Antecedents of Planning in Small and Entrepreneurial Ventures: Uncertainty, Decision Making and Type of Venture

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ANTECEDENTS OF PLANNING IN SMALL AND ENTREPRENEURIAL VENTURES: STRATEGIC IMPLICATIONS FOR NASCENT ENTREPRENEURS

ABSTRACT

Scholars have investigated the relationship between strategic planning and venture performance for more than three decades, yet the antecedents of planning remain relatively obscure. Considering the relationships between several antecedents and planning suggested by previous research, we examine relationships among five key variables: decision making style, problem solving style, perception of environmental uncertainty, venture type (entrepreneurial versus small business venture), and planning formality. A post-hoc analysis of specific meta-cognitive variables is conducted to expand our understanding of these antecedental relationships. Our results indicate significant relationships between problem solving style, perception of environmental uncertainty, venture type and planning formality. Implications for future theory and research are discussed.

Three issues for discussion include: 1) Is the model correctly specified. That is, are there missing salient antecedents that should be included? 2) While primarily concerned with nascent entrepreneurial activity, what implication does the current research have for ongoing ventures? and 3) Is there a difference in the antecedent planning variables for lower growth aspirant SME's and higher growth aspirant Entrepreneurial ventures?

Keywords: New venture planning, entrepreneurial cognition, uncertainty, nascent entrepreneurship

INTRODUCTION

Scholars have investigated the relationship between strategic planning and venture performance for more than three decades (Miller & Cardinal, 1994). A review of this extant research suggests that there is relatively widespread agreement among theorists that planning, whether formal or emergent in nature, generally has a positive influence on a venture's performance (Ackelsberg & Arlow, 1985; Aram & Cowen, 1990; Floyd & Wooldridge, 1997; Hopkins & Hopkins, 1997; Miller et al., 1994; Robinson, Pearce II, Vozikis, & Mescon, 1984; Wooldridge & Floyd, 1990). This relationship may be particularly acute for nascent ventures given the substantive impact of decisions made

early in the developmental process. For example, Brodsky (1995) has observed that many entrepreneurs fail not because their business is undercapitalized, but rather because they misuse the capital they have raised. In short, a lack of planning compromises the discipline and flexibility necessary to avoiding resource misallocations which ultimately threaten venture survival (Bhide, 1992).

While the consequences of planning have been widely studied, the antecedents of planning remain relatively obscure (Harris & Ogbonna, 2006) and less than fully explored. Given that understanding planning may be an important means to avoiding the liabilities associated with new venture creation (Freeman, Carroll, & Hannan, 1983), research that provides a greater understanding of the initiation of planning is important to both theorists and practitioners alike. Accordingly, our study seeks to provide an initial step in this line of investigation by focusing explicitly on two questions meant to enhance our understanding of the initiation of planning in small and entrepreneurial firms. First, what are the cognitive antecedents of formal and informal planning? Specifically, what relationship, if any, exists between nascent entrepreneur's decision making style, problem solving style and perception of uncertainty and the planning process? Second, is there a difference between small ventures and entrepreneurial ventures with regard to the planning process itself? Both of these questions are central to furthering our understanding the antecedents and ultimately the consequences of planning in small and entrepreneurial ventures.

In addition to the development of formal hypotheses stemming from these research questions, we further propose conducting a post-hoc analysis to further explore several additional metacognitive antecedents distinguishing between necessity and opportunity

entrepreneurs. Mitchell, Busenitz, Bird, Gaglio, McMullen, Morse, & Smith (2007) note that metacognition refers to "thinking about thinking" (Jost, Kruglanski, & Nelson, 1998) and is defined to be "the ability to reflect upon, understand, and control one's learning" (Schraw & Dennison, 1994, p. 460). We explore four variables within this context: The perception that one's skills and abilities will help them start their venture; preference for a clear and structured mode of life; preference for certainty when entering a new situation; and perception of self as decisive. While no specific hypotheses are offered for these variables, the role of each in affecting formalization of business planning is explored, specifically to better understand the antecedents of planning from a pre-planning perspective. In the next section, we review theory and previous research on each of these aspects to develop the central hypotheses of this investigation. We then describe the methods we have used for data collection and analysis. The paper concludes with a presentation of the results of our analysis, followed by an interpretation of the results and a discussion of their implications for future research.

LITERATURE REVIEW

Despite continued debate among some scholars (Miller et al., 1994), a synthesis of more than two decades of research suggests that theorists from a wide range of perspectives seem to broadly agree that planning generally has a positive influence on a venture's performance (Ackelsberg et al., 1985; Aram et al., 1990; Floyd et al., 1997; Hopkins et al., 1997; Robinson et al., 1984; Wooldridge et al., 1990). Accordingly, entrepreneurship researchers and educators have argued for more systematic planning on the part of small businesses (Baker, Addams, & Davis, 1993). Such prescriptive arguments may be particularly relevant for firms in the nascent, pre-operational stage of

development where resource acquisition-related problems have frequently been observed during these formative years of ventures (Alpander, Carter, & Forsgren, 1990). In short, the evidence suggests that the likelihood resource related issues can be anticipated and offset increases with degree of attention dedicated to planning.

If planning is an important mechanism in the successful creation of new ventures in the sense that increases the likelihood of avoiding the liabilities associated with newness (Freeman et al., 1983), then it is important for research to provide a greater understanding the planning processes entrepreneurs employ (Hill & Levenhagen, 1995). Yet we know little about the planning processes of nascent entrepreneurs, at least in part, because the explicit study of nascent entrepreneurial activity has lagged in comparison to other organizational research domains (Aldrich, 1999; Reynolds, 2000). Accordingly, more research is needed to describe and enhance our understanding nascent entrepreneurs' planning activities (Delmar & Shane, 2003).

Researchers have argued that cognitive theory offers us multiple mechanisms, both theory-driven and empirically-robust, that can help to build a deeper, richer understanding of how individuals learn to see, assess and act on information in the creation of new ventures (Baron, 2004). Despite this potential, Sarasvathy (2001) has noted that studies to date have focused largely on cognitive constructs that represent the 'surface' layer of entrepreneurial thinking, such as intent (Krueger Jr. & Brazeal, 1994). As a result, little is known about how basic distinctions in modes of thought, or 'deeper' cognitive influences, might ultimately help us to understand nascent entrepreneurial activities such as planning (Baron & Ward, 2004).

One exception to this trend is research which has focused on the importance of understanding a person's preferred way of processing and evaluating information in the process of engaging in entrepreneurial activity (Allinson, Chell, & Hayes, 2000). Entrepreneurs confront uncertainty in the sense that economic information rarely presents itself in a complete and objective, or self-evident, form. Faced with uncertainty, they seek to generate additional information, at least in part, by integrating it with action as they craft strategies for new ventures (Bhide, 1994). More specifically, they engage in a process of systematically unearthing the implicit, and potentially dangerous, assumptions by experimenting with incremental problem solving and decision making before freezing strategies that may prove to be fatally flawed (McGrath & MacMillan, 1995). Accordingly, our study seeks to deepen this line of inquiry by investigating the relationships between nascent entrepreneur's decision making style, problem solving style, perception of uncertainty and the planning process.

Carland, Hoy, Boulton, & Carland (1984) identified a venture typology suggesting that, although there is an overlap, entrepreneurial firms and small business firms are very different in that the two clearly have different objectives. Specifically, entrepreneurial ventures are key on growth over time, whereas small business firms seek to remain small for their organizational lifetimes. Although small ventures may grow over time, they are principally established to further personal goals while serving simultaneously as a source of income substitution. Given the potential for a differential impact of contextual issues to differentially impact entrepreneurial processes such as planning (Ucbasaran, Westhead, & Wright, 2001), we also seek to examine if there is a difference between small ventures and entrepreneurial ventures with regard to the planning process itself.

HYPOTHESIS DEVELOPMENT

Past studies have suggested that decision making plays a central role in the entrepreneurial process (Baron et al., 2004). As founders are central influences during in early stages of venture development (Stevenson & Gumpert, 1985), entrepreneurs' decisions play an integral role in determining important shaping activities such as, determining what types of opportunities to pursue (Davidsson & Honig, 2003), what types of resources to acquired to assist with venture launch and development (Eisemann & Andrews, 1981), and to what degree, if at all, formal planning is initiated in order to facilitate the implementation of these decisions by gaining the support of resource providers (Harris et al., 2006).

Given the positive relationship observed between formal planning and venture performance (Miller et al., 1994), it seems important to further explore the nature of decision making as it relates to initiation of formal planning. While there is some research which has suggested that the tendency to be overly optimistic is quite pronounced in the collective sense among individuals who engage in entrepreneurial endeavors (Cooper, Dunkelberg, & Woo, 1988), perhaps because they might be disproportionately prone to relying on intuition (Allinson et al., 2000), there is also evidence to suggest that individual entrepreneurs differ in terms of how they prefer to process and evaluate information and experience. For example, research based on cognitive theory has suggested that stylistic differences can best be described among entrepreneurs as manifesting into one of two decision making styles: those who prefer to reason more adaptively versus those who prefer reason more (Dollinger & Danis, 1998). This work suggests that individuals

develop cognitive styles as a result of interacting with their environments early life, and once developed, these styles remain a stable component of the thought process that fundamentally influences an individual's decisions (Kirton, 1976).

Building on this line of reasoning, we believe that possessing an adaptive decision making style will be more positively related to formal businesses planning among nascent entrepreneurs, at least in part, because it will be associated with the preference to employ analytic, deductive, rigorous, constrained and critical reasoning methods as a means of avoiding missteps in advance of implementation efforts (Allinson et al., 2000).

Hypothesis 1: Nascent entrepreneurs preferring to make adaptive decisions will pursue more formal business planning than nascent entrepreneurs preferring to make innovative decisions.

Research has also suggested that problem solving is a key factor linked to the initiation of planning. Simon (1960) differentiated between programmed and non-programmed decisions. The need for programmed decisions is a result of confronting situations where problems that are routine, or repetitive in nature, whereas the need for non-programmed decisions is a result of confronting situations where problems are unstructured in nature. As nascent ventures become operational, they are constantly susceptible to liabilities associated with newness (Freeman et al., 1983) and nearly every decision an entrepreneur makes is a consequence of solving a problem (Ford & Matthews, 2000). Specifically, founding entrepreneurs are constantly forced to solve problems related to accessing capital, obtaining sales, hiring talent and managing venture growth (Dodge, Fullerton, & Robbins, 1994; Franklin & Goodwin, 1983).

While it has been suggested that entrepreneurs are persons who prefer to "think on their feet" by relying on intuition (Allinson et al., 2000), to date the basic distinction between

preferring to solve problems through analysis versus intuition has not been considered in detail in the field of entrepreneurial cognition (Baron et al., 2004). During these early stages the nascent operational environment is frequently ill structured in nature, it is important for entrepreneurs to not only have a strong *desire* to persist, but also to believe that persisting with the launch of a venture is *feasible* (Krueger Jr. et al., 1994). Therefore, from a feasibility perspective, it may be the degree of perception that the entrepreneurs has (Chan, 1996) between his/her problem solving style and the context of new venture creation is related to the degree of formal planning activity in which he/she initiates. Similarly, we would expect that having a preference for being calculating and decisive in approaching problems would also be directly related to the degree of formal planning activity.

Hypothesis 2: A perceived match between problem solving style and the new venture context will be positively related to formal business planning.

Hypothesis 3: Nascent entrepreneurs having a calculating approach to solving problems will pursue more formal business planning than nascent entrepreneurs having an innovative approach.

Hypothesis 4: The tendency to delay decisions to collect information in new ventures will be negatively related to formal business planning.

Bhide (1994) has suggested that entrepreneurs will not engage in extensive planning because they often choose to operate in environments that are fairly uncertain, making attempts at formal planning difficult. Similarly, McGrath and MacMillan (1995) have argued that planning is different in new, as opposed to conventional ventures, precisely because new ventures confront more unknowns than existing organizations. For example, in small and entrepreneurial ventures future results often cannot be extrapolated from a well-understood base of information of past performance. Given such impediments,

entrepreneurs are likely to seek additional information when faced with uncertainty, at least in part, by integrating planning with incremental actions as they craft strategies for new ventures (Bhide, 1994).

Thus, it seems more likely that entrepreneurs will engage in a less formal, more 'discovery-driven' (McGrath et al., 1995) or logically incremental (Quinn, 1980) approach to planning, whereby entrepreneurs first articulate what they don't know and then experiment with incremental actions to test initial plans and create new sources of information for subsequent plan revisions. Although based on the non-nascent (i.e., ongoing) venture context, there is some empirical evidence that supports this line of reasoning (Matthews & Scott, 1995).

Hypothesis 5: Perceived environmental uncertainty will be negatively related to planning formality.

In their review of the strategic planning literature, Robinson and Pearce (1984) suggested that small business ventures generally do not plan as a result of lacking the necessary time and staff to engage in the strategic planning process. Given that small business ventures are principally established to further personal goals while serving as a source of income substitution (Carland, Hoy, Boulton, & Carland, 1984), it also seems reasonable to suggest that such ventures are likely to require fewer external resources than their entrepreneurial venture counterparts to attain and maintain venture-environment alignment (Ansoff, 1991). By contrast, entrepreneurial ventures are more likely to key on growth over time (Carland et al., 1984), which will often require external capital and resources to support innovative activities. Evidence from the strategic planning literature suggests that capital assets tend to require long periods of consistent use to produce adequate returns on investment. Thus, formal planning would seem to be more critical

because the long-term success requires that an integrated and coordinated scheme be developed in order to coordinate subsequent successful implementation efforts.

Hypothesis 6: Nascent entrepreneurial ventures will pursue more formal business planning than nascent small business ventures.

METHOD

Data and Sample

Archival data are obtained from the Entrepreneurship Research Consortium/ Panel Study of Entrepreneurial Dynamics (ERC/PSED). The sample identification procedure began with a telephone screening in which 64,622 respondents were initially contacted. Respondents were asked, "are you, alone or with others, now trying to start a new business?" Eight hundred and thirty one respondents answered this question in the affirmative and were classified as nascent entrepreneurs. Four hundred and thirty one respondents answered this screening question in the negative and were classified as members of the non-nascent comparison group. A follow up telephone phone interview was conducted to confirm that the individual a) expected to be an owner of the new firm, b) had been active in trying to start the new firm in the past 12 months, c) was still involved in the start-up or gestation phase and not yet operational (i.e., collecting revenues from output sales). The criteria of full/part ownership, currently active in start-up, and gestation (not yet operating) phase of venture was used to 'qualify' the respondent for categorization as a nascent entrepreneur in this study, and resulted in an overall sample size of 830.

Measures

Business plan formalization. Item 111 of the phone survey asks, "A business plan usually outlines the markets to be served, the products or services to be provided, the

resources required -- including money -- and the expected growth and profits for a new business. Has a business plan been prepared?" Respondents replied with a "yes" (coded as 1) or "no" (coded as 2). Those respondents who answered "yes" were then asked item 114, "What is the current form -- unwritten or in your head (1), informally written (2), formally prepared (3), both 1 and 2 (4) something else." This item was recoded into (1) unwritten/in head (intuitive); (2) informally written; and (3) formally prepared; respondents choosing "both 1 and 2" or "Something else" are dropped from this analysis.

Venture type. Item 322 of the phone survey asked, "Which of the following two statements best describes your preference for the future size of this business: 1) I want the business to be as large as possible, or 2) I want a size I can manage myself or with a few key employees? If nascent entrepreneurs answered, "I want a size I can manage myself or with a few key employees" we classified ventures as a small business venture (SBV) and coded these responses as zero (0). If nascent entrepreneurs answered, "I want the business to be as large as possible," we classified this type of venture as an entrepreneurial business venture (EBV) and coded these responses as one (1). This reverse coding of responses was employed to be consistent with the notion that larger businesses reflect higher growth.

Decision making style. Developed explicitly as a proxy of the original Kirton Adaptation-Innovation Inventory to be used for the PSED research effort, item 327 of the phone survey asks, "If someone asked you which kind of person you are, would you say that you preferred 'doing things better' or 'doing things differently?'" Respondents reporting a preference for 'doing things better' are coded as having an "adaptive" decision making style (0) and respondents reporting a preference for 'doing things differently' are coded as having an "innovative" decision making style (1). A subsequent analysis of the

time it took interviewees to respond to this item indicated sufficient understanding by respondents.

Problem solving style. In order to consider the relationship to planning more fully, we employ three measures of problem solving style. Consistent with the notion that entrepreneurial activity occurs at the nexus of the individual and situation (Shane & Eckhardt, 2003), the first measure represents the perceived match between the respondent's problem solving style and the types of problems encountered in starting a new venture. Specifically, item 328 of the phone survey asks, "How well does your preferred style of problem solving match the types of problems encountered in starting a new business? Would you say your style is -- often a good match (1), sometimes a good match (2), sometimes a poor match (3), or often a poor match (4)?" This item is recoded into (0) poor match and (1) good match.

The second measure we employ represents the individual's preferred approach to solving problems. Item QJ1 asks, "When making important decisions, about business, work, or other aspects of your life, which of these would you consider your problem solving to be -- (1) most of the time it is calculating and analytical; (2) most of the time it is intuitive, relying on my gut feelings; (3) or it tends to vary, depending on the situation?" In order to enhance the interpretability of this item, it is recoded into (1) most of the time it is calculating and analytical; (2) it tends to vary, depending on the situation; or (3) most of the time it is intuitive, relying on my gut feelings.

Our final measure of problem solving represents an individual's tendency toward action during the process of solving problems. Within the mail survey, a series of statements are presented to respondents with this instruction that such statements could be

used to describe most people. Respondents are asked, "How accurately would they describe you?" Item QL1r specifically asks, "When confronted with a difficult problem I tend to delay a decision so I can collect more information -- completely untrue (1), mostly untrue (2), it depends (3), mostly true (4), or completely true (5)?" In order to foster comparison with the calculating-intuitive dimension of problem solving style (i.e., our second problem solving measure), this item is recoded into (1) untrue; (2) it depends; and (3) true. We treated these three problem solving styles as independent variables in the tests of the hypotheses in this study.

Perception of Environmental Uncertainty. The mail survey contains eleven items that focused on Milliken's (1987) concept of "state uncertainty," or the uncertainty that occurs when the entrepreneur is uncertain about "how components of the environment might be changing [such as] an inability to predict the future behavior of a key competitor…or inability to predict whether Congress will deregulate one's industry" (p. 136). These items ask entrepreneurs to indicate the certainty they felt about their firm's ability to accomplish certain things. The directions presented to respondents state, "Considering the economic and community context for the new firm, how certain are you that the new business will be able to accomplish each of the following?" The entrepreneur rates each uncertainty item using a five-point Likert scale ranging from very low (1) to very high (5); a category of "does not apply" was also provided. Consistent with prior literature on environmental uncertainty, we reverse code the eleven items in order to facilitate a direct interpretation for the purposes of this study.

This measure of perceived environmental uncertainty is unidimensional in terms of state uncertainty but multi-dimensional in terms of the sources of uncertainty. The eleven

items in the survey encompassed seven *a priori* environmental sectors (customers, suppliers, distributors, competitors, government, technology, and financial markets), chosen based on those receiving support in the extant literature (Duncan, 1972; Jauch, osborn, & Glueck, 1980; Matthews et al., 1995). A factor analysis performed by Matthews and Human (2000) found that the eleven items loaded on three factors that the researchers labeled as financial, competitive, and operational uncertainty. These three types of uncertainty and the items within each factor are consistent with Milliken's (1987) notion of state uncertainty in which managers find it difficult to grasp how key components in the environment may be changing. Accordingly, these three factors were treated as independent variables in the tests of the hypotheses in this study.

ANALYSIS AND RESULTS

We first conduct a correlation analysis in order to examine the associations between the proposed antecedents and the initiation of formal planning among nascent entrepreneurs. Table 1 reports means, standard deviations, and zero-order correlations among the variables included in our study. Several of the correlations show preliminary support for our hypotheses. Specifically, the univariate analyses reported in Table 1 show that having a calculating problem solving style ($\underline{r}$ = .102, $\underline{p}$ < .10) and not having a tendency to delay decisions to collect more information ($\underline{r}$ = .136, $\underline{p}$ < .05) were directly associated with formal planning, whereas perceiving operational uncertainty was inversely associated with formal planning ($\underline{r}$ = -.159, $\underline{p}$ < .05). In addition, the pursuit of an entrepreneurial venture was directly and highly associated with formal planning ($\underline{r}$ = .145, $\underline{p}$ < .01).

Because a limitation of zero-order correlation analysis rests in the potential for over-estimating the strength and direction of the association among variables (Stevens, 2002),

we also tested the relationships hypothesized in this study by employing multiple linear regression analysis. Prior to our regression analysis we examined of the variance inflation factors to be sure our results would not be adversely impacted by the presence of multicollinearity among the proposed independent variables. This examination revealed that multicollinearity was not a significant problem.

Table 2 presents the results of our multiple linear regression analysis and documents both standardized regression coefficients (beta) and significance statistics. The F-statistic indicated that the overall regression model was highly significant ($\underline{F} = 3.32$, $p<.01$). Consistent with the correlation analysis, the regression results offered no support for hypothesis one. Decision making style was not related to the formality business planning ($\beta = -.005$, $p > .10$). That is, having neither a calculating nor innovative decision making style bears relationship to the formality of planning among nascent entrepreneurs.

With respect to problem solving style, the regression results offered no support for hypothesis two, but did offer marginal support for hypothesis three and strong support for hypothesis four. Perceiving a match between one's problem solving style and the new venture context was not related to the formality of business planning ($\beta = .012$) among nascent entrepreneurs. However, the formality of business planning was marginally related to having a calculating approach to solving problems ($\beta = .042$, $p < .10$), and strongly and inversely related to the tendency to delay decisions in order to collect information ($\beta = -.065$, $p < .01$).

Hypothesis five was only marginally confirmed. Perceiving financial uncertainty ($\beta = -.015$) and competitive uncertainty ($\beta = .019$) were not related to formal planning, and perceiving operational uncertainty ($\beta = -.054$, $p < .05$) was significantly and inversely

related to formal planning. This appears to suggest that nascent entrepreneurs do not perceive uncertainty in a unidimensional way and that the internal aspect bears a negative relationship to the initiation of formal planning.

Lastly, the regression results in Table 2 offer strong support for hypothesis six, suggesting that nascent entrepreneurial ventures pursue formal planning to a greater degree than small business ventures ($\beta = .098$, $p < .01$).

Post-hoc Data Analysis

Among the nascent entrepreneurs within the PSED data set, about fifty percent of respondents state they completed some form of business planning, thirty percent stated they had yet to complete a plan, and twenty percent stated that a plan was not relevant to the start-up. Given this pattern of planning prevalence, our goal is to better understand how meta-cognitive factors (e.g., whether the perception that one's skills and abilities will help them start their venture; preference for a clear and structured mode of life; preference for certainty when entering a new situation; and perception of self as decisive) along different motivational contexts (necessity vs opportunity) influence business planning.

One objective of our research is to better understand how external factors influence entrance into the start-up process. Specifically, within the context of the PSED II survey information was sought concerning if the action was voluntary, reflecting a desire to pursue a new business opportunity, or a reaction to the absence of suitable work options, reflecting a necessity to participate in the economy (Reynolds & Curtin, 2008). The item, "Are you involved in this new business to take advantage of a business opportunity or because you had no better choices for work?" has been widely used in international surveys of nascent entrepreneurs as an objective measure of contextual motivation.

Furthermore, some respondents answered a combination of both when queried on this question, thus a third category arises to encompass these individuals. Overall, analysis of the respondents indicates that most active nascent entrepreneurs can be considered volunteers pursuing business opportunities. Only about one in seven are driven into start-ups because of a lack of other options. Despite the conceptually distinct differences for undertaking action, necessity and opportunity motivated entrepreneurs are equally likely to succeed. Post-hoc exploratory data analysis finds that both contextual motivation and business planning are dependent constructs (X^2 = 24.8, df=8; p=.002) (see Table 3). Thus, the context for entering into the start-up processes is related to the form of planning undertaken.

Similarly, another objective of our study is to understand how personal dimensions related to entrepreneurial cognitions also influence entrance into the start-up process. Accordingly, Mitchell, Busenitz, Lant, McDougall, Morse, & Smith (2002) define entrepreneurial cognitions as: the knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation, venture creation, and growth. Moreover, Mitchell, Busenitz, Bird, Gaglio, McMullen, Morse, & Smith (2007) note that meta-cognition refers to "thinking about thinking" (Jost, Kruglanski, & Nelson, 1998) and is defined to be "the ability to reflect upon, understand, and control one's learning" (Schraw & Dennison, 1994, p. 460). The personal dimensions of interest that we investigate are whether the perception that one's skills and abilities will help them start their venture; preference for a clear and structured mode of life; preference for certainty when entering a new situation; and perception of self as decisive.

Furthermore, multinomial logistic regression is employed to assess whether the personal dimensions that capture meta-cognitive features of the nascent entrepreneur and contextual motivation are significant factors that influence degree of planning. Multinomial logistic regression is useful for this assessment because of the ability to be able to classify subjects based on values of a set of predictor variables. This type of regression is similar to logistic regression, but it general because the dependent variable is not restricted to two categories. Our findings applying multinomial logistic regression show that the model including contextual motivation (opportunity, necessity, or combination) and personal meta-cognitive dimensions (perception that one's skills and abilities will help them start their venture; preference for a clear and structured mode of life; preference for certainty when entering a new situation; and perception of self as decisive) are statistically significant (X^2 = 92.03, df=24; p<.0001) factors that influence planning formality. Specifically, if we are to examine the different levels of planning formality, with formalized plan as the referent group, we identify differences among the meta-cognitive and contextual factors that influence planning formality (see Table 4).

For instance, among individuals who state they have a plan but it is not formalized, we see that contextual motivation by meta-cognitive antecedents (interaction) are not significant, yet the main effects of meta-cognitive antecedents to planning are significant. Accordingly, among individuals who claim to have an "unwritten plan in their head" the meta-cognitive dimension of skills to start a new business (p=.031) and "preferring uncertainty of new situations" (p=.005) will more likely fall in the referent group (formal plan) versus the comparison group (informal plan). In addition, those who "consider themselves as indecisive" (p<.0001) will more likely fall in the comparison group than the

referent group. Moreover, for individuals with informally written plans both "uncertainty of new situations" (p=.002) and "consider themselves as indecisive" (p=.003) are significant meta-cognitive antecedents to planning. However, those who "prefer uncertainty" and those who "describe themselves as indecisive" will more likely fall in the referent group (formal planning).

Conversely, for individuals who have yet to write any form of plan, we find that meta-cognitive antecedents by contextual motivation (opportunity vs necessity) (interaction) are significant factors, particularly among necessity entrepreneurs. For example, necessity entrepreneurs (p=.011) are four times more likely to fall in this comparison group (yet to write a plan) relative to the referent group of having a formalized plan. Moreover, when examining the meta-cognitive antecedents we find that "structured mode of life" (p=.028), and "describe self as indecisive" (p<.0001) will more likely not have a business plan, but plan to complete one in the future, than having a formalized business plan. Yet, respondents who "prefer uncertainty of new situations" (p=.033) will more likely fall in the referent group (formalized business plan).

Finally, for individuals who state a business plan is not relevant (comparison group), we find that meta-cognitive antecedents by contextual motivation (interaction) are again significant factors influencing degree of planning formality in the referent group (formal plan). Necessity entrepreneurs are again four times as likely to believe a business plan is not relevant for the start-up than having a formalized business plan. Furthermore, individuals who believe they have "skills to start a new business" (p=.041) and "enjoy uncertainty of new situations" (p=.679) will more likely fall in the referent group.

Conversely, those who "describe themselves as indecisive" (p=.001) will be more likely to fall in the comparison group and consider a business plan not relevant.

DISCUSSION

Previous work has extensively examined the consequences of formal planning, yet the antecedents of planning remain relatively obscure (Harris et al., 2006) and less than fully explored. In this research, we have sought to make a contribution to the literature by drawing on previous research from the decision making and problem solving literatures to suggest some potential cognitive factors that may relate to, and therefore enhance our understanding nascent entrepreneurs' planning activities. In the research presented here, we found support for a number of the proposed antecedent relationships, including problem solving style, perceived uncertainty, and venture type.

Previous research has suggested that entrepreneurs have a tendency to be overly optimistic decision makers (Cooper et al., 1988), perhaps in part because they might be disproportionately prone to relying on intuition when processing and evaluating information (Allinson et al., 2000). Interestingly, our results did not support this position. On the contrary, while our findings suggest that a preference for making decisions may indeed exist, it favors a style that can be characterized as adaptive instead of innovative. More important to the focus of our research and contrary to what we hypothesized, we found no statistically significant relationship between preferred decision making style and formal planning among nascent entrepreneurs.

Interestingly, we found evidence which suggests that although perceiving a match between one's problem solving style and the environment did not bear a relationship to

formal planning, there was a significant relationship between problem solving style and the planning activities of nascent entrepreneurs. Specifically, entrepreneurs who formally planned reported a tendency toward being calculating but not willing to delay decisions to collect additional information. This is an interesting finding in light of previous research suggesting that relying on intuition may, in part, result in forms of overconfidence among entrepreneurs (Allinson et al., 2000). On the contrary, our study suggests that the bias towards action is calculative and therefore enhances the formality of planning, which as an activity has generally been shown to enhance subsequent venture performance (Miller et al., 1994). This finding suggests that exploring how problem solving tendencies influence planning processes may be a potentially fruitful avenue for future research.

Consistent with previous research (e.g., Matthews et al., 1995), we found that as the perception of uncertainty increases planning formality goes down. However, the effects of operational uncertainty were particularly pronounced. This finding suggests that one potentially fruitful area for future research may include considering whether or not entrepreneurs evaluate the effects of internal and external sources of uncertainty differently, and how, if at all, such a difference might influence the formality of the planning process.

Finally, while prior research as shown that both entrepreneurial business ventures and small business ventures can benefit form formal planning, clearly each differs with regard to the amount of formal planning. Specifically, entrepreneurial business ventures tend to engage in more formal planning than small business ventures. This suggests that future research could investigate differences in the antecedents across types of ventures, and how such differences ultimately impact the planning process. Given prior evidence for a

positive planning-performance connection, additional work is important to enhance our current understanding further and to generate a foundation for providing prescriptive guidance.

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Table 1. Means, Standard Deviations and Correlations (n = 830)

	Variable	Mean	s.d	1	2	3	4	5	6	7	8
1.	Business plan formalization	2.17	.53								
2.	Decision making style (0=Adaptive, 1= Innovative)	.33	.46	-.024							
3.	Perceived prob. solving style-new venture match	.96	.19	.036	-.131**						
4.	Problem solving style (1=calc. → 3=intuitive)	1.98	.43	-.102*	.121**	-.106**					
5.	Tendency to delay decisions to collect more information	2.53	.53	-.136**	-.003	-.051	-.020				
6.	Financial uncertainty	1.97	.43	-.054	.048	-.152**	.072	.097			
7.	Competitive uncertainty	1.15	.22	.051	-.018	-.033	.006	.054	.218**		
8.	Operational uncertainty	1.29	.35	-.159**	-.001	.018	.049	-.031	.268**	.446***	
9.	Venture type (0=sbv, 1=ebv)	.22	.41	.145**	-.023	.030	-.121**	-.101**	.026	-.053	-.109**

p<.01
p<.05
p<.10

Table 2. Regression Analysis Predicting Business Plan Formality

Variables	Standardized Beta Coefficients
Decision making style (0=Adaptive, 1= Innovative)	-.005
Perceived prob. solving style-new venture match	.012
Problem solving style (1=calc. → 3=intuitive)	-.042*
Tendency to delay decisions to collect more information	-.065***
Financial uncertainty	-.015
Competitive uncertainty	.019
Operational uncertainty	-.054**
Venture type (0=sbv, 1=ebv)	.098***
R^2	.024
Adjusted R^2	.015
F	3.32***

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

Table 3: Cross-tabulation of Business Planning and Contextual Motivation

		Business Plan					
Contextual Motivation		Unwritten in head	Informally Written	Formally prepared	Not yet, but will in the future.	Not relavant	Total
Take advantage of opportunity	Count	86	243	156	288	186	959
	% within Contextual Motivation	9.00%	25.30%	16.30%	30.00%	19.40%	100.00%
	% within Business Plan	72.90%	85.60%	88.60%	81.80%	79.50%	82.40%
	% of Total	7.40%	20.90%	13.40%	24.70%	16.00%	82.40%
No better options for work	Count	25	29	9	52	39	154
	% within Contextual Motivation	16.20%	18.80%	5.80%	33.80%	25.30%	100.00%
	% within Business Plan	21.20%	10.20%	5.10%	14.80%	16.70%	13.20%
	% of Total	2.10%	2.50%	0.80%	4.50%	3.40%	13.20%
Combination of both	Count	7	12	11	12	9	51
	% within Contextual Motivation	13.70%	23.50%	21.60%	23.50%	17.60%	100.00%
	% within Business Plan	5.90%	4.20%	6.30%	3.40%	3.80%	4.40%
	% of Total	0.60%	1.00%	0.90%	1.00%	0.80%	4.40%
Total	Count	118	284	176	352	234	1164
	% within Contextual Motivation	10.10%	24.40%	15.10%	30.20%	20.10%	100.00%
	% within Business Plan	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	% of Total	10.10%	24.40%	15.10%	30.20%	20.10%	100.00%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.795a	8	0.002
Likelihood Ratio	26.467	8	0.001
Linear-by-Linear Association	0.095	1	0.757
N of Valid Cases	1164		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.17.

Table 4. Parameter Estimates for Multinomial Logistic Regression

Business Plan		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B) Lower Bound	Upper Bound
Unwritten in head	Intercept	0.889	1.212	0.538	1	0.463			
	Skills help start new business	-0.432	0.201	4.641	1	*0.031**	0.649	0.438	0.962
	Structured mode of life	0.207	0.121	2.922	1	0.087	1.23	0.97	1.56
	Prefer uncertainty of new situations	-0.293	0.104	7.859	1	*0.005***	0.746	0.608	0.916
	Describe self as indecisive	0.455	0.127	12.826	1	*.000****	1.576	1.229	2.021
	Opportunity	-0.278	0.517	0.289	1	0.591	0.757	0.275	2.085
	Necessity	1.18	0.636	3.445	1	0.063	3.255	0.936	11.32
	Combination	0b	.	.	0	.	.	.	.
Informally Written	Intercept	0.719	1.06	0.46	1	0.497			
	Skills help start new business	-0.083	0.177	0.221	1	0.638	0.92	0.651	1.301
	Structured mode of life	0.024	0.089	0.074	1	0.786	1.024	0.861	1.219
	Prefer uncertainty of new situations	-0.263	0.084	9.721	1	*0.002***	0.768	0.651	0.907
	Describe self as indecisive	0.334	0.112	8.925	1	*0.003***	1.396	1.122	1.738
	Opportunity	0.243	0.438	0.307	1	0.58	1.275	0.54	3.01
	Necessity	0.908	0.575	2.497	1	0.114	2.481	0.804	7.654
	Combination	0b	.	.	0	.	.	.	.
Not yet, but will in the future.	Intercept	0.191	1.027	0.034	1	0.853			
	Skills help start new business	-0.198	0.17	1.358	1	0.244	0.82	0.588	1.145
	Structured mode of life	0.19	0.086	4.835	1	*0.028**	1.209	1.021	1.431
	Prefer uncertainty of new situations	-0.172	0.08	4.571	1	*0.033**	0.842	0.719	0.986
	Describe self as indecisive	0.392	0.108	13.214	1	*.000****	1.48	1.198	1.828
	Opportunity	0.415	0.439	0.895	1	0.344	1.515	0.641	3.584
	Necessity	1.422	0.562	6.395	1	*0.011***	4.145	1.377	12.476
	Combination	0b	.	.	0	.	.	.	.
Not relavant	Intercept	2.175	1.084	4.023	1	*0.045**			
	Skills help start new business	-0.362	0.178	4.161	1	*0.041**	0.696	0.491	0.986
	Structured mode of life	-0.033	0.096	0.12	1	0.729	0.967	0.801	1.168
	Prefer uncertainty of new situations	-0.387	0.09	18.402	1	*.000****	0.679	0.569	0.81
	Describe self as indecisive	0.379	0.115	10.794	1	*0.001****	1.461	1.165	1.831
	Opportunity	0.264	0.477	0.306	1	0.58	1.302	0.511	3.319
	Necessity	1.476	0.598	6.095	1	*0.014***	4.373	1.355	14.111
	Combination	0b	.	.	0	.	.	.	.

a. The reference category is: Formally prepared.

b. This parameter is set to zero because it is redundant.