing with some entrepreneurs in the pilot test. They suggested that 6 months is a period long enough for a new venture to make and implement its decision for market entry scope. Rental expense for office accounts for a significant portion of the expenses incurred by new ventures, and its amount generally remains stable in a relatively long period of time. Therefore, it was chosen as a proxy for scope of market entry. The lead entrepreneurs and the key informants were instructed to indicate how much the firm invested on office areas (based on categories in the *ReferenceUSA* database). The data on office rental expense of 45 out of 191 firms that responded in both two stages of data collection could also be found in the *ReferenceUSA* database. Therefore, it allowed the author to further check the reliability of the responses of lead entrepreneurs and key informants to these survey questions. The correlations among the three sources all exceeded 0.96 ( $p < 0.01$ ).

### **Control Variables**

Data on control variables were collected at personal, firm, and industry levels. In addition to firm and environmental controls for firm and industry effects, entrepreneur's human and social capitals, such as network membership, business education, industry experiences, were traditionally used as control variables in empirical entrepreneurship

studies. Among the controls used in this study, I will elaborate on the relatively new and unfamiliar ones.

Forbes (2005) indicated that lead entrepreneur's age and prior new venture experience were two significant predictors of firm decision speed. Therefore, these two variables, measured respectively as the real age of lead entrepreneurs and a dummy with "1" indicating a prior startup experience and "0" indicating otherwise, were added in testing Hypotheses 3a and 3b. In addition, Talaulicar et al. (2005) found that characteristics of top management team (TMT) organization as well as TMT processes, significantly influence the comprehensiveness and speed of strategic decision making in start-ups. More specifically, whether some TMT members have the competencies to manage divisions independently (departmental model), whether one executive is allowed to issue directives to the remainder of the TMT (CEO model), and the level of debate in TMT meetings all influence the decision comprehensiveness and speed of startup firms. Hence, two single-item measures, and a four-item measure were adapted from Talaulicar et al. (2005) to measure the three TMT process variables respectively.

Following related research, three additional control variables that might influence comprehensiveness and speed of strategic decision making were added when testing hypotheses related to decision comprehensiveness and speed. First, some prior studies indicated that firm size was associated with both decision comprehensiveness (Fredrickson & Iaquinto, 1989; Smith et al., 1988) and decision speed (Chen & Hambrick, 1995; Smith et al., 1991). Firm size was assessed as the number of employees in a firm. Second, the size of the group involved in decision making could also be related to group processes (e.g., Cohen & Bailey, 1997), though there were no findings of its effects in empirical studies (Forbes, 2005; Tautalicar, Grundei et al., 2005). To further

check this effect, lead entrepreneurs and key informants were asked to indicate how many other people, in addition to the lead entrepreneurs, were involved in the new venture's strategic decision making. Third, many studies proposed or indicated that environmental conditions could impact processes of strategic decision making (e.g., Bahae, 1992; Dess & Origer, 1987; Eisenhardt, 1989; Fredrickson and Mitchell, 1984; Judge and Miller, 1991; Miller et al., 1998; West & Meyer, 1998). Therefore, three environmental variables, i.e., environmental dynamism, competitiveness, and large growing market, were also added as control variables. Environmental dynamism was measured using a five-item measure adopted from Zirger and Maidique (1990), and environmental competitiveness and large growing market were measured using items adapted from Green et al. (2008).

In terms of model testing for entrepreneurial orientation, first, Green et al. (2008)'s study indicated that firm size, environmental dynamism, technocratic decision making, and structural organicity were significant predictors of firm entrepreneurial orientation. Therefore, in the survey questionnaires, items measuring these four variables were also adopted from the original study.

Second, the age of lead entrepreneur may also have an effect on the entrepreneurial orientation. Life course theory proposes that an individual's decisions and behaviors are affected by his or her position along the trajectory of the human life span (Elder, 1985). And age is probably the most frequently used reference point by individuals in life course dynamics (Hagestad & Neugarten, 1985). Therefore, many studies in the management literature have either implicitly or explicitly referenced life course theory in developing hypotheses about the effects of age on managerial decisions (e.g., Forbes, 2005; Hambrick & Mason, 1984; Hitt & Tyler, 1991;). Similarly, in terms

of the entrepreneurial orientation of a startup firm, it is reasonable to conjecture that with an increase in a lead entrepreneur's age, the three dimensions of entrepreneurial orientation may be negatively affected. Therefore, entrepreneur's age was also included in the survey questionnaire and will be added in model testing for Hypotheses 1a and 1b.

Finally, it might be interesting to know the effect of prior startup experience on entrepreneurial orientation. It could be argued that with prior startup experience, entrepreneurs might be more risk-taking, innovative, and proactive due to the gained experience and confidence from the previous startup processes. However, it could also be argued that the lack of prior startup experience may not necessarily make entrepreneurs less able to assess risks and thus show an excessive risk taking tendency. Entrepreneurs with no prior experience might be less influenced by the prevailing paradigms concerning product designs, the strategies and operations of new ventures and thus be more innovative. In addition, the lack of prior experience may also indicate that entrepreneurs may get less emotionally and cognitively laden with past experience and be more proactive. Therefore, prior startup experience was also added as a control variable in testing Hypotheses 1a and 1b.

When testing the hypotheses on speed to market, first, Schoonhoven et al. (1990) indicated that speed to market was influenced by product technological innovation. Therefore, this study adopted the two scales from Schoonhoven et al. (1990) for this variable. Two questions measuring the level with which new knowledge was created and knowledge synthesized in the surveyed firms. The first question measured the extent to which new knowledge was created. With a scale from 0 to 10, the lead entrepreneurs and key informants were asked: "To what extent could you rely on existing knowledge to build the first product? That is, the extent to which you did not have to create extensive

new technical knowledge." A zero indicated the firm "used nearly all existing knowledge (not innovative)," and a 10 indicated that "all new knowledge was created (very innovative)" in the firm. The second question measured the extent to which knowledge was combined in unique ways to synthesize information. With a scale from 0 to 10, the lead entrepreneurs and key informants were asked with the question "To what extent did you synthesize existing knowledge to produce your first product? That is, the extent to which you used existing knowledge in unique combinations." A zero indicated no synthesis (not innovative), and a 10 indicated extensive synthesis (very innovative). The two measures were positively correlated. As expected, knowledge creation and knowledge synthesis were significantly and positively correlated  $r = .781$  ( $p < .01$ ). The size of the correlation suggested that it was useful to combine the two measures to form a composite variable. Thus, the average of the responses to the two questions was taken as the measure for the product technological innovation variable. Second, similar to Schoonhoven et al. (2001), firm organizational structure was measured using a dummy variable with "1" indicating a new venture has both marketing and product development positions, and "0" indicating otherwise. Third, an ordinal categorical variable was created to indicate the monthly average expenditure on R&D at the time when the survey was conducted. Lead entrepreneurs and key informants were asked to choose a category to which the R&D expenditure belonged.

Fourth, according to Zirger and Maidique (1990), weak competitive environments and markets that are large and growing are associated with product successes. Similar arguments could be applied to first product speed. Therefore, two variables, environmental competitiveness and growing market were adopted from their study. Two items were used to measure environmental competitiveness: "product was first to the

market” and “product was developed for a market with few strong competitors.” And two items were used to measure the market growth and size variable: “product was developed for a large market” and “product was developed for a rapidly growing market.” Fifth, in addition to the monthly R&D expenditure, firm size, represented as the number of employees, was added to further control the amount of resources that a firm could use for first product development and introduction. Finally, prior experience was also added to control for the effect of prior knowledge on product speed.

In terms of business plan completion, according to the study of Honig and Karlsson (2004), the following variables measuring the social capitals that an entrepreneur might have were found to influence the completion of a written business plan: encouragement by family or friends, age, member of a business network, and contact with assistance agency. Therefore, a dummy variable was first created to identify those nascent entrepreneurs who indicated they had contact with a business support agency. Second, another social capital variable, member of business networks, was found to have a significant effect on business plan completion. Thus, in the survey respondents were asked if they had gotten involved in any business networks, such as trade associations, chambers of commerce, or service clubs such as the Lions or Rotary. A dummy variable was created with “1” indicating an affirmative response and “0” indicating otherwise. Finally, another social capital variable was constructed for those individuals who indicated that their family, relatives, and close friends were encouraging of their starting a business.

In addition to these three social capital variables, age, representing tacit experience accumulated as life-experience, was found to significantly influence the completion of business plan in Honig and Karlsson (2004)’s study. Therefore, it was also

added as a control. Nascent entrepreneurs who once took business class might demonstrate their exposure to normative planning forces. Thus, a dummy variable indentified those who completed a business class. Finally, bigger firms involve more complicated management tasks that entrepreneurs may face and therefore may indicate a higher level of necessity for a written business plan. Therefore, firm size, represented by the number of employees a firm had, was also added as a control variable.

Studies on the determinants of the speed of legal entity registration are relatively rare. However, as in business plan completion, similar arguments could be made for controlling for the effects of business network, encouragement, age, firm size, and age on the speed of legal entity establishment. In addition to these variables, prior startup experience and business education may also allow entrepreneurs to realize the importance of legal entity registration and therefore facilitate the completion of this process. Therefore, these variables were also added when testing the hypotheses.

As for studies on customers and strategic partners, similar to business entity registration, studies in this field are rare. Therefore, in addition to the two sides of regulatory foci, the following variables considered as associated with the number and prestige of customers and strategic partners were added to the regression as control variables. First, firm size is an important indicator of a startup firm's ability to devote enough resources to the viability and further development of the new ventures. Therefore, big size could be an attractive point for firms to choose potential suppliers and strategic partners. Second, prior startup experience of the lead entrepreneur could also be regarded as an important indicator of the ability of a new venture to continuously and effectively run its business. Third, the age of an entrepreneur might also be regarded as an important part of an entrepreneur's human capital and could be considered by potential customers

and strategic partners when making decisions for suppliers and strategic partners. Fourth, being part of a business network may facilitate the formation of business ties with potential customers and strategic partners within and even outside the business network. Therefore, these variables were added as controls when testing the hypotheses about the number of customers and strategic partners. Finally, when testing the prestige of customers and strategic partners, the number of customers and strategic partners, were further added into the regression as controls.

Finally, in terms of entry scope, the following variables were added as controls. First, firm size was controlled for its effect on entry scope. Second, age was also added because entrepreneurs may become conservative and tend to invest less as they age. Finally, it could be argued that entrepreneurs with prior startup experience may have more confidence in investing more at entry stage through their learning from prior experiences. However, it could also be argued that entrepreneurs without prior startup experience tend to under-estimate the risks involved in investment and thus invest more at the entry stage. Therefore, it was also worth adding prior startup experience as another control variable.

### **Descriptive Statistics and Data Reliability**

The operationalizations of variables and reliability of the measurements are described and discussed in this section. A summary list of variables and their measurement are all included in Table 4-1. The descriptive statistics (mean and standard deviation) and the correlations among all variables are provided in Table 4-2, the reliability measures of variables are in Table 4-3.

To check the inter and intra-rater agreements of the multi-item measures of firm level dependent and control variables collected from the survey, the responses to these

items obtained from the lead entrepreneurs in the Stage 2 data collection were compared with the responses to the same measures obtained from both the same lead entrepreneurs and the other key informants in Stage 1. To ensure that aggregation of data from individual responses to create firm level data was appropriate, inter-rater agreement (rwg) for the variables was assessed (James et al., 1984). George and Bettenhausen (1990) argued that rwg which was greater than or equal to 0.70 could be considered as indicators of good agreement within the group. The rwg values in this study all exceeded this threshold (Table 4-3). The ICC (1) and ICC (2) of all the multi-item firm level measure among these three groups were provided in Table 4-3. The test statistics (F-ratios) associated with the ICC(1) values of all the variables were statistically significant, indicating that much of the variance in ratings was due to firm membership (Bliese, 2000).

Despite the accepted practices of using firm-level measures from a single source (Atuahene-Gima & Murray, 2004; Forbes, 2005 & 2005), in order to maintain methodological rigor, in the later empirical tests, I only used the data collected from the 191 firms that responded to the surveys in both Stages 1 and 2 (similar to Souitaris & Maestro, 2010). The responses to these multi-item firm level measures for control and dependent variables from both the lead entrepreneurs and the key informants collected in the first round and the lead entrepreneurs in the second round were averaged to form final variables that were used in the statistical analyses (the empirical results did not significantly change when only data collected from the lead entrepreneurs in the first stage or averaged responses from both lead entrepreneurs and key informants collected in the first stage were used). Because there was high level agreement among the responses from the three groups of respondents (ICC(1), ICC(2), and rwg scores presented in Table

4-3), such averaged values from the three groups helped avoid the single-source biases common in the self-reported firm-level measures. The same statistical analyses were also run using the firm-level multi-item measures from only the lead entrepreneurs in the first round, the key informants in the first round, and the lead entrepreneurs in the second round. Similar empirical results were obtained (for the sake of simplicity these results were not presented).

I also ran Harman single-factor test to check the presence of common method effect. This method is based on the idea that if a substantial amount of common method variance is present, either (a) a single factor will emerge from the factor analysis; or (b) one general factor will account for the majority of the covariance among the variables (Podsakoff et al., 2003). The method loads all items of the multi-item measures on one factor to examine the fit of the confirmatory factor analysis model. If common method variance is largely responsible for the relationship among the variables, the one-factor CFA model should fit the data well. The results indicated that a single factor could only account for 21% of the total variance in the data, far below the 50% threshold.

Table 4-2 contains means, variance, correlations of all the variables, and some reliability statistics of multi-item variables. The statistics reported in Table 4-2 were calculated using only the observations used in the final statistical analyses. In terms of the reliability of the multi-item measures, the Cronbach's alpha coefficients of the multi-item measures used in the study all exceeded the threshold of 0.80 (See Table 4-3 for more details). In addition, composite reliability (CR) - an estimate of internal consistency analogous to an alpha coefficient - and average variance extracted (AVE) (Fornell & Larcker, 1981) were calculated. For all measures, the CR was well above the cutoff value of 0.70 and the AVE exceeded the 0.50 cutoff value (Table 4-3). To have enough

discriminant validity, a construct should share more variance with its measures than with other constructs in the model. Therefore, the square root of the AVE should exceed the intercorrelations of the construct with the other constructs in the model (Fornell & Larcker, 1981). In this study, no intercorrelations of the constructs exceeded the square root of the AVE (Table 4-3).

Correlations among the key independent variables were generally low. The strongest correlations were the one between the measures for TMT size and multiple founders (0.41), the one between measures for TMT size and firm size (0.37), and the one between measures for industry experience and age of entrepreneurs (0.33). Although these were not high enough to warrant significant concern, additional tests for multicollinearity were conducted. An examination of the variance inflation factor (VIF) values in OLS models did not indicate problems with multicollinearity in all the models (all VIF values < 10).

## Chapter 5: Results

In this chapter I present the models used to test all the proposed hypotheses and the empirical results. Three types of regression analyses were employed to test the hypotheses. Only the results with significance level below 0.05 are reported.

To test the hypotheses, I employed a stepwise hierarchical regression approach to assess the explanatory power of each set of variables (Aiken & West, 1991). I chose among OLS, logit, ordered logit, and Poisson regressions for the hypotheses, depending on the nature of the dependent variables to be examined. Specifically, in the first category, OLS regressions were used to test hypotheses concerning continuous dependent variables such as entrepreneurial orientation (H1a and H1b), decision comprehensiveness (H2a and H2b) and speed (H3a and H3b), speed of legal entity establishment (H5a and H5b), and first product speed (H10). Second, logit models were used to test hypotheses concerning business plan completion (H4a and H4b) and the prestige of strategic partners and customers (H8a, H8b, H9a, and H9b) because the dependent variables in these models were binary ones. In terms of the hypotheses concerning the rental expenses (H6a and H6b) and the number of customers (H7a), I chose to use ordered logit models because the dependent variables examined here were coded as ordinal ones. Finally, for the hypothesis about the number of strategic partners (H7b), Poisson regression models were used because the dependent variable used here was of count type.

Major assumptions of the regression models used were checked. There was no evidence of strong violations of these assumptions. The log of lead entrepreneurs' ages and the square root of lead entrepreneurs' relevant industry experiences, instead of the original variables, were used in statistical tests to make the distribution of the two

variables more dispersed and closer to normal distribution. However, the regression results did not change when the original untransformed variables were used.

The results in Table 5-1 offered support for Hypotheses 1a, i.e., the promotion focus of a lead entrepreneur was positively associated with a new venture entrepreneurial orientation (0.380,  $p < 0.01$ ). However, contrary to what was expected, the result of Model 2 in Table 1 did not lend support to Hypothesis 1b that proposed a negative relationship between a lead entrepreneur's prevention focus and the entrepreneurial orientation score of his or her new venture. The corresponding coefficient (- 0.120) was not statistically different from zero, though the direction of the regression coefficient was as proposed. This result revealed that the strong prevention focus of a lead entrepreneur, though not providing positive effect on the firm's entrepreneurial orientation, did not necessarily exert negative influence as proposed by the hypothesis either. As revealed in the empirical results in later part, this result did not necessarily imply an irrelevance of prevention focus to the entrepreneurial process and the existence of a strong prevention focus did exert positive effects on other aspects of the entrepreneurial process. Among control variables, firm size, environmental dynamism, and the control for pharmaceutical product industry were positively associated with a firm's entrepreneurial orientation, and the interaction between structural organicity and technocratic decision making was negatively associated with entrepreneurial orientation. This is consistent with both common sense and previous studies.

The empirical results in Table 5-2 supported both Hypotheses 2a and 2b. Hypotheses 2a and 2b examined the effect of entrepreneurial regulatory foci on the decision comprehensiveness and speed of new venture. Hypothesis 2a proposed that a lead entrepreneur's promotion focus was negatively associated with the decision

comprehensiveness of his or her new venture, whereas Hypothesis 2b predicted an opposite relationship between prevention focus and decision comprehensiveness. Table 5-2 shows regression results predicting the decision comprehensiveness of new ventures. Model 1 in Table 5-2 includes only the control variables whereas Model 2 includes both control and predictor variables, i.e., promotion focus and prevention focus. As shown, the negative coefficient (- 1.078,  $p < 0.01$ ) before promotion focus and the positive coefficient (0.315,  $p < 0.01$ ) before prevention focus indicated that, as predicted, there was a significant negative relationship between a lead entrepreneur's promotion focus and the decision comprehensiveness of his or her new venture, and a significant positive relationship between a lead entrepreneur's prevention focus and the decision comprehensiveness of his or her new venture. In addition, the decision comprehensiveness of a new venture showed greater sensitivity to its lead entrepreneur's prevention focus than to his or her promotion focus (0.315 vs. -1.078). Promotion focus and prevention focus combined could explain an additional 5.9% of the variance (Adjusted R<sup>2</sup> increases from 0.184 to 0.243). Among the control variables, decision centralization (measured as additional people involved in decision making), industry dynamism, and industry competitiveness exerted a significant influence on decision comprehensiveness.

Hypotheses 3a and 3b proposed that promotion-focused managers would make faster decisions whereas prevention-focused managers would make slower decisions. The results in Table 5-3 supported the proposed relationships, i.e., the positive main effect of promotion focus indicated that promotion-focused lead entrepreneurs tended to make faster decisions (1.496,  $p < 0.01$ ); and the negative main effect of prevention focus indicated that prevention-focused lead entrepreneurs tended to do the opposite (-0.170,  $p$

< 0.05). Promotion and prevention foci combined explained an additional 6% of the variance (Adjusted R2 increased from 0.107 in the control model to 0.167 in the full model). Among control variables, previous startup experience, environmental dynamism, and decision centralization (operationalized as the number of additional people involved in decision making) were found to significantly increase decision speed, whereas the age of the lead entrepreneur, existence of multiple founders, industry competitiveness, and large growing market significantly decreased decision speed.

The results in Table 5-4 confirmed Hypotheses 4a and 4b, supporting the proposition that a lead entrepreneur's promotion focus was negatively associated with the probability of a new venture's business plan completion ( $\beta = -0.706$ ,  $p < 0.001$ ), and his or her prevention focus was positively associated with the probability of the firm's business plan completion ( $\beta = 0.970$ ,  $p < 0.001$ ). More specifically, the coefficient before promotion focus indicated that one unit increase in the promotion focus score could lead to a 0.706 unit decrease in the logged odds of business completion. That is, one unit increase in the promotion focus score reduced the odds of business completion by a multiple of .706, or 29.4%. On the contrary, the positive coefficient before prevention focus indicated that one unit increase in prevention focus score would lead to a 0.970 unit increase in the logged odds of business plan completion. That is, one unit increase in the prevention focus score increased the odds of business completion by a multiple of .970, or 3%. Among all the control variables, encouragement from relatives and friends, firm age, and support agency contact positively influenced the probability of business plan completion whereas startup experience negatively influenced the probability.

In terms of legal entity establishment, the regression results in Table 5-5(A) offered mixed support to Hypotheses 5a and 5b. In Models A1 and A2, the speed of legal

entity establishment was measured as the total number of months past between the month when the legal entity of a firm was established and the month when the lead entrepreneur first came up with the idea of establishing the current new venture. The results in Model A2 in Table 5-5(A) showed that, as predicted, the promotion focus was positively associated with the speed of a new venture's legal entity establishment (2.644,  $p < 0.01$ ) whereas the prevention focus was negatively associated with the speed with which a new venture registered for its legal entity (-0.667,  $p < 0.01$ ). This indicated that a high entrepreneurial prevention focus helped increase the speed with which the new venture registers for its legal entity whereas a high promotion focus decreased the speed.

In Table 5-5(B), a different operationalization of the speed of the legal entity establishment was used to test Hypotheses 5a and 5b. The speed of legal entity establishment here was measured as the total number of months past between the month when a legal entity was established and the month when the lead entrepreneur formally decided to devote him- or herself to the creation of the firm. The results in the model similarly confirmed Hypothesis 5b, i.e., the prevention focus was significantly associated with the speed of legal entity establishment (-0.243,  $p < 0.01$ ). However, contrary to Hypothesis 5a, the promotion focus was not significantly related to the same dependent variable.

In comparison to the measure for the speed of legal entity establishment used in Model A2, the measure used in Model B2 covered relatively shorter period of time interval. The difference in the results of Model A2 Table 5-5(A) and Model B2 in Table 5-5(B) thus implied that, in general, it may take entrepreneurs with strong promotion focus longer time to register its firm for legal entity. However, with time approaching to the final legal entity establishment, the negative effect of promotion focus on the speed

would disappear. In other words, promotion-focused entrepreneurs may procrastinate in a certain way until they formally make up their mind creating the firm. In both Models A2 and B2, startup experience, entrepreneurial education, encouragement from relatives and friends, multiple founders, and support agency contact significantly influenced the probability of legal entity establishment.

Hypotheses 6a and 6b proposed that a lead entrepreneur's promotion focus was positively associated with the market entry scale of his or her new venture, whereas his or her prevention focus was negatively associated with the market entry scale. Office rent expense, measured as an ordinal categorical variable, was used as a proxy for the market entry scale. Accordingly, ordered logit regression was used to test the hypotheses. The results in Model 2 in Table 5-6 indicated that promotion focus was positively and significantly related to the total office rent expense (1.040,  $p < 0.01$ ), thus supporting Hypothesis 6a. However, the coefficient before the prevention focus was only marginally different from zero (-0.716,  $p < 0.10$ ), though its direction was consistent with Hypothesis 6b. Therefore, Hypothesis 6b was only partially supported.

The results in Table 5-7 showed a significant positive relationship ( $\beta = 0.676$ ,  $p < 0.01$ ) between promotion focus and the total number of customers that a new venture acquired, operationalized as an ordinal categorical variable, providing support for Hypothesis 7a. The coefficient before the promotion focus in Model 2 indicated that with one unit increase in an entrepreneur's promotion focus score, the ordered log-odds of his or her firms being in a higher category of customer number would increase by 0.676 while other variables in the model were held constant. Consistent with what was conjectured in the hypothesis development part, there was no significant relationship between prevention focus and the ordinal measure for the customer number. Also

consistent with previous research, the lead entrepreneur's industry experience and network membership had a positive effect on the number of customers. Among the control variables, industry experience, business network membership, prestige of customers, and the control for computer software industry were found to positively influence the total number of customers that a startup firm acquired.

Similarly, a significant positive relationship ( $\beta = 0.65$ ,  $p < 0.01$ ) between promotion focus and the total number of strategic partners was found in Table 5-8, confirming what Hypothesis 7b proposed. Poisson regression models the log of the expected count number as a function of predictor variables. Therefore, the empirical findings indicated that for a one unit increase in the score of an entrepreneur's promotion focus, there would be a 0.381 unit increase in the logs of expected counts, the other predictor variables in the model being held constant. Similar to the pattern found in Table 5-7, no significant relationship was found between prevention focus and the number of strategic partners that his or her new ventures had ( $0.037$ ,  $p > 0.10$ ). This is consistent with the conjecture that an entrepreneur's strong prevention focus neither boosts nor reduces the number of his or her new venture's strategic partners. In terms of the effects of the control variables, the industry experience of the lead entrepreneur, business network membership, the prestige of strategic partners, large growing market, and the control for pharmaceutical industry were found to positively influence the total number of strategic partners that the startup firm acquired.

Hypotheses 8a and 8b proposed a positive relationship not only between the entrepreneur's promotion focus and the prestige of his or her customers but also between his or her prevention focus and the prestige of his or her customers. The empirical results in Table 5-9 supported both hypotheses. In the full model with the two predictor variables

added into the regression, the coefficients before promotion and prevention foci (0.377,  $p < 0.01$ , and 0.226,  $p < 0.05$  respectively) indicated significant relations in the directions as expected, though the significance level associated with the prevention focus was lower than that of the promotion focus. Therefore, the results supported the original proposition that not only did a strong promotion focus exert a positive influence on the prestige of customers, but the prevention focus also had a similar effect on facilitating a new venture to secure more government or Fortune 1000 customers. As for the control variables, industry experience and firm age were found to positively influence customer prestige.

Hypotheses 9a and 9b proposed a similar pattern in the relationship between an entrepreneur's promotion focus and the prestige of his or her strategic partners, and the one between his or her prevention focus and the prestige of his or her strategic partners. The results in Table 5-10 lent support to both hypotheses. Model 1 only included control variables, and Model 2 added the two predictor variables. The coefficients before promotion and prevention foci in Model 2 both remained significant and positive (1.101,  $p < 0.05$  and 0.843,  $p < 0.01$ , respectively). Therefore, the results in Table 5-9 and Table 5-10 indicated that, unlike its nil effects on the number of customers and strategic partners, the prevention focus exerted a positive influence on the prestige of both of the customers and strategic partners.

Finally, the empirical results about the relationship between regulatory foci and the first product speed (Table 5-11) did not lend supports to Hypotheses 10a and 10b. In Models 1 and 2 in Table 5-11, first product speed was measured as the total number of months past between the month when the legal entity of the firm was established and the month when the first product was introduced to the market. In Model A2 in Table 5-11, the coefficient before the promotion focus did not significantly differ from zero (0.764,

$p > 0.10$ ), providing no support to Hypothesis 10a, whereas the coefficient before the prevention focus was only marginally significant and positive (1.477,  $p < 0.10$ ), lending limited support to Hypothesis 9b.

In summary, I list all the hypotheses and the results of hypothesis testing in Table 5-12.

## **Chapter 6: Conclusions**

In this final chapter I summarize the findings and address the implications of the study results to both theory and practice. I also address the limitations of the study, and highlight a number of possible future research opportunities to build on the research presented here.

### **SUMMARY OF FINDINGS**

The relationships between entrepreneurial regulatory foci and various new venture strategy process and content variables are identified and proposed. The empirical results provide support to some of the hypothesized relationships. For the strategy process variables, the promotion focus demonstrates a significant negative relationship with decision comprehensiveness (H2a) but a significant positive relationship with decision speed (H3a) and entrepreneurial orientation (H1a). On the other hand, the prevention focus exerts a significant positive effect on decision comprehensiveness (H2b) and a significant negative effect on decision speed (H3b), but shows no effect on entrepreneurial orientation (H1b).

The empirical results about the strategy content variables, i.e., new venture development activity variables are summarized below. Promotion focus positively related to the number and prestige of customers (H7a and H8a), and the number and prestige of strategic partners (H7b and H9a), and office rental (H6a), and is negatively related to the odds of business plan completion (H4a). However, the results only provide a partial support to the proposed positive relationship between promotion focus and legal entity establishment (H5a), and by no means support the proposed positive relationship with the first product speed (H10a). With regard to prevention focus, the empirical results support

its positive relationships to the prestige of customers (H8b) and strategic partners (H9b), and the odds of business plan completion (H4b), and its negative relationship to the speed of legal entity establishment (H5b). However, the results only provide a partial support to its negative relationship with the speed of the first product to market (H10b), and do not support a negative relationship between prevention focus and space rental expenditure (H6b).

### **CONTRIBUTIONS TO THE LITERATURE**

The empirical findings in this research project contribute to both the entrepreneurship and strategic management literature in several ways.

The primary objective of this dissertation is to find whether and how entrepreneur's regulatory foci influence various aspects of new venture strategy formulation and processes. Previously, two related research streams in the entrepreneurship literature have studied the influence of entrepreneurs on firm level outcomes. The first one was on new venture creation where only individual level dependent variables were studied. These DVs include entrepreneurial intention, decision to exploit through new venture creation, and search and discovery of opportunities. This stream of research, in general termed as individual-opportunity nexus (Shane, 2003), has revealed to us how various individual level independent variables influence entrepreneurs' decision for or intention of venture creation, conceptualized and measured as individual level variables. However, venture creation is a firm level phenomenon. Therefore, this stream of research has not been able to inform us how the more specific firm level activities associated with venture creation were determined. The focus of the second research stream was on the psychology of entrepreneurs, i.e., the link between certain characteristics of entrepreneurs and the performance of their firms (see Begley &

Boyd, 1987). Although mixed results were continuously found concerning the effect of entrepreneurial characteristics on firm success, little is known about the intervening processes that occur between these two types of variables. Therefore, the field has been long calling for entrepreneurial studies to go beyond the psychology of the entrepreneur, but to study the entrepreneur within an organizational context and the process by which individual characteristics affect organizational outcomes (Low & McMillan, 1988; Shane & Eckhardt, 2003; Venkataraman, 1997).

The current research proposes and identifies certain links between one pair of entrepreneurial personality variables, regulatory foci, and two groups of firm level variables demonstrated to influence firm performances, i.e., new venture strategy processes and more specific venture creation activities. The recognized link itself is important in that these dependent variables are heavily studied variables in both the entrepreneurship and strategic management literature and the empirical findings in the study tell us what factors at a higher level influence these variables. More importantly, this study provides a link through which future researchers can further connect entrepreneurs, firm strategy process variables, venture creation activities, and new venture performances. This thus helps people better understand new venture performance through the mechanisms that mediate entrepreneurial characteristics and venture performances.

This research also contributes to upper echelon theory. In testing the influences of entrepreneurs on firms, it directly measured an entrepreneurial personality variable and found its significant influence on firm strategic processes and choices. The extant upper echelon literature has focused on how top manager variables that could be retrieved from existing database or archives exert influences on firm strategies and performances of.

Therefore, despite their importance, studies of certain top management variables, such as personalities, have been delayed because of the difficulties involved in data collection. Recently, upper echelon scholars have attempted to use unobtrusive methods to measure top manager's psychological variables (e.g., Chatterjee & Hambrick, 2007). However, such a measurement still depends largely on the availability of very restricted types of archival documents. This study is probably one of the few that directly measures the psychological variables of top level managers (entrepreneurs) and tests their effects on firm strategies and performances.

Furthermore, this study also contributes to the strategy process literature by identifying factors that influence firm strategy processes. With few exceptions (e.g., Talaulicar et al., 2005), most of the extant strategy process literature has focused on the effect of strategy processes on firm performance while treating firm strategy process variables as a given. This study reveals that these strategy process variables are not exogenous but are determined by certain other variables.

#### **IMPLICATIONS TO PRACTICES**

This study not only contributes to theories in entrepreneurship, organization theory, and strategic management, but also provides practical implications to practitioners. Clearly, knowing the advantages and disadvantages of the two sides of regulatory foci in different aspects of new venture strategy processes and venture creation activities may help venture capitalists and entrepreneurial teams better assign entrepreneurial team members to different tasks and activities in the new venture creation phase. For example, when dealing with important customers and strategic partners who may have more strict screening processes in picking up their suppliers or partners, choosing entrepreneurial team members who are relatively both high in promotion and

prevention foci may best help new ventures secure opportunities to form relationships with them.

#### **LIMITATIONS AND FUTURE STUDIES**

As Hambrick (2007) proposed, studying the role of the top management as a team may better explain the variance in a firm's performance than studying only a single CEO. Although the typical settings of upper echelon research have been mature or public traded firms, the same logic could also be reasonably applied to new venture settings. Forming an entrepreneurial team and making decisions collectively has become a more common way for entrepreneurs to create and organize their new enterprises, especially in technology-intensive industries. It is possible that, in comparison to mature firm settings, top executive managers in startup firms may rely more on the expertise of an entrepreneurial team members when making important strategic decisions. Therefore, compared to the mature firm settings where both the top executive managers and the top management team are constrained by the bureaucracies and thus have less discretion, in new ventures where the operations and decision makings are less routinized, the characteristics of the entrepreneurial team may exert a stronger influence on both firm strategy processes and contents because they face less routinized operations and decision makings. However, because of the difficulties and financial constraints involved in data collection, the subjects of this study were only lead entrepreneurs instead of a whole entrepreneurial team. Some psychologists (Sassenberg, 2004) proposed the existence of group level regulatory foci. Future entrepreneurship researchers may empirically test the existence of group level regulatory foci in entrepreneurial firms and its relationship with new venture performance. It might be difficult to do empirical testing in the settings of real new ventures. However, with the popularity of business plan competition in

universities, it is possible for researchers to study the existence of group level of regulatory foci, and its relationships with certain aspects of the performance of entrepreneurial teams.

Second, the phases that the firms studied in this study are, as Aldrich (2006), nascent periods. Because of unavailability of performance data in the database in use and the sensitivity of the data to the survey subjects, it was impossible for this study to completely collect all the different aspects of new venture performance, such as profitability and survival. Even if this could be done, it is difficult to collect these data over a longer period of time. The incomplete data do not allow this study to completely build up the link between regulatory foci, firm strategic processes and choices, and performances over a longer period of time.

Future studies can explore the issue by tracking the performances of new ventures over a longer period of time. For example, it is possible that promotion focus and prevention focus may differentially influence the survival of new ventures in different phases of an entrepreneurial firm. During nascent and earlier period of new ventures, entrepreneurs need to motivate and persuade people to contribute to the development of new venture when the organization has few tangible rewards to offer. Because of the nature of the task, entrepreneurs may more heavily rely on their visionary skills, which are built on ideals and aspirations, to keep employees' eyes on the great potential gains that the new venture may bring to them at this time. Accordingly, promotion-focused behaviors are needed from lead entrepreneurs. On the other hand, entrepreneurial tasks also include mundane tasks, such as doing business registration, writing business plans, preparing the inspections from potential important customers, and implementing the entrepreneurial vision about the product and its markets. Thus, prevention-focused

behaviors are also needed from lead entrepreneurs. Therefore, promotion and prevention foci may both positively influence the survival of firms in early periods of new ventures, though the influence of one may be stronger than that of the other. However, in later period of new venture development when its operations become routinized, entrepreneurial promotion focus, also associated with strategic dynamism and volatility, will probably disrupt organizational routines and thus offset its beneficial effects. Consequently it may have nil or even negative effects on new venture survival. On the other hand, , the importance of entrepreneurial prevention focus may in the same periods remain unchanged or loom larger because as firm routines become solidified, attention to details associated with prevention focus may ensure the solidification of effective routines and the strategic directions of a new venture. Therefore, entrepreneurial prevention focus may continue to exert positive influence on firm survival even in later periods of a new venture. In order to empirically test these conjectures, it is then necessary to collect longitudinal data about firm survival.

Third, one of the difficulties long plaguing the entrepreneurship research, especially the studies related to new venture creation, is survival bias problem. That is, researchers could only observe and collect data from firms that have survived, but not those that have failed to start or ceased to operate before the observation and data collection start. In recent decades some research projects, such as PSED, have used longitudinal data that screened out people with entrepreneurial intentions and then traced the formation of new ventures over a long period of time. The inferences drawn from the dataset collected using this approach could be applied to the widest population. However, such projects required the intellectual input of a lot of entrepreneurship scholars and a large amount of financial and labor resources. Therefore, for most entrepreneurship

scholars with limited resources, such a data collection method may not be a realistic practice. This research project was no exception. In order to further mitigate the survival bias problem and make the inferences drawn from this study applicable to a population as wide as possible, I selected new ventures with no more than one year history of existence. As mentioned in the methodology part, due to the restricted range of firm history, the firms that ceased to operate only accounted for a very small percentage among the non-responding firms (25 out of 405). Therefore, the empirical results obtained from this study are not generalizable to people with entrepreneurial intentions only, but are only applicable to entrepreneurs who have actually started up their new ventures.

If financial and resource budgets permit, future researchers may study whether and how the two aspects of regulatory foci may differentially influence the decisions of people with entrepreneurial intentions to start up new ventures, and their strategy process and choices. Such studies can more completely eliminate the survival bias problem.

Other interesting issues related to regulatory foci in organizations can be further explored. For example, the two aspects of regulatory foci may be differentially associated with strategic dynamism and volatility, i.e., the extent to which a firm's strategies deviate from its earlier ones and from its industry average. It will be relatively easy to obtain financial performance and strategic choice data from these firms, though it might be more difficult to measure the regulatory foci scores of the top management in public firms. Because of the difficulties involved in collecting regulatory foci scores, future researchers may need to develop certain unobtrusive methods to measure the regulatory foci scores of the top managers, perhaps by using archival documents (Hambrick, 2007).

Table 4-1: Variables, Measures, and Data Sources

Type	Variables	Measures	Data Source
DV	Entrepreneurial orientation	9 items adapted from Covin & Slevin (1989); two items were modified	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Decision comprehensiveness	5 items from Atuahene-Gima & Li (2004)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Decision speed	3 items from Souitaris et al. (2010)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Business plan completion	Dummy variable indicating whether a new venture has a completed written business plan	Lead entrepreneur and key informants (Stage 1 survey)
	Speed of legal entity establishment	Two time interval variables	Lead entrepreneur (Stage 1 survey)
	Number of customers	Ordinal variable indicating the category of a firm's total number of customers	Lead entrepreneur and key informants (Stage 1 survey)
	Prestige of customers	Dummy variable indicating whether there is at least one customer who is either a government agency or Fortune 1000 firm	Lead entrepreneur and key informants (Stage 1 survey)
	Number of strategic partners	Total number of strategic partners	Lead entrepreneur and key informants (Stage 1 survey)
	Prestige of strategic partners	Dummy variable indicating whether there is at least one strategic partner who is either a government agency or	Lead entrepreneur and key informants (Stage 1 survey)

		Fortune 1000 firm	
	Speed to market	3 items adapted from Chen, Reilly et al. (2005) and Kessler & Chakrabarti (1999); alternative measure as the time interval between legal entity establishment and the product was introduced	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Market entry scope	Ordinal variable indicating the category of the firm's monthly rent expense	Lead entrepreneur and key informants (Stage 1 survey)
IV	Promotion focus	6 items from Regulatory Focus Questionnaire (Higgins, Friedman, et al. 2001)	Lead entrepreneur (Stage 1 survey)
	Prevention focus	5 items from Regulatory Focus Questionnaire (Higgins, Friedman, et al. 2001)	Lead entrepreneur (Stage 1 survey)
Controls	Environmental dynamism	5 items from Green et al. (2008)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Environmental competitiveness	2 items from Zirger & Maidique (1990)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Large growing market	2 items from Zirger & Maidique (1990)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Firm size	Total number of employees	Lead entrepreneur (Stage 1 survey)
	Firm age	Total number of the months past after the firm's legal entity registration	Lead entrepreneur (Stage 1 survey)
	Support agency contact	Dummy variable indicating if the firm has contacted any entrepreneurial support agencies	Lead entrepreneur (Stage 1 survey)
	Technocratic decision	4 items from Green et al. (2008)	Lead entrepreneur and key

	making		informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Structural organicity	7 items from Green et al. (2008)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Level of debate	4 items from Talaulicar et al. (2005)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	CEO model	A single item from Talaulicar et al. (2005)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Departmental model	A single item from Talaulicar et al. (2005)	Lead entrepreneur and key informants (Stage 1 survey); lead entrepreneur (Stage 2 survey)
	Marketing/product development position	A dummy variable indicating if the firm has a position specifically for marketing/product development	Lead entrepreneur (Stage 1 survey)
	Technological innovation	2 item measure from Schoonhoven, Eisenhardt, et al. (1990)	Lead entrepreneur and key informants (Stage 1 survey)
	TMT size	Number of people in TMT	Lead entrepreneur (Stage 1 survey)
	Multiple founders	Dummy variable indicating if a firm has more than 1 founder	Lead entrepreneur (Stage 1 survey)
	Lead entrepreneur age	Count number indicating the age of the lead entrepreneur	Lead entrepreneur (Stage 1 survey)
	Prior startup experience	Dummy variable indicating whether the lead	Lead entrepreneur (Stage 1

		entrepreneur has past startup experience	survey)
	Industry experience	Total number of years spent in the same industry where the current venture longs to	Lead entrepreneur (Stage 1 survey)
	Business class	A dummy variable indicating whether the lead entrepreneur has taken any business class	Lead entrepreneur (Stage 1 survey)
	Business network member	A dummy variable indicating whether the lead entrepreneur is a member of any business networks	Lead entrepreneur (Stage 1 survey)
	Encouragements	A dummy variable indicating whether the lead entrepreneur has received encouragements from friends, family, or any other people (Honig & Karlsson, 2004)	Lead entrepreneur (Stage 1 survey)

Table 4-2: Descriptive Statistics: Means, Standard Deviations, and Correlations

	Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
	<b>Independent Variables</b>															
1	Promotion focus	3.57	0.54													
2	Prevention focus	3.16	0.84	0.21												
3	Decision comprehensiveness	4.08	1.43	-0.35**	0.24**											
4	Decision speed	2.91	1.18	0.25**	-0.20**	-0.53**										
5	Entrepreneurial orientation	2.07	0.34	0.33**	-0.14	0.33	-0.21									
6	Business plan completion	0.34	0.48	-0.19**	0.28**	0.17	-0.21	0.10								
7	Speed of business entity establishment	12.80	3.26	0.26**	-0.25**	-0.23	0.28	-0.29	0.01							
8	Number of customers	2.34	1.02	0.15**	-0.10	-0.02	0.04	-0.02	-0.14	-0.01						
9	Prestige of customers	0.26	0.44	0.04**	0.21*	0.14	-0.14	0.09	0.10	0.00	0.05**					
10	Number of strategic partners	2.43	1.40	0.31**	0.02	-0.11	0.12	-0.09	-0.05	0.05	0.03	0.28				
11	Prestige of strategic partners	0.15	0.34	0.11*	0.21**	-0.12	0.01	-0.07	0.12	0.01	0.01	0.21	0.16**			
12	Speed to market	6.76	2.62	0.28	-0.27	0.12 <sup>†</sup>	-0.12	0.05	-0.06	-0.02	-0.01	-0.03	-0.10	-0.21		
13	Market entry scope	2.49	1.18	0.29**	-0.15 <sup>†</sup>	-0.18	0.20	0.11	-0.15	0.16	0.03	-0.04	0.20	0.01	0.11	
14	Firm size	10.05	8.44	0.07	-0.19	0.08	0.08	0.23**	-0.15	-0.03	0.04	0.25	0.33	-0.03	0.08	0.33**
15	Firm age	8.12	2.11	0.01	-0.07	-0.01	-0.03	0.04	0.06**	-0.06	0.16	0.15**	0.07	0.03	0.13	0.18
16	Lead entrepreneur age	37.83	7.76	-0.26	0.25	0.29	-0.09**	0.22	0.12	-0.24*	0.13	0.40	0.13	0.17	-0.12	-0.36**
17	Prior startup experience	0.47	0.50	0.06	0.07	-0.04	0.05**	0.01	-0.11**	-0.10**	0.08	0.05	0.12	-0.03	0.01	0.01
18	Industry experience	8.30	6.47	-0.03	0.20	0.16 <sup>†</sup>	-0.07 <sup>†</sup>	0.16	0.04	-0.10	0.20**	0.45*	0.30*	0.29**	-0.17	-0.25
19	Business class	0.25	0.43	0.05	0.07	0.03	-0.01	-0.02	-0.03	-0.14*	0.14	-0.09	0.06	-0.05	-0.14	-0.03
20	Business network member	0.34	0.78	0.01 <sup>†</sup>	-0.10	-0.03	0.07	0.05	-0.03	-0.05	0.05*	0.01	0.27**	0.02*	0.19	0.16
21	Encouragements	0.29	0.45	0.03	0.02	-0.05	0.12	0.11	0.17*	-0.06*	0.12	0.11	0.13	0.07	-0.01	0.03
22	Agency contact	0.42	0.50	0.04	-0.05	-0.02	-0.01	-0.07	0.04*	0.05**	0.04	0.11	-0.05	0.05	-0.08	-0.07
23	Technocratic decision making	4.05	1.35	-0.08	-0.00	0.02	0.02	0.03 <sup>†</sup>	-0.16	-0.06	0.09	-0.19	-0.16	-0.18	0.12	-0.03
24	Structural organicity	4.09	1.29	0.07	-0.11	-0.04	0.10	0.06 <sup>†</sup>	-0.13	0.13	0.11	0.02	0.08	0.16	-0.02	0.08
25	Debate	4.23	2.10	0.07	0.20	0.04	0.08	0.09	0.01	0.21	0.08	0.01	0.04	0.03	0.22	0.31
26	CEO model	0.41	0.35	0.10	0.21	0.11	0.30	0.04	0.00	0.15	0.27	0.07	0.07	0.15	0.26	0.17
27	Departmental model	0.51	0.47	0.22	0.14	0.31*	0.24	0.15	0.06	0.03	0.01	0.11	0.09	0.12	0.14	0.03
28	TMT size	1.59	1.51	-0.04	-0.15	0.04	-0.17*	0.15	-0.09	0.05**	0.02 <sup>†</sup>	0.11	0.25	-0.15	0.14	0.24*
29	Multiple founders	0.51	0.50	0.13	-0.03	0.06*	0.01	0.20	0.13**	0.03	-0.09	0.17	0.17	0.01	0.01	0.29
30	Environmental dynamism	4.03	1.08	0.09	-0.00	-0.19**	0.03*	0.14**	0.06	0.18	0.00	-0.09	0.10	0.11	0.06	0.02
31	Environmental Competitiveness	3.57	1.28	-0.04	-0.01	0.03*	-0.06**	0.29	0.07	-0.05	-0.02	0.00	-0.15	0.09	-0.11	-0.10
32	Large growing market	4.17	1.32	-0.04	0.10	0.00	-0.08*	0.23	0.00	0.01	0.04	-0.03	0.05**	-0.03	-0.01	0.20**

\*\* : p<0.01; \* : p<0.05; † : p<0.10

Table 4-2: Descriptive Statistics (Continued)

	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
14 Firm size																		
15 Firm age	0.24																	
16 Lead entrepreneur age	-0.04	-0.06																
17 Prior startup experience	0.13	0.10	0.03**															
18 Industry experience	-0.04	-0.02	0.33**	0.05**														
19 Business class	-0.02	-0.08	0.03	-0.09	-0.03													
20 Business network member	0.13	0.03*	0.02**	-0.06	0.01*	0.00												
21 Encouragements	0.01	-0.04	0.12	0.03	0.11	0.01	0.03											
22 Agency contact	-0.05	-0.09	0.07	0.01	0.13**	0.11	-0.09**	0.03										
23 Technocratic decision making	0.06	0.05	0.04	0.07	0.01	0.13	0.05	-0.08	0.09									
24 Structural organicity	0.05**	0.05	-0.04	-0.04*	0.03	-0.10	-0.05	-0.02	0.01	-0.09								
25 debate	0.07	0.04	0.15	0.03	0.21	0.21	0.20	0.04	0.08	0.05	0.03							
26 CEO model	0.11	0.12	0.04	0.02	0.06	0.04	0.17	0.20	0.07	0.11	0.05	0.03						
27 Departmental model	0.33	0.22	0.12	0.14	0.07	0.13	0.04	0.15	0.12	0.06	0.08	0.11	0.00					
28 TMT size	0.37	0.29	-0.10**	0.09	-0.14	-0.09†	0.10	0.01	-0.09	-0.06	0.11	0.21	0.17	0.04				
29 Multiple founders	0.32	0.08	0.04	0.05	-0.06†	-0.08	0.04	-0.02	-0.02	-0.12	.00	0.15	0.30	0.12	0.41**			
30 Environmental dynamism	-0.04	0.05	-0.07	-0.14	-0.05	-0.06	-0.03	-0.11	-0.08	-0.14	.07	0.11	0.07	0.11	0.03	-0.01		
31 Environmental Competitiveness	-0.11	0.02	0.07	0.02	0.12	0.04	-0.20	0.22†	0.03	-0.15†	-0.06	0.04	0.10	0.04	-0.11	0.07	-0.05	
32 Large growing market	0.01**	-0.08	0.07	-0.04	0.03	-0.06	0.29	0.01	-0.09	0.15	0.04	0.07	0.12	0.05	-0.00	-0.03	0.05	-0.21

\*\* : p<0.01; \* : p<0.05; † : p<0.10

Table 4-3: Reliability Statistics: Cronbach's Alphas, Composite Reliability, AVE, ICC(1), ICC(2), and  $r_{wg}$

	Variables	Mean	S.D.	CA	CR	AVE	ICC(1)	ICC(2)	$r_{wg}$
	Independent Variables								
1	Promotion focus	3.57	0.54	0.88	0.87	0.75	0.35	0.71	0.83
2	Prevention focus	3.16	0.84	0.90	0.88	0.71	0.32	0.70	0.90
3	Decision comprehensiveness	4.08	1.43	0.85	0.84	0.69	0.24	0.68	0.85
4	Decision speed	2.91	1.18	0.80	0.79	0.72	0.18	0.50	0.79
5	Entrepreneurial orientation	2.07	0.34	0.84	0.85	0.68	0.22	0.63	0.77
23	Technocratic decision making	4.05	1.35	0.87	0.85	0.71	0.19	0.61	0.75
24	Structural organicity	4.09	1.29	0.84	0.83	0.75	0.31	0.62	0.80
25	Debate	4.23	2.10	0.77	0.76	0.65	0.23	0.53	0.77
30	Environmental dynamism	4.03	1.08	0.80	0.82	0.66	0.26	0.67	0.81
31	Environmental Competitiveness	3.57	1.28	0.75	0.74	0.70	0.31	0.77	0.75
32	Large growing market	4.17	1.32	0.74	0.75	0.70	0.26	0.65	0.75

Table 5-1: Entrepreneurial Orientation

Variables	Entrepreneurial Orientation (OLS)	
	Model 1	Model 2
<b>Personal Level Controls</b>		
Founding Experience	0.173 (0.155)	0.163 (0.152)
Industry Experience (sqrt)	-0.068 (0.074)	-0.090 (0.074)
Age (log)	0.240 (0.205)	0.649 (0.512)
Business Class	0.021 (0.187)	0.035 (0.184)
<b>Firm Level Controls</b>		
Centralization	-0.084 (0.088)	-0.119 (0.086)
Multiple Founders	0.084 (0.112)	0.166 (0.109)
Firm Size (log)	0.444** (0.161)	0.424** (0.160)
Firm Age	-0.105 (0.108)	-0.089 (0.055)
Structural Organicity (SO)	0.393* (0.192)	0.358† (0.187)
Technocratic Decision Making (TDM)	0.327† (0.185)	0.313† (0.181)
SO*TDM	-0.183** (0.043)	-0.177** (0.042)
<b>Industry Level Controls</b>		
Dynamism	0.170** (0.053)	0.164** (0.052)
Competition	-0.024 (0.037)	-0.034 (0.026)
Large Growing Market	0.036 (0.028)	0.046 (0.049)
Biotechnology	0.157 (0.128)	0.192 (0.124)
Computer software	0.525† (0.300)	0.523† (0.300)
Pharmaceutical products	0.503* (0.250)	0.564* (0.254)
Commercial research	0.241 (0.177)	0.213 (0.158)
<b>Regulatory Foci</b>		
Promotion Focus		0.380** (0.135)
Prevention Focus		-0.120 (0.093)
Overall R2	0.235	0.301
Adjusted R2	0.155	0.219
F	2.94**	3.66**

Note: † p<.1; \* p<.05; \*\* p<.01.

Table 5-2: Decision Comprehensiveness

Variables	Decision Comprehensiveness (OLS)	
	Model 1	Model 2
Personal Level Controls		
Founding Experience	-0.276 (0.228)	-0.203 (0.170)
Industry Experience (sqrt)	0.132 (0.108)	0.099 (0.082)
Age (log)	1.104 (0.745)	0.360 (0.572)
Business Class	-0.115 (0.270)	-0.031 (0.202)
Firm Level Controls		
Centralization	0.044* (0.018)	0.112* (0.055)
Multiple Founders	-0.430† (0.250)	-0.366† (0.231)
CEO model	0.093 (0.083)	0.071 (0.054)
Departmental model	0.120† (0.069)	0.101† (0.059)
Firm Size (log)	0.189 (0.232)	0.171 (0.175)
Debate	0.082† (0.045)	0.074 (0.065)
Firm Age	-0.041 (0.159)	-0.113 (0.118)
Industry Level Controls		
Dynamism	-0.183** (0.060)	-0.143** (0.049)
Competition	0.152* (0.072)	0.100* (0.043)
Large Growing Market	0.014 (0.087)	-0.027 (0.065)
Biotechnology	-0.306 (0.331)	0.246 (0.246)
Computer software	0.234 (0.438)	0.227 (0.327)
Pharmaceutical products	-0.298 (0.373)	0.177 (0.277)
Commercial research	0.124 (0.084)	0.112 (0.078)
Regulatory Foci		
Promotion Focus		-1.078** (0.161)
Prevention Focus		0.315** (0.103)
Overall R2	0.261	0.323
Adjusted R2	0.184	0.243
F	3.37**	4.06**

Note: † p<.1; \* p<.05; \*\* p<.01.

Table 5-3: Decision Speed (the bigger the quicker)

Variables	Decision Speed (OLS)	
	Model 1	Model 2
Personal Level Controls		
Founding Experience	0.146** (0.042)	0.116** (0.034)
Industry Experience (sqrt)	-0.091* (0.041)	-0.176† (0.107)
Age (log)	-1.248** (0.166)	-0.458** (0.220)
Business Class	0.026 (0.227)	-0.076 (0.166)
Firm Level Controls		
Centralization	-0.318** (0.106)	-0.171* (0.078)
Multiple Founders	-0.533* (0.261)	-0.265* (0.124)
Firm Size (log)	-0.171 (0.195)	-0.124 (0.143)
CEO model	0.023 (0.041)	0.052 (0.044)
Departmental model	0.090† (0.052)	0.061† (0.035)
Debate	0.071 (0.062)	0.082 (0.055)
Firm Age	-0.248 (0.163)	-0.104 (0.097)
Industry Level Controls		
Dynamism	0.058** (0.020)	0.045* (0.022)
Competition	-0.198** (0.034)	-0.072** (0.028)
Large Growing Market	-0.096* (0.053)	-0.127* (0.053)
Biotechnology	-0.110 (0.278)	0.050 (0.202)
Computer software	-0.164 (0.368)	-0.116 (0.269)
Pharmaceutical products	0.163 (0.313)	0.116 (0.228)
Commercial research	0.242 (0.171)	0.213 (0.164)
Regulatory Foci		
Promotion Focus		1.496** (0.132)
Prevention Focus		-0.170* (0.075)
Overall R2	0.192	0.255
Adjusted R2	0.107	0.167
F	2.27**	2.91**

Note: † p<.1; \* p<.05; \*\* p<.01.

Table 5-4: Business Plan Completion

Variables	Business Plan Completion (Logit)	
	Model 1	Model 2
<b>Personal Level Controls</b>		
Founding Experience	-0.547** (0.139)	-0.739** (0.259)
Industry Experience (sqrt)	-0.233 (0.178)	-0.294 (0.197)
Age (log)	2.517 (1.266)	2.115 (1.425)
Business Class	-0.041 (0.472)	-0.218 (0.520)
Business Network Member	-0.182 (0.420)	-0.048 (0.448)
Encouragements	0.780** (0.217)	0.983* (0.464)
<b>Firm Level Controls</b>		
Centralization	0.023 (0.211)	0.070 (0.230)
Multiple Founders	0.188 (0.518)	-0.046 (0.549)
Firm Size (log)	-0.509 (0.397)	-0.272 (0.435)
Firm Age	0.192* (0.261)	0.177* (0.083)
Support Agency Contact	0.242* (0.400)	0.513* (0.428)
<b>Industry Level Controls</b>		
Dynamism	0.125 (0.132)	0.128 (0.140)
Competition	-0.073 (0.156)	-0.104 (0.169)
Large Growing Market	-0.275† (0.154)	-0.229 (0.162)
Biotechnology	0.843 (0.541)	1.094 (0.593)
Computer software	-0.992 (0.762)	-0.721 (0.826)
Pharmaceutical products	-0.341 (0.511)	-0.478 (0.554)
Commercial research	0.322 (0.171)	0.201 (0.122)
<b>Regulatory Foci</b>		
Promotion Focus		-0.706** (0.233)
Prevention Focus		0.970** (0.281)
Pseudo R2	0.177	0.248
$\chi^2$	38.67**	52.15**
-2 log likelihood	179.91	158.43

Note: † p<.1; \* p<.05; \*\* p<.01.

Table 5-5(A): Legal Entity Establishment (the larger, the slower)

Variables	Legal Entity Establishment Speed (OLS)	
	ModelA1	ModelA2
Personal Level Controls		
Founding Experience	-0.297** (0.116)	-0.426** (0.203)
Industry Experience (sqrt)	0.051 (0.145)	-0.038 (0.2278)
Age (log)	-3.278* (1.697)	-1.312* (0.591)
Entrepreneurial Education	-0.700* (0.343)	-0.822* (0.415)
Business Network Member Encouragements	-0.082 (0.071)	-0.285 (0.487202)
	-0.141** (0.051)	-0.132* (0.063)
Firm Level Controls		
Centralization	0.126 (0.2023498)	-0.094 (0.123)
Multiple Founders	0.407** (0.102)	0.423** (0.207)
Firm Size (log)	-0.278 (0.334)	-0.504 (0.498)
Support Agency Contact	-0.685** (0.327)	-0.416** (0.185)
Industry Level Controls		
Dynamism	0.305† (0.172)	0.251 (0.158)
Competition	0.042 (0.057)	0.024 (0.029)
Large Growing Market	-0.037 (0.100)	-0.148 (0.184)
Biotechnology	0.734 (0.661)	0.315 (0.210)
Computer software	0.313 (0.438)	-0.194 (0.128)
Pharmaceutical products	1.036 (0.649)	0.692 (0.580)
Commercial research	0.425 (0.371)	0.232 (0.176)
Regulatory Foci		
Promotion Focus		2.644** (0.586)
Prevention Focus		-0.667** (0.233)
Overall R2	0.204	0.275
Adjusted R2	0.126	0.194
F	2.61**	3.41**

Note: † p<.1; \* p <.05; \*\* p<.01.

Table 5-5(B): Legal Entity Establishment (the larger, the slower)

Variables	Legal Entity Establishment Speed (OLS)	
	ModelB1	ModelB2
Personal Level Controls		
Founding Experience	-0.477** (0.166)	-0.414** (0.147)
Industry Experience (sqrt)	0.392 (0.354)	0.419 (0.356)
Age (log)	-0.986† (0.532)	-0.645 (0.532)
Entrepreneurial Education	-0.602* (0.285)	-0.518* (0.256)
Business Network Member	-0.523 (0.337)	-0.594 (0.374)
Encouragements	-0.151** (0.049)	-0.142** (0.043)
Firm Level Controls		
Centralization	0.040 (0.078)	0.030 (0.180)
Multiple Founders	0.89* (0.412)	0.820* (0.330)
Firm Size (log)	-0.765 (0.549)	-0.912 (0.741)
Support Agency Contact	-0.321** (0.103)	-0.265** (0.092)
Industry Level Controls		
Dynamism	0.065 (0.109)	0.072 (0.108)
Competition	0.105 (0.127)	0.105 (0.136)
Large Growing Market	-0.018 (0.027)	-0.036 (0.038)
Biotechnology	0.475 (0.419)	0.430 (0.418)
Computer software	1.079 (0.694)	1.307 (0.803)
Pharmaceutical products	-1.303 (0.811)	-1.361 (0.933)
Commercial research	0.321 (0.411)	0.233 (0.247)
Regulatory Foci		
Promotion Focus		0.347 (0.402)
Prevention Focus		-0.243** (0.075)
Overall R2	0.182	0.243
Adjusted R2	0.102	0.137
F	2.26**	2.89**

Note: † p<.1; \* p <.05; \*\* p<.01.

Table 5-6: Office Rent Expense

Variables	Office Rent Expense (Ordered Logit)	
	Model 1	Model 2
Personal Level Controls		
Founding Experience	-0.190 (0.317)	-0.078 (0.324)
Industry Experience (sqrt)	0.007 (0.150)	0.005 (0.158)
Age (log)	-1.665** (0.550)	-1.880** (0.621)
Entrepreneurial Education	0.077 (0.371)	0.121 (0.382)
Business Network Member	0.200 (0.338)	0.092 (0.346)
Firm Level Controls		
Centralization	0.464** (0.174)	0.408* (0.179)
Multiple Founders	-0.405 (0.430)	-0.138 (0.440)
Firm Size (log)	1.540** (0.340)	1.503** (0.351)
Support Agency Contact	-0.043 (0.317)	-0.131 (0.322)
Industry Level Controls		
Dynamism	0.023 (0.106)	0.001 (0.109)
Competition	0.158 (0.160)	0.055 (0.158)
Large Growing Market	0.440** (0.133)	0.524** (0.137)
Biotechnology	0.384 (0.449)	0.520 (0.465)
Computer software	0.590 (0.593)	0.507 (0.606)
Pharmaceutical products	0.097 (0.502)	0.460 (0.519)
Commercial research	0.082 (0.113)	0.142 (0.124)
Regulatory Foci		
Promotion Focus		1.040** (0.321)
Prevention Focus		-0.716† (0.413)
Pseudo R2	0.246	0.295
$\chi^2$	121.15**	145.16**
-2 log likelihood	371.38	347.37

Note: † p<.1; \* p <.05; \*\* p<.01.

Table 5-7: Number of Customers

Variables	Customer Number (Ordered Logit)	
	Model 1	Model 2
Personal Level Controls		
Founding Experience	-0.302 (0.321)	-0.241 (0.326)
Industry Experience (sqrt)	0.350** (0.120)	0.308** (0.14)
Age (log)	0.668 (1.041)	1.467 (1.124)
Business Class	0.099 (0.379)	0.036 (0.388)
Business Network Member	0.358* (0.158)	0.313* (0.127)
Firm Level Controls		
Centralization	0.398* (0.177)	0.332† (0.180)
Multiple Founders	0.782† (0.445)	0.651 (0.446)
Firm Size (log)	0.198 (0.318)	0.210 (0.330)
Firm Age	0.178 (0.208)	0.142 (0.210)
Support Agency Contact	-0.140 (0.314)	-0.208 (0.318)
Prestige of customers	0.152**	0.117**
Industry Level Controls		
Competition	0.110 (0.151)	0.078 (0.153)
Large Growing Market	0.168 (0.128)	0.199 (0.130)
Biotechnology	-0.541 (0.461)	-0.504 (0.464)
Computer software	3.431 ** (0.655)	3.205** (0.670)
Pharmaceutical products	0.125 (0.495)	0.254 (0.497)
Commercial research	0.411 (0.358)	0.212 (0.157)
Regulatory Foci		
Promotion Focus		0.676** (0.308)
Prevention Focus		-0.233 (0.198)
Pseudo R2	0.158	0.203
$\chi^2$	70.10**	72.69**
-2 log likelihood	372.45	285.86

Note: † p<.1; \* p <.05; \*\* p<.01.

Table 5-8: Number of Strategic Partners

Variables	Partner Number (Poisson)	
	Model 1	Model 2
Personal Level Controls		
Founding Experience	0.089 (0.104)	0.070 (0.105)
Industry Experience (sqrt)	0.167** (0.055)	0.133* (0.055)
Age (log)	-0.272 (0.362)	0.046 (0.385)
Entrepreneurial Education	0.183 (0.122)	0.156 (0.125)
Business Network Member	0.278** (0.089)	0.253** (0.081)
Firm Level Controls		
Centralization	0.026 (0.059)	-0.008 (0.061)
Multiple Founders	0.031 (0.149)	0.072 (0.151)
Firm Size (log)	0.113 (0.111)	0.153 (0.113)
Firm Age	0.015 (0.074)	0.021 (0.074)
Support Agency Contact	-0.852 (0.106)	-0.090 (0.107)
Prestige of strategic partners	0.317* (0.152)	0.236* (0.117)
Industry Level Controls		
Competition	-0.029 (0.052)	-0.031 (0.052)
Large Growing Market	0.044** (0.012)	0.034** (0.012)
Biotechnology	0.006 (0.149)	0.050 (0.151)
Computer software	0.183 (0.211)	0.121 (0.212)
Pharmaceutical products	0.210** (0.070)	0.152** (0.048)
Commercial research	0.134 (0.711)	0.223 (0.146)
Regulatory Foci		
Promotion Focus		0.318** (0.102)
Prevention Focus		0.037 (0.069)
Pseudo R2	0.157	0.201
$\chi^2$	83.853	91.947
-2 log likelihood	450.24	365.50

Note: † p<.1; \* p<.05; \*\* p<.01.

Table 5-9: Prestige of Customers

Variables	Customer Prestige (Logit)	
	Model 1	Model 2
Personal Level Controls		
Founding Experience	0.238 (0.436)	0.070 (0.449)
Industry Experience (sqrt)	0.556* (0.242)	0.495* (0.260)
Age (log)	4.181 (0.654)	4.130 (1.813)
Entrepreneurial Education	-0.434 (0.544)	-0.653 (0.562)
Business Network Member	-0.257 (0.469)	-0.140 (0.486)
Firm Level Controls		
Centralization	0.131 (0.240)	0.191 (0.261)
Multiple Founders	0.692 (0.602)	0.515 (0.611)
Firm Size (log)	0.007 (0.470)	0.240 (0.503)
Firm Age	0.165** (0.022)	0.152** (0.051)
Support Agency Contact	0.306 (0.457)	0.470 (0.472)
Number of customers	0.124 (0.101)	0.171 (0.122)
Industry Level Controls		
Competition	-0.146 (0.179)	-0.137 (0.184)
Large Growing Market	-0.304 (0.180)	-0.325 (0.190)
Biotechnology	-1.073 (0.651)	-0.928 (0.665)
Computer software	-1.041 (0.955)	-0.737 (0.990)
Pharmaceutical products	-0.253 (0.523)	0.003 (0.543)
Commercial research	0.216 (0.171)	0.124 (0.110)
Regulatory Foci		
Promotion Focus		0.377**(0.104)
Prevention Focus		0.326*(0.148)
Pseudo R2	0.176	0.224
$\chi^2$	35.34**	40.74**
-2 log likelihood	165.84	140.97

Note: † p<.1; \* p<.05; \*\* p<.01.

Table 5-10: Prestige of Strategic Partners

Variables	Partner Prestige (Logit)	
	Model 1	Model 2
Personal Level Controls		
Founding Experience	-0.091 (0.486)	-0.198 (0.506)
Industry Experience (sqrt)	0.520** (0.185)	0.326** (0.117)
Age (log)	-0.543 (1.681)	0.477 (1.863)
Entrepreneurial Education	-0.266 (0.600)	-0.514 (0.616)
Business Network Member	0.147* (0.502)	0.343* (0.524)
Firm Level Controls		
Centralization	-0.039 (0.279)	-0.163 (0.298)
Multiple Founders	0.316 (0.632)	0.178 (0.656)
Firm Size (log)	-0.669 (0.528)	-0.213 (0.585)
Firm Age	-0.456 (0.333)	-0.388 (0.244)
Support Agency Contact	-0.457 (0.496)	0.154 (0.523)
Number of strategic partners	0.210 (0.168)	0.137 (0.124)
Industry Level Controls		
Competition	-0.216 (0.200)	-0.194 (0.207)
Large Growing Market	-0.032 (0.188)	-0.077 (0.199)
Biotechnology	-1.449 (0.799)	-1.102 (0.826)
Computer software	-1.315 (0.959)	-0.863 (1.011)
Pharmaceutical products	-0.351 (0.591)	0.068 (0.632)
Commercial research	-0.211 (0.135)	0.104 (0.075)
Regulatory Foci		
Promotion Focus		1.101* (0.539)
Prevention Focus		0.843** (0.301)
Pseudo R2	0.184	0.230
$\chi^2$	38.93**	45.98**
-2 log likelihood	173.10	154.05

Note: † p<.1; \* p<.05; \*\* p<.01.

Table 5-11: First Product Speed (the larger, the slower)

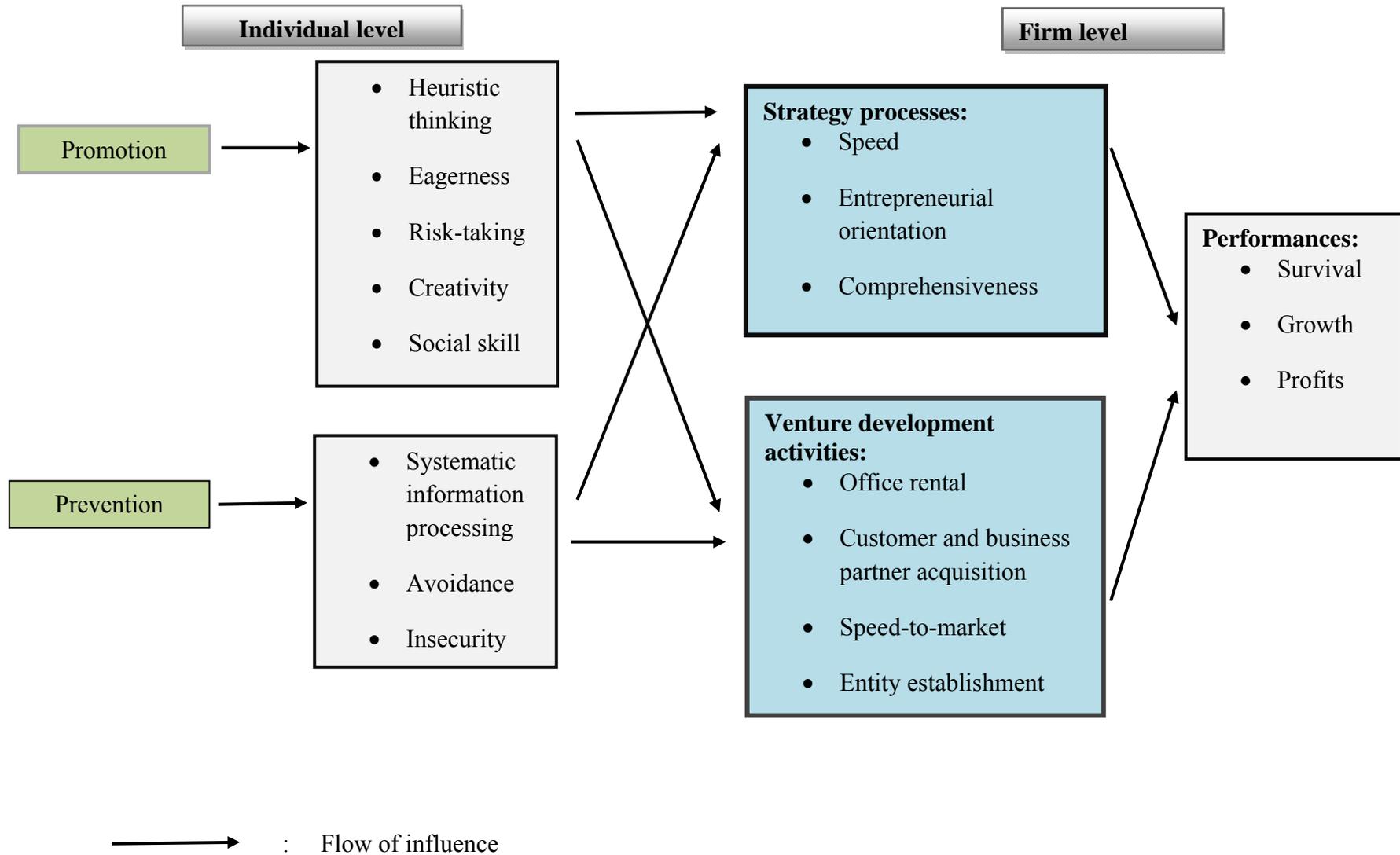
Variables	First Product Speed (OLS)	
	ModelA1	ModelA2
Personal Level Controls		
Founding Experience	-0.043 (0.119)	0.374 (0.339)
Industry Experience (sqrt)	-0.239* (0.118)	-0.121* (0.058)
Entrepreneurial Education	-1.029 (0.694)	-0.593 (0.400)
Firm Level Controls		
Centralization	0.030 (0.026)	0.022 (0.027)
Firm Size (log)	0.638 (0.481)	0.344 (0.316)
Support Agency Contact	0.010 (0.021)	0.009 (0.011)
Average Monthly Expense	-0.112** (0.039)	-0.100** (0.033)
Technological Innovation	0.236** (0.109)	0.214** (0.101)
Organizational Structure	-0.379* (0.182)	-0.231† (0.124)
Industry Level Controls		
Dynamism	0.020 (0.030)	0.010 (0.012)
Competition	-0.121** (0.044)	-0.091* (0.042)
Large Growing Market	-0.150* (0.075)	-0.101* (0.041)
Biotechnology	-0.390 (0.316)	-0.824 (0.585)
Computer software	-1.113** (0.115)	-0.803** (0.226)
Pharmaceutical products	-0.046** (0.014)	-0.071** (0.038)
Commercial research	0.421 (0.341)	0.324 (0.289)
Regulatory Foci		
Promotion Focus		0.764 (0.652)
Prevention Focus		1.477† (0.802)
Overall R2	0.227	0.316
Adjusted R 2(or Pseudo R2)	0.156	0.240
F	3.19**	4.16**

Note: † p<.1; \* p <.05; \*\* p<.01.

Table 5-12: Summary of Regression Results

Hypothesis	Table	DV	IV	Predicted Direction	Support
H1a	Table 5-1	Entrepreneurial orientation	Promotion focus	+	Yes
H1b			Prevention focus	-	No
H2a	Table 5-2	Decision comprehensiveness	Promotion focus	-	Yes
H2b			Prevention focus	+	Yes
H3a	Table 5-3	Decision speed	Promotion focus	+	Yes
H3b			Prevention focus	-	Yes
H4a	Table 5-4	Business plan completion	Promotion focus	-	Yes
H4b			Prevention focus	+	Yes
H5a	Table 5-5(A) (Model A)	Speed of legal entity establishment	Promotion focus	-	Yes
H5b			Prevention focus	+	Yes
H5a	Table 5-5(B) (Model B)	Speed of legal entity establishment	Promotion focus	-	No
H5b			Prevention focus	+	Yes
H6a	Table 5-6	Office rent expense	Promotion focus	+	Yes
H6b			Prevention focus	-	Marginal support
H7a	Table 5-7	Customer number	Promotion focus	+	Yes
			Prevention focus	Not proposed	Insignificant
H7b	Table 5-8	Strategic partner number	Promotion focus	+	Yes
			Prevention focus	Not proposed	Insignificant
H8a	Table 5-9	Customer prestige	Promotion focus	+	Yes
H8b			Prevention focus	+	Yes
H9a	Table 5-10	Strategic partner prestige	Promotion focus	+	Yes
H9b			Prevention focus	+	Yes
H10a	Table 5-11	First product speed	Promotion focus	+	No
H10b			Prevention focus	+	Marginal support

Figure 3-1: Regulatory foci and their outcomes





## VENTURE DEVELOPMENT

What is the current form of your business plan? Please check the box the best fits your answer:  
 Unwritten (in your head)       Informally written       Formally prepared

In what month and year did you first come up with the *rough* idea of establishing this new business?  
Year \_\_\_\_ Month \_\_\_\_

In what month and year did you *seriously* decide to *devote* yourself to the creation of this new business?  
Year \_\_\_\_ Month \_\_\_\_

In what month and year was the *legal entity* of your new business registered?  
Year \_\_\_\_ Month \_\_\_\_

What was the total number of products that your firm introduced to the market in the 1<sup>st</sup> year following its first product introduction (excluding your firm's first product)?  
Please indicate \_\_\_\_\_

How many computers did you own or rent specifically for this firm in the first half of the year when you formally started your operation? Please indicate \_\_\_\_\_

How many office rooms did you own or rent for this firm in the first half of the year when you formally started your operation? Please indicate \_\_\_\_\_

How many employees do you currently have?  
Please indicate \_\_\_\_\_

Is there any change in sales right now, in comparison to the same time last year?  
(check one)  Better than last year     No difference     Worse than last year

Is there any change in profits right now, in comparison to the same time last year?  
(check one)  Better than last year     No difference     Worse than last year

Is there any change in the number of employees right now, in comparison to the same time last year?  
(check one)  Fewer than last year     No difference     More than last year

In comparison to other firms of similar size and history in your industry, the current sales of your firms is:  
(Check one)  Above average     Average     Below average

## CUSTOMERS AND BUSINESS PARTNERS

How many customers do you have right now? Please choose from the category:

- below 50    50-100    100-150    150-200  
 200-250    250 or above

Do you have government departments or agencies at any levels as customers?

(check one)  Yes    No

If your answer to the above question is yes, please indicate how many: \_\_\_\_\_

Do you have customers in *Fortune 500* list?

(check one)  Yes    No

If your answer to the above question is yes, please indicate how many: \_\_\_\_\_

How many strategic partners do you have right now? [Note: *strategic partner* is a term used to denote a commercial entity with which another commercial entity has some form of alliance. This relationship may be a highly contractual, exclusive bond in which both entities commit not to ally with third parties. Alternatively, it may be a very loose arrangement designed largely to impress customers and competitors with the size of the network the business partners belong to. A strategic partner can be a supplier, a customer, a channel intermediary (such as an agent or reseller), or vendor of complementary offerings (for example, one party sells the hardware, while the other sells the software)]

Please indicate: \_\_\_\_\_

Do you have business partners who are government departments or agencies at any levels?

(check one)  Yes    No

If your answer to the above question is yes, please indicate how many: \_\_\_\_\_

Do you have business partners in *Fortune 500* list?

(check one)  Yes    No

If your answer to the above question is yes, please indicate how many: \_\_\_\_\_

How much monthly rent did you pay for your business offices for this firm? Please choose from the category:

- below \$20,000    \$20,000 - \$40,000    \$40,000 - \$60,000    \$60,000 - \$80,000    \$80,000 - \$100,000  
 \$100,000 and above

## BACKGROUND

Have you *previously* been involved in founding or managing a new venture?

(check one)  Yes    No

Have you worked in *the same or closely related industry* to the one in which you are currently operating business?  
(check one)  Yes  No  
If your answer to the above question is yes, please indicate the number of years: \_\_\_\_\_

What is the highest level of your academic achievements?  
 High school  Associate's degree  Bachelor's degree  Master's degree  Doctoral degree

Have you taken any formal or informal entrepreneurial classes or seminars in which founding new ventures is a major topic?  
(check one)  Yes  No

Have you ever contacted any entrepreneurial incubators, or local chamber of commerce, or other similar organizations for advice or help for this firm?  
(check one)  Yes  No

Is your current firm currently or has your current firm been involved in any business networks, such as trade associations, chambers of commerce, or service clubs such as the Lions or Rotary Business Network?  
(check one)  Yes  No

Did your current firm currently use any funds from venture capitalists or angel investors?  
(check one)  Yes  No

What is your age?  
Please indicate: \_\_\_\_\_

What is your gender?  
(check one)  Male  Female

Did you found the current new venture with other friends or partners, or alone?  
(check one)  With others  Alone

How many members, including you, does your current starting team consist of?  
Please indicate the number: \_\_\_\_\_

Did your firm include a position specifically for manufacturing at founding time?  
(check one)  Yes  No

Did your firm have a position specifically for marketing at founding time?  
(check one)  Yes  No

**YOUR LIFE EXPERIENCES AND ATTITUDES**

This following sets of questions ask you about specific events in your life. Please check the box that best indicates your answer o each question:

	<i>Never/ seldom</i>		<i>Some- times</i>		<i>Very often</i>
Compared to most people, are you typically unable to get what you want out of life?	<input type="checkbox"/>				
Growing up, would you ever "cross the line" by doing things that your parents would not tolerate?	<input type="checkbox"/>				
How often have you accomplished things that got you "psyched" to work even harder?	<input type="checkbox"/>				
Did you get on your parents' nerves often when you were growing up?	<input type="checkbox"/>				
How often did you obey rules and regulations that were established by your parents?	<input type="checkbox"/>				
Growing up, did you ever act in ways that your parents thought were objectionable?	<input type="checkbox"/>				
Do you often do well at different things that you try?	<input type="checkbox"/>				
Not being careful enough has gotten me into trouble at times?	<input type="checkbox"/>				
	<i>Never/ seldom</i>		<i>Some- times</i>		<i>Very often</i>

	<i>Never true</i>		<i>Some- times true</i>		<i>Very often true</i>
When it comes to achieving things that are important to me, I find that I don't perform as well as I ideally would like to do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<i>Totally false</i>				<i>Totally true</i>
I feel like I have made progress toward being successful in my life.	<input type="checkbox"/>				
I have found very few hobbies or activities in my life that capture my interest or motivate me to put effort into them.	<input type="checkbox"/>				

Using the scale below, please check the box that best indicates your answer to each question:

	<i>Not at all true of me</i>					<i>Very true of me</i>				
In general, I am focused on preventing negative events in my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am anxious that I will fall short of my responsibilities and obligations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I frequently imagine how I will achieve my hopes and aspirations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often think about the person I am afraid I might become in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often think about the person I would ideally like to be in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I typically focus on the success I hope to achieve in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often worry that I will fail to accomplish my career and life goals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often think about how I will achieve career and life success.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often imagine myself experiencing bad things that I fear might happen to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I frequently think about how I can prevent failures in my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am more oriented toward preventing losses than I am toward achieving gains.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My major goal in business right now is to achieve my career and business ambitions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My major goal in business right now is to avoid becoming a business failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I see myself as someone who is primarily striving to reach my "ideal self", i.e., to fulfill my hopes and aspirations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I see myself as someone who is primarily striving to become the self I "ought" to be, i.e., to fulfill my duties and obligations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general, I am focused on achieving positive outcomes in my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often imagine myself experiencing good things that I hope will happen to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall, I am more oriented toward achieving success than preventing failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Not at all true of me</i>							<i>Very true of me</i>	

Please check the box that best describes your needs about yourself:

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>No Opinion</i>	<i>Agree</i>	<i>Strongly Agree</i>
I need to do my best.	<input type="checkbox"/>				
I need to be successful.	<input type="checkbox"/>				
I need to accomplish tasks requiring skill and effort.	<input type="checkbox"/>				

I need to do a difficult job well.	<input type="checkbox"/>				
I need to become a recognized authority.	<input type="checkbox"/>				

How do you think of the following statements describing your needs about yourself:

	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>No Opinion</i>	<i>Agree</i>	<i>Strongly Agree</i>
When I get what I want it's usually because I worked hard for it.	<input type="checkbox"/>				
When I make plans I am almost certain to make them work.	<input type="checkbox"/>				
If asked to choose, I prefer games involving some luck over games requiring pure skill.	<input type="checkbox"/>				
I can learn almost anything if I set my mind to it.	<input type="checkbox"/>				
My major accomplishments are entirely due to my hard work and ability.	<input type="checkbox"/>				
I usually don't set goals because I have a hard time following through on them.	<input type="checkbox"/>				
Competition discourages excellence.	<input type="checkbox"/>				
Often people get ahead just by being lucky.	<input type="checkbox"/>				
On any sort of exam or competition I like to know how well I do relative to everyone else.	<input type="checkbox"/>				
It is pointless to keep working on something that's too difficult for me.	<input type="checkbox"/>				

**FIRM DECISION MAKING AND GENERAL STYLE**

<b>Please check the box that best describes your answer:</b>	<i>Not at all</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>To a great extent</i>
My firm prefers and tends to take our time when making strategic decisions	<input type="checkbox"/>				
My firm generally believes in making quick strategic decisions	<input type="checkbox"/>				
My firm emphasizes on speed when planning or thinking about strategies	<input type="checkbox"/>				

When making important decisions, on average, how many *additional* people within the firm are usually involved in making decisions?  
Please indicate: \_\_\_\_\_

When making strategic decisions, my firm (check the box that best describes your answer):

	<i>Not at all</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>To a great extent</i>
Developed many alternative courses of action to achieve intended objectives	<input type="checkbox"/>					

Considered many different criteria before deciding on which courses of action to take	<input type="checkbox"/>						
Thoroughly examined multiple explanations for problems faced and opportunities available	<input type="checkbox"/>						
Conducted multiple examinations of suggested course of action	<input type="checkbox"/>						
Searched extensively for possible alternative courses of action	<input type="checkbox"/>						

Check the boxes that best describe your answers:

<b>In general, my firm favors:</b>								
<i>A strong emphasis on the marketing of tried and true products or services</i>	<input type="checkbox"/>	<i>A strong emphasis on R&amp;D, technological leadership, and innovations</i>						

<b>How many lines of products or services is your firm planning to market in the following 3 years?</b>								
<i>No new lines of products or services</i>	<input type="checkbox"/>	<i>Many new lines of products or services</i>						

<b>Changes in product or service lines have been:</b>								
<i>Mostly of a minor nature</i>	<input type="checkbox"/>	<i>Usually been quite dramatic</i>						

<b>In dealing with its competitors, my firm typically:</b>								
<i>Responds to actions which competitors initiate</i>	<input type="checkbox"/>	<i>Initiates actions which competitors then respond to</i>						

<i>Typically seeks to avoid competitive clashes, preferring a 'live-and-let-live' posture</i>	<input type="checkbox"/>	<i>Typically adopts a very competitive, preferring 'undo-the-competitors' posture</i>						
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<b>In general, my firms has:</b>								
<i>A strong proclivity for low-risk projects (with normal and certain rates of return)</i>	<input type="checkbox"/>	<i>A strong proclivity for high-risk projects (with chances of very high returns)</i>						

<b>In general, my firm believes that:</b>								
<i>Given the nature of our markets, it is best to explore managerial decisions gradually and incrementally</i>	<input type="checkbox"/>	<i>Given the nature of our markets, bold, wide-ranging acts are necessary to achieve the firm's objectives</i>						

<b>When confronted with decision-making situations involving uncertainty, my firm:</b>								
<i>Typically adopts a cautious, 'wait-and-see' posture in order to minimize the probability of making costly decisions</i>	<input type="checkbox"/>	<i>Typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities</i>						

In general, the operating management philosophy in my firm favors:							
Highly structured channels of communication and a highly restricted access to important financial and operating information	<input type="checkbox"/>	Open channels of communication with important information flowing quite freely throughout the firm					
A strong insistence on a uniform management style throughout the firm	<input type="checkbox"/>	Management's operating styles allowed to range freely from the very formal to the very informal					
A strong emphasis on giving the most say in decision making only to people entitled to deal the issue	<input type="checkbox"/>	A strong tendency to let the expert in a given situation have the most say in decision making, even if this means temporary bypassing of formal line authority					
A strong emphasis on holding fast to tried and true management principles despite any change in business conditions	<input type="checkbox"/>	A strong emphasis on adapting freely to changing circumstances without too much concern for management principles					
A strong emphasis on always getting personnel to follow the formally laid-down procedures	<input type="checkbox"/>	A strong emphasis on getting things done even if it means disregarding formal procedure					
Tight formal control of most operations by means of sophisticated control and information systems	<input type="checkbox"/>	Loose, informal control; heavy dependence on informal relationships and the norm of cooperation for getting work done					
A strong emphasis on getting line and staff personnel to adhere closely to formal job descriptions	<input type="checkbox"/>	A strong tendency to let the requirements of the situation and the individual's personality define proper on-the-job behavior					

	<i>Strongly disagree</i>	<i>Neutral</i>	<i>Strong agree</i>
Actions of competitors are generally quite easy to predict.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The set of major competitors in my industry has remained relatively constant over the last 3 years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Product demand is easy to forecast.	<input type="checkbox"/>						
Customer requirements/preferences are easy to forecast.	<input type="checkbox"/>						
My industry is very stable with little change resulting from major economic, technological, social or political forces.	<input type="checkbox"/>						

	<i>Strongly disagree</i>	<i>Neutral</i>	<i>Strong agree</i>
Our major operating and strategic decisions are nearly always result from extensive quantitative analysis of data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our major operating and strategic decisions are nearly always detailed in formal written reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We reply principally on experience-based intuition (rather than quantitative analysis) when making major operating and strategic decisions ®.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general, our major operating and strategic decisions are much more affected by industry experience and lessons learned than by the results of formal research and systematic evaluation of alternatives ®.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Please check the box that best describes your answer:</b>	<i>Not at all</i>	<i>To a great extent</i>
Outcomes of management meetings are not predetermined.	<input type="checkbox"/>	<input type="checkbox"/>
During management meetings all members discuss openly.	<input type="checkbox"/>	<input type="checkbox"/>
During management meetings opposing approaches are presented in detail.	<input type="checkbox"/>	<input type="checkbox"/>
During management meetings suggestions are critically challenged.	<input type="checkbox"/>	<input type="checkbox"/>

Do you think your management team has competencies to management each of their expertise areas independently?  
 Yes  No

Do you think you are allowed to issue directives to other members of the management team?  
 Yes  No

***Thanks Again for Your Time and Candid Answers!***

Please give your completed survey to our survey interviewer. It will come directly to us and never be seen by anyone except our research group. Our survey interviewers will give you the \$25 Amazon.com gift card upon getting your completed questionnaire.



## Appendix B: Questionnaire for the other Key Informant



### Austin Entrepreneur Regulatory Foci and Strategies Survey 2011

As an important employee of your firm, you observe (and may be involved in) the decision making and operations of your firm. Below, please take a few moments to answer the questions on how your firm makes strategic decisions and the general styles of your firm. *All of these ratings are completely confidential and for research purposes. They will never be seen by others in your firm. Thank you!*

#### FIRM DECISION MAKING AND GENERAL STYLE

Please check the box that best describes your answer:	<i>Not at all</i>					<i>To a great extent</i>
My firm prefers and tends to take our time when making strategic decisions	<input type="checkbox"/>					
My firm generally believes in making quick strategic decisions	<input type="checkbox"/>					
My firm emphasizes on speed when planning or thinking about strategies	<input type="checkbox"/>					

**When making important decisions, on average, how many *additional* people within the firm are usually involved in making decisions?**

Please indicate: \_\_\_\_\_

**When making strategic decisions, my firm (check the box that best describes your answer):**

	<i>Not at all</i>					<i>To a great extent</i>
Developed many alternative courses of action to achieve intended objectives	<input type="checkbox"/>					
Considered many different criteria before deciding on which courses of action to take	<input type="checkbox"/>					
Thoroughly examined multiple explanations for problems faced and opportunities available	<input type="checkbox"/>					

Conducted multiple examinations of suggested course of action	<input type="checkbox"/>						
Searched extensively for possible alternative courses of action	<input type="checkbox"/>						

Check the boxes that best describe your answers:

<b>In general, my firm favors:</b>								
<i>A strong emphasis on the marketing of tried and true products or services</i>	<input type="checkbox"/>	<i>A strong emphasis on R&amp;D, technological leadership, and innovations</i>						

<b>How many lines of products or services is your firm planning to market in the following 3 years?</b>								
<i>No new lines of products or services</i>	<input type="checkbox"/>	<i>Many new lines of products or services</i>						

<b>Changes in product or service lines have been:</b>								
<i>Mostly of a minor nature</i>	<input type="checkbox"/>	<i>Usually been quite dramatic</i>						

<b>In dealing with its competitors, my firm typically:</b>								
<i>Responds to actions which competitors initiate</i>	<input type="checkbox"/>	<i>Initiates actions which competitors then respond to</i>						

<i>Typically seeks to avoid competitive clashes, preferring a 'live-and-let-live' posture</i>	<input type="checkbox"/>	<i>Typically adopts a very competitive, preferring 'undo-the-competitors' posture</i>						
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<b>In general, my firms has:</b>								
<i>A strong proclivity for low-risk projects (with normal and certain rates of return)</i>	<input type="checkbox"/>	<i>A strong proclivity for high-risk projects (with chances of very high returns)</i>						

<b>In general, my firm believes that:</b>								
<i>Given the nature of our markets, it is best to explore managerial decisions gradually and incrementally</i>	<input type="checkbox"/>	<i>Given the nature of our markets, bold, wide-ranging acts are necessary to achieve the firm's objectives</i>						

<b>When confronted with decision-making situations involving uncertainty, my firm:</b>								
<i>Typically adopts a cautious, 'wait-and-see' posture in order to</i>	<input type="checkbox"/>	<i>Typically adopts a bold, aggressive posture in order to</i>						

<i>minimize the probability of making costly decisions</i>	<i>maximize the probability of exploiting potential opportunities</i>
--	---

In general, the operating management philosophy in my firm favors:								
Highly structured channels of communication and a highly restricted access to important financial and operating information	<input type="checkbox"/>	Open channels of communication with important information flowing quite freely throughout the firm						
A strong insistence on a uniform management style throughout the firm	<input type="checkbox"/>	Management's operating styles allowed to range freely from the very formal to the very informal						
A strong emphasis on giving the most say in decision making only to people entitled to deal the issue	<input type="checkbox"/>	A strong tendency to let the expert in a given situation have the most say in decision making, even if this means temporary bypassing of formal line authority						
A strong emphasis on holding fast to tried and true management principles despite any change in business conditions	<input type="checkbox"/>	A strong emphasis on adapting freely to changing circumstances without too much concern for management principles						
A strong emphasis on always getting personnel to follow the formally laid-down procedures	<input type="checkbox"/>	A strong emphasis on getting things done even if it means disregarding formal procedure						
Tight formal control of most operations by means of sophisticated control and information systems	<input type="checkbox"/>	Loose, informal control; heavy dependence on informal relationships and the norm of cooperation for getting work done						
A strong emphasis on getting line and staff personnel to adhere closely to formal job descriptions	<input type="checkbox"/>	A strong tendency to let the requirements of the situation and the individual's personality define proper on-the-job behavior						

	<i>Strongly disagree</i>	<i>Neutral</i>	<i>Strong agree</i>
Actions of competitors are generally quite easy to predict.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The set of major competitors in my industry has remained relatively constant over the last 3 years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Product demand is easy to forecast.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Customer requirements/preferences are easy to forecast.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

My industry is very stable with little change resulting from major economic, technological, social or political forces.

	<i>Strongly disagree</i>	<i>Neutral</i>	<i>Strong agree</i>
Our major operating and strategic decisions are nearly always result from extensive quantitative analysis of data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Our major operating and strategic decisions are nearly always detailed in formal written reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We reply principally on experience-based intuition (rather than quantitative analysis) when making major operating and strategic decisions @.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general, our major operating and strategic decisions are much more affected by industry experience and lessons learned than by the results of formal research and systematic evaluation of alternatives @.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Please check the box that best describes your answer:</b>	<i>Not at all</i>	<i>To a great extent</i>
Outcomes of management meetings are not predetermined.	<input type="checkbox"/>	<input type="checkbox"/>
During management meetings all members discuss openly.	<input type="checkbox"/>	<input type="checkbox"/>
During management meetings opposing approaches are presented in detail.	<input type="checkbox"/>	<input type="checkbox"/>
During management meetings suggestions are critically challenged.	<input type="checkbox"/>	<input type="checkbox"/>

**Do you think your management team has competencies to management each of their expertise areas independently?**  
 Yes  No

**Do you think you are allowed to issue directives to other members of the management team?**  
 Yes  No

**Do you have business partners who are government departments or agencies at any levels?**  
 (check one)  Yes  No  
 If your answer to the above question is yes, please indicate how many: \_\_\_\_\_

**Do you have business partners in *Fortune 500* list?**  
 (check one)  Yes  No  
 If your answer to the above question is yes, please indicate how many: \_\_\_\_\_

How much monthly rent did you pay for your business offices for this firm? Please choose from the category:

- below \$20,000     \$20,000 - \$40,000     \$40,000 - \$60,000     \$60,000 - \$80,000     80,000 - \$100,000  
 \$100,000 and above

*Thanks Again for Your Time and Candid Answers!*

Please give your completed survey to our survey interviewer. It will come directly to us and never be seen by anyone except our research group. Our survey interviewers will give you the \$25 Restaurant.com gift card upon getting your completed questionnaire.



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