

INVESTIGATING THE VALUES - ENTREPRENEURIAL ATTITUDE - OPPORTUNITY RECOGNITION RELATIONSHIP IN NASCENT ENTREPRENEURS

Wendy Lindsay: The University Of Adelaide, Adelaide, Australia

Noel Lindsay: The University Of Adelaide, Adelaide, Australia

Anton Jordaan: The University Of Adelaide, Adelaide, Australia

~

Contact: Wendy Lindsay, The University of Adelaide, Entrepreneurship, Commercialisation, and Innovation Centre, Faculty of Engineering, Computer and Mathematical Sciences, 5005 Adelaide, Australia, (T) 08-8303 7422, (F) 08-8303 7512, Email: wendelsch@yahoo.com

ABSTRACT

The purpose of this research was to examine to what extent a relationship exists between personal values, entrepreneurial attitude, and opportunity recognition. Although these constructs have been examined individually, their inter-relationships have not previously been examined. Thus, this research contributes toward our understanding of opportunity recognition. There were 166 necessity based nascent entrepreneurs who participated in the research. The results suggest that a relationship exists between (internal and external) values and entrepreneurial attitude. In addition, opportunity recognition was a function of entrepreneurial attitude and, to a lesser extent, of personal values.

INTRODUCTION

Individuals start businesses for a variety of reasons. Often, their aspirations are not achieved as many nascent entrepreneurs fail to achieve business and thus personal success. Failure to identify suitable business opportunities is one underlying cause for business collapse. Understanding the factors that contribute toward successful opportunity recognition can lead to more successful business start-ups which, in turn, will have a positive effect on economic development.

Exhibiting an appropriate entrepreneurial attitude would seem fundamental to being able to identify business opportunities. Entrepreneurs exhibit an entrepreneurial attitude (Robinson, Stimpson, Heufner, and, Hunt 1991; McCline, Bhat, & Baj 2001) and entrepreneurial individuals are better at recognizing opportunities (Timmons and Spinelli, 2007). Thus, it is possible that entrepreneurial attitude and opportunity recognition are related (McCline, Bhat, & Baj 2001). This research explores this relationship.

Attitude is the predisposition to respond in a generally favorable or unfavorable manner with respect to the object of the attitude (Ajzen, 1982; Rosenberg and Hovland, 1960; Shaver, 1987). Models such as the theory of reasoned action (Fishbein and Ajzen 1975) and the theory of planned behavior (Ajzen 1985) use attitude (as well as social norms and perceived behavioral control) as behavior prerequisites via intentions to perform particular behaviors. Attitude theory is viewed as a credible alternative to the less supported trait and demographic approaches in studying entrepreneurs (Robinson, Stimpson, Heufner, and, Hunt 1991).

Various studies support the hierarchical primacy of values over attitudes and behaviors whereby values can influence attitudes and behaviors (e.g., Homer and Kahle, 1988). Values are enduring beliefs that a specific mode of conduct or end state of existence is personally or socially preferable to an opposite or converse mode of conduct or end state of existence (Rokeach 1973). Values provide guiding principles about preferred ways of acting or being in the life of a person or other social entity. As such, values provide a stable and inner-oriented understanding of individuals – more so than attitudes (Rokeach 1973; Rokeach and Ball-Rokeach, 1989). Thus, individuals with positive values

will more likely have positive attitudes; those with negative values will more likely reflect negative attitudes.

Opportunity recognition is recognised as a key function of entrepreneurship. Why, when, and how individuals exploit opportunities appear to be a function of the joint characteristics of the opportunity and the nature of the individual (Ardichvili, Cardozo, & Ray 2003). Individual knowledge, cognitive, and behavioral differences help to explain why some individuals recognize opportunities while others do not (Baron 1998; Shepherd & De Tienne 2005).

Although research has been undertaken separately into values, entrepreneurial attitude, and opportunity recognition, no research has examined the values-entrepreneurial attitude-opportunity recognition relationship as a whole. Yet, values influence attitudes, entrepreneurial attitude is a discriminator between entrepreneurs and non-entrepreneurs, and the ability to recognise (and exploit) opportunities has been associated with entrepreneurial success. Thus, the question addressed in this research is: To what extent is opportunity recognition a function of entrepreneurial attitude and personal values. This research uses nascent entrepreneurs to explore the relationships among these three constructs

MODEL DEVELOPMENT

Figure 1 provides an overview of the proposed model. This demonstrates hypothesised relationships between nascent entrepreneur values, entrepreneurial attitude, and opportunity recognition. Nascent entrepreneurs were used instead of (existing) entrepreneurs since an unanswered research question is whether (existing) entrepreneurs develop entrepreneurial attitudes as a result of their entrepreneurial activities or do they have these prior to engaging in entrepreneurial activity. If *nascent* entrepreneurs demonstrate entrepreneurial attitudes, then it suggests that these attitudes pre-exist; that is, that they are inherent in them.

Insert Figure 1 about here

Values

Values are core to our functioning (Rokeach 1973). They are said to be the most significant construct in social sciences (Rokeach 1973). They act as core motivations for basic psychological needs (Rokeach 1973) through representing conceptions of desirable influences on the way that individuals select behavior and evaluate their worlds (Schwartz and Bilsky 1987). Individuals use their values (typically more than one value – Micken 1992) to help rationalize and guide their beliefs, attitudes, and behaviors (Rokeach 1973). Although values can differ between regions (Kahle, Liu, and Watkins 1992), it is accepted that they influence attitudes which in turn influence behaviors (Homer and Kahle 1988).

There are different frameworks, approaches, and measures toward values (see, for example, Rokeach 1973; Kahle 1983; Mitchell 1983; Schwartz and Bilsky 1987). This research uses the List of Values (LOV) developed by Kahle (1983) – also see, Veroff, Douvan and Kulka (1981) and Homer and Kahle (1988). LOV is based on the work of Feather (1975), Maslow (1954), and Rokeach (1973). LOV has proven popular in values-oriented business oriented marketing research as it is succinct and because it demonstrates excellent psychometric properties (Kahle, 1996; Shoham, Rose, and Kropp, 2005).

LOV consists of nine values. These are a sense of belonging, excitement, fun and enjoyment in life, warm relationships with others, self-fulfilment, being well respected, a sense of accomplishment, security, and self-respect. Through factor analysis, these nine values have been reduced to three dimensions (e.g., Homer and Kahle, 1988). Names attributed to these three dimensions (Homer and Kahle, 1988) are *internal values* (self-fulfilment, sense of accomplishment, and self-respect), *external values* (sense of belonging, being well-respected, security, and warm relationships with others), and *fun/excitement* (fun and enjoyment and excitement).

Entrepreneurial Attitude

Attitude theory is an alternative credible approach to personality-based psychological models of the entrepreneur (Robinson, Stimpson, Heufner, & Hunt 1991). The entrepreneurial attitude model is a

tripartite model (as distinct from a univariate model) founded upon affect (positive or negative feelings toward an attitude object), conation (behavioral intentions and dispositions to behave in a given way toward an attitude object), and cognition (beliefs and thoughts an individual has toward an attitude object) (see, for example, Ajzen 1982; Fishbein & Ajzen 1975; Ajzen & Fishbein 1977; Rosenberg & Hovland 1960; Shaver 1987). Entrepreneurial attitudes are a function of all three types of reactions to a specific entrepreneurial object (Robinson, Stimpson, Heufner, & Hunt 1991).

In addition to these three attitude dimensions, entrepreneurial attitudes are defined in terms of the following entrepreneurship factors ... achievement toward creating a business, innovation in acting upon business incentives, perception of personal control and influence over business incentives, perceived self-esteem as an indication of self-evaluated competence in business affairs (Robinson, Stimpson, Heufner, & Hunt 1991), and opportunity recognition (McCline, Bhat, & Baj 2002). To various degrees, entrepreneurial attitudes have been found to successfully discriminate between entrepreneurs and non-entrepreneurs (Robinson, Stimpson, Heufner, & Hunt 1991; McCline, Bhat, & Baj 2002). For example, in examining entrepreneurial attitude, Robinson, Stimpson, Heufner, and, Hunt (1991) developed the entrepreneur attitude orientation (EAO) scale to differentiate entrepreneurs from non-entrepreneurs. This was based around four entrepreneurship sub-scales: achievement in business; innovation in business; perceived personal control of business outcomes; and perceived self-esteem in business. Contemporary definitions of entrepreneurship at the time this scale was developed resulted in the "opportunity recognition" dimension not being included in this scale (McCline, Bhat, and Baj 2000). As a result, McCline, Bhat, and Baj (2000) extended the work of Robinson, Stimpson, Heufner, and, Hunt (1991) by developing the entrepreneurial attitude opportunity recognition (EOR) scale which they found to be a more parsimonious scale in predicting entrepreneurial attitudes and differentiating entrepreneurs from non-entrepreneurs. When the EOR scale was used in conjunction with two of the EAO subscales (achievement in business and perceived personal control of business outcomes), McCline, Bhat, and Baj (2000) found the combination to be even more effective in differentiating entrepreneurs from non-entrepreneurs. Thus, this research uses the EOR scale in conjunction with the EAO achievement and perceived personal control subscales to interpret nascent entrepreneur attitudes.

Opportunity Recognition

The discovery of opportunities is core to entrepreneurship (Kirzner 1973; Shane & Venkataraman 2000; Venkataraman 1997). Opportunities are couched in terms of meeting market needs through creative combinations of resources to deliver superior economic value (Schumpeter, 1934; Kirzner, 1973; Casson, 1982; Ardichvili et al., 2003). They are a means to generating profits from creating or adding value to new products, services, or processes, or by exploiting new technologies (Ardichvili et al., 2003) that "emerge from a complex pattern of changing conditions" (Baron, 2006, p.107).

Entrepreneurs find and exploit opportunities by taking advantage of economic disequilibria through knowing or recognizing phenomena that others do not Kirzner (1973). Recognizing opportunities is one of the most important abilities for successful entrepreneurs (Ardichivili, Cardozo & Ray, 2003; Shane and Venkataraman, 2000).

Researchers have identified a variety of factors associated with opportunity recognition. Some researchers have focused on opportunity search (Shane 2003; Gilad et al. 1989; Hills 1995; Hills et al. 1997; Hills & Shrader 1998; Gaglio and Katz 2001; Kirzner 1979, 1997). Opportunity search is closely related to opportunity alertness (Kirzner, 1973). It involves a sense of awareness that can lead to fortuitous discovery which is a part of the passive search strategy. Opportunities may be discovered even though there is no active search for them.

Alertness has been associated with social networks, prior knowledge of markets, industries, and/or customers (Shane 2000, 2003; Ardichvili et al. 2003). Access to relevant information plays a crucial role in opportunity recognition (Ozgen & Baron, 2006). This information provides the basis for developing knowledge about markets, industries and customers which, in turn, provides the capacity to identify opportunities (Venkataraman, 1997; Shane, 2000).

Social networks are significant sources of knowledge (Johannison, 1990) and of new ideas (Christensen and Peterson, 1990) and have been associated with the number of perceived new opportunities (Hills, 1995; Singh et al., 1999; Ozgen and Baron, 2006). They provide access to knowledge not currently possessed; thus leading to opportunity recognition (Arenius & De Clerq,

2005). Two personality traits that appear relevant to opportunity recognition (Ardichvili et al. 2003) are optimism - which is related to self-efficacy (Krueger & Dickson, 1994) - and creativity (Schumpeter, 1934; Winslow & Solomon, 1993; Kay, 1986; Hills et al., 1997).

Potential financial rewards provide an incentive for individuals to recognize opportunities (Schumpeter 1976; Venkataraman 1997; Shepherd & DeTienne 2005). Even though entrepreneurs are often motivated by non-financial goals, wealth-orientation is an important entrepreneurship-sustaining goal (Kuratko, Hornsby, & Naffziger, 1997).

Finally, entrepreneurial cognition is an important factor in opportunity recognition (Baron 1998, 2004; Shaver & Scott 1991; De Koning 1999; Hills 1995; Hills et al. 1997; Hills & Shrader 1998; Gaglio 2004). Environmental change involves changes in complex patterns of stimuli that can be perceived. From a cognition research perspective, opportunity recognition is viewed as a cognitive process involving the recognition of these seemingly unrelated, changing, complex, diverse patterns of stimuli as comprising identifiable objects or patterns (Baron 2004; Matlin 2002).

Values-Entrepreneurial Attitude Relationship

Values have implications for a variety of content domains (Batra, Homer, and Kahle 2001). In the realm of consumer psychology, for example, values have assisted in understanding consumer behavior in terms of choosing particular brands (Dibley and Baker, 2001) and food consumption (Homer and Kahle, 1988; Goldsmith, Freiden and Henderson, 1995). Values have also been identified with social marketing including smoking and drinking behaviors (Kropp, Lavack, and Holden 1999). In keeping with these lines of research, personal values may also prove useful in better understanding entrepreneurial attitudes and behavior, and why certain individuals choose to become entrepreneurs. Since values have been associated with attitudes in other domains (Homer and Kahle 1988), it is possible that values will be related to entrepreneurial attitudes. Thus, ...

H1: There will be a positive relationship between personal values and entrepreneurial attitudes.

Entrepreneurial Attitude-Opportunity Recognition Relationship

Successful venturing is linked to the entrepreneur's ability to distinguish an opportunity from an idea (McCline, Bhat, & Baj 2000). Opportunities exist in the environment but the selection and operationalization of those opportunities depends upon the entrepreneur's ability to recognize and take advantage of them (Chandler & Hanks 1994; Baron 2004, 2006). Having an appropriate opportunity recognition entrepreneurial attitude has been determined to be one way of differentiating entrepreneurs from non-entrepreneurs – at least in the health care industry (McCline, Bhat, and Baj 2000). Entrepreneurial attitudes have been associated with entrepreneurs in other industries as well (Robinson, Stimpson, Heufner, & Hunt 1991). Thus, it is expected that there will be a link between entrepreneurial attitude and opportunity recognition in other industries.

H2: There will be a positive relationship between entrepreneurial attitude and opportunity recognition.

Values- Opportunity Recognition Relationship

Since there is hypothesized that personal values will be associated with entrepreneurial attitude, and that entrepreneurial attitude will be associated with opportunity recognition, it is possible that values may have an indirect relationship with opportunity recognition. Thus,

H3: There will be a positive relationship between values and opportunity recognition.

RESEARCH METHOD

The major research question underpinning this research is: "Are values, entrepreneurial attitudes, and opportunity recognition related?". Validated measures of values, entrepreneurial attitude, and opportunity recognition were used to examine this question.

Participants

There were 166 nascent entrepreneurs who participated in the research. These participants were recruited through advertisements placed in a national and various regional newspapers and through flyers sent to various community service organisations. All participants were involved in starting

businesses. Participants were unemployed and so were more “necessity based” entrepreneurs rather than “opportunity oriented” (Global Entrepreneurship Monitor 2006).

Measures

To examine the hypotheses, participants who responded to the advertisements and notifications, completed a questionnaire in front of the researchers. The questionnaire included sections on respondent demographics, validated measures of values using the List of Values (Kahle, 1996; Kahle, Beatty, and Homer, 1986), validated measures of entrepreneurial attitude (Robinson, Stimpson, Heufner, and, Hunt, 1991; McCline, Bhat, and Baj, 2000), and validated measures of opportunity recognition (Hills, 1995; Hills, Lumpkin, and Singh, 1997; Hills and Shrader, 1998).

Demographics: The demographics section measured items such as gender, age, level of education, work experience background, duration of unemployment, and prior entrepreneurial experience. Table 1 provides the participant demographics.

Insert Table 1 about here

Values: Values were measured using the List of Values (Kahle 1983; Kahle, Beatty, and Homer 1986). This measure comprises nine questions and uses a Likert-type scale (1 = Important to Me and 9 = Extremely Important to Me). Examples of LOV questions include “Sense of Belonging (to be accepted needed by friends, family, and community)”, “Excitement (to experience stimulation and thrills)”, and “Self-Respect (to be proud of myself and confident of who I am)”.

Entrepreneurial Attitude: McCline, Bhat, and Baj (2000) extended the work of Robinson, Stimpson, Heufner, and, Hunt (1991) by developing the entrepreneurial attitude opportunity recognition (EOR) scale which they found to be a more parsimonious scale in predicting entrepreneurial attitudes and differentiating entrepreneurs from non-entrepreneurs. When the EOR scale was used in conjunction with two of the Entrepreneurial Attitude Orientation (EAO) subscales (achievement in business and perceived personal control of business outcomes), McCline, Bhat, and Baj (2000) found the combination to be even more effective in differentiating entrepreneurs from non-entrepreneurs. Similarly, this research uses the EOR scale in conjunction with the EAO achievement and perceived personal control subscales to interpret nascent entrepreneur attitudes. The measures use a 10-point Likert-type scale (1 = Strongly Disagree and 10 = Strongly Agree). Examples of scale questions include: “I like talking to people to find out how I can provide better services.” and “-I believe I can identify what a customer needs to make them satisfied”.

Opportunity Recognition: The research used a validated scale developed by Hills and others (Hills 1995; Hills, Lumpkin, & Singh 1997; Hills & Shrader 1998) to capture OR behavior, activities, and processes. The scale measures the following underlying OR dimensions: self perceived alertness to opportunities (alertness); underlying causes of opportunities (causes); importance of venture ideas, individualism, creativity, and sources (ideas and creativity); OR processes, deliberate search, spin-offs, and immersion (search); and evaluation of business opportunities (evaluation). A variety of questions are asked about each of these dimensions using a 5 point Likert scale (“1 = Strongly Agree” to “5 = Strongly Disagree”). In addition, the scale examines sources of ideas on a three-point Likert scale (“1 = very important” to “3 = not important”). Examples of items in this section include industry and trade magazines, family members, and friends.

RESULTS

Table 2 provides the descriptive statistics, reliabilities, and correlations. Table 3 provides the summary statistics for the regression results with the dependent value being entrepreneurial attitude (as it relates to opportunity recognition, achievement, and personal control) with the independent variable being values (as it relates to internal, external, and fun and excitement values). Table 4 provides the summary statistics for the regression results with the dependent value being opportunity recognition (as it relates to alertness, causes, ideas and creativity, search, evaluation, and sources) with the independent variables being values and entrepreneurial attitude.

Insert Table 2 about here

Insert Table 3 about here

Insert Table 4 about here

There were three hypotheses. H1 hypothesizes that there will be a positive relationship between personal values and entrepreneurial attitudes. This hypothesis was partially confirmed. With entrepreneurial attitude opportunity recognition as the dependent variable, there were significant positive relationships with internal and external values but not fun and excitement values. With entrepreneurial attitude achievement as the dependent variable, there was a significant positive relationship with internal values but not external or fun and excitement values.

H2 hypothesizes that there will be a positive relationship between entrepreneurial attitude and opportunity recognition. H3 hypothesizes that there will be a positive relationship between values and opportunity recognition. With regression equations developed for opportunity recognition as the dependent variable (OR alertness, OR causes, OR ideas and creativity, OR search, OR evaluation, and OR sources) and entrepreneurial attitude (opportunity recognition attitude, personal control attitude, and achievement attitude) and values (internal, external, and fun and excitement) as the independent variables, Hypotheses 2 and 3 were partially confirmed.

DISCUSSION

The purpose of this research was to investigate the values-entrepreneurial attitude-opportunity recognition relationship in nascent entrepreneurs. Values were measured using LOV. LOV is defined in terms of internal, external, and fun and excitement values. Entrepreneurial attitude was measured in terms of attitudes associated with opportunity recognition, achievement, and personal control. Opportunity recognition activities and processes were measured in terms of alertness, causes, ideas and creativity, search, evaluation, and sources. To various degrees, a relationship existed amongst the three construct dimensions.

Values and Entrepreneurial Attitude: In terms of the values – entrepreneurial attitude relationship, internal and external values were related to opportunity recognition entrepreneurial attitude. Since values drive attitudes, those nascent entrepreneurs who rate higher on these two value dimensions are more likely to demonstrate an opportunity recognition entrepreneurial attitude (that is, an entrepreneurial attitude toward recognizing opportunities). Those who ranked lower on these values dimensions were less likely to demonstrate this attitude. Internal values relate to self-fulfilment, self-respect, and a sense of accomplishment. Thus, “feeling good” about oneself is important to developing an appropriate attitude toward recognizing opportunities. However, external values were also important. These are to do with having a sense of belonging, having warm relationships with others, being respected by others, and security. These values underpin the importance of networking and having personal contacts. Thus, having an appropriate attitude toward recognizing opportunities is also associated with feeling comfortable with others who may be able to help a nascent entrepreneur identify and evaluate opportunities.

In addition, having an achievement oriented entrepreneurial attitude was associated with internal values. This suggests that having an attitude toward achieving entrepreneurial greatness is related to feeling good about oneself. The saying “success breeds success” has some bearing here. If one feels good about oneself, then one can more readily develop an attitude toward greater heights. If one does not respect oneself and does not feel that they can accomplish challenges, then it will be harder to have a “healthy” achievement attitude toward entrepreneurship.

Values, Entrepreneurial Attitude, and Opportunity Recognition: To various degrees, opportunity recognition was a function of values and entrepreneurial attitude. Values related to opportunity

recognition less than entrepreneurial attitude with fun and excitement and external values related to opportunity recognition alertness and ideas and creativity respectively. Thus, it would appear that those who were more alert in recognizing opportunities had values associated with fun and excitement – their alertness is related to the challenge which is fun and exciting. In addition, those nascent entrepreneurs who demonstrated higher external values demonstrated higher ideas and creativity scores. Thus, one interpretation of this is that ideas and creativity associated with recognizing opportunities is related to being able to tap into networks of colleagues.

In terms of entrepreneurial attitudes and opportunity recognition, opportunity recognition attitudes were associated with opportunity recognition activities, processes, and behaviors to various degrees. Opportunity recognition attitudes were associated with alertness, causes, search, and evaluation opportunity recognition activities and processes. Entrepreneurial achievement attitudes were associated with alertness, causes, ideas and creativity, and sources. Personal control attitudes were not related at all to opportunity recognition. Thus, opportunity recognition attitudes and achievement attitudes were associated to varying degrees with opportunity recognition activities, processes, and behaviors. This suggests that having a “healthy” attitude toward opportunities and achievement assists nascent entrepreneurs to engage in opportunity recognition. Not having these attitudes makes it more difficult to recognize opportunities.

Contribution: The research makes a contribution at two levels. It contributes to values, entrepreneurial attitude, and opportunity recognition theories by building upon what we already know about these constructs individually and linking them together. In so doing, the research contributes toward our understanding of why some individuals are better at recognizing opportunities while others are not. Although values drive attitudes, they are only “weakly” related to opportunity recognition; their influence probably is more in terms of an indirect relationship. The construct most related to opportunity recognition is entrepreneurial attitude – in terms of opportunity recognition attitude and achievement attitude.

From a practical perspective, the research has implications for developing relevant programs to educate and train nascent entrepreneurs. Entrepreneur development programs need to be holistic and include not only content on establishing and developing new ventures, but also knowledge about developing positive attitudes toward recognizing opportunities. The screening of participants to participate in the entrepreneurship training programs could benefit from the results of this research.

Research Limitations: The research is exploratory and provides some interesting insights into nascent entrepreneurs. However, some limitations associated with the research need mentioning. First, the research related to nascent entrepreneurs. It would be important to examine the same relationship as it pertained to existing entrepreneurs. Second, the participants were necessity based. As such, caution needs to be exercised in extending the results to opportunity focused entrepreneurs. Third, attitudes are changeable; values are less so. Thus, it would be important to examine the values – entrepreneurial attitude – opportunity recognition relationship over time to examine the construct dynamics and to what extent the relationships hold.

SUMMARY

This research examined the values-entrepreneurial attitude-opportunity recognition relationship in necessity-based nascent entrepreneurs. Validated survey instruments were used to measure the constructs. Nascent entrepreneur opportunity recognition activities, processes, and behavior were associated primarily with entrepreneurial attitude (opportunity recognition attitude and achievement attitude) and less so with values.

REFERENCES

- Ajzen, I., (1982). “On behaving in accordance with one’s attitudes.” In Zanna, M.P., Higgins, E. T., Herman, C. P., Eds. *Consistency in Social Behavior: The Ontario Symposium* 2:3-15, Hillsdale, NJ: Erlbaum.
- Ajzen, I. (1985). “From intentions to actions: A theory of planned behavior.” In *Action-Control: From Cognition to Behavior*. Eds. J. Kuhn and J. Beckman. Heidelberg: Springer.
- Ajzen, I. and Fishbein, M. (1977). “Attitude-behavior relations: A theoretical analysis and review of empirical research.” *Psychological Bulletin* 84:888-918.

- Ardichvili, A., Cardozzo, R., & Ray, S. (2003). "A theory of entrepreneurial opportunity identification and development." *Journal of Business Venturing*, 18, 105-23.
- Arenius, P. & De Clerq, D. (2005). "A network-based approach to opportunity recognition." *Small Business Economics*, 24, 249-265.
- Baron, R. (1998). "Cognitive mechanisms in entrepreneurship: Why and when entrepreneurs think differently than other people." *Journal of Business Venturing*, 13, 275-294.
- Baron, R. (2004). "Opportunity recognition: Insights from a cognitive perspective." In Butler, J.A. (Ed), *Research in Entrepreneurship and Management: Opportunity Identification and Entrepreneurial Behavior*, 4, Information Age Publishing, Greenwich, CT, 47-74.
- Baron, R. (2006). "Opportunity recognition as pattern recognition: How entrepreneurs 'connect the dots' to identify new business opportunities." *Academy of Management Perspectives*, February, 104-119.
- Batra, R, Homer, PM, & Kahle, LR (2001). "Values, susceptibility to normative influence, and attribute importance weights: A nomological analysis." *Journal of Consumer Psychology*, 11, 2, pp115-128.
- Casson, M. (1982). *The Entrepreneur: An Economic Theory*. Totowa, NJ: Barnes and Noble.
- Christensen, P.S., & Petersen, R. (1990). "Opportunity identification: Mapping the sources of new venture ideas." *Frontiers of Entrepreneurship Research*, Wellesley, MA: Babson College, 567-581.
- De Koning, A. (1999). *Conceptualizing Opportunity recognition as a Socio-Cognitive Process*, Centre for Advanced Studies in Leadership, Stockholm.
- Dibley, A., & Baker, S. (2001). "Uncovering the links between brand choice and personal values among young british and Spanish girls." *Journal of Consumer Behaviour*, 1, 1, 77-94.
- Feather, NT (1975). *Values in Education and Society*, New York: Free Press.
- Fishbein, M. and Ajzen, I. (1975). *Beliefs, Attitudes, Intentions, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
- Gaglio, C.M. (2004). "The role of mental simulations and counterfactual thinking in the opportunity identification process." *Entrepreneurship Theory and Practice*, Winter, 533-552.
- Gaglio C.M. & Katz, J.A. (2001). "The psychological basis of opportunity identification: Entrepreneurial alertness." *Journal of Small Business Economics*, 16, 95-111.
- Gilad, B., Kaish, S., & Ronen, J. (1989). "The entrepreneurial way with information." In Maital, S. (Ed.), *Applied Behavioral Economics*, II, 480-503, Brighton, UK: Wheatshaef Books.
- Global Entrepreneurship Monitor* (2006). London School of Business.
- Goldsmith, R. E., Freiden, J. & Henderson, K. E. (1995). "The impact of social values on food-related attitudes." *Journal of Product & Brand Management*, 4, 4, 6-14.
- Hills, Gerald E. (1995). "Opportunity recognition by successful entrepreneurs: A pilot study." *Frontiers of Entrepreneurship Research*. Wellesley, MA: Babson College.
- Hills, G.E., Lumpkin, G.T. & Singh, R.P. (1997). "Opportunity recognition: Perceptions and behaviors of entrepreneurs." *Frontiers of Entrepreneurship Research*. Wellesley, MA: Babson College.
- Hills, G.E. & Shrader, R.C. (1998). "Successful entrepreneurs' insights into opportunity recognition." *Frontiers of Entrepreneurship Research*, Wellesley, MA: Babson College.
- Homer, P.M., Kahle, L.R. (1988). "A structural equation analysis of the value-attitude-behavior hierarchy." *Journal of Personality and Social Psychology*, Vol. 54 No. 4, pp. 638-46.
- Johannison, B. (1990). "Economics of overview – Guiding the external growth of small firms." *International Small Business Journal*, 9, 32-44.
- Kahle, L. R. (Ed.) (1983). *Social Values and Social Change: Adaptation to Life in America*. New York: Praeger.
- Kahle, LR, Liu, R, & Watkins, H (1992). "Psychographic variation across United States geographic regions." *Advances in Consumer Research*, 19, pp346-352.
- Kay, C.J. (1986). *The Identification of Catalysts Preceding Decision Making as Described by Innovators and Entrepreneurs*. University of San Francisco, San Francisco.
- Kirzner, I.M. (1973). *Competition and Entrepreneurship*. Chicago, IL: University of Chicago Press.
- Kirzner, I.M. (1979). *Perception Opportunity and Profit*. Chicago: University of Chicago Press.
- Kirzner, I.M. (1997). "Entrepreneurial discovery and the competitive market process: An Austrian approach." *The Journal of Economic Literature*, 35, 60-85.

- Kropp, F., Lavack, A. M., & Holden, S. (1999). "Smokers and beer drinkers: An examination of values and consumer susceptibility to interpersonal influence." *Journal of Consumer Marketing*, 16, 6, 536-557.
- Krueger, N.J. & Dickson, P.R. (1994). "How believing in ourselves increases risk taking: Perceived self-efficacy and opportunity recognition." *Decision Science*, 25, 385-400.
- Kuratko, D.F., Hornsby, J.S., & Naffziger, D.W. (1997). "An examination of owner's goals in sustaining entrepreneurship." *Journal of Small Business Management*, 35, 1, 24-33.
- Maslow, A.H. (1954). *Motivation and Personality*, NY: Harper.
- Matlin, M.W. (2002). *Cognition*, 5th Ed. Fort Worth, TX: Harcourt College Publishers.
- McCline, R.L., Bhat, S., and Baj. P. (2000). "Opportunity recognition: An exploratory investigation of a component of the entrepreneurial process in the context of the health care industry." *Entrepreneurship Theory and Practice* Winter:81-94.
- Micken, K.S. (1992). "Materialism research: Suggestions for new discussions." *Proceedings of the Research Workshop on materialism and Other Consumption Orientations*, Eds, Rudmin, F and Richins, M, ACR, Kingston, Ont, pp110-112.
- Mitchell, A. (1983). *The Nine American Life Styles*, NY: Warner.
- Ozgen, E. & Baron, R.A. (2006). "Social sources of information in opportunity recognition: Effects of mentors, industry networks, and professional forums." *Journal of Business Venturing*, forthcoming.
- Robinson, P.B., Stimpson, D.V., Huefner, J.C., Hunt, H. K. (1991). "An attitude approach to the prediction of entrepreneurship." *Entrepreneurship Theory and Practice* Summer:13-31.
- Rokeach, M., (1973). *The Nature of Human Values*. New York: Free Press.
- Rokeach, M., Ball-Rokeach, S. J. (1989). "Stability and change in American value priorities 1968-81." *American Psychologist* May, 775-784.
- Rosenberg, M. J., Hovland, C. I. (1960). "Cognitive, affective, and behavioral components of attitudes." In Rosenberg, M. J., Hovland, C. I., McGuire, W., J., Abelson, R. P., Brehm, J. W., Eds. *Attitude Organization and Change: An Analysis of Consistency among Attitude Components*, New Haven, CT: Yale University.
- Schumpeter, J. A. (1934). *Change and the Entrepreneur*. Cambridge, MA: Harvard University Press.
- Schumpeter, J.A. (1976). *Capitalism, Socialism and Democracy*. New York: Harper & Row.
- Schwartz, S. H., Bilsky, W. (1987). "Toward a universal psychological structure of human values." *Journal of Personality and Social Psychology*, 53(3), 350-362.
- Shaver, K.G. & Scott, L.R. (1991). "Person, process, choice: The psychology of new venture creation." *Entrepreneurship Theory and Practice*, 16, 2, 23-45.
- Shane, S. (2000), "Prior knowledge and the discovery of entrepreneurial opportunities." *Organization Science*, 11, pp448-469.
- Shane, S. (2003). *A General Theory of Entrepreneurship: The Individual-Opportunity Nexus*. Edward Elgar, Cheltenham, UK.
- Shane, S. & Venkataraman, S. (2000). "Promise of entrepreneurship as a field of research." *Academy of Management Review*, 25, 1, 217-26.
- Shaver, K. G. (1987). *Principles of Social Psychology*, 3rd Ed. Cambridge, MA: Winthrop.
- Shepherd, D.A. & DeTienne, D.R. (2005). "Prior knowledge, potential financial reward, and opportunity identification." *Entrepreneurship Theory and Practice*, January, 91-112.
- Shoham, A, Rose, GM, & Kropp, F. (2005). "Consequences of a market orientation: a meta-analysis." *Market Intelligence & Planning* 23, 4/5, pp435-454.
- Singh, R., Hills, H., & Lumpkin, G.T. (1999). "Examining the role of self-perceived entrepreneurial alertness in the opportunity recognition process." Presented at the 13th UIC/AMA Symposium on Marketing and Entrepreneurship Interface, Nice, June.
- Timmons, J., Spinelli, S. (2007). *New Venture Creation: Entrepreneurship for the 21st Century*, Irwin McGraw-Hill, Boston, 7th Edition.
- Venkataraman, S. (1997). "The distinctive domain of entrepreneurship research: An editor's perspective." In Katz, J., Brockhaus, R., Eds. *Advances in Entrepreneurship, Firm Emergence, and Growth*, JAI Press, Greenwich, CT.
- Veroff, J, Douvan, E, & Kulka, RA (1981). *The Inner American*, New York: Basic Books.
- Winslow, E.K. & Solomon, G.T. (1993). "Entrepreneurs: Architects of innovation, paradigm pioneers and change." *Journal of Creative behavior*, 27, 2, 75-88.

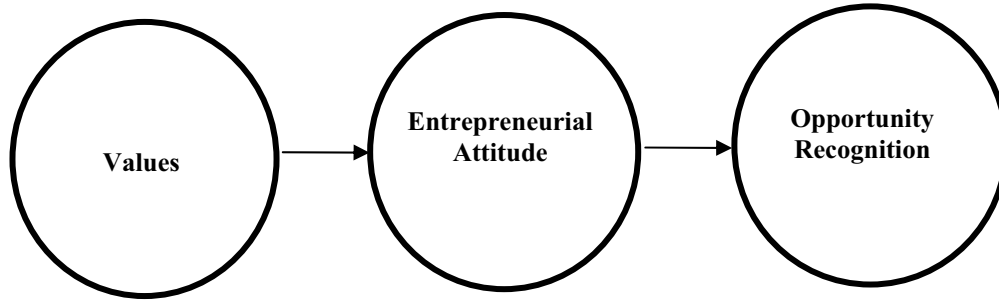


Figure 1: Hypothesized Model

Table 1
Participant Demographics

Details	Frequency	%	
Gender	Male Female	71 95	43% 57%
Age	20 years or less 21 years to 25 years 26 years to 30 years 31 years to 40 years	3 83 57 23	2% 50% 34% 14%
Highest Education Achieved?	Primary School Secondary School Technical Qualification Cert. after High School Dip. after High School Undergraduate Degree Postgraduate Degree Other Qualification	5 14 9 35 64 17 13 9	3% 9% 5% 21% 39% 10% 8% 5%
In what area(s) do you have most work or business experience?	Food Hospitality Tourism Automotive Other	35 8 6 17 100	21% 5% 4% 10% 60%
How long have you been unemployed?	Less than 1 month 1 – 11 months 1 – 5 years 6 – 10 years More than 10 years	16 21 110 17 2	10% 12% 66% 10% 2%
Have you ever started your own business previously?	Yes No	46 120	28% 72%

Table 2: Descriptive Statistics, Reliabilities, and Correlations * $p < 0.05$; ** $p < 0.01$ Cronbach alphas appear on the diagonal in bold italics

Measure	Mean (s.d.)	1	2	3	4	5	6	7	8	9	10	11	12
1. Values - Internal	8.03 (1.270)	<i>0.812</i>											
2. Values - External	6.38 (1.962)	.304**	<i>0.804</i>										
3. Values – Fun and Excitement	5.78 (2.202)	.373**	.434**	<i>0.812</i>									
4. Entrepreneurial OR Attitude	8.01 (1.153)	.382**	.323**	.265**	<i>0.763</i>								
5. Entrepreneurial Achievement Attitude	8.12 (1.005)	.209**	-.003	.167**	.467**	<i>0.837</i>							
6. Entrepreneurial Personal Control Attitude	7.50 (1.241)	.165**	.203**	.217**	.509**	.633**	<i>0.763</i>						
7. OR Alertness	2.56 (0.832)	-.100	-.129	.153*	.238**	.307**	.252**	<i>0.707</i>					
8. OR Causes	2.32 (0.816)	.046	.052	.113	.364**	.349**	.292**	.487**	<i>0.705</i>				
9. OR Ideas & Creativity	2.61 (0.706)	.042	.209**	.144	.221**	.284**	.256**	.350**	.506**	<i>0.702</i>			
10. OR Search	2.42 (0.702)	.062	.031	.053	.400**	.315**	.302**	.432**	.556**	.431**	<i>0.730</i>		
11. OR Evaluation	2.55 (0.767)	.088	.163*	.173*	.291**	.199*	.134	.099	.388**	.439**	.410**	<i>0.720</i>	
12. OR Idea Sources	1.64 (0.263)	.110	.172*	.245**	.293**	.308**	.274**	.087	.109	.184*	.111	.212**	<i>0.706</i>

Table 3
Summary of Regression Results: Entrepreneurial Attitude (DV) and Values (IV)

Dependent Variable	R ²	Adjusted R ²	Internal Values Beta Standardized Coefficients / Significance	External Values Beta Standardized Coefficients / Significance	Fun & Excitement Values Beta Standardized Coefficients / Significance	ANOVA: F / Significance
Entrepreneurial Attitude Opportunity Recognition	.196	.181	.296 .000**	.204 .011*	.066 .420	13.191 .000**
Entrepreneurial Attitude Achievement	.065	.048	.191 .023*	-.127 .141	.151 .088	3.778 .012*
Entrepreneurial Attitude Personal Control	.067	.050	.078 .351	.120 .162	.136 .122	3.865 .011*

* $p < 0.05$; ** $p < 0.01$

Table 4
 Summary of Regression Results: Opportunity Recognition (DV), Entrepreneurial Attitude (IV), and Values (IV)

Dependent Variable	R ²	Adjusted R ²	Internal Values Beta Standardized Coefficients / Significance	External Values Beta Standardized Coefficients / Significance	Fun & Excitement Values Beta Standardized Coefficients / Significance	Entrepren. Attitude - Opportunity Recognition Beta Standardized Coefficients / Significance	Entrepren. Attitude - Achievement Beta Standardized Coefficients / Significance	Entrepren. Attitude - Personal Control Beta Standardized Coefficients / Significance	ANOVA: F / Significance
OR Alertness	.194	.164	.153 .063	.105 .221	.165 .049*	.237 .011**	.200 .043*	.087 .378	6.377 .000**
OR Causes	.188	.158	.128 .123	.033 .696	.056 .502	.299 .002**	.214 .031*	.020 .838	6.154 .000**
OR Ideas and Creativity	.136	.104	.111 .193	-.205 .021*	-.033 .705	.050 .602	.255 .013*	.038 .709	4.181 .001**
OR Search	.198	.168	.089 .278	.067 .431	.017 .834	.369 .000**	.120 .223	.070 .476	6.550 .000**
OR Evaluation	.114	.081	.087 .310	-.089 .321	-.099 .256	.258 .008**	.159 .125	.123 .237	3.423 .003**
OR Sources	.159	.127	.075 .376	-.075 .391	-.162 .059	.140 .142	.213 .036*	.029 .774	4.955 .000**

* $p < 0.05$; ** $p < 0.01$