NEVER, NEVER, NEVER GIVE IN? UNDERSTANDING THE ENTREPRENEUR'S DECISION TO PERSIST IN THE FACE OF ADVERSITY

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UNDERSTANDING THE ENTREPRENEUR’S DECISION TO PERSIST IN THE FACE OF ADVERSITY

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ABSTRACT

Entrepreneurial persistence is the decision to remain steadfast in the new venture regardless of counterinfluences, adversity, or enticing alternatives. An entrepreneur chooses to persist by considering the appeal of the perceived outcomes of continuing with the venture (valences) and by determining a relative probability of actually achieving those outcomes (expectancy). These judgments are influenced by personal characteristics and environmental feedback. Using a conjoint experiment, I explore how adversity and values impact the weight placed on expectancy and valences in the persistence decision policies of 105 entrepreneurs. The findings suggest that the persistence decision policies are heterogeneous depending on the level of adversity experienced and the individual values held by the entrepreneurs. The results provide interesting insights into why and how entrepreneurs choose to persist.

INTRODUCTION

“Never give in, never give in, never, never, never—in nothing, great or small, large or petty—never, never give in except to convictions of honour and good sense.”

Winston Churchill delivered these memorable words to the Harrow School in 1941 while England was in the throes of World War II. These words are frequently applied to endeavors of achievement in all walks of life and could very well be the unofficial motto of entrepreneurship. It is not uncommon for persistence – the voluntary continuation of a course of action in the face of obstacles – to be hailed as a key to new venture success (e.g. Harper, 2007; Meeks & Sullivan, 1992). Entrepreneurship articles and tutorials are replete with legends of perseverance and ultimate success. Sticking to the plan, even in a hostile environment, can lead to superior financial performance for a new venture (Covin, Slevin, & Schultz, 1997). The message is clear – persistence is vital for entrepreneurial achievement.

Yet, Churchill shows the depth of his insight by offering an exception to never. Churchill asserts that one should “never, never give in except to convictions of honour and good sense.” In other words, Churchill understood that there are times when the wise choice may be to give up and redirect energy and resources to another cause. Indeed, many entrepreneurs do just that as they terminate their venture and take on a new challenge. However, there are also many who seem to choose to persist even when good sense may suggest otherwise. Just as there are tales of triumphant persistence, there are also accounts of unmitigated persistence when individuals throw good money after bad (Garland, 1990). Millions of dollars and countless man-hours have been wasted as decision makers endeavored to stay the course despite the prevailing evidence of impending failure (Kets de Vries, 1985). This point is equally clear – there can be a downside to persistence.
The decision of whether to give in or not appears to be an important part of the entrepreneurial process. A greater understanding of the factors that drive the entrepreneurial persistence decision may enable an increased use of “good sense” in this critical decision process. However, there has been relatively little research regarding the persistence decision process used by entrepreneurs (Gatewood, Shaver, Powers, & Gartner, 2002). The lion’s share of the research on entrepreneurial decision-making has focused on the decision policies of potential entrepreneurs making the decision to start a business (e.g. Douglas & Shepherd, 2002; Herron & Sapienza, 1992; Krueger & Reilly, 2000). This study extends previous research by focusing on an entrepreneur’s decision to persist with his/her new venture. Specifically, I find that the weight placed on the expectancy and valence decision attributes in entrepreneurs’ persistence decision policies changes depending on the perceived environment (i.e. level of adversity) and the personal characteristics (i.e. values) of the entrepreneur.

In this article, I next discuss the theoretical background of the entrepreneurial persistence decision process and offer several hypotheses concerning the effect of adversity and individual characteristics on the choice to continue with a new venture. After discussing the research methods that were used, I provide the analysis, results, and implications of the study.

THEORY AND HYPOTHESES

Entrepreneurial persistence results when the entrepreneur decides to remain steadfast in the new venture regardless of the circumstances. In its truest sense, persistence is a form of motivation—the willingness to act or continue to act (Steers, Mowday, & Shapiro, 2004). Persistence entails two distinct conditions: (1) the intention to continue a previously selected course of action and (2) doing so in the face of opposing forces. In other words, entrepreneurial persistence is the positive maintenance of motivation to continue with an entrepreneurial opportunity regardless of counterinfluences, adversity, or enticing alternatives.

Entrepreneurship necessitates action which is initiated from an initial judgmental decision regarding a potential opportunity (McMullen & Shepherd, 2006). Entrepreneurial persistence takes place after the initial action, when feedback is received that may alter perceptions. The feedback from the environment is processed and compared to expectations. Substantial or recurrent negative discrepancies between actual and expected outcomes cause an interruption of action in order to cognitively assess the likelihood of future success (Carver & Scheier, 1998).

In effect, people suspend the behavioral stream, step outside it, and evaluate in a more deliberated way than occurs while acting. This may happen once, or often. It may be brief, or it may take an extended period. (Carver & Scheier, 1998: 175)

At that point, a new assessment of the decision to continue with the current venture relative to other available opportunities is made and persistence will ensue if participation in the original venture remains more motivating than the alternatives (Hollenback, 1979).

In order to understand the entrepreneur’s choice to continue, we must consider both the person and the environment (Shaver & Scott, 1991). Bandura (1986) argued that human agency is based on triadic reciprocal causation between behavior, personal factors, and environmental factors. Decision-making and the resulting behavior evolve from the interaction between the entrepreneur (e.g. motivation, cognitions, and individual characteristics) and the perceived situational factors (e.g. adversity) present at the time of the choice.
In developing a model of entrepreneurial motivation, Naffziger and his colleagues (1994) suggested that the expectancy and valences derived from previous entrepreneurial outcomes will impact the ongoing motivation to act entrepreneurially. As shown in Figure 1, I also take an expectancy approach to the decision to persist. Expectancy-based theories of motivation have proven to be particularly useful in helping to grasp the underlying mechanisms that drive decisions with multiple options. Expectancy-based theories posit that the choice to initiate a particular course of action is based on selecting the option perceived to maximize utility (e.g., Feather, 1982; Fishbein & Ajzen, 1975; Porter & Lawler, 1968; Vroom, 1964). Inherent in this evaluation are the distinct judgments concerning (1) expectancy—the subjective probability that any given outcome will indeed follow the behavior and (2) valence—the desirability of or the anticipated satisfaction derived from the expected outcomes. While critics of expectancy theory have argued that people do not generally make complex calculations about all of the potential expectancies and valences of every possible outcome, it has been suggested that expectancy models work well when the investment of time and effort to evaluate alternative courses of actions is warranted (Wanous, Keon, & Latack, 1983). Expectancy theory would appear to be most appropriate for understanding the motivation behind “important” choices that capture the full attention of the decision maker. As such, expectancy theory seems to be well suited for the critical steps in entrepreneurship and empirical evidence suggests that expectancy and valences are indeed drivers of entrepreneurial decisions (e.g., Douglas & Shepherd, 2002; Gatewood et al., 2002; Krueger & Reilly, 2000).

Consequently, I use expectancy and valences as the foundational attributes in the decision to persist in this study. When considering the impact of outcome valences on motivation, it is important to note that an individual may take into account any number of potential positive or negative outcomes associated with any given entrepreneurial activity. For example, one entrepreneur may consider personal wealth, independence, and public recognition as potential outcomes of a particular opportunity while another focuses on family security, the challenge of building a business, and the prospects of bankruptcy. Individuals will differ in which outcomes they reflect on, as well as the actual valence placed on the considered outcomes. The willingness to act is influenced by the aggregate of all considered outcome valences (Van Eerde & Thierry, 1996). Following the lead of Gimeno and his colleagues (1997), I have selected three primary categories of outcomes for the entrepreneurial persistence decision: financial returns, non-financial benefits and switching costs. Financial returns refer to the personal returns derived from the business. Non-financial benefits are non-monetary rewards, satisfactions, and benefits that result from the business. Switching costs refer to the financial and non-financial costs inherent in the act of switching from the current venture to a new opportunity. Switching costs do not include the difference in the expected future returns generated by the alternatives (Gimeno et al., 1997).

As shown in the model in Figure 1, I argue that expectancy and the three aforementioned valences are positively related to the decision to persist. Using expectancy theory as the basis for the persistence decision policy, I now turn my attention to the environmental and individual factors that may influence the weight placed on expectancy and valences in their decision to persist.

**Adversity**

Adversity is a state of serious or continued negative outcomes. Adversity, as determined by the cognitive comparison between performance feedback and the related reference value (e.g., goal or expectation), can trigger a reevaluation of the expectancy and valence of achieving the entrepreneurial goal (Carver & Scheier, 1998). Discrepancies between actual and expected outcomes not only trigger a new evaluation but also directly impact the decision policy. Since values and expectancies are relatively stable in the short term (Klein, 1989), the key difference
between the initial opportunity evaluation and subsequent evaluations is the new information that is received from the environment. The magnitude and frequency of discrepancies between actual and expected outcomes influences the intensity of the reassessment and the resulting response. Lower levels of adversity may cause minimal interruption by activating a predetermined or scripted response (Carver & Scheier, 1998). The motivational force toward the goal will tend to remain stable as little attention is dedicated to the reassessment (Klein, 1989). Alternatively, when adversity is high, the individual is likely to be more deliberate in contemplating expectancies and valences in the reassessment and in determining the cognitive or behavioral adjustments that make up the response (Taylor, 1991). The affective and cognitive effects of negative discrepancies will influence the judgment of the expectancies and valences of future outcomes. Unmet expectations often spawn negative feelings and thoughts which tend to shake confidence that future positive outcomes will occur (Bandura, 1997). All else being equal, the negative effects of adversity will generally decrease the overall motivation to continue with a venture, or in other words, diminish the likelihood of choosing to persist. Therefore, the following hypothesis is offered:

**H1: Entrepreneurs will be less likely to persist in the context of high adversity than in the context of low adversity.**

Despite this potentially detrimental effect on motivation, sometimes individuals are able to maintain the motivation to continue in the face of adversity. Overcoming the downward pressure on expectancy can happen in two primary ways. First, the individual may preserve unrealistically high expectancies through attribution (Weiner, 1985), overconfidence (Busenitz & Barney, 1997), selective perception (Walsh, 1988), or other related means. These mechanisms of maintaining high expectancy in the context of negative feedback have been the subject of considerable research attention but are not the focus of this study. Second, negative discrepancies may lead to a relative shift in the salience of outcomes and their associated valences (Feather, 1982). Adversity may influence the consideration of outcomes by altering the motivational mindset towards future action (Feather, 1990). The motivational mindset that is generated by negative discrepancies can be attributed to responses to adversity across a number of levels. Taylor (1991) has argued that negative events lead to a mobilization of physiological, affective, cognitive, and social resources in order to minimize the impact of the negative event. Negative discrepancies can arouse the physiological fight or flight response, evoke strong emotional reactions, promote greater focus and attention, increase information processing, and stimulate the need for affiliation with others (Taylor, 1991). The heightened emotional and cognitive awareness often results in an increased number of outcomes being considered (Carver & Scheier, 1998) and in greater weight being placed on potential outcomes that are perceived as moving away from the status quo (Kahneman & Tversky, 1984). Consequently, one may place greater weight on an outcome valence in the face of adversity than he or she had in the context of low adversity.

Decision-making and motivation theorists have regularly argued that the motivational mindset or psychological state of an individual during the decision-making process influences the underlying motives used in decision-making (e.g. Brockner, Higgins, & Low, 2004; Kahneman & Tversky, 1979). Prospect theory may be the most widely accepted decision-making theory that accounts for changes in the underlying motives based on differing mindsets (Plous, 1993). Prospect theory (Kahneman & Tversky, 1979) suggests that expectancies and valences may be weighed differently depending on whether the individual is approaching the decision from a loss perspective or a gains perspective. The loss or gains perspective is determined by the deviation from a reference point (Tversky & Kahneman, 1991). If new venture performance has met or exceeded the expectation—the reference point—then the motivational mindset is framed with a positive or gains orientation. On the other hand, if new venture performance has fallen below the
goal, then the entrepreneur’s mindset for future decisions will be from a loss perspective. Prospect theory suggests that losses loom larger than gains and therefore an individual will tend to be more risk-averse in a gains domain and risk-seeking in a loss domain (Kahneman & Tversky, 1979).

The choice to continue with a struggling venture would most likely be framed as a choice between losses (Whyte, 1993). A negative discrepancy between the actual performance and the expected performance would typically be viewed as a loss and choosing to exit the business because of poor performance would be perceived as accepting a certain loss. Alternatively, continuing with the business may be perceived as a chance of increased losses but also a possibility of eliminating or reducing the loss. Prospect theory suggests that with this loss mindset, an entrepreneur will be likely to choose the more risky option. Taking an expectancy approach, choosing the more risky option implies that the entrepreneur will tend to place more weight on the outcome valences and less weight on expectancy in the decision policy. In its extreme form, risk-seeking behavior would be based solely on the valence of the outcome with complete disregard for the probability of achieving that outcome. Thus, I hypothesize:

\[ H2: \text{Entrepreneurs will place less emphasis on expectancy in their persistence decision policy in the context of high adversity than they will in the context of low adversity.} \]

\[ H3: \text{Entrepreneurs will place greater emphasis on (a) future financial returns, (b) future non-financial benefits, and (c) switching costs in their persistence decision policy in the context of high adversity than they will in the context of low adversity.} \]

**Individual Characteristics**

Individual characteristics may also impact the entrepreneurial persistence process (Klein, 1989). Motivated behavior is a function of both the person and the environment. Individual characteristics play a critical role in the way that the feedback from the environment may alter expectancies, valences, and ultimately motivation. Over the years, scholars have studied hundreds of traits and characteristics with the goal of discerning individual differences in motivated behavior. Early entrepreneurship research followed this course as many researchers sought to determine the entrepreneurial personality by studying traits such as need for achievement (McClelland, 1961), risk taking propensity (Brockhaus, 1980), and locus of control (Rotter, 1966). While initial research produced little conclusive evidence of a universal direct relationship between traits and entrepreneurial performance, it did provide a foundation for the examination of more proximal relationships between individual characteristics and motivation, cognitions, and competencies (Baum & Locke, 2004).

Recent investigations have demonstrated the critical role of individual characteristics in the entrepreneurial process by showing that the relationship between individual characteristics and entrepreneurial outcomes is often mediated by motivation. Zhao and his colleagues (2005) found that self-efficacy motivation mediated the relationship between risk propensity and the intention to start a venture. The relationship between personal traits and venture growth was also found to be mediated by situationally specific motivation like goals and self-efficacy (Baum, Locke, & Smith, 2001; Baum & Locke, 2004). Collins, Hanges, and Locke (2004) performed a meta-analysis on the motivational impact of the need for achievement on entrepreneurial behaviors. They found that the need for achievement was a significant motivational factor in the choice to act entrepreneurially and the performance that followed. Finally, in a non-entrepreneurial sample, Klein and Wright (1994) found that the expectancy and valence of goals mediated the relationship between individual characteristics and the commitment to the goals. These studies suggest that
individual characteristics are indeed important and often influence entrepreneurial behavior through motivation.

**Human Values and Valence**

One classification of individual characteristics that is particularly relevant to the expectancy theory of motivation is that of personal values (Feather, 1990). Values are defined as a relatively stable set of beliefs about what is desirable (Schwartz & Boehnke, 2004). Values transcend specific actions and situations and serve as guiding principles in people’s lives (Schwartz, 1992). Values have a profound influence on the valence of goal outcomes and consequently the motivation to reach the goal. Values differ from valences in that valences are linked to specific actions, objects, or contexts while values are more abstract, general, and stable across situations (Feather, 1995). Personal values are the lens through which prospective actions and their associated feasibility and attractiveness are viewed. In this way, values induce valences of potential future outcomes and serve as motives in human choice (Feather, 1982). Therefore, the values that one holds affect the ways that individual’s define situations, consider alternatives, and ultimately choose a course of action. It is expected that the values that a person ascribes to as guiding principles in his or her life will play a central role in determining the valence that that person allocates to potential outcomes. Said another way, when deciding whether or not to persist, the weight placed on valences and expectancies in the persistence decision policy will be at least partially dependent on the personal values of the entrepreneur.

Values are derived from cognitive representations of basic biological, psychological, and social needs (Rokeach, 1973; Schwartz, 1992). Building on the work of Rokeach (1973), Schwartz (1992) argues that there are 10 basic value types that are universal across cultures: power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity, and security. Utilizing the similarities and differences among the motivational structures of the 10 basic values, Schwartz (1992) delineated four higher order value types: self-enhancement, openness to change, self-transcendence, and conservation. This theoretical structure of higher order value types has been empirically supported as reliable and generalizable across a number of samples from a variety of different countries (Morris et al., 1998). This integrated structure of values allows us to consider how the related sets of values may induce the valences of the financial returns, non-financial benefits, and switching costs associated with entrepreneurial persistence (Feather, 1995).

**Openness to change** consists of the values of stimulation, self-direction, and hedonism. Individuals who value openness appreciate independent thought and action and thrive on the excitement and challenge of life (Schwartz, 1992). They explore new ways of doing things and are not afraid to buck conventional roles or systems. They are stimulated by learning and by using their intellectual capacity to develop new products and services (Shane, Kolvereid, & Westhead, 1991). High openness to change people will tend to be more promotion-focused in their self-regulatory system by seeking growth and advancement towards their ideal selves (Brockner et al., 2004). Accordingly, they will put emphasis on the benefits or gains derived from new venture creation. Entrepreneurs who use openness as a guiding principle in their lives will also take pleasure in the independence and autonomy that are often associated with entrepreneurship (Carter, Gartner, Shaver, & Gatewood, 2003). The flexibility and freedom to control one’s time and work approach generates non-financial benefits that are often valued as much or even more than financial benefits by many entrepreneurs (Amit & MacCrimmon, 2001). Such non-economic benefits of new venture creation will likely be accentuated in the entrepreneurial decision making process. Therefore, I propose the following hypothesis:
H4: Entrepreneurs for whom the openness to change value is a more important guiding principle in their lives will place greater emphasis on future non-financial benefits in their persistence decision policy than those for whom the openness to change value is a less important guiding principle.

Self-transcendence includes the values of universalism and benevolence. The self-transcendence values motivate people to look beyond selfish interests towards elevating the welfare of other individuals, communities, and the world in general (Schwartz, 1992). Individuals who place emphasis on these values will be concerned with being honest, helpful, and loyal to those with whom they interact. High self-transcendence individuals will thrive on positive affiliation with others (Mikulincer et al., 2003). They are motivated by the psychological benefits derived from pro-social behaviors which enrich the lives of associates. Individuals who live by this value may be moved to create a venture that promotes equal opportunity for all, protecting the environment, upgrading the standard of living in third world countries, or other social concerns. Self-transcendent entrepreneurs will likely derive great psychic income from making a positive difference in the lives of employees, customers, and communities around the world. Thus,

H5: Entrepreneurs for whom the self-transcendence value is a more important guiding principle in their lives will place greater emphasis on future non-financial benefits in their persistence decision policy than those for whom the self-transcendence value is a less important guiding principle.

Conservation values include tradition, conformity, and security (Schwartz, 1992). People who are committed to time-honored ideals and standards uphold the value of conservation. High conservation individuals will tend to emphasize self-control and prudence in their actions. They will be more inclined to preserve the status quo, sticking with traditional roles while seeking for harmony in relationships. They will also be motivated by societal norms and feel a sense of duty to meet obligations. Entrepreneurs who value conservation are liable to make stability and security a high priority for their company. Similarly, personal or family security may be a driving force behind their decision to start or continue a venture (Kuratko, Hornsby, & Naffziger, 1997). High conservation entrepreneurs will be more likely to have a prevention regulatory focus such that they will seek to minimize discrepancies with their “ought” selves through avoidance of change which may lead to negative outcomes (Brockner et al., 2004). Thus, they will be more sensitive to the potential costs associated with change in their entrepreneurial decision policies which leads to the following hypothesis:

H6: Entrepreneurs for whom the conservation value is a more important guiding principle in their lives will place greater emphasis on switching costs in their persistence decision policy than those for whom the conservation value is a less important guiding principle.

Self-enhancement includes the values of achievement, power, and hedonism. Self-enhancement values focus on the development of personal interests, even at the expense of others, if necessary (Schwartz, 1992). Entrepreneurs who place high importance on self-enhancement will seek to be abundantly successful in the new venture with the hope of obtaining recognition and social status. High self-enhancement individuals tend to enjoy the control over resources and employees offered by running a business. They also understand that building a successful venture can result in a positive public image and influential positions in social circles (Scheinberg & MacMillan, 1988). In business, power and achievement are most prominently associated with the venture’s financial success which results in high income or wealth. Those who attach importance to self-enhancement may take pleasure in the opportunities for self-indulgence that are afforded
those who are wealthy. Entrepreneurs often state that the potential for income, wealth, and recognition are significant reasons for starting a new venture (Carter et al., 2003; Kuratko et al., 1997). This leads to the following hypothesis:

\[ H7: \text{Entrepreneurs for whom the self-enhancement value is a more important guiding principle in their lives will place greater emphasis on future financial returns in their persistence decision policy than those for whom the self-enhancement value is a less important guiding principle.} \]

**RESEARCH DESIGN AND METHOD**

The sampling frame consisted of active owner-managers of high-technology businesses that are less than 8 years old, as commonly set forth in entrepreneurial studies (McDougall, Covin, Robinson Jr, & Herron, 1994). Of the 341 entrepreneurs on the potential participant list, 158 (46%) could not be reached, 40 (12%) volunteered to participate but were unable to do so during the data collection period, 38 (11%) declined to participate, and 105 participated (31%). It is important to note that because of the multiple observations for each participant, conjoint experiments can achieve greater statistical power with smaller sample sizes (Shepherd & Zacharakis, 1997). Approximately 91% of the respondents were men. The average age was in the 40-44 range. A majority of the entrepreneurs (72%) were college graduates and they had an average of 21 years of work experience. Ninety-three percent of the participants were firm founders and 65% had previously started at least one other new venture. The mean size of the entrepreneurs’ firms was $330,937 in sales and 4.9 employees. The average firm is 3.42 years old.

To examine the persistence decision policies of entrepreneurs, I utilized a metric conjoint experiment. Conjoint experiments require respondents to make a series of judgments based on a set of attributes. In this case, the participants made judgments regarding the likelihood to persist with their current business based on attributes of expectancy and valences. Conjoint analysis is valuable in that it allows for the decomposition of the decision revealing the underlying structure of the decision policies (Louviere, 1988). As a real time method, conjoint experiments overcome many of the potential problems associated with post-hoc methods, such as introspection and recall biases. Conjoint analysis has been used in hundreds of decision making studies across a variety of disciplines (Green, Krieger, & Wind, 2001), including entrepreneurship (e.g. Bruns, Holland, Shepherd, & Wiklund, 2008; Franke, Gruber, Harhoff, & Henkel, 2006).

In conjoint experiments, it is important to provide a common context in which the participants make their decisions. In order to control for unobservable situational effects on decision making in this experiment, the participants were asked to make several provided assumptions regarding their business and the opportunities in the scenarios. The level of adversity was also manipulated in order to test the differences in the persistence decision making processes between contexts of low adversity and high adversity. Each respondent was asked to make the same series of decisions regarding the likelihood of continuing with their current business in both the low and the high adversity condition.

Four attributes, representing the expectancy (probability of expected outcomes) and valences (financial returns, non-financial benefits, and switching costs), were used in the decision profiles. Each attribute has a high and a low level, therefore, 16 \(2^4\) possible combinations of profiles could have been used. With replication and multiple contexts, the total number of profiles would have become unwieldy for participants. In order to make the decision task more manageable, the Hahn and Shapiro (1966) orthogonal fractional factorial design was utilized which reduced the number...
of profiles to 8. In choosing an orthogonal fractional factorial design, I followed the general rule of confounding the effects of most interest with effects that are unlikely to be significant or to cause much bias in the estimated parameters (Green et al., 2001). This design allowed me to test the relationships of most import (Louviere, 1988). Each of the 8 profiles was replicated in order to test response reliability among the respondents. One practice profile was also included, resulting in 17 total profiles in the first context and 16 in the second context, for a grand total of 33 profiles.

A post experiment questionnaire was used to gather data regarding the importance of values in the participants’ lives. The Schwartz Value Survey (SVS) (Schwartz, 1992), which includes 56 potentially desirable value items, was used in the study. The SVS has been verified across a number of samples using multi-dimensional scaling and confirmatory factor analysis (Schwartz & Boehnke, 2004) and has been used in a variety of studies over the last fifteen years (e.g. Egri & Herman, 2000; Feather, 1995). The reliabilities for self-enhancement, openness to change, self-transcendence, and conservation, were .81, .77, .87, and .84, respectively. Data for control variables related to entrepreneurial and firm characteristics were also gathered.

ANALYSIS AND RESULTS

Ninety percent of the 105 participants had significantly reliable responses with a mean test-retest correlation of 0.77. Before modeling the decision policy of the sample of entrepreneurs, I used regression analysis to examine the individual models of entrepreneur’s decision policies. Since I hypothesized a difference in decision policies based on the context of the decision – i.e. low adversity versus high adversity – I examined the individual models in each context separately.

In the low adversity context, 83% of the entrepreneur’s individual models of decision policies explained a significant proportion of variance (p < .05) with a mean $R^2$ of 0.86. Similarly, 84% of the individual models were significant in the high adversity context with a mean $R^2$ of 0.85.

The design of this conjoint experiment resulted in 32 decision observations per entrepreneur or 3360 total observations. Due to the nested nature of the data, I relied on hierarchical linear modeling (HLM) for the analysis of the data. HLM is particularly effective with nested data because it controls for autocorrelation and heteroskedasticity that may be inherent in such data. HLM accounts for variance both within and between individuals and allows for the decomposition of the decision policies, revealing the underlying decision structure (Bruns et al., 2008). Looking at the sample as a whole, 74.9% of the explained variance is within the individual level. Level 2, i.e. adversity, accounts for 14.5% of the explained variance and the level 3 variables (values and control variables) explain 10.6% of the variance in the decisions. Overall, 54.8% of the true within individual variance is accounted for by the variables in this study.

In order to test hypothesis 1, we must examine the beta for the intercept in the adversity condition. The coefficient is negative and significant (coefficient = -0.807, p<.001) which suggests that controlling for all other factors, entrepreneurs are less likely to choose to persist when adversity is high than when adversity is low. This finding supports Hypothesis 1.

In Hypothesis 2, I posited that entrepreneurs would place less emphasis on expectancy in the decision policy in the context of high adversity than they would in the context of low adversity. The coefficient for the relationship of adversity with the use of expectancy in the decision policy is indeed negative and significant (coefficient = -0.224, p<.05). Since the main effect of expectancy on the decision to persist was positive, a negative coefficient in the context of adversity indicates that expectancy receives less emphasis in the high adversity condition. Thus, Hypothesis 2 is supported. In contrast, the participants in the study did not place significantly greater emphasis on
the valences of financial returns (coefficient = -0.152, p=.16), non-financial benefits (coefficient = -0.140, p=.20), or switching costs (coefficient = 0.074, p=.50), as put forward in Hypothesis 3. Hypotheses 3a, 3b, and 3c are not supported.

Hypotheses 4 through 7 examine the relationship between individual values and the persistence decision policy of entrepreneurs. In the HLM model, the level 2 intercept results display the relationship between the values and the decision criteria while controlling for adversity. According to Hypothesis 4, entrepreneurs who value openness to change will place greater emphasis on the valence of non-financial benefits than those who place less value on openness to change. When looking at non-financial benefits as the dependent variable, the coefficient for openness to change is positive and significant (coefficient = 0.019, p<.05). In order to analyze this result, we must first look at the main effect of non-financial benefits on the sample as a whole. The main effect of non-financial benefits on the decision to persist was positive and significant. Therefore, a positive openness to change coefficient implies that entrepreneurs who place greater value on openness to change placed greater weight on non-financial benefits than those who place less value on openness to change. Thus, Hypothesis 4 is supported. Similarly, Hypothesis 5 states that non-financial benefits will receive more emphasis from entrepreneurs who hold self-transcendence as a guiding principle in their lives than those who do not. The coefficient for the self-transcendence variable was not significant (coefficient = -.001, p=.80), therefore, Hypothesis 5 is not supported. Hypothesis 6 is also not supported by the data. In Hypothesis 6, I inferred that entrepreneurs who are high in conservation would place greater emphasis on the valence of switching costs in their persistence decision policy but this relationship is not significant (coefficient = .003, p=.60). Hypothesis 7 suggests that the self-enhancement value will be positively related to the use of the valence of financial returns in the persistence decision policy. When looking at the financial returns as the outcome variable, the beta for the self-enhancement value is indeed positive and significant (coefficient = .013, p<.05). Examination of the main effects of financial returns on the persistence decision also shows a positive relationship. Therefore, financial returns have even more influence in the decision policy for those entrepreneurs who highly value self-enhancement than for those entrepreneurs who do not highly value self-enhancement. This finding supports Hypothesis 7.

DISCUSSION

Limitations

I acknowledge that as with all research, this study has limitations. While I tried to minimize these limitations throughout the design and administration of the experiment, it is important to address such limitations. In conjoint experiments, researchers attempt to approximate the “real world” with the decisions used in the experiment. Obviously, this attempt is imperfect in that it is difficult to capture and control all of the factors involved in decision making. This experiment forces the entrepreneurs to make decisions based on the four attributes provided. In reality, the entrepreneur would have access to more information and time. Despite this inescapable drawback of conjoint experiments, Louviere (1988) and others have argued that the method has strong validity and is useful in capturing the decision policies of individuals. Moreover, I attempted to minimize the limitation by controlling for the potential use of other information. This was accomplished by explicitly setting the context for the decisions in the instructions and by directing participants to treat each decision independently and equally. Conjoint and policy capturing experiments have been used in hundreds of decision-making studies (Green et al., 2001) and I have approached it in a manner consistent with other conjoint experiments published in entrepreneurship journals (e.g. Bruns et al., 2008; Franke et al., 2006).
This experiment was conducted with active entrepreneurs and should be generalizable to other entrepreneurs. However, it is important to note that the sample was limited to the high-technology sector in a particular geographical area. Thus, the external validity is limited to this context. Future research could increase the external validity by targeting samples of entrepreneurs in other industries and locations.

Implications

There are several theoretical contributions from this study. First, this study contributes to the extant literature on entrepreneurial persistence by taking a more comprehensive and integrative decision-making approach. Others have viewed persistence as a trait (Baum & Locke, 2004) or as perceptions of control over outcomes (Markman, Baron, & Balkin, 2005). This study looks at persistence as a decision process with the fundamental choice to continue to act entrepreneurially at the core. The focus of the study is on proximal relationships in the decision process across levels of individual characteristics, situational factors, and motivational factors that influence entrepreneurial choices. In this way, I answer the call by Shane, Locke, and Collins (2003) to use motivation to “separate those who continue to pursue opportunities from those who abandon the effort.”

Second, the study helps to answer the primary research question: how and why individual values and adversity affect the motivational factors in the decision to persist. One of the predominant findings of this study concerns the heterogeneity in persistence decision policies based on the level of adversity. While entrepreneurs are expectedly less likely to persist in the context of high adversity than low adversity, it is interesting to note that the persistence decision policy or the weight placed upon decision criteria changes between contexts. Specifically, entrepreneurs tend to place less weight on expectancy in a state of high adversity than in a state of low adversity. This finding provides greater insight into the mechanics behind the risk-seeking behavior suggested by prospect theory. The reduction in emphasis on expectancy may also shed light on the tendency to escalate commitment to a failing course of action. At a high level of adversity, entrepreneurs seem to deemphasize the probability of achieving positive outcomes and simply base their decision on the valences of the outcomes. When the probability of success is low, placing less weight on that particular decision criterion (expectancy) may bias the choice toward persistence in a failing course of action. This study presents a fundamental decision structure that can be applied to entrepreneurial escalation decisions. Future research may help to discern the situations and individual characteristics that have the greatest influence on the escalation decision policy.

Third, the findings of this experiment suggest that some differences in the persistence decision policy used by entrepreneurs can be attributed to differences in the individual values held by entrepreneurs. Entrepreneurial research has increasingly been concerned with developing knowledge about how entrepreneurs think and make decisions (Mitchell et al., 2004). The findings from this study suggest that diversity in the decision-making process may be due, in part, to heterogeneity in individual values and the way the values induce valences of outcomes. The findings support the notion that values play an important role in the cognitive appraisal of opportunities and the resultant decisions (Feather, 1995).

Finally, there are some practical contributions offered by this study. Persistence is critical to entrepreneurial success but also has a dark side. Persistence can lead to significant financial and emotional costs for the entrepreneur if the consequence is the allocation of resources in an
inefficient opportunity when the resources could have been more efficiently applied elsewhere (McGrath, 1999). Therefore, awareness of the factors involved in the persistence decision process may be of great value to entrepreneurs. An understanding that adversity and values may predispose them toward disproportionate weighting of decision attributes may encourage decision-makers to take preventive measures. They may be more willing to seek objective data from other sources that can be used to justify or modify expectancies and ultimately increase the probability of making quality decisions. In seeking out team members, entrepreneurs may choose individuals with a diversity of values to help ensure different perspectives in the decision policy. Entrepreneurs may benefit from a concerted effort to increase opportunity awareness which can promote a real options approach (McGrath, 1999). Entrepreneurs may be less likely to persist in a failing course of action if an alternative opportunity with higher relative expectancy and valences is available to pursue. Understanding the influence of adversity, values, and opportunities on the decision to persist may enable an entrepreneur to more effectively determine if he or she should never, never, never give in.

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REFERENCES


Figure 1: The Effect of Adversity and Individual Values on the Decision to Persist

- Values
  - Self-transcendence
  - Openness to Change
  - Conservation
  - Self-enhancement

- Adversity
  - H1
  - H2
  - H3

- Expectancy
  - Financial Returns
  - Non-financial Benefits
  - Switching Costs

- Valences
  - H4
  - H5
  - H6
  - H7

- Decision to Persist