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# **ACADEMY OF ENTREPRENEURSHIP JOURNAL**

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## LETTER FROM THE EDITOR

We are extremely pleased to present *the Academy of Entrepreneurship Journal*, an official journal of the Academy of Entrepreneurship, Inc. The AOE is an affiliate of the Allied Academies, Inc., a non profit association of scholars whose purpose is to encourage and support the advancement and exchange of knowledge, understanding and teaching throughout the world. The *AEJ* is a principal vehicle for achieving the objectives of the organization. The editorial mission of this journal is to advance the knowledge and understanding of entrepreneurship throughout the world. To that end, the journal publishes high quality, theoretical and empirical manuscripts, which advance the entrepreneurship discipline.

The manuscripts contained in this volume have been double blind refereed. The acceptance rate for manuscripts in this issue, 25%, conforms to our editorial policies.

Our editorial mission is to foster a supportive, mentoring effort on the part of the referees which will result in encouraging and supporting writers. We welcome different viewpoints because in differences we find learning; in differences we develop understanding; in differences we gain knowledge and in differences we develop the discipline into a more comprehensive, less esoteric, and dynamic metier.

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# **NATIONAL CULTURE, MARKET ORIENTATION AND NETWORK-DERIVED BENEFITS: CONCEPTUAL MODEL FOR SERVICE SME'S**

**Cheryl Luczak, Saint Xavier University  
Sumaria Mohan-Neill, Roosevelt University  
Gerald Hills, University of Illinois at Chicago**

## **ABSTRACT**

*Do the cultural roots of business owners influence the owners' market orientation and social networks, and ultimately affect the benefits derived from the owners' networks? This research focuses on the relationship between culture and perceived network benefits of small and medium sized service firms. A thorough literature review which examined Hofstede's model of national culture, network theory, social capital theory and relationship marketing was conducted. It is an attempt to construct a theoretical foundation upon which the framework of a collectivist culture and an individualist culture and business owners' abilities to achieve perceived network derived benefits in service firms can be analyzed. The primary goal of this paper is to employ a variety of theoretical frameworks from the literature to create a holistic conceptual model from which one can derive research propositions and hypotheses concerning the influence of culture, market orientation, and social networks on the perceived benefits gained by SMEs in the service sector. The conceptual model presented in this paper contributes to our scholarly understanding of networking theory, and provides insight into how the relationship between cultures, business owners' market orientations and network benefits influence small service firms and their owners as they conduct business.*

## **BACKGROUND AND SCOPE**

Does a collectivist culture foster a more relational commitment between people in social networks than an individualist culture, and does this represent a competitive advantage in the services sector of business? Research into this area is both relevant and timely due to the increase in the service sector within the world economy. It provides an opportunity to explore the perceived benefits derived from networks in the service sector. The authors examine a possible link between national culture and market orientation and focus on the relationship between business owners' culture and perceived network benefits and further consider the possible moderating effects of the owners' market orientation on benefits derived from the owners' networks. The authors identify several fundamental differences that distinguish collectivist cultures from individualist cultures from a market orientation vantage point, and

consider what effects these differences have on networking activities. These findings are used to derive several research propositions and develop a conceptual model.

There has been a considerable amount of research conducted to study factors that lead to the success of small service firms; however few of these attempts include research into the effects of culture on market orientation and networking practices in small service firms (Ramachandran and Ramnarayan, 1993; Arnold and Bianchi, 2001; Birley, Cromie, and Myers, 1991; Aldrich et al., 1989). An examination of Hofstede's model of national culture, network, social capital and relationship marketing theories are used to build a foundation upon which to analyze business owners from both collectivist and individualist cultures.

### **HOFSTEDE MODEL**

The Hofstede model characterizes national cultures based on five independent dimensions including: power distance, collectivism/individualism, femininity/masculinity, uncertainty avoidance and long-term/short-term orientation. According to Hofstede, these dimensions "allow us to make predictions on the way that society operates" based on cultural considerations (Hofstede, 1993). Hofstede describes culture as assumptions, values, and beliefs that are shared between members of a specific group (1991). The self is formed by its membership and interaction within a specific group. The self then affects the way that a person assesses and evaluates information and ultimately affects social behavior. Although some aspects of self may be universal there are certain aspects that are culturally dependent (Hofstede, 1991). Robert and Probst describe culture as the human-made part of society which consists of shared perceptions of the social environment. These shared perceptions shape the prescribed behavior within a specific group (Robert and Probst, 2000). Culture is a construct that is difficult to directly observe, but may be inferred from daily societal activities and verbal exchanges. This cultural characterization is often used as a basis to distinguish one group of people from another.

In this study, the collectivist culture will be represented by Indian culture, and the individualistic culture will be represented by US culture. The dimensions used to characterize Indian and US culture are based on the results of a comprehensive multi-country analysis conducted by Hofstede; in which each country was scored on the five dimensions in his model (Table 1). It is the premise of this study that differences in these cultural dimensions affect business owners' market orientations and ultimately lead to differences in business owners' networking activities and perceived benefits derived from these networks.

The first dimension identified in Hofstede's model is power distance. Power distance describes the amount of inequality between people within a society that is deemed as appropriate or acceptable. The higher the degree of inequality within a society the larger the power distance within a society. In a society with high power distance, individuals are more submissive to people who assume a position of power within their society. This notion of power distance socially restricts direct access to certain people in society. A culture with low power distance

promotes equality within society and suggests that superiors are accessible and similar to the other members of society (Hofstede, 1980; Robert, Probst, Martocchio, Drasgow and Lawler, 2002).

Country	Power Distance	Individualism	Uncertainty Avoidance	Masculinity	Long term orientation
Australia	36	90	51	61	31
Belgium	65	75	94	54	34
Brazil	69	38	76	49	65
Canada	39	80	48	52	23
Germany FR	35	67	65	66	31
Great Britain	35	89	35	66	25
Hong Kong	68	25	29	57	96
India	77	48	40	56	61
Japan	54	46	92	95	80
Netherlands	38	80	53	14	44
New Zealand	22	79	49	58	30
Philippines	94	32	44	64	19
South Korea	60	18	85	39	75
Sweden	31	71	29	5	33
Taiwan	58	17	69	45	87
Thailand	64	20	64	34	56
USA	40	91	46	62	29
West Africa	77	20	54	46	16

The dimension of individualism versus collectivism is marked by the degree that people within a society prefer to act on behalf of themselves as individuals, as opposed acting on behalf of a group. In a collectivist culture a person learns to respect the group to which they belong, they remain loyal to the group and put the groups' interests above their own individual interests (Hofstede, 1980). People in a collectivist society are more connected to their social network from birth through adulthood. The Indian culture is characterized by a more collective dimension; as compared to the individualistic nature of Western culture (Mines, 1992; Robert,

Probst, Martocchio, Drasgow, and Lawler, 2002). Chhokar provides data that ranks India as high in both collectivism and power distance (1999). Literature in the management field generally identifies the United States as a prototype of Western individualism and low power distance (Triandis, 1995; Robert, Probst, Martocchio, Drasgow and Lawler, 2002).

Hofstede's gender dimension explores which dominant values are associated with masculinity and femininity. The dimension of masculinity measures the degree to which values, based on assertiveness, competition and performance are associated with the males in society. The polar opposite measure of this dimension is femininity, which emphasizes values that revolve around nurturing relationships, service and quality-of-life issues. The Western culture emphasizes masculinity and values associated with performance, competition and success. The Indian culture is geared toward the feminine dimension and emphasizes creating and nurturing relationships, performing services for the community, caring for the elderly and ensuring solidarity within the group (Hofstede, 1983). Hofstede also suggests that feminine countries tend to be successful in the service sector due to their strong focus on relationship building (1983).

Hofstede's fourth dimension, uncertainty avoidance, measures how comfortable people, in a given culture are with uncertainty in situations, as well as the degree of ambiguity and change that can be tolerated. Cultures that measure high in uncertainty avoidance have a low tolerance for uncertainty and prefer more structure and may feel threatened by ambiguity and uncertainty. Individuals from cultures with a greater tolerance for uncertainty tend to be less formal and more flexible. In Hofstede's multi-country analysis Indian culture measured lower in uncertainty avoidance than the United States, meaning that uncertainty is better tolerated in India than in the United States. People from an American culture measure higher in uncertainty avoidance, exhibit less tolerance for uncertainty and attempt to mitigate uncertainty by engaging in strict sets of laws and formal rules (Hofstede, 1980; Doney, Canon and Mullen, 1998).

Hofstede's fifth dimension focuses on long-term and short-term orientations. Long-term perspectives tend to concentrate on the future and focus on long-term relationships. The relationships, based on long-term perspectives, are open-ended and indefinite in duration. Short-term perspectives concentrate on the past and the present and involve values related to social obligations and transactional based relationships. These transactional based relationships are more specific and short term (Grimmer and Oddy, 2007). The Western culture has been identified by Hofstede as having a short-term orientation, as opposed to the Indian culture which encompasses a long-term orientation (Hofstede, 1993).

## **NETWORKING**

Networking theory suggests that successful business owners' possess a positive pattern of social networking behavior. These networking behaviors aid the owners in their acquisition of scarce resources needed to grow a business. Diomande describes networking as "the use of personal relationships to obtain external resources" (1990). Ramachandran and Ramnarayan

support the notion that business owners success depends on networking: “higher networking behavior is a common denominator underlying both the personal and business agenda” (1993). According to Robben, entrepreneurs must expand their networks to include other “social spheres” in an effort to gain a competitive advantage through vertical social mobility in which they raise their social status, providing them access to additional resources (1984).

Johannisson defines networks as “interconnected, dyadic relationships, in which various ties can be analyzed in terms of content” (2000). Johannisson identifies three types of ties: informational, exchange, and influence. Informational ties provide business information, exchange ties provide access to resources, and influence ties legitimize the business owner’s activities and create barriers to entry. The assets created through social relations can be leveraged to gain a competitive advantage. According to Mitchell, different ethnic groups utilize networking in different ways in order to obtain social capital and network derived benefits (2003).

The interactive perspective links the structure of economic opportunities to the economic and cultural resources and analyzes the resources that different ethnic groups bring to business, given the economic structure of opportunities. According to Robben, an interactive perspective must focus on resources that are distributed through social relationships (1984). Not all members of a society have full access to resources; their membership is differentiated by class, power or status (Robben, 1984). Ethnic networks supply capital to businesses based on social ties and relationships that are built on trust and social obligation. These ties and relationships depend on customers within that cultural enclave (Waldinger, Aldrich and Ward, 1990). It is expected that business owners from a collectivist culture will have more social ties, based on the cultural emphasis on relationships and extended family.

## **SOCIAL CAPITAL**

The networking process acts as a segue into social capital theory. Network theorists consider social capital to consist of personal benefits that an individual obtains through his/her network of relationships. An individual’s social capital is multidimensional, including the number of personal relationships, the strength of those relationships, and the available resources resulting from those relationships (Astone, Nathanson, Shoen and Kim 1999). There are three types of social capital which provide resources resulting from personal relationships: relational capital, economic capital and intellectual capital. Economic capital may include start-up capital, low or no interest loans, as well as free or reduced labor (Diomande, 1990). Relational capital rests on close interpersonal ties at a dyadic level and includes connections, alliances, business advice and referrals (Kale, Singh and Perlmutter, 2000). Intellectual capital revolves around accessing and acquiring critical information, and includes learning new capabilities, new business ideas, and product or service improvement ideas (Kale, Singh and Perlmutter, 2000).

Social capital, first discussed in the 1950's by George Homans, consists of both tangible and intangible resources. According to Homans (1950), the extended family plays a pivotal role in the creation of social capital. The motivation behind family behavior is the "expansion, maintenance or creation of a family group" (Astone, Nathanson, Shoen and Kim, 1999).

Granovetter proposed that individual motivation behind social exchange is based on a balancing act between internalized social norms and self-interest (1995). He also introduced the importance of trust and reputation to social capital theory, in which through the use of social networks individuals can develop social capital (Granovetter, 1985).

Social capital provides unique resources that pave the way for competitive advantages due to the difficulty of imitation. A resource laden with social complexities is difficult to imitate and therefore a source of sustained heterogeneity (Barney, 1995). Social capital is built on relationships which can weaken if not maintained; however, with proper maintenance the resources created through social capital may be used in a variety of different ways to obtain different outcomes (Astone, Nathanson, Shoen and Kim, 1999).

Social capital lays the foundation for a successful entrepreneurial process. Social capital can be considered in terms of bridging and bonding. Social capital enhances trust through the bonding of actors and the bridging of external networks. Trust acts like glue that bonds relationships and ties bridges to other relationships within a network, providing access to additional resources (Davidson and Honig, 2003). These social ties provide indirect connections through third parties as well as increased trust in the relationships and provide an interface for exchange (Bain, 1997). The ties that bridge the relationships and provide access to resources can be "weak" or "strong". Weak ties consist of loose relationships one has that link them to other individuals, groups or trade organizations. These weak ties provide information or exchanges that would be otherwise unavailable. In addition, people who, comprise one specific weak-tie network of a business owner, are less likely to be connected to different weak tie networks of the owner. The reasoning behind this is that acquaintances, as compared to close friends, are more likely to fraternize in different circles than one's self (Granovetter, 1985). Business owners utilize their weak ties to increase their exposure to different people and situations, in an effort to identify more opportunities for themselves (Alvarez and Busenitz, 2001). Strong ties consist of immediate family members, extended family or close friends. These types of relationships provide consistent access to resources including start-up capital, free or reduced labor, business ideas, access to suppliers or distributors, as well as business advice and referrals (Davidson and Honig, 2003).

Social capital, the dissemination of information, and other critical resources may aid a business owner in the discovery process and increase ability to recognize and exploit opportunities through exposure to multiple perspectives and world views. This wider frame of reference should facilitate the discovery of opportunities (Aldrich and Zimmer, 1986). Additionally, in certain cultures the family and kinship networks are more prevalent and can provide a strong foundation on which to build a business (Waldinger, Aldrich and Ward, 1990).

## RELATIONSHIP MARKETING

Relationship marketing is identified by Morgan and Hunt as “all marketing activities directed toward establishing, developing, and maintaining successful relational exchanges” (1994). In the relationship marketing literature, scholars distinguish between discrete exchanges and relational exchanges, which are noted as transactional and relational orientations (Macneil, 1980; Pillai and Sharma, 2003). Dwyer, Schurr and Oh identify different levels of the relationship between exchange partners ranging on a continuum from relational to transactional (Dwyer, Schurr and Oh, 1987; Anderson and Narus, 1991; Heide and John, 1992). In a relational market orientation the purpose is to create a long-term relationship, as opposed to the purpose underlying a transactional market orientation which is limited to discrete transactions (Hultman and Shaw, 2003). The transactional and relational marketing orientations have received a significant amount of attention in the literature, including two special issues: one in the *Industrial Marketing Management Journal* 2003 and one in the *Journal of the Academy of Marketing Sciences* 1995. There are several theories that form the basis for relationship marketing. This study identifies two theories, the neoclassical microeconomic theory which provides a framework for transactional market orientations, and the social exchange theory which provides a framework for relational market orientations (DeWulf and Odekerken-Schroder, 2001).

The transactional school of thought is based primarily on neoclassical microeconomic theory which emphasizes profit maximization in competitive markets. The exchange parties are assumed to demonstrate rational behavior and are further assumed to be price takers and utility maximizers (Dabholkar, Johnston, and Cathey, 1994; Pandya and Dholakia, 1992; Sheth and Parvatiyar, 1995; DeWulf and Odekerken-Schroder, 2001). The exchange between parties is transactional in nature and independent of other transactions. This theory focuses on discrete transactions as opposed to enduring relationships. There is a short-term perspective and no personalized relationships exist between the exchange parties. Woodside, Wilson and Milner (1990) describe a transactional oriented exchange partner as one who is not interested in the social context of the relationship. The transactional exchange partner evaluates a specific interaction with the firm to develop his overall satisfaction. He does not exemplify any commitment to the firm and is mainly concerned with customer satisfaction for that given transaction. His behavior is mainly predicted by overall satisfaction.

In contrast, a relationally oriented exchange partner is driven by forces other than utility maximization and price optimization (DeWulf and Odekerken-Schroder, 2001). Macneil (1980) differentiates transactional orientations from relational orientations in that relational orientations emphasize long-term endurance, are based on the assumptions of trust and commitment and consider non-economic satisfaction (1980). Woodside, Wilson and Milner (1990) describe a highly relational consumer as one whom desires a long-term relationship with and displays

commitment toward the exchange partner. Newell (1997) suggests that the elements necessary to solidify and maintain a relationship are dependent upon the level of the relationship. The elements of relationship marketing are based on the principles of trust and commitment (Newell, 1997).

The level of trust is an important factor in distinguishing relational oriented exchange partners from transactionally oriented exchange partners. Trust is considered a necessary ingredient for successful relationships and emphasizes confidence in the other party's honesty and integrity (Berry, 1995; Crosby, Evans and Crowels, 1990). Morgan and Hunt define trust as the perception of "confidence in the exchange partners reliability and integrity" (1994). Mormon, Deshpande and Zaltman consider trust to be a "willingness to rely on another exchange party with whom one has confidence" (1992). The trust component of relationship marketing consists of normative trust. Normative trust is based on personal identification with the exchange partner (Bachmann and Lane, 1988).

According to Bachman and Lane (1988), trust consists of three components: interdependence, a coping mechanism, and expectations. First, there needs to be some amount of interdependence between the trustor and the trustee. Second, trust provides the individuals with a way to cope with risks and uncertainties associated with entering a relationship. Third, a person expects that their exchange partner will not take action that will result in negative outcomes for him (Bachmann and Lane, 1988).

The level of expectations depends on the basis behind the trust. With normative trust a person perceives shared values and beliefs to exist between himself and his exchange partner. This trust is interpersonal and is characterized by emotional bonds resulting in long-term relationships (Bachmann and Lane, 1988). Trust serves as a precursor to commitment. Exchange partners must first establish trust in a partner and eliminate their perceived vulnerability before they are willing to commit to a partner (Garbarino and Johnson, 1999).

Schurr and Oh consider commitment to be an important determinant of an exchange partners market orientation; differences in the level of commitment and trust can help distinguish between relational and transactional exchange partners. Moorman, Zaltman and Deshpande describe commitment as an "enduring desire to maintain a valued relationship" (1992). Gundlock, Archol and Mentzer identify three components of commitment: attitudinal, instrumental and temporal. The attitudinal component of commitment consists of a personal attachment or identification between the exchange partners beliefs and shared values. The instrumental component involves an investment on behalf of the exchange partners. The investment may consist of the time involved in making a decision to deal with the exchange partner. The temporal component implies intent to remain in a relationship with the exchange partner. When all components are considered, commitment can be indicative of a person's future intentions regarding the exchange partner. The differences in exchange partners' commitment can serve to predict the future intentions of exchange partners with different relational bonds (Garbarino and Johnson, 1999).

## **CONCEPTUAL MODEL DEVELOPMENT AND FORMULATION OF RESEARCH PROPOSITIONS**

Building on Hofstede's model and the proposed theoretical framework, this research explores the differences between Indian and Western culture in the context of small and medium sized service enterprises. Shared values, trust and commitment serve as the cornerstones of relationship marketing and will be considered in light of Hofstede's five dimensions of national culture. Fundamental differences that distinguish between collectivist cultures and individualistic cultures will be used as a basis to identify the differences in networking practices between the two cultures.

### **SHARED VALUES**

Shared values represent the fundamental beliefs of society's members and serves as a precursor to trust and commitment (Morgan and Hunt, 1994). The theory of civilization suggests that culture is the natural division among humankind and provides a set of shared values, beliefs and norms specific to a distinct group (Hofstede, 1991). In addition, Geletkanycz contends that social values are the most influential values embedded in national culture (1997).

The Hofstede dimensions of individualism versus collectivism and masculinity versus femininity relate to shared values. Members in a collectivist society contribute to the formulation of cultural norms and values. In contrast, cultures with strong individual values promote individual achievement and personal interests above those of the group. Societies of an individualistic nature are less likely to foster shared values. Hofstede's masculinity/femininity dimension also acts as an indicator which signifies the importance of shared values and preservation of relationships. In a feminine society, members demonstrate a more social orientation and expectation of shared values. Masculine cultures lean toward performance based values and emphasize individual based results.

### **TRUST AND COMMITMENT**

Trust is established when exchange partners determine each other's intentions to be benevolent. The interpretation and assessment of benevolence are facilitated through shared values (Doney, Cannon and Mullen, 1998). The long-term relationships between business owners and exchange partners facilitate a normative trust based on personal identification. With normative trust both partners perceive that shared values exist between them. This trust is interpersonal and is characterized by emotional bonds that strengthen the relationships (Garbarino and Johnson, 1999). Trust serves as a precursor to commitment between the business owner and exchange partner.

Commitment is described as an “enduring desire to maintain a valued relationship” (Moorman, Zaltman and Desphande, 1992). When committed to a relationship, partners have a desire to work on the relationship in order for it to endure. This commitment consists of three components: attitudinal, temporal, and instrumental. The attitudinal component primarily involves a personal attachment or identification between the exchange partners. The temporal commitment implies intent to remain in the relationship with a partner. The investment component involves an investment on behalf of the partners (Gundlock, Archrol and Mentzer, 1995). These components help form the exchange partners’ attitudes.

Relationships exist between the five dimensions of Hofstede’s model and the construct of trust. National culture influences the development of trust through the processes of predictability and intentionality. The dimensions of individualism/collectivism and masculinity/femininity influence trust by establishing the value that society places on conformity and using that value to predict behavior within a society. In a collectivist society there is significant emphasis placed on conformity and collective interest. A feminine society also promotes group values through a pattern of nurturing behavior, as opposed to opportunistic and self-serving behavior. By promoting conformity and collective interests collective societies influence the development of trust by curbing variability in behavior (Doney, Cannon and Mullen, 1998).

Power distance provides a basis upon which to form trust. Authoritarian norms tend to prevail in societies with a high power distance and thus inhibit benevolent intentions between different social networks. People at lower levels are unlikely to believe that those from a more powerful group have their best interest in mind, suggesting that the higher the power distance in a society the lower the propensity for trust among members of different social networks. In lower power distance societies, mutual and comparable dependence are emphasized and the propensity to trust is higher between social networks (Doney, Canon, and Mullen, 1998).

Uncertainty avoidance focuses on risk preference and risk reduction. Societies with high uncertainty avoidance try to reduce uncertainty through the enforcement of strict laws and or formal rules. Low uncertainty avoidance societies reduce risk by engaging in long-term relationships, as opposed to enforcing strict laws and formal rules. The desire to stay in long-term relationships mitigates opportunistic behavior and promotes trust (Doney, Canon, and Mullen, 1998).

Long-term orientation has a positive influence on trust; relationships, once formed, are expected to last forever. Exchange partners perceive their outcomes to be interdependent with their partners’ outcomes and focus on relational exchanges to maximize profits versus transactional exchanges that emphasize a short-term perspective. Trust is fostered by a long-term orientation through emphasis on social sanctions (Chung, Sternquist and Chen, 2006). This type of relationship is grounded in a cultural heritage that emphasizes long-term perspectives in its members. Long-term orientation leads to commitment, which occurs when exchange partners develop a close and enduring relationship (Kim and Oh, 2002).

The five dimensions in the Hofstede model: power distance, individualism/collectivism, masculinity/femininity, uncertainty avoidance and long-term/short-term orientation can be used to differentiate a collectivist culture from an individualist culture. According to Hofstede, these dimensions “allow us to make predictions on the way that society operates” based on cultural considerations (Hofstede, 1993). This study is built on Hofstede’s cultural differences highlighted in the framework analysis, which supports the notion that culture can affect business owners’ market orientations, networking activities and *perceived* network benefits. Market orientation is a moderator of social ties and focuses attention on the relationship between the owner of a service firm and his/her exchange partners. Dwyer, Schurr and Oh identify a continuum of relationships that exist between a business owner and his exchange partners, ranging from relational to transactional (1987). The owner with a relational market orientation focuses on enhancing and building long-term relationships, as opposed to a transactionally oriented owner who is not interested in the social context of the relationship (Woodside, Wilson and Milner, 1990).

The dimension of power distance, in the Hofstede model, describes the amount of inequality between people within a society that is deemed as appropriate or acceptable. A culture, which is characterized by a higher degree of inequality and greater power distance inhibits benevolent intentions between different social networks and promotes trust *within* a social network. Low power distance however promotes equality not only within society but suggests that superiors are accessible and similar to the other members of society (Doney, Canon and Mullen, 1998). Additionally, power distance provides a basis upon which to form trust. Societies with higher power distance trust within their social network, however they have a lower propensity to trust between different social networks. This breakdown in trust reduces the access to resources that can be provided by “weak” ties. Business owners utilize their weak ties to increase their exposure to different circles in an effort to identify more opportunities (Davidson and Honig, 2003). Low power distance societies believe that superiors are accessible and similar to the other members of society. Cultures with low power distance promote equality within societies and suggest that superiors are accessible and similar to the other members of society (Hofstede, 1980; Robert, Probst, Martocchio, Drasgow and Lawler, 2002). In addition, societies marked by low power distance emphasize mutual dependence resulting in an increased propensity to access “weak” ties (Doney, Canon and Mullen, 1998). Based on the presumption that cultures can be classified within the framework of the Hofstede power distance dimensions the following propositions are offered:

*Proposition 1: Owners from a culture with a high power distance will exhibit a relational market orientation toward their exchange partners.*

*Proposition 2: Owners from a culture with a low power distance will exhibit a transactional market orientation toward their exchange partners.*

The dimension of individualism/ collectivism is marked by the degree that people within a society prefer to act on behalf of themselves as individuals, as opposed to acting on behalf of a group. In a collectivist culture a person learns to respect the group to which they belong, they remain loyal to the group and put the group interests above their own individual interests (Hofstede, 1980). Based on the presumption that cultures can be classified within the framework of the Hofstede's dimension of individualism/ collectivism the following propositions are offered:

*Proposition 3: Owners from a collective culture will exhibit a relational market orientation toward their exchange partners.*

*Proposition 4: Owners from an individualistic culture will exhibit a transactional market orientation toward their exchange partners.*

Hofstede's gender dimension explores both masculine and feminine cultures. A masculine culture emphasizes values associated with performance, competition and success. A feminine culture emphasizes creating and nurturing relationships, performing services for the community, caring for the elderly and ensuring solidarity within the group (Herbig, 2002). Based on the presumption that cultures can be classified within the framework of the Hofstede's masculinity/femininity dimension the following propositions are offered:

*Proposition 5: Owners from a feminine culture will exhibit a relational market orientation toward their exchange partners.*

*Proposition 6: Owners from a masculine culture will exhibit a transactional market orientation toward their exchange partners.*

Hofstede's fourth dimension, uncertainty avoidance, measures how comfortable people in a culture are with uncertainty in any given situation, as well as the degree of ambiguity and change that can be tolerated. In a culture with high uncertainty avoidance, people may feel threatened by ambiguity and therefore require formal rules and structured environments. A culture with low uncertainty avoidance exhibit a higher tolerance for uncertainty and tends to be less formal and more flexible, and attempts to mitigate uncertainty through long-term relationships as opposed to formal rules (Hofstede, 1980; Doney, Canon and Mullen, 1998). Based on the presumption that cultures can be classified within the framework of the Hofstede's uncertainty avoidance dimension the following propositions are offered:

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*Propositions 7: Owners from a culture with high uncertainty avoidance will exhibit a transactional market orientation toward their exchange partners.*

*Proposition 8: Owners from a culture with low uncertainty avoidance will exhibit a relational market orientation toward their exchange partners.*

Hofstede's fifth dimension focuses on long-term and short-term orientations. A culture identified as possessing a long-term perspective tends to concentrate on the future and long-term relationships. Long-term orientation has a positive influence on trust; relationships, once formed, are expected to endure. In addition, trust is fostered by long-term orientation through emphasis on social sanctions (Chung, Sternquist and Chen, 2006). A culture identified as possessing a short-term perspective will concentrate on the present and will be more specific in nature. This short-term perspective focuses on discrete transactions as opposed to enduring relationship (Grimmer and Oddy, 2007). Based on the presumption that cultures can be classified within the framework of the Hofstede's short-term/long-term dimension the following propositions are offered:

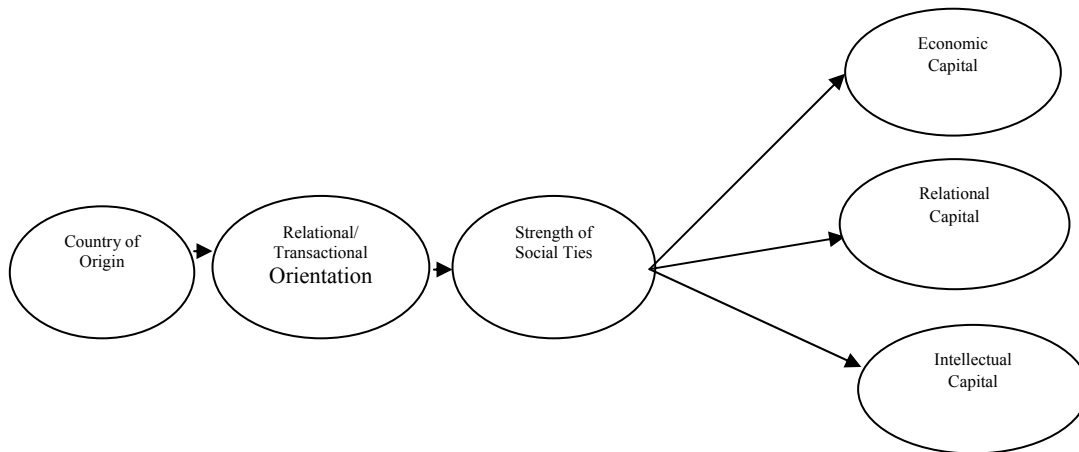
*Proposition 9: Owners from a culture with a long-term orientation will exhibit a relational market orientation toward their exchange partners.*

*Proposition 10: Owners from a culture with a short-term orientation will exhibit a transactional market orientation toward their exchange partners.*

It is hypothesized that exchange partners attitudes exhibiting a relational market orientation will have a positive effect on network benefits received by business owners. The potential networking benefits explored in this study include relational, financial and intellectual capital. Relational capital includes referrals, and increased access to distributors and suppliers. Financial capital includes start-up capital, low or no interest loans, as well as reduced or free labor. Intellectual capital includes idea generation, innovation, and improved business strategies. A business owner's country of origin predict the owner's market orientation, affects the size of his/her social network and social ties, and ultimately affects the benefits that he/she derives from his network. The relationship between market orientation and network benefits forms the basis of the model proposed in Figure 1. A business owner from a collectivist culture is expected to possess a relational market orientation that exhibits a pattern of positive social networking behavior. A shared value system is one of the affects of a collectivist society. Relational and group affiliations within a collectivist society foster shared values and promote relational orientations among it's' members. In addition to the shared values, the long-term relationships between business owners and exchange partners also facilitate normative trust based on personal

identification. Trust serves as a precursor to commitment between the business owner and exchange partner and the commitment is solidified by a desire to maintain a valued relationship.

**Figure 1**



Effective networking helps business owners accelerate the rate of growth and creation of wealth through additional connections with distributors and suppliers, increased innovation in terms of products, methods of production and markets, synthesizing of ideas and suggestions, and increased learning regarding product and process (Ramachandran and Ramnarayan, 1993). Social networks serve to expand business owners' boundaries in terms of knowledge and information which can result in increased new venture ideas and more opportunities (Waldinger, Aldrich and Ward, 1990). The constructs of shared values, trust and commitment affect an owner's market orientation and ultimately affects social networks. Based on the proposed relationship between market orientation and social networks the following propositions are offered:

*Proposition 11a: Business owners with higher levels of shared values will have stronger social network ties, than owners exhibiting lower levels of shared values.*

*Proposition 11b: Business owners with higher levels of trust will have stronger social network ties, than owners exhibiting lower levels of trust.*

*Proposition 11c: Business owners with higher levels of commitment will have stronger social network ties, than owners exhibiting lower levels of commitment.*

It is the premise of this analysis that countries of origin with differences in terms of culture, as defined by differences in Hofstede's cultural dimensions have an influence on business owners' market orientations and social networks. These ultimately affect the social network benefits of the firm. The Hofstede Model dimensions include power distance, masculinity vs. femininity, individualism vs. collectivism and long-term vs. short-term orientation. The network benefits include economic capital, relational capital and intellectual capital.

Social capital is described as the personal benefits that an individual achieves through his network of relationships. There are three types of social capital which provide resources resulting from personal relationships: relational capital, economic capital and intellectual capital. Economic capital may include start-up capital, low or no interest loans, as well as free or reduced labor (Diomande, 1990). Relational capital rests on close interpersonal ties at a dyadic level and includes connections, alliances, business advice and referrals (Kale, Singh and Perlmutter, 2000). Intellectual capital revolves around accessing and acquiring critical information, and includes learning new capabilities, new business ideas, and product or service improvement ideas. Based on the proposed relationship between business owners' relational orientations, social networks and perceived network benefits the following propositions are offered:

*Proposition 12: Business owners that exhibit strong social ties will receive more economic capital than owners exhibiting weak social ties.*

*Proposition 13: Business owners that exhibit strong social ties will receive more relational capital than owners exhibiting weak social ties.*

*Proposition 14: Business owners that exhibit strong social ties will receive more intellectual capital than owners exhibiting weak social ties.*

Business owners utilize their social ties to increase their exposure to different people and situations, in an effort to identify more opportunities for themselves and obtain access to additional resources (Alvarez and Busenitz, 2001).

## CONCLUSION

This paper provides the theoretical basis for future empirical exploration of how culture and the networking process of business owners moderate and influence their marketing orientation. Based on Hofstede's five cultural dimensions, it is suggested that business owners from a collectivist culture will exhibit a relational market orientation. Business owners exhibiting relational market orientations will exhibit stronger social ties than owners exhibiting transactional orientations, and these stronger ties allow for greater access to economic, relational

and intellectual capital, which will provide network-derived benefit to service SMEs. Future research will provide data and statistical testing of the overall conceptual model, and the specific research propositions and hypotheses proposed in this paper. Also, further discussion of both the advantages and limitations of the model will be discussed in light of empirical data. Data has been collected from a sample of American and Indian business owners of service SMEs. The initial testing shows significant statistical support for major components of the model and research propositions.

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# CAN WE AFFORD IT? INVESTMENT DECISIONS OF FAMILY AND NONFAMILY OWNERS

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## ABSTRACT

*This study focuses on an issue particularly relevant in these difficult financial times. Can family businesses afford the risk associated with making investments that could generate higher returns? Studies examining financing behavior of family firms report higher control risk aversion than nonfamily firms, whereby control risk is measured through leverage levels. We found that family firm owners' degree of control risk aversion depends on reference points. Investment alternatives implying higher leverage levels become significantly more attractive to family owners when considered from a secure reference point with low leverage levels, than when the same investment alternatives are assessed from a less secure reference point with higher leverage levels. Implications are discussed.*

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## INTRODUCTION

Studies examining leverage levels of family firms report a rather unanimous picture: be they large or small, publicly quoted or privately held, family firms exhibit lower leverage levels and hence control risk than their nonfamily counterparts (e.g., Agrawal & Nagarajan, 1990; Villalonga & Amit, 2006; Mishra & Mc Conaughy, 1999; Gallo & Vilaseca, 1996). While these findings are consistent with the stereotype of the financially conservative and risk averse family firm, they also suggest that the majority of these firms have a suboptimal capital structure that relies heavily on internally generated capital, which not only inflates these firms' average cost of capital and hence suppresses their value but also limits the rate of firm growth to the growth of internally generated assets (Schulze & Dino, 1998). These preconditions seem to make family firms ripe candidates for underinvestment which undermines their competitive position and, ultimately, threaten their very survival.

However, the predominant role of family firms in the economic landscape stands in strong contrast to these predictions. In fact, the role of family firms at the forefront of many industries challenges the assumption that these firms should be permanently risk averse. In fact,

risk taking and funding of risky investments such as R&D, are necessary for a firm's long term survival (Gedajlovic, Lubatkin & Schulze, 2004). In this context, our study sets out to shed light on the risk taking propensity of family firm owners, thereby focusing on the control risk propensity of family firm owners, measured in terms of the leverage levels of the firms they control (Mishra & Mc Conaughy, 1999).

More specifically, we investigate whether family firm owners, at any time, display strong preferences for investments that are characterized by low leverage levels, or whether there are specific situations where family firm owners are willing to take additional control risk in terms of investments implying higher leverage levels, for example to tackle growth opportunities that ultimately assure the family firm's continuity and protect the family's wealth, given the pivotal role of adaptation and risk taking for long-term business survival. To answer this research question we draw from prospect theory (e.g. Thaler, 1980; Tversky & Kahneman, 1991) that reaches beyond the paradigm of pure financial rationality and the sole relevance of exogenous determinants of decision taking, such as the risk – return profile of the investment (Cho, 1998). The use of prospect theory seems warranted since managerial preferences may provide a behavioral basis for the understanding of capital structure of firms (Barton & Gordon, 1988), and since family firms have been found to be influenced by personal or family-induced biases and preferences (e.g., Kellermanns, 2005; Gomez-Mejia et al., 2007).

A constitutional element of prospect theory is that individuals tend to make decisions based on reference points. In light of the undiversified holdings of family owners (Anderson, Mansi & Reeb, 2003) and the strong attachment they display to their current activities (Sharma & Manikutty, 2005; Zellweger & Astrachan, 2008), we expect that these owners evaluate investment alternatives that imply differing leverage levels based on reference points, considering “Can we afford it?”. In contrast, we expect that nonfamily owners will evaluate the same investment alternatives independent from endowment considerations and reference points due to the opportunity to hold more diversified assets and less emotional attachment to the business.

In exploring investment decision making of family and nonfamily owners through the lens of prospect theory, we add to the literature in four important ways. First, we add to the growing body of literature applying prospect theory to the case of family firms (e.g. Gomez-Mejia et al., 2007; Zellweger & Astrachan, 2008) and provide direct evidence of endowment considerations of family owners as opposed to non-family owners, using an experimental research design. Thereby, we not only add to the family business literature but also to endowment literature by showing that the type of individual with his or her emotional ties to an asset may impact the strength of the endowment effect. Second, we add to the question whether family firms and family firm owners really are averse to increased leverage levels and control risk. We provide a more fine-grained perspective on control risk aversion of family firm owners by showing that this aversion for increased leverage levels depends on reference points. Third, our data stemming from Europe and the United States, we provide preliminary evidence to

cultural boundaries to the endowment effect, as suggested by Huck, Kirchsteiger and Oechssler (2005). Finally, our study talks to the literature on financing of family firms (e.g., Villalonga & Amit, 2006; Mishra & Mc Conaughy, 1999; Gallo & Vilaseca, 1996). For researchers and practitioners our findings are insightful to understand when family firms are likely to opt for investment decisions with higher levels of leverage, or when they prefer investments with lower control risk.

Our paper is structured as follows. First, we discuss the theoretical foundations of our paper and develop a set of hypotheses. We then introduce the experimental methodology that refers to the original works by Tversky and Kahneman (1991). Subsequently, we perform our analysis using a sample of 181 owners and then conclude with the interpretation of results and guidance for future research.

## **THEORETICAL FOUNDATIONS AND HYPOTHESES**

In their path-breaking work, Tversky and Kahneman (1991) suggest that the outcome of risky prospects are evaluated using a value function that is common to most individuals. The theory centers around the concept of subjective value - gains or losses are defined in terms of a reference point (Myagkov & Plott, 1997). A key assumption of prospect theory is that the function relating losses to subjective value is steeper than the function relating gains to subjective value. This means that for any given magnitude, losses tend to "loom larger" than gains in the thinking of individuals and in their decisions. For example, a loss of US\$1,000 is felt more strongly (has a larger negative value) than a gain of US\$1,000, even though the amounts involved are identical (Baron, 2004). This most distinctive prediction of prospect theory arises from a property of preferences called loss-aversion: the response to losses is consistently much more intense than the response to corresponding gains, with a sharp kink in the value function at the reference point (Tversky & Kahneman, 1991). Loss aversion implies that the same difference between two options will be given greater weight if it is viewed as a difference between two disadvantages relative to a reference state than if it is viewed as a difference between two advantages relative to the reference state (Tversky & Kahneman, 1991). Accordingly, the actual decision is impacted by the reference state that induces loss averse behavior.

There is a strong link between prospect theory and management practice. One such implication pertains to the organization's willingness to innovate (Porter & McIntyre, 1984) and in more general terms, to undertake decisions that depart from the reference point. Owners whose decision making is affected by reference points display a tendency to consider "what is, must be best", which hinders timely adaptation to changing environments just as proactive moves and risk taking.

Although there are several different ways in which risk taking is defined in the literature, this is the dominant belief in family business research, asserting that over time family firms often become conservative, unwilling or unable to take risks (Autio & Mustakallio, 2003; Zahra,

Hayton & Salvato, 2004). Founders of family firms, who desire to build a lasting legacy, may become more conservative in their decisions because of the high risk of failure of their ventures (Morris, 1998), as well as the risk of destruction of family wealth (Sharma, Chrisman & Chua, 1997). Family firms have also been seen to choose conservative strategies as a result of their organizational cultures (Dertouzos, Lester & Solow, 1989). Naldi, Nordqvist, Sjöberg and Wiklund (2007) suggest that family firms take risk to a lesser extent than nonfamily firms. Management literature proposes the following definitions of risk: Business risk, resulting from variability in a firm's performance (Zahra, 2005); Ownership risk, the risk related to holding an undiversified share of equity (Fama & Jensen, 1983); Control risk, the risk of losing control over the company through excessive leveraging (Mishra & Mc Conaughy, 1999); Financial risk, used synonymously with control risk (Schulze & Dino, 2004). Since we are investigating the risks associated to leveraging, we consistently use the term "control risk" in this study

Applying prospect theory to the case of corporate owners' risk taking propensity, literature suggests that owners should immediately display loss averse and reference point dependent behavior once they have endowed a possession (Boven, Loewenstein & Dunning, 2003) - whether the owner is controlling a family or a nonfamily firm. However, we expect that such an effect will be particularly strong in the context of family owners and family firms, for two main reasons.

First, we argue that family owners have a stronger tendency to be affected by reference point consideration and hence loss averse behavior due to their large undiversified assets tied to the organizational ownership and ineffective separation of business and personal assets.

In fact, even in an agency world one would argue that a firm's risk taking propensity should be influenced by its ownership structure (Wright, Ferris, Sarin & Awasthi, 1996). Zajac and Westphal (1994) argue that individuals become risk averse and prefer lower leverage levels as their ownership in the firm increases, since the owner bears the full financial burden of failed investment (Gedajlovic, Lubatkin & Schulze, 2004). Complementing this line of thinking, prospect theory predicts that since individuals tend to evaluate options with regards to potential losses, and tend to overvalue a potential loss in comparison to an equal potential gain, the potential loss might loom particularly large in light of the consequences for undiversified family owners. Beyond financial damages, business families might also face serious personal and family reputational damages if failing (Dyer & Whetten, 2006). Moreover, it can be expected that such a reference point dependency might be particularly powerful in case investments not only affect the business but also the private sphere. Many family owners not only have a large fraction of their fortune invested in the firm but also experience an ineffective separation between private and business wealth, represented for example by pledging personal collateral or guarantees to secure debt on the side of the firm (Voordeckers & Steijvers, 2006). In sum, due to undiversified holdings and ineffective separation between personal and business finances we

expect that the reference points bias the family firm owners' investment preferences, leading them to particularly weigh the potential loss when evaluating investment options.

The second reason why family owners are susceptible to be affected by reference point dependent decision-making relates to the observation that for family owners their stake in the family firm not only has financial meaning. In fact, there is strong evidence in family business literature suggesting that these owners feel attached to their firms since the ownership is representative of a family's business legacy and status in the community (Sharma & Manikutty, 2005). Recent literature tapping into the prospect theory suggests that family firm ownership is capable of creating emotional attachment to the ownership stake on the side of the owner (Gomez-Mejia et al., 2007; Zellweger & Astrachan, 2008), whereby attachment is seen as a psychological extension to the endowment effect (Ariely, Huber & Wertenbroch, 2005). More specifically, it has been reported that incumbents in family firms have problems in letting go, since they have endowed the emotional benefits from ownership, such as stature in the community (Le Breton-Miller, Miller, & Steier, 2004). Belk (1991) suggests that the strength of attachment may be indicated by behavioral tendencies such as willingness to sell possessions only above market value and can hence create endowment. Furthermore, possession attachment literature reports that people are particularly reluctant to give up affect-rich possessions, which have been endowed with a specific meaning through continuous caring and interaction or through the fact that they are representative of relatives (Schultz-Kleine & Menzel-Baker, 2004). Similarly, researchers in the fields of economic psychology report that people react to positive emotions with increased endowment considerations, which is seen as an effective response to these emotions (Lin, Chuang, Kao & Kung, 2006).

In light of the emotion-dense setting of most family firms, we expect that family firm owners should experience affective ties to their firms and hence exhibit heightened endowment considerations and loss aversion. Even though family firms can be plagued with conflicts, which could eventually lead to a reverse endowment effect (Lerner, Small & Loewenstein, 2004), the altruism based family relationships (Schulze, Lubatkin & Dino, 2003) and the stewardship rich context in most family firms (Eddleston & Kellermanns, 2006) should normally lead to positive endowment considerations and hence loss aversion. What is more, although the endowment effect can appear instantaneously (Kahneman, Knetsch & Thaler, 1991), research indicates that it increases over time (Boyce, Brown, McClelland, Peterson & Schulze, 1992) and that loss aversion might increase with experience, since thoughts might become increasingly channeled by past experience (Burmeister and Schade, 2007; Shepherd et al., 2003). This insight is further support for the argument that family firm owners should be particularly inclined to display loss aversion when evaluating investment decisions and associated risks.

In contrast to family owners, we expect that nonfamily owners display different preferences. Weber and Camerer (1998) show that stock market traders can still be biased by reference point dependent decision-making. Nevertheless, we expect that nonfamily owners when compared to family owners are bound to the firm to a much lower degree, and since the

owners are normally less emotionally tied to their investment, we hypothesize that their investment preferences will be less influenced by personal preferences and biases. Accordingly we see such investor behavior more in line with the predictions of traditional financial theory, which postulates that investments are solely based on net present value and risk - return considerations and hence in line with financial preferences (Savage, 1954).

In sum, our considerations on undiversified ownership stakes and vanishing boundaries between business and personal finances, just as our reflections on emotional attachment lead us to hypothesize that investment decisions of family firm owners in contrast to their nonfamily counterparts will be particularly influenced by reference points, as opposed to their nonfamily counterparts.

*Hypothesis 1: Family owners make investment decisions depending on reference points. In contrast, investment decisions of nonfamily owners are unaffected by reference points.*

Based on prospect theory, Tversky, Sattath and Slovic (1988) have proposed that decision makers not only perceive losses and gains differently but also weigh an input higher if it is compatible with a desired output. Building on these premises and the fact that family owners are specific shareholders, we expect that family owners will evaluate investment alternatives differently, depending on the specific characteristics of the reference point. Family owners have been reported to display a strong preference for continuous family control and for autonomy in decision-making (Ward, 1997), which impacts the utility the owners feel towards debt (Romano, Tanewsky & Smyrnios, 2000). These goals seem to have a pivotal role in determining the exact shape of family owners' value function.

There is both conceptual and anecdotal evidence that family firms are unwilling to take investments that lead to a heightened leverage and hence control risk even if such an investment provides the opportunity to harvest higher returns on the remaining invested equity capital (Kellermanns, 2005; McMahon & Stanger, 1995). This is in line with Zellweger and Nason's (2008) perspective on substitutional relations between different performance outcomes in family firms. Based on these studies that report that family firms exhibit strong preferences for continued family control and autonomy, we expect that family owners have an absolute preference for investments with a low control risk profile, even at the cost of a reduced return on their invested capital, given the compatibility of the investment profile with their specific preferences.

Beyond this normative assumption on investment preferences due to compatibility of investment profile and desired output, we hypothesize that the relative unattractiveness of investments with a higher control risk profile will depend on the reference point. In light of a reference point characterized by low control risk, and hence a preferable reference point given the inclination of family owners, these shareholders are expected to display a heightened willingness to opt for riskier investment alternatives and hence accept higher leverage levels.

From such a "secure" vantage point, family owners should be more inclined to venture into riskier investment strategies.

In contrast, from a more exposed reference point, characterised by already increased leverage levels, we expect that family owners will be particularly hesitant to opt for risky investment alternatives. This view of investment decision making is in accordance with the findings by Leary and Roberts (2004) who report that owners tend to actively rebalance their leverage levels to stay within an optimal range of indebtedness. The probability of further leveraging increases (diminishes) if leverage level is low (high). Leary and Roberts (2004) report an asymmetrical adaptation of leverage, which means that firms are rather concerned with high than with low leverage, which is in line with what has been labelled Dynamic Pecking Order Theory (Fischer et al., 1989). Given the preferences of most family firms for independence and autonomy, such behaviour should be particularly prevalent in the context of family firms.

Consequently, extending our argument on reference point dependent preferences and goal compatibility of family owners we expect that the unattractiveness of investment alternatives leading to higher leverage levels should be decreasing, once the alternatives are considered from a secure vantage point, characterized by low leverage levels. In the opposite, we claim that the attractiveness of investment alternatives leading to lower leverage levels should be increasing, once the alternatives are considered from an insecure vantage point, with high leverage levels. In this case, family owners should be looking for investment strategies that better satisfy their independence goal, and hence strive to escape into "safe" investments for goal compatibility reasons.

In sum, we expect that these owners will actually consider the "affordability" of the investment in light of their preferences for continued family control, whereas nonfamily owners will be unaffected by such considerations. More formally stated:

*Hypothesis 2: Family firm owners have a preference for investment alternatives leading to low leverage levels, whereby the relative attractiveness (unattractiveness) of low (high) leverage investment projects increases (decreases) if the project is evaluated from an insecure (secure) reference point, characterized by high (low) leverage levels.*

## **METHODOLOGY**

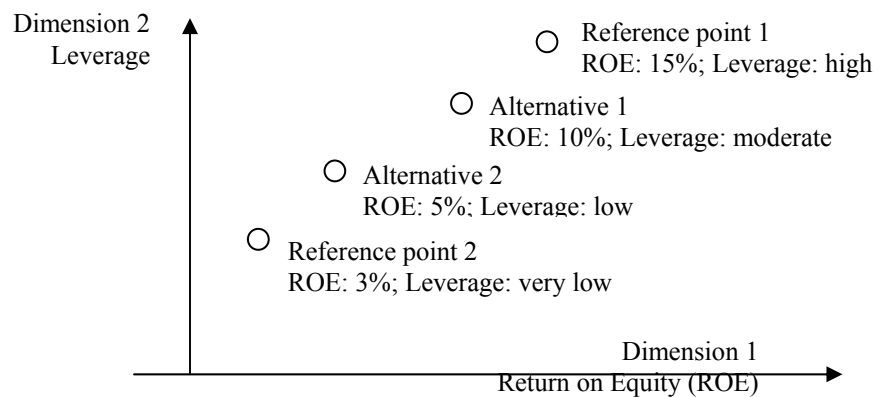
To test our predictions on reference point dependent decision-making we opted for a research design that closely follows the methodology proposed by Tversky and Kahneman (1991: 1045).

We investigated reference point dependent decision-making in two decision scenarios. In the first scenario, we asked the owners to imagine they were controlling a firm experiencing high leverage levels and a corresponding return on equity (ROE) of 15%. Given this reference point they had to decide between two investment alternatives leading to distinct leverage / ROE combinations. The first investment alternative lead to a moderate leverage level and a ROE of

10%. The second investment alternative lead to a low leverage level and a ROE of 5%. The reference point was not given as an option.

In the second scenario the reference point was experimentally manipulated. We asked the owners to imagine their organizations were experiencing very low leverage levels and a ROE of 3%. Then, considered from this reference point, the respondents were asked to select between the same investment alternatives as the ones outlined above. As such, the basic features of the scenarios, the characteristics of the two investment scenarios were held constant, only the reference point changed.

**Figure 1: Two reference points for the choice between alternative 1 and 2**



In contrast to the studies by Burmeister and Schade (2007) and Samuelson and Zeckhauser (1988) we are therefore not investigating whether family owners display a status quo bias, defined as a disproportionate preference for the status quo, since the respondents had to pick one of the two alternatives and could not opt for the reference point, i.e. the status quo. Accordingly, we use a 2 x 2 experimental design in our study.

In light of our hypotheses, considerations of loss aversion and reference point dependency predict that more owners will choose the loss averse alternative 1 under reference point 1, than under reference point 2, summarized with the following frequency relations:

$$h_{RP1}^{A1} > h_{RP2}^{A1}$$

with h: frequency; A1: alternative 1; RP1: reference point 1

Similarly, more owners are expected to choose the loss averse alternative 2 under reference point 2, than under reference point 1:

$$h_{RP2}^{A2} > h_{RP1}^{A2}$$

Our hypothesis 1 predicts that the majority of family firm owners should opt in the way described above, whereas the preferences of the nonfamily owners should be unaffected by the reference point. Hypothesis 2, in turn, predicts that for family owners the relative attractiveness of

alternative 1, the one with moderate leverage and a ROE of 10%, will increase once it is considered from reference point 2, the more "secure" reference point with very low leverage. In contrast, alternative 2 will become increasingly attractive for family owners once considered from reference point 1, the "insecure" reference point.

### SAMPLE AND MEASURES

To test these predictions we conducted two experimental studies. In the first study we analyzed a sample of Swiss family and nonfamily firm owners. To solidify our arguments and to account for potential cultural differences that have been proposed to affect the endowment effect (Huck, Kirchsteiger & Oechssler, 2005), our second sample investigates owners of U.S. family and nonfamily firms. Although the two studies have been performed sequentially, they are jointly analyzed below, since they used the same questionnaire and methodology.

We mailed surveys to a sample of 1200 privately held firms in Florida, Ohio, New York and Washington State and to 1215 privately held firms in Switzerland. The sample consists of 211 owners. Ninety firms originated from the U.S. and 121 from Switzerland. The return rates per country are thus 7.5% for the U.S. and 9.9% for Switzerland. The return rates are slightly higher for the Swiss sample, likely because these owners were affiliated with a Family Business Centre at a major Swiss University because of the long term relationships established with the Centre. The U.S. sample was drawn from owners that were affiliated with a regional accounting firm specializing in family businesses in the Midwest, as well as from Family Business Centers located in Florida and Washington State. Both of these Centers are less than five years old so the respondents had a shorter term relationship with the Centers. 70.9% of the respondents are men. The mean number of full time employees per firm is 90, the mean age of the respondents is 51 years. The sample consists of 141 family and 70 nonfamily firm owners, with a similar share of family and nonfamily firms in both samples. To distinguish between family and nonfamily firms we calculated the combined share the family controls in equity, board and management, indicated by the respondents. Accordingly, we measure Substantial Family Influence (SFI), as proposed by Klein (2000).

The analysis and the presentation of our findings is partly in line with Burmeister and Schade (2007). We therefore first compare basic distributions and report Chi square tests. We then determine whether the respondent opted for alternative 1 under reference point 1, for alternative 2 under reference point 2, and opted in a loss averse manner under both reference points. This provides us with three binary *dependent variables*, taking the value of 1 if the respondent showed a behavior consistent with predictions of loss aversion, and 0 if not. We then perform three binary logistic regressions to determine what affects a person's investment decision making. The *independent variable* is whether the respondent is owner of a family or a nonfamily firm.

Testing the hypotheses required that we *control* for the possible effects of other variables. Since performance and leverage levels vary across industries (Capon, Farley & Hoenig, 1990) we introduced four industry dummies: manufacturing, construction, commerce, and service. We furthermore controlled for size of the firms, since firm size might affect leverage levels (Garvey & Hanka, 1999). To adjust for skewness in the distribution of the size of the firms we used log (nr. of employees) in our analysis. We included age of the person as a control variable, since age may affect an owner's willingness to make risky decisions (Samuelson, 1994; Canner, Mankiw & Weil, 1997) and since endowment considerations are found to increase over time and experience (Boyce et al. 1992). We also controlled for gender in our analysis. Research on risk aversion reports that women tend to be more risk averse than men (Hartog, Ferrer, Carbonell & Jonker, 2002). Moreover, possession attachment literature proposes that women tend to display attachment to other possessions and for other reasons than men (Schultz-Kleine & Menzel-Baker, 2004). We also included the financial expertise of the owner as a control variable. For example, a financial officer might be more literate in assessing the trade off between return and control risk.

We include a categorical variable if the person worked as a CFO or indicated he/she had specific financial expertise through his work activity. This variable takes the value of "1" if the owner has such expertise, and "0" if not. Finally, we controlled for the country of origin to measure possible cultural differences regarding the endowment effect (Huck, Kirchsteiger & Oechssler, 2005) and to account for differences in interest rate levels.

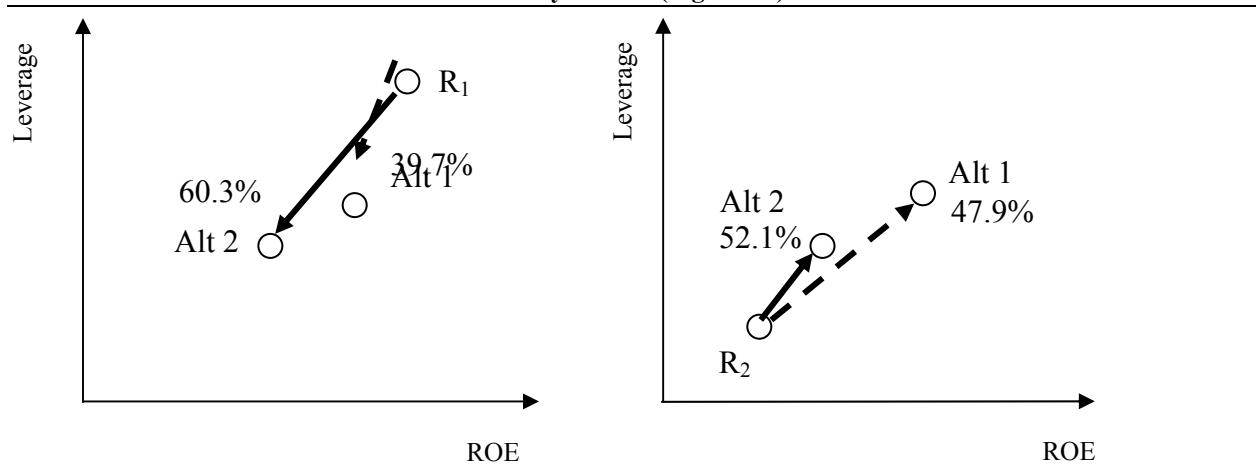
## RESULTS

The distribution of the answers by family and the nonfamily owners is provided in Figure 2. Family owners have a preference for alternative 2 under both reference points - the alternative with low leverage and a ROE of 5% - (See Figure 2a). 60.3% of the family owners opt for alternative 2 under reference point 1, inconsistent with our predictions on loss aversion. 52.1% of the family respondents opt for this alternative under reference point 2, consistent with our predictions. A Chi Square analysis on the distribution of the answers given by the family firm owners under reference points 1 and 2 shows significant differences ( $df = 1 = 42.2$ .  $p < .000$ ) (See Table 1).

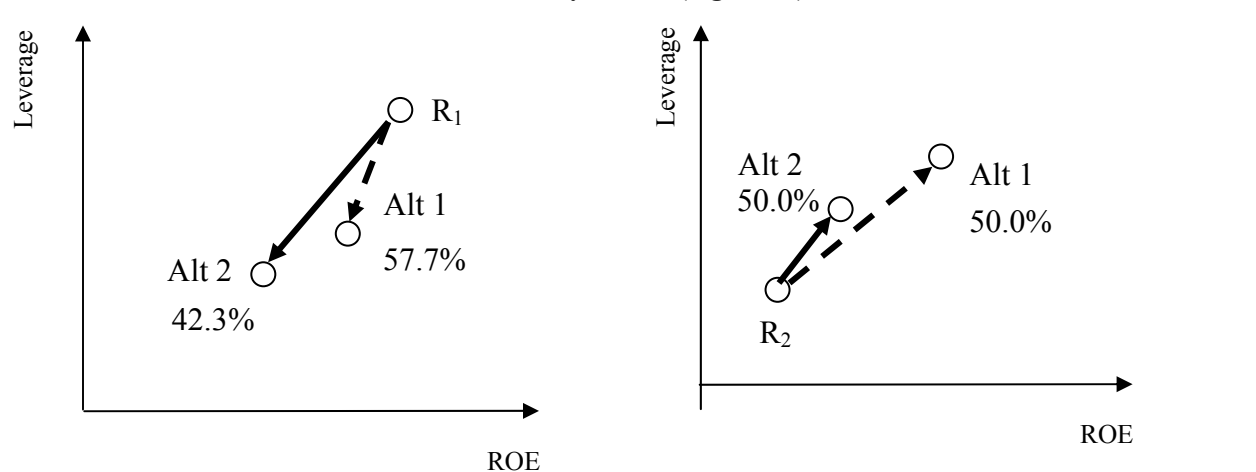
In contrast, the nonfamily owners have a preference for alternative 1 - the alternative with a moderate leverage level and a ROE of 10%. Under reference point 1, 57.7% of the nonfamily owners opt for alternative 1. Under reference point 2, alternative 1 was chosen by 50.0% of the nonfamily owners (See Figure 2b). Again, we conducted a Chi Square analysis on the distribution of the answers given by the nonfamily owners under reference point 1 and 2. The distribution of these answers was not significantly different. Apparently, the answers of the nonfamily owners are unaffected by reference points.

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1 Loss averse behavior under reference point 1	0.427	0.496	1											
2 Loss averse behavior under reference point 2	0.52	0.501	-0.493***	1										
3 Loss averse behavior under both references	0.099	0.3	0.382***	0.321***	1									
4 Log (Nr. of employees)	1.491	0.623	0.085	-0.18*	0.002	1								
5 Manufacturing	0.205	0.405	0.09	-0.087	0.075	0.187*	1							
6 Construction	0.415	0.494	-0.26***	0.069	-0.161*	0.115	-0.403***	1						
7 Commerce	0.105	0.308	-0.063	-0.048	-0.049	-0.134	-0.16*	-0.269***	1					
8 Services	0.234	0.425	0.262***	0.025	0.181*	-0.216**	-0.273***	-0.458***	-0.182*	1				
9 Age	51.058	4.363	-0.045	-0.014	-0.127	-0.096	-0.035	0.045*	-0.045	0.033	1			
10 Gender	0.291	0.185	-0.022	-0.006	0.02	-0.137	-0.059	-0.152*	0.163*	0.09	-0.041	1		
11 Financial expertise	0.076	0.266	0.13	-0.051	-0.027	-0.299***	-0.091	-0.156*	0.112	0.223***	-0.036	0.22***	1	
12 Country	0.426	0.348	0.259***	-0.174*	0.024	-0.069	-0.183*	-0.25***	0.098	0.26***	0.012	0.566***	0.392***	1
13 Family Firm	0.67	0.36	-0.132	0.015	-0.187*	-0.106	-0.04	0.161*	-0.002	-0.136	0.024	0.033	0.122	0.06*

Figure 2: Distribution of the answers  
Family owners (Figure 2a)



Nonfamily owners (Figure 2b)



These results of basic distribution analysis provide preliminary evidence that whether the respondent was a family or nonfamily owner did have an impact on their preferences. We further substantiated this finding by performing the three binary logistic regressions (See Table 2).

In Model 1 we investigate a respondent's decision to opt for alternative 1 under reference point 1, hence to decide in a loss averse manner. We find that gender has a negative impact on the choice of alternative 1 under reference point 1. As hypothesized, we find that women tend to opt for alternative 2 under reference point 1 ( $p < .05$ ). Moreover, cultural differences emerged. In contrast to the Swiss owners, the U.S. owners tended to prefer alternative 1 ( $p < .01$ ). We find that family firm background has a negative impact on the likelihood of loss averse behaviour under reference point 1. Family firms have a significant preference for alternative 2 under reference point 1.

<b>Table 2</b>			
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
	Preference for alternative 1 under reference point 1 = 1	Preference for alternative 2 under reference point 2 = 1	Preference for alternative 1 / 2 under reference point 1 / 2 = 1
Constant	2.96	1.53	2.72
	3.59	2.26	3.09
Log (Nr. of employees)	0.28	0.64*	-0.11
	0.29	0.29	0.46
Age of person	-0.06	-0.01	-0.07
	0.07	0.04	0.06
Gender (1=female, 0=male)	-2.79*	1.44	0.82
	1.33	1.07	1.49
Financial expertise (1=yes, 0=no)	0.36	-0.2	-0.44
	0.78	0.72	1.26
Country (1=U.S., 0=Switzerland)	2.85**	-1.43*	0.07
	0.96	0.65	1.05
Family owner (1=yes, 0=no)	-0.85*	0.07	-1.32*
	0.45	0.44	0.59
n	182	182	182
Prob> Chi Square	0***	0.039*	0.027*
Log Likelihood	-104.84	-111.75	-51.63
Pseudo R square	0.106	0.056	0.067

In Model 2 we determine the variables affecting an owner's choice to opt for alternative 2 under reference point 2, hence to decide in a manner consistent with prospect theory. Size of the firm ( $p < .05$ ) negatively affects this decision. It appears that larger firms tend to be less loss averse. Again, the country of origin has an impact. Whereas the Swiss firms tended to prefer alternative 2, the U.S. firms rather opted for alternative 1, the alternative with higher ROE and higher control risk ( $p < .05$ ). Family firm background had no impact on the choices of the owners.

In Model 3 we examine the determinants affecting the owners' choice to opt for alternative 1 under reference point 1 and alternative 2 under reference point 2, hence to pick the loss averse alternative under both reference points. In this combined model, country of origin had no impact on the likelihood of loss aversion. Again family firm background has a significant impact ( $p < .05$ ); it has a negative impact on the likelihood that the respondent will opt for the loss averse alternative under both reference points.

In conclusion, we find partial support for hypothesis 1. We discover that family owners' investment decisions are significantly dependent on the reference point. However, we could not detect loss averse behavior, as predicted by prospect theory. In contrast, we find support for hypothesis 2. The distribution of the answers of the family owners indicates a dominant preference for alternative 2 under both reference points. However, the relative preference for alternative 2 is particularly high under reference point 1.

## DISCUSSION AND CONCLUSION

Our study sets out to shed more light on the control risk propensity of family firm owners. More specifically, we investigate whether family firm owners, at any time, display strong preferences for investments that are characterized by low leverage levels, or whether there are contexts, coined as reference states, in which family firm owners are willing to take additional control risk to ultimately assure the family firm's survival and to protect family wealth.

Traditional financial theory suggests that investment decisions should solely depend on their net present value and the corresponding risk - return profile, hence preference relevant features for the individual (Savage, 1954).

As such, an individual's choice should not be affected by removing or adding irrelevant information (i.e. not top-ranked alternatives) (Samuelson & Zeckhauser, 1988). However, by drawing from prospect theory we show that investment choices of family firm owners as opposed to nonfamily owners, are affected by individual behavior and preferences, and in particular the reference point from which they are considered.

We examine the issue of investment decision making and control risk propensity in the context of family firm owners through the lens of prospect theory since managerial preferences may provide a behavioral basis for the understanding of capital structure of firms (Barton & Gordon, 1988), and since family firms have been found to be influenced by personal or family-

induced biases and preferences (e.g., Kellermanns, 2005; Gomez-Mejia et al., 2007). We are able to show that family firm owners are distinct owners whose capital structure decisions are affected by reference points, for two main reasons. First, these owners face undiversified ownership stakes (Anderson & Reeb, 2003), vanishing boundaries between business and personal finances (Voordeckers & Steijvers, 2006) and the related financial and reputational burden of failed investment. A potential loss might therefore loom particularly large. Second, family owners have been proposed to be highly influenced by personal preferences and biases that undermine pure financial logic, given the emotion-dense setting of family firm ownership and control (e.g., Sharma & Manikuttu, 2005; Gomez-Mejia et al., 2007). These owners experience emotional attachment (Zellweger & Astrachan, 2008), which have been found to result in endowment considerations (Ariely, Huber & Wertenbroch, 2005).

In two experimental scenarios we discover that the attractiveness of investment alternatives characterized by differing leverage and return on equity levels depends on the angle (i.e. reference point) from which they are assessed by family owners.

Even though family owners have an absolute preference for the investment alternative leading to low leverage and a ROE of 5%, in contrast to an investment with a moderate leverage / 10% ROE profile, this preference is susceptible to the vantage point from which these alternatives are considered. This preference for low leverage even at the cost of some percentage in ROE is particularly strong when the family owners depart from an insecure starting point with high leverage levels, a reference point that conflicts with their inclination to search for autonomy and independence in their financing. However, the relative unattractiveness of a moderate leverage / 10% ROE investment is diminishing, once it is assessed from a more secure reference point.

In sum, family owners investment decisions are affected by reference points, however, partly in another way than predicted by prospect theory. We find that under both reference states family owners see losing control as worse than losing return, suggesting that family owners' value function is biased towards preferring the control to the return attribute (Tversky et al., 1988). When starting from a risky reference point with high leverage, family owners have a particularly strong inclination to search for security and low leverage situations. In contrast, when starting from a secure vantage point with very low leverage, their risk appetite is increasing, and an increasing number of family owners is willing to opt for riskier investments, since one can "afford" it. In contrast, we do not find evidence for loss averse or reference point dependency with the nonfamily owners in our sample.

With our research we provide new insights into the control risk aversion discussion in the family firm literature. Whereas the most visible stream of literature emphasizes control risk averse behavior (e.g., Agrawal & Nagarajan, 1990; Mishra & Mc Conaughy, 1999; Villalonga & Amit, 2006) we find that this view is not uniformly accurate. Control risk aversion is dependent on reference points that overshadow capital structure decision making in these firms. This finding is both an extension and a possible reconciliation of Romano et al.'s (2000)

comprehensive study suggesting that family control is positively related to debt usage, with other research on the topic pointing in the opposite direction. In light of our findings we see the preference of family owners for retaining family control as a supporting factor for higher leverage investments, provided that one can revert to secure starting point. In case of a felt overexposure to leverage, family control needs to be seen as a hindering factor for higher leverage investments. Research thus far has specified certain elements of the financial objective function of small enterprises and family firms, such as attainment of satisfactory profit, systematic risk, the goal to maintain family control, or growth objectives (McMahon & Stanger, 1995; Romano et al., 2000). We see reference points as an interfering factor in this objective function in the family firm context.

We also add to Burmeister and Schade's (2007) study, who find that owner-managers of firms are more "Schumpeterian" than bankers, for example, since the entrepreneurs are generally less affected by the status quo. We extend Burmeister and Schade's (2007) study by distinguishing between family and nonfamily owners and find that family owners are more control risk averse than nonfamily owners and hence less "Schumpeterian". However, in light of our findings, we have to add that the family owners' control risk propensity was dependent on the reference point. In line with the preliminary findings by Barton and Gordon (1988) we find that managerial choices have an impact on investment decisions, specifically in family firms. Our paper also supports the findings by Dew, Read, Saraswathy and Wiltbank (forthcoming) that experienced entrepreneurs look at affordable losses instead of expected returns, and that such a tendency might be particularly strong in case of family firm owners. Our study sample consisted of experienced entrepreneurs that were 51 years of age on average, similar to their sample.

Our study presents preliminary evidence for differing relevance of the endowment effect depending on the cultural context since cultural evolutionary processes may impact preference that ultimately affect the endowment effect (Huck, Kirchsteiger & Oechssler, 2005). In low uncertainty avoidance cultures, there is more willingness to take risks, and achievement is often recognized in terms of pioneering effort (Hofstede, 1980, p. 184; Mueller & Thomas, 2001). We find evidence that the U.S. respondents had a preference for the higher leverage alternative than the Swiss respondents and displayed loss averse behavior under reference point 1. However, we are reluctant to overstate this finding since the differences for the countries of origin might be affected by the differing interest rate levels in these countries, with the U.S. displaying higher interest rates, therefore eventually letting the higher ROE option (alternative 1) appear more common.

There are limitations to our study. First, our findings do not allow us to determine the "better" or "worse" of the decision making styles in short-term performance, such as Shepherd et al. (2003) do. However, the "better" or the "worse" of the behavior we find needs to be assessed in light of the pivotal role of the survival attribute (Tversky et al., 1988) and in light of the fact that short-term reduction of aspired returns to the benefit of autonomy may lead to

potential long-term performance advantages due to lagged effects of entrepreneurial strategies (Lumpkin & Dess, 1996). Also, our argumentation is based on an experiment, which does not consider adaptation costs for changing leverage levels (Leary & Roberts, 2004). Moreover, the experiment is restricted to one period and does not take into consideration changing financing preferences depending on differing asset prices over several periods (Fischer et al., 1989). Further analysis is needed regarding the reference point and a possible confounding effect. Respondents might confound the reference point given in the question and use instead their own experience and reference point and then run the selection against this own internal reference point.

Using an experimental design for our investigation, the quality of the study needs to be addressed. According to Campbell and Stanley (1963), experiments need to satisfy three criteria: objectivity, validity and reliability. Objectivity connotes that the results are independent from the persons conducting the experiment. The respondents were not informed about the expected answers and the background of the study. In addition, the questionnaires were anonymous. The validity of the experiment - whether the test measures what it is intended to measure - is taken into account via the selection of the research methodology, which closely follows the original research design by Tversky and Kahneman (1991), with a specified first dimension of the scenario (specified through figures, e.g. travel time) and a less specified second dimension (specified through descriptions, e.g. low, moderate or high social interaction). Even though our methodology follows these parameters, with a specified first dimension (ROE given in percentages) and a second less specified dimension (low, moderate, high and very high leverage levels), we might have made the leverage attribute more salient than the ROE attribute, thereby amplifying the attractiveness of alternative 1. The reliability of the experiment, hence whether the experiment delivers comparable results if it is repeated, can be examined through a subgroup analysis of the U.S. and the Swiss sample separately. Chi square tests provide the same answering pattern by family and nonfamily owners in the U.S. and the Swiss sample. Reliability concerns should therefore be mitigated.

## IMPLICATIONS

For practitioners, e.g. commercial banks, these results indicate that family firms need to be consulted and supported in a specific way, assuring that their independence goal and their willingness to finance investment projects with equity is respected. Only once a secure reference point with low leverage is achieved, family owners will be demanding for debt financing from banks. On a practical note for family firms, there is an inherent threat that reference point dependent decision making and normative pressures to only pick low leverage investments may have the side effect of giving up growth opportunities (Mishra & McConaughy, 1999).

For researchers, following calls by Romano et al. (2000), our findings indicate specific antecedents of financing decisions that are contingent on the family setting. There is, however,

much more room for investigating the topic. For example, there might be differences in family firm's control risk aversion depending on the share of personal or family wealth tied to the firm, as suggested by Agrawal & Nagarajan (1990). Also, ownership fractions might impact capital structure decisions, as suggested by Anderson and Reeb (2003), whereby minority family shareholders or shareholders not involved in the operations might take decisions in the same ways as nonfamily owners, unaffected by reference point considerations. Given that endowment is growing over time and experience, family firms in later generations might be more affected by loss averse behavior. A further avenue for future research could depart from a frontal analysis of differing leverage levels of family and nonfamily firms and investigate family firm specific costs of equity capital, assuming that the costs of equity capital are underestimated by family owners due to emotional attachment and substitution of financial with emotional returns (Astrachan & Jaskiewicz, 2008), providing incentives to replace debt with equity. The relevance of such a research approach needs to be seen in light of the pecking order of financing (Myers & Majluf, 1974) and its relevance in the family firm context (Maherault, 2000). The pecking order arises if the costs of issuing new securities overwhelm other costs and benefits of dividends and debt. Because of these costs, firms finance new investments first with retained earnings, then with safe debt, then with risky debt, and finally, under duress, with external equity. Family firms may have access to family financial capital, that, although limited, might be attractive in terms of required financial costs and the extended time horizon of the family investors.

In conclusion, our study provides further evidence that decision making of most privately held family firms is influenced by nonfinancial preferences of the controlling individuals. We see our study as conducive to research that investigates privately held companies based on their behavioral patterns, that cannot be fully captured by a purely rational approach.

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# **INCREASING FAIRNESS PERCEPTIONS OF GOVERNMENT GRANT APPLICANTS: AN INVESTIGATION OF JUSTICE THEORY IN SMALL BUSINESS IN POST-KATRINA NEW ORLEANS**

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## **ABSTRACT**

*It is critical for government agencies to deploy necessary resources after a natural or manmade disaster for a smooth and speedy recovery of small businesses. However, dissatisfaction with grants and granting agencies discourage business owners' applications for necessary grants to continue operation of their small businesses. Based on justice theory research, this study assesses the impact of perceptions of fairness on small business owner satisfaction with government grants and granting agencies. To investigate the proposed relationships, data was collected from 200 small businesses in New Orleans post Hurricane Katrina. This study extends the work of a previous study by including the distributive justice dimension and by incorporating satisfaction levels with granting agencies in addition to satisfaction with the grants themselves. The findings show that interactional justice (interpersonal treatment) and distributive justice (distribution of outcomes), and not procedural justice (formal procedure), had significant positive effects on the level of small business owner satisfaction with government grants and granting agencies.*

## **BACKGROUND PERSPECTIVES**

Hurricane Katrina further exacerbated the serious economic challenges faced by New Orleans even before Katrina. The flooding, wind, rain, and unfortunate looting and arson associated with the storm destroyed or damaged thousands of businesses. Commerce was seriously interrupted in industries such as entertainment, hospitality and tourism, finance, and transportation. Small businesses and entrepreneurial efforts suffered extensive losses stemming from the damages, and the city's sales tax base plummeted. The labor force declined considerably, particularly in the health and education industries (According to FedStats and FEMA in 2006, the population of Orleans Parish decreased by 60%: even today, the population is still down 36%). Unemployment increased, and the city faced significant population losses due

to out-migration, particularly of the African-American community. Use of mainly Hispanic workers from outside the state to support the huge construction business, while the African-American residents in New Orleans remained without jobs, raised labor issues (Entertainment, Tourism and Hospitality, U.S. Chamber of Commerce, November 8, 2005).

The severity of Katrina's destruction has made redevelopment of New Orleans, including promoting investments, small businesses and entrepreneurs, job creation and economic growth, a herculean task. The incredible extent of damage due to the disaster should be a matter of great concern to residents, businesses, policy makers, and politicians for the purpose of acquiring and deploying necessary resources to support a smooth and speedy recovery. In particular, it must be kept in mind that the Hurricane Katrina aftermath produced small business environments that were lacking in planning, susceptible to cash flow reductions, lacking inadequate access to capital for recovery, facing difficulties related to federal government aid, and attempting to operate in a devastated infrastructure, slowing early recovery (Runyun, March, 2006). Also, it is important that government agencies assist affected businesses' attempts to survive and motivate new entrepreneurs to start fresh businesses (Zolin & Kropp, January, 2007). Despite the critical nature of governmental assistance, a previous study showed a high level of dissatisfaction with government aid among New Orleans business owners (Mancuso, June, 2006). This dissatisfaction, in turn, may discourage small business owners from applying for government grants, which can speed up the recovery.

## LITERATURE REVIEW

Justice theory has been successful in explaining attitudes and behaviors in such diverse domains as resource allocation, conflict resolution, personnel selection, and layoffs. Justice, as a perception of fairness of the decision process and decision outcomes, has been shown to influence attitudes (e.g., satisfaction) and behavior (e.g., turnover) (Greenberg, 1990).

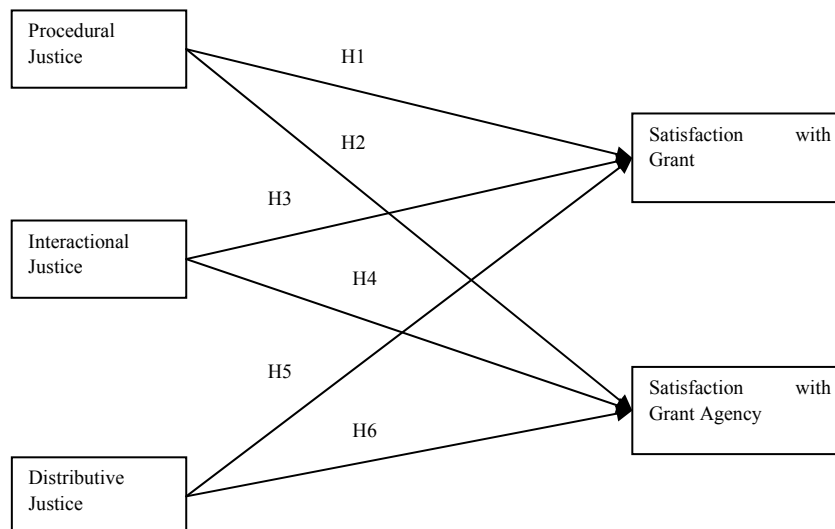
Researchers have developed conceptual models of justice theory that explain the role of fairness in organizations by identifying factors (e.g., Bies, 1987) that account for different dimensions of justice and their effects on attitudes and behaviors (Andrews, Baker, & Hunt, 2008; Hershcovi, et.al., 2007; McFarlin & Sweeney, 1992). These dimensions include procedural justice, interactional justice, and distributive justice. Procedural justice refers to the fairness of the formal procedures through which outcomes are achieved (Greenberg, 1990). A number of research studies have demonstrated that procedural justice affects attitudes toward the organization and its operations (Korsgaard, Schweiger, & Spienza, 1995). Interactional justice deals with the interpersonal treatment people receive from the decision maker and the adequacy with which formal decision-making procedures are explained (Bies, 1987). Empirical evidence has shown that perceptions of fairness may also be affected by the interpersonal treatment received from the decision-maker, causing affective and behavioral reactions (Donovan, Drasgow, & Munson, 1998). Distributive justice refers to the perceived fairness of the resulting

distribution of decision-making outcomes. The fairness of outcomes is evaluated based on distributive rules that include equity, equality, and needs (Deutsch, 1975).

Based on the preceding discussion of justice theory, this study attempts to examine the impacts of perceived fairness on small business owners' satisfaction with government grants and granting agencies. The following hypotheses were developed for this study, as illustrated in Figure 1:

- H1: Procedural Justice has a positive effect on satisfaction with government grants for small businesses.*
- H2: Procedural Justice has a positive effect on satisfaction with grant agencies for small businesses.*
- H3: Interactional Justice has a positive effect on satisfaction with government grants for small businesses.*
- H4: Interactional Justice has a positive effect on satisfaction with grant agencies for small businesses.*
- H5: Distributive Justice has a positive effect on satisfaction with government grants for small businesses.*
- H6: Distributive Justice has a positive effect on satisfaction with grant agencies for small businesses.*

**Figure 1 Research Model**



## RESEARCH METHOD

### DATA COLLECTION

For this study, owners/managers of small businesses were targeted for data collection throughout post-Katrina New Orleans. Different agencies and businesses use different criteria to determine whether a business is small, such as the number of employees, annual income earned and relative dominance in their industry. Different ranges of employee size (size standards) for small businesses are encountered in the literature. For the purpose of this study, the number of employees was used as the determining factor for classification as a small business: firms that employed 100 or less individuals were considered as small businesses.

The survey questionnaire used in this study was developed by adapting the items from existing justice literature (e.g., Moorman, 1991). Data was gathered by visiting small businesses and asking the owners/managers to complete the questionnaires.

### CHARACTERISTICS OF THE SAMPLE

There were 200 respondents in this study (see Table 1). The respondents were evenly distributed by gender. The majority of the respondents reported service and merchandising (63.5% and 29%, respectively) business types and most respondents (98.5%) were from businesses with less than 50 employees. More than 70% of the respondents reported their knowledge level of government grant processes to be average or above. Although 84% responded that government grants would help their businesses, only 60% of the respondents have applied for a government grant at least once. Of those respondents, 36% reported having received a government grant.

### DATA ANALYSIS

Partial Least Squares (PLS) analysis was used to test the proposed research model. PLS recognizes two parts of model testing: a measurement model and a structural model (Barclay et al., 1995; Fornell & Larcker, 1981). In order to test a research model, the measurement model first has to be evaluated, and then the structural model has to be tested. The assessment of both models was conducted using SmartPLS 2.0.

The measurement model addresses the relationship between the constructs and the items used to measure them. The test of the measurement model consists of the estimation of the convergent and discriminant validities of the measurement instrument. Convergent validity refers to the extent to which measures of a construct are related to each other. Discriminant validity is the degree to which measures of a construct are not related to measures of other constructs. However, reflective and formative measures should be treated differently (Hulland, 1999).

Formative items are considered to form or cause the construct to be measured. Thus, these items are not expected to correlate or show internal consistency, unlike items for reflective constructs (Chin, 1998). For this reason, the item weights for formative measures have been used to test the relevance of the items to the constructs (Barclay et al., 1995; Wixom and Watson, 2001). On the other hand, the item loadings for reflective measures are used to test the validity of the items for the constructs. Table 2 shows the relationship between the constructs and the items in this study.

<b>Table 1: Characteristics of the Sample</b>		
<b>Sample Characteristics</b>	<b>N=200</b>	<b>%</b>
<b>Gender</b>		
Male	100	50.0
Female	97	48.5
Not responding	3	1.5
<b>Familiarity with Grants</b>		
Very High	5	2.5
High	55	27.5
Average	83	41.5
Low	30	15.0
Very Low	10	5.0
Not responding	17	8.5
<b>Type of Business</b>		
Manufacturing	9	4.5
Service	127	63.5
Merchandising	58	29.0
Other	0	0
Not responding	6	3.0
<b>Number of Employees</b>		
Less than 5	43	21.5
5-10	55	27.5
11-50	93	46.5
More than 50	3	1.5
Not responding	6	3.0
<b>Grant would help business</b>		
Strongly Agree	113	56.5
Agree	55	27.5
Neutral	21	10.5
Disagree	6	3.0
Strongly Disagree	3	1.5
Not responding	2	1.0
<b>Have Applied for Grant</b>		
Yes	120	60.0
No	80	40.0
<b>Have Received Grant</b>		
Yes	72	36.0
No	128	64.0

<b>Table 2. Measurement Model</b>	
<b>Constructs</b>	<b>Relationship</b>
Procedural Justice (PJ)	Formative
Interactional Justice (IJ)	Formative
Distributive Justice (DJ)	Formative
Satisfaction with Grant (SG)	Reflective
Satisfaction with Grant Agent (SA)	Reflective

## RESULTS

### MEASUREMENT MODEL

Although formative and reflective constructs are treated differently, the loadings are used for interpretive purposes and for the calculation of reliabilities. Although it has been suggested that an absolute value of factor loadings of 0.30 is considered to meet the minimal level, loadings of 0.40 are considered more significant, and loadings of 0.50 or greater are considered very significant (Hair et. al., 1998). Average variance extracted (AVE) of 0.50 or above has also been used to support the convergent validity of the constructs (Fornell & Larcker, 1981).

Table 3 shows individual item loadings and associated weights for the related construct. All of the Cronbach's alphas exceed the 0.70 minimum level suggested by Nunnally (1978). For the reflective constructs (Satisfaction with Grant and Satisfaction with Grant Agent), all of the loadings are 0.89 or above, which is considered very strong. Cronbach's alphas for all constructs are 0.88 or above, which indicates strong reliabilities for the items in measuring their constructs. Also, the AVEs for all constructs are well above the acceptance level of 0.50 (see Table 4). Based on these results, the convergent validity for the measurement items can be considered acceptable.

Discriminant validity is adequate when the average variance extracted from the construct is greater than the variance shared between the construct and other constructs. Table 5 shows correlations between constructs and square root of AVEs (bold faced) for the reflective constructs. The square root of AVE for SG is greater than the correlations with other constructs. Similarly, the square root of AVE for SA is greater than the correlations with other constructs. Also, the cross loadings in Table 6 show that items for SG and SA are loaded higher on their constructs than on other constructs. This also indicates some evidence for discriminant validity.

<b>Table 3. Weights and Loadings</b>		
Variables	Weights	Loadings
Distributive Justice (DJ)	Cronbach's Alpha = 0.94	
DJ1	0.40	0.94
DJ2	0.09	0.90
DJ3	0.56	0.97
Interactional Justice (IJ)	Cronbach's Alpha = 0.88	
IJ1	0.19	0.78
IJ2	0.06	0.77
IJ3	0.11	0.79
IJ4	-0.03	0.31
IJ5	0.48	0.95
IJ6	0.29	0.93
Procedural Justice (PJ)	Cronbach's Alpha = 0.90	
PJ1	-0.09	0.67
PJ2	0.69	0.96
PJ3	0.25	0.87
PJ4	0.08	0.74
PJ5	0.08	0.70
PJ6	0.11	0.60
Satisfaction with Agent (SA)	Cronbach's Alpha = 0.95	
SA1	0.22	0.89
SA2	0.22	0.92
SA3	0.21	0.93
SA4	0.23	0.91
SA5	0.21	0.92
Satisfaction with Grant (SG)	Cronbach's Alpha = 0.95	
SG1	0.52	0.98
SG2	0.51	0.98

<b>Table 4. Average Variance Extracted</b>					
	DJ	IJ	PJ	SA	SG
Average Variance Extracted	0.87	0.61	0.59	0.84	0.95

	DJ	IJ	PJ	SA	SG
SA	0.75	0.85	0.52	<b>0.92</b>	
SG	0.73	0.80	0.51	0.85	<b>0.98</b>

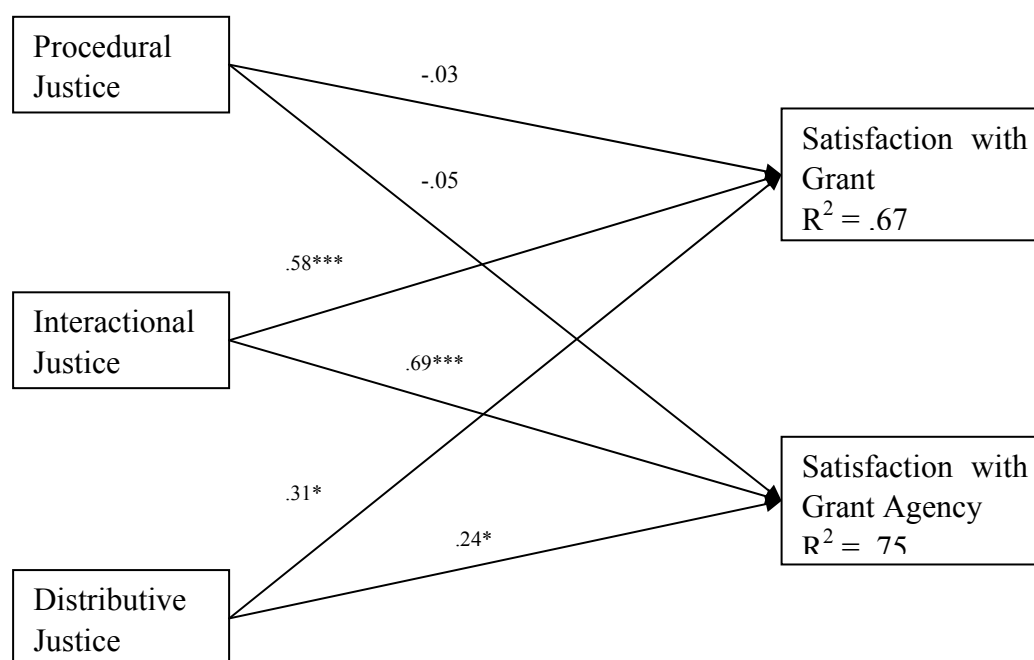
	DJ	IJ	PJ	SA	SG
DJ1	<b>0.94</b>	0.73	0.51	0.72	0.66
DJ2	<b>0.90</b>	0.72	0.56	0.65	0.68
DJ3	<b>0.97</b>	0.72	0.56	0.71	0.72
IJ1	0.73	<b>0.78</b>	0.56	0.65	0.63
IJ2	0.70	<b>0.77</b>	0.46	0.68	0.58
IJ3	0.65	<b>0.79</b>	0.61	0.63	0.67
IJ4	0.40	<b>0.31</b>	0.25	0.35	0.16
IJ5	0.66	<b>0.95</b>	0.53	0.82	0.74
IJ6	0.71	<b>0.93</b>	0.58	0.79	0.74
PJ1	0.42	0.51	<b>0.67</b>	0.39	0.30
PJ2	0.50	0.58	<b>0.96</b>	0.50	0.49
PJ3	0.51	0.57	<b>0.87</b>	0.46	0.44
PJ4	0.52	0.54	<b>0.74</b>	0.39	0.37
PJ5	0.46	0.39	<b>0.70</b>	0.41	0.32
PJ6	0.47	0.40	<b>0.60</b>	0.31	0.30
SA1	0.65	0.78	0.48	<b>0.89</b>	0.73
SA2	0.69	0.77	0.54	<b>0.92</b>	0.76
SA3	0.67	0.78	0.44	<b>0.93</b>	0.79
SA4	0.79	0.76	0.52	<b>0.91</b>	0.82
SA5	0.60	0.79	0.42	<b>0.92</b>	0.79
SG1	0.75	0.77	0.50	0.84	<b>0.98</b>
SG2	0.68	0.79	0.50	0.82	<b>0.98</b>

For the formative constructs, some of the items show negative weights. Formative items are considered to form or contribute to the construct. The negative weights indicate a contradiction to the original expectation suggested by justice theory literature. The results show two items with negative weights (PJ1 and IJ4).

## STRUCTURAL MODEL

In order to improve the validity of the results, the items with negative weights were removed when the structural model was tested. As a result, PJ1 and IJ4 were dropped to estimate the structural model. Figure 2 shows the significance and the strength of the relationships between the constructs and  $R^2$ , which indicates the explanatory power of the model. Procedural justice is not a significant factor, as shown by path coefficients of -0.03 and -0.05 for satisfaction with grant and satisfaction with grant agency respectively. Interactional justice shows the highest path coefficients on both dependent variables, with values of 0.58 and 0.69. And distributive justice shows somewhat weak but significant impacts on both dependent variables, with path coefficients of 0.31 on satisfaction with grant and 0.24, on satisfaction with grant agency. Sixty-seven percent of the variance of satisfaction with grant and 75% of the variance of satisfaction with grant agency was explained by the proposed model. Table 7 summarizes the results of the hypotheses tests in this study.

Figure 2. Results



- \* Indicates that the path is significant at the  $p < .05$  level.
- \*\* Indicates that the path is significant at the  $p < .01$  level.
- \*\*\* Indicates that the path is significant at the  $p < .001$  level.

**Table 7. Hypotheses Tests**

<b>Hypotheses</b>	<b>t-Statistic</b>	<b>Results</b>
<b>H1:</b> Procedural Justice has a positive effect on satisfaction with government grants for small businesses.	0.32	Not Supported
<b>H2:</b> Procedural Justice has a positive effect on satisfaction with grant agencies for small business.	0.43	Not Supported
<b>H3:</b> Interactional Justice has a positive effect on satisfaction with government grants for small businesses.	4.39	Supported
<b>H4:</b> Interactional Justice has a positive effect on satisfaction with grant agencies for small businesses.	4.99	Supported
<b>H5:</b> Distributive Justice has a positive effect on satisfaction with government grants for small businesses.	2.46	Supported
<b>H6:</b> Distributive Justice has a positive effect on satisfaction with grant agencies for small businesses.	2.01	Supported

## CONCLUSIONS

This study investigated the effects of fairness perception on small business owners' satisfaction with government grants and grant agencies. The results show that the main issue in applicant satisfaction is not the procedure required to win the grant: rather, the results suggest that both interpersonal treatment and the way grants are awarded are instrumental in increasing the level of applicant satisfaction. In other words, it is more about how the small business owners are treated by the granting agency during the grant application process than about procedural issues of applying for the grants that improve small business owners' satisfaction. These findings suggest that the grant agents should properly treat the business owners with trustfulness, kindness, justification, respect, etc. in order to achieve higher satisfaction levels for the applicants. This conclusion can be used to improve government grant process outcomes when another natural disaster strikes the United States. While government representatives should be trained in all aspects of the aid to be given, they should also be trained to show kindness, respect, trust, and justification for their actions to grant applicants from the small business sector. It may be concluded that proper interpersonal treatment becomes especially important if granting agencies want to establish a long-term relationship with small business owners and stimulate the economy through government grants.

As with most studies in the justice literature, these results should be interpreted with some caution. For example, items used to measure each of the dimensions of justice may differ, depending on the context. The questionnaire used for this study was based on previous studies

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where measurement items were validated in different contexts. Thus, the questionnaire can be refined for subsequent studies to improve the validity of the results in government grants for the small business context. Also, the respondents for the study are from New Orleans metropolitan area only, which can be characterized by the unique situation created by the natural disaster and the subsequent economic recovery efforts.

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<b>Appendix A: List of Items</b>		
<b>Construct</b>	<b>Item</b>	<b>Description</b>
Distributive Justice	DJ1	Grant was allocated fairly based on small business owner's time and effort spent during the grant application process.
	DJ2	Grant was allocated fairly based on small business owner's need.
	DJ3	Grant was are allocated fairly to all small business owners regardless of their effort and need.
Interactional Justice	IJ1	The granting agent considered your view point.
	IJ2	The granting agent was able to avoid any personal bias.
	IJ3	The granting agent provided you with timely feedback about the decision and its implications.
	IJ4	The granting agent treated you with kindness and consideration.
	IJ5	The granting agent showed concern for your rights as a small business owner.
	IJ6	The granting agent took steps to deal with you as a small business owner in a truthful manner.
Procedural Justice	PJ1	The process for grant award is designed to collect accurate information necessary for making decisions.
	PJ2	The process for grant award is designed to provide opportunities to appeal or challenge the decision made.
	PJ3	The process for grant award promote standards so that decisions can be made with consistency.
	PJ4	The process for grant award is designed to hear the concerns of all those affected by the decision.
	PJ5	The process for grant award is designed to provide useful feedback regarding the decision and its implementation.
	PJ6	The process for award is designed to allow for requests for clarification or additional information about the decision.
Satisfaction With Agency	SA1	How would you rate the grant agent's knowledge about small businesses?
	SA2	How would you rate the grant agent's understanding of small business needs?
	SA3	How would you rate the grant agent's communication and interpersonal skills?
	SA4	How would you rate the quality of supporting service from the grant agent?
	SA5	How would you rate the attitude of the grant agent?
Satisfaction with Grant	SG1	How would you rate the grant amount?
	SG2	How would rate the timeliness of the grant?



# ENTREPRENEURS AS PARALLEL PROCESSORS: AN EXAMINATION OF A COGNITIVE MODEL OF NEW VENTURE OPPORTUNITY EVALUATION

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## ABSTRACT

*This study (N = 276) tested the role of individual and situational variables on an inexperienced, pre-nascent entrepreneur's likelihood of pursuing an entrepreneurial opportunity. We identified self-efficacy and cognitive multilateralism as psychological traits that explained activation of different types of entrepreneurial cognitive structures. These cognitive structures then affect risk and opportunity perceptions and new venture opportunity evaluation decisions. The tests supported most of our conceptual hypotheses and parallel cognitive processes about new venture opportunity evaluation. We suggest theoretical and practical implications for future entrepreneurship studies.*

## INTRODUCTION

One of the central concerns of the entrepreneurship field is new venture opportunity, particularly the related processes of discovery, evaluation, and exploitation (Shane & Venkataraman, 2000). While entrepreneurial opportunities are usually created by external factors, the resulting opportunities can only be transformed into an enterprise through the processes of discovery and exploitation by individuals (Venkataraman, 1997). Furthermore, only some individuals are able to discover and successfully pursue the entrepreneurial opportunities (Baron, 2004; Corbett, 2007). For this reason, the study of the individual-situation nexus is a meaningful endeavor to further understand new venture opportunities (Baron, 2004). In addition, individual mental processes or cognitive properties have been regarded as critical factors in explaining the variability of entrepreneurial behaviors (e.g., Shaver & Scott, 1991; Venkataraman, 1997; Shane & Venkataraman, 2000; Mitchell, et al., 2007; Baron, 2004; Corbett, 2007).

Entrepreneurial cognition has been defined as: "the knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation and venture creation and growth" (Mitchell et al, 2002, p. 91). These same authors more recently noted that the central question for research on entrepreneurial cognition is "How do entrepreneurs think?" (Mitchell et al, 2007) because this would provide much greater understanding of their subsequent

decisions and actions. Given there are no optimization processes or simplistic mechanisms in discovering complex entrepreneurial opportunities (see Venkataraman, 1997 and Shane & Venkataraman, 2000 for further review), individuals' different cognitive structures play a critical role in identifying entrepreneurial opportunities. Furthermore, Busenitz et al (2003) posed a question, "...why, faced with an identified opportunity, entrepreneurs will act and non-entrepreneurs will not? (p. 299)" To answer this question, we need to look more closely at the cognitive processes which entrepreneurs and non-entrepreneurs go through in their evaluations of new venture opportunities. While the field of entrepreneurship has made much progress in this cognition-based research, there are still many unanswered 'why' and 'what' questions regarding individual differences, particularly in opportunity discovery, evaluation, and exploitation (Baron, 2004; Shane & Venkataraman, 2000).

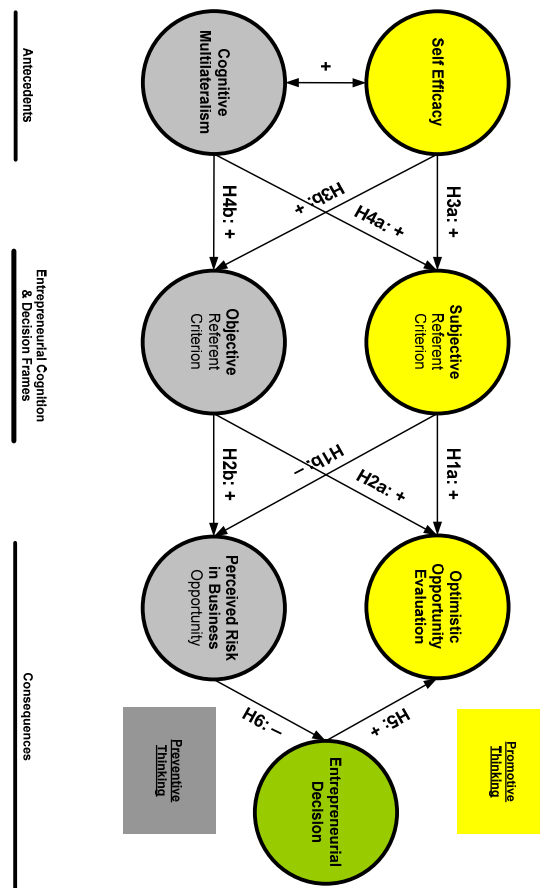
The purpose of our study is to contribute to this stream of research by examining types of cognitive properties that foster entrepreneurial thinking; situational factors such as motivation and types of knowledge that are influential; and to test how these individual level differences and situational factors jointly influence the likelihood of entrepreneurial choice. By exploring the key factors and the cognitive processes through which ordinary people or nascent entrepreneurs make decisions when new venture opportunities are present, we hoped to better understand the whole picture of entrepreneurial processes and develop the ways to nurture entrepreneurial initiations among would-be-entrepreneurs. Also, we suggest countermeasures to remove (cognitive) barriers that hamper and inhibit entrepreneurial thinking.

The entrepreneurial process is comprised of a number of phases, and various categories have been developed to characterize them (Baron, 2007; Brockner et al., 2004; Shook et al., 2003). We include existing and widely known concepts, from cognition studies, self-efficacy (Bandura, 1997), risk perception (Simon et al., 2000), and opportunity recognition (Matlin, 2002) in the proposed model (see Figure 1). In addition, we introduce two new concepts to the model that have not been considered in the past research: *cognitive multilateralism* (i.e., cognitive breadth and tolerance of different ideas in problem solving) and *referent criterion* (i.e., subjective versus objective criteria activation). These known and new variables are tested in a model that explores the complexity of internally dueling cognitive processes of entrepreneurs, namely a *promotion focus* versus *prevention focus*; and decision frames -- *gain/non-gain frame* versus *loss/non-loss frame* -- in selecting and interpreting information given in a business opportunity (Higgins, 1997). We renamed these two cognitive processes as *entrepreneurial promotion* and *entrepreneurial prevention* and will illustrate the ways they are intertwined and their relative influences in prompting entrepreneurial decisions and actions.

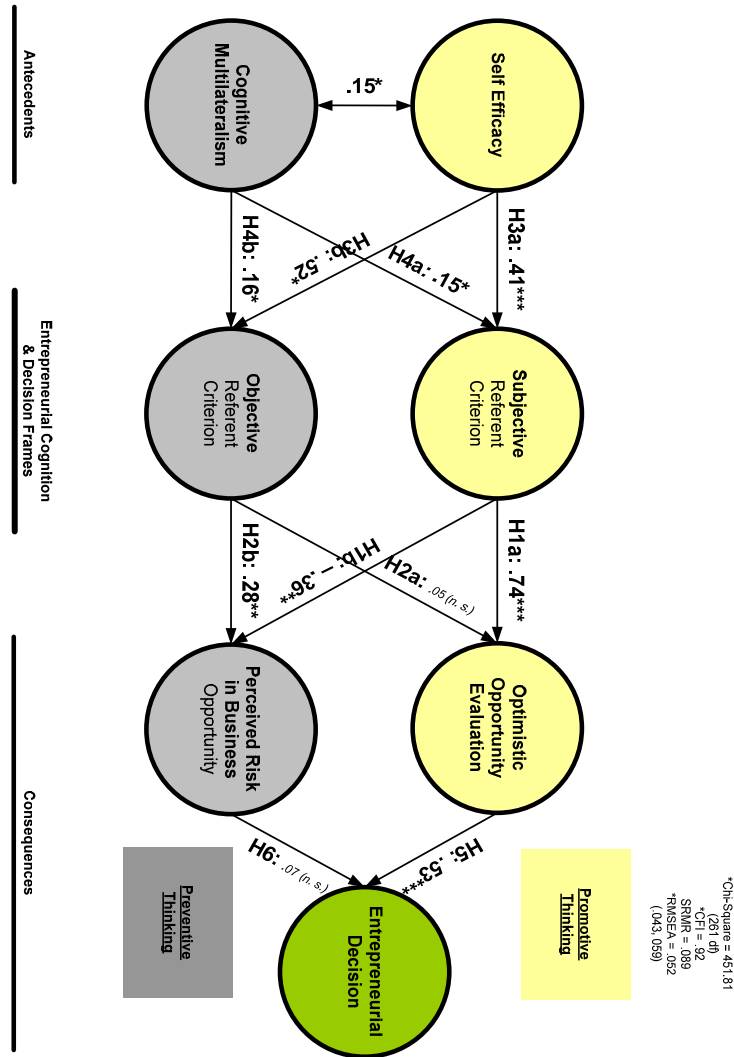
Some literature has adopted Higgins' theory of regulatory focus to advance an "either/or" type explanation of entrepreneurs: i.e., to test whether (would-be) entrepreneurs are either promotion or prevention focus-oriented. However, we suggest that entrepreneurial thinking does not function in an all-or-nothing fashion, but in a more mixed and complicated way. It appears that (would-be) entrepreneurs experience both promotion- and prevention-regulatory focus

simultaneously when assessing entrepreneurial opportunities. Specifically, we proposed that the psychological traits of self-efficacy and cognitive multilateralism activate both promotive and preventive types of entrepreneurial cognition and decision frames, and that the activated cognition and frames lead one to experience varying degrees of entrepreneurial optimism or pessimism in assessing entrepreneurial opportunity. Our results generally support, though not completely, that cognitive processes in entrepreneurial decision making are not mutually exclusive but concurrent and parallel motivational forces in analyzing information (Figure 2).

**FIGURE 1**  
**Entrepreneurial Thinking Process Model:**  
**From Person and Situation Variables to Entrepreneurial Decision**



**FIGURE 2**  
**Findings**



**HYPOTHESIS DEVELOPMENT**

As a first step, we distinguish the two types of entrepreneurial thinking we experience in business decision situations. One is *promotive thinking* that steers us to see opportunities and encouraging conditions; the other is *preventive thinking* that makes us more aware of risks and hostile information. Promotive thinking leads us to *act* on entrepreneurial hunches; whereas preventive thinking leads us to *abstain* from taking action.

It seems that we experience these two types of thinking simultaneously, although the relative dependence varies among people and situations. That is, entrepreneurs seem to focus more on promotive thinking, while non-entrepreneurs focus more on more preventive thinking.

## PROMOTIVE THINKING VERSUS PREVENTIVE THINKING

Higgins (1997) proposed a “theory of regulatory focus” to explain two distinct types of motives – promotion and prevention focus – applicable to many areas of psychological phenomena such as decision making in cognitive and organizational psychology. Higgins pointed out that sole reliance on the “hedonic principles” (seeking pleasure and avoiding pain) constrains theory development and limits research on various psychological phenomena. As an alternative Higgins (1997) proposed promotion and prevention foci which are simultaneously present and jointly regulating human behaviors and underlying psychological process.

Following Higgins’ (1997) theory of regulatory focus, we break down the entrepreneurial thinking process into *promotive thinking* and *preventive thinking*, two distinct yet concurrent processes one experiences in business problem solving. As individuals engage in entrepreneurial decision making, they experience both thinking processes simultaneously but to varying degrees. Promotive and preventive thinking hinge on two types of underlying regulatory motivations, *promotion* and *prevention foci* (Higgins, 1997), and the two influence one’s situation evaluation such as opportunity recognition or risk perception in both quantitatively and qualitatively different ways. We theorize that each regulatory focus is induced by two types of referent criterion. A referent criterion is a “gross criterion” or “general guide” in which other more specific criteria will be required to fit (e.g., maximum profits, maximum sales, and survival of the organization) (Grünig, 1966). In the present study, we use the term to refer to subjective and objective types of knowledge and decision frames which a person “activates” from memory in a given business decision situation (“knowledge activation,” Higgins, 1996). The promotion focus is related with the absence or presence of *positive outcomes*. Individuals with a promotion focus have “an inclination to *approach matches* to desired end-states” and are more sensitive to “*aspirations* and *accomplishments*” (italics added, Higgins, 1997, p. 1282). In addition, promotion-focused individuals tend to use “approach as strategic means” and “insure hits and insure against errors of omission” (p. 1283). In contrast, the prevention focus is related with the absence or presence of *negative outcomes*; individuals with a prevention focus have “an inclination to *avoid mismatches* to desired end-states” and are more sensitive to “*responsibilities* and *safety*” (italics added, Higgins, 1997, p. 1282). In addition, prevention-focused individuals are more likely to use “avoidance as strategic means” and “insure correct rejections and insure against errors of commission” (Higgins, 1997, p. 1283). Shah, Higgins, and Friedman (1998) found each type of strategic inclination associated with success in different types of tasks. We extend this examination to the relative contributions of the two cognitive approaches to entrepreneurial opportunity evaluation.

We note here that each motivational or regulation focus prompts different decision frames and thus generates different *strategic inclinations* in entrepreneurial decision making. We refer to (cognitive) strategy as “a pattern of decisions in the acquisition, retention, and utilization of information that serves to meet certain objectives, i.e., to insure certain forms of outcome and to insure against certain others” (Bruner, Goodnow, & Austin, 1956, p. 54). Specifically, the promotion regulatory focus triggers a *gain/non-gain frame* (cf. “aspirations and accomplishments”). This frame then leads one to attend to more positive aspects (promotion-oriented gain/non-gain information) in a business situation – this results in an optimistic strategic inclination. In contrast, the prevention regulatory focus prompts *loss/non-loss frame* (cf. “responsibility and safety”). This frame then leads one to attend to negative aspects (prevention-oriented loss/non-loss information) in the business situation which results in a pessimistic strategic inclination. Each strategic inclination induces one’s situation assessment differently, whether seeing more opportunities or more risks in the given business proposal. In this vein, it is worthy to understand how and why one adopts a certain strategic inclination and how this inclination influences one’s situational assessment of a business opportunity.

As we will see next, the knowledge (entrepreneurial cognition) we would activate in a business decision situation (Higgins, 1996) steers us to a different decision frame (gain/non-gain or loss/non-loss frame) and strategic inclination (approach versus avoidance strategy). Specifically, the type of knowledge will induce different assessments of the business opportunities – optimistic versus pessimistic evaluation.

## **ENTREPRENEURIAL COGNITIVE STRUCTURES**

The presence of certain knowledge structures (or cognitive structures) accessible in decision situations importantly affects the way we interact with our social and physical environment (Kruglanski, 1989). Research on social cognition suggests persons’ subscriptions to some knowledge structures influence the way they interpret the present conditions, recall the past experience, and forecast the future state (Fiske & Taylor, 1991; Higgins, 1996). Subscription to a certain knowledge structure, for example, will favor information consistent with the cognitive structure or lead to consistent interpretation with accessible cognitive structures (Kruglanski, 1989). In this vein, the extent and the way we act in a given decision situation is influenced by the types of accessible cognitive structures. Our first conceptual base is, thus, the cognitive structures – “schemata” (Fiske & Taylor, 1984; Gaglio & Katz, 2001) or “knowledge” (Kruglanski, 1989; Shane, 2000; Sigrist, 1999) that influence on individual assessment about entrepreneurial opportunities. We are interested in the functions of accessible knowledge type in entrepreneurial thinking -- specifically, the relationships between types of entrepreneurial cognitive structures and situational assessments of the given entrepreneurial decision situation. We identify two types of entrepreneurial cognitive structure are likely to be “activated” in business decision situations (Higgins, 1996). They are *objective referent criterion* from

education and past experience (cf., “scientific” knowledge structure, Kruglanski, 1989) and *subjective referent criterion* from one’s strength of motivation related to outcomes (cf., “lay” knowledge structure, Kruglanski, 1989). Both types of knowledge structures are functionally identical for making a decision and solving a problem (Kruglanski, 1989). In an entrepreneurial decision situation, however, the former is responsible for increasing both promotive thinking and preventive thinking while the latter is responsible for increasing promotive thinking but decreasing preventive thinking.

One key assumption in this study is that entrepreneurial decisions require more promotive thinking and the gain/non-gain frame. To start a business venture one needs to foresee positive potential outcomes during the opportunity evaluation phase. The gain/non-gain frame fosters one to seek and process information about possible gains and prompts one to seize the chance and to take the risks. However, entrepreneurs also get benefits from preventive thinking and the loss/non-loss frame. In the loss/non-loss decision frame, one is more likely to monitor and detect possible threats and control the negative factors. As a result, entrepreneurs who also use this frame can better foster the opportunity’s potential.

## **REFERENT CRITERION AND ITS TYPES**

The two thinking processes are induced by the motives for desired outcomes, past experience, and information and decision rules (entrepreneurial cognition) recalled and activated in a given decision situation (“knowledge activation,” Higgins, 1996). People approach their problems by recalling relevant experiences of success similar to a current problem – a referent criterion (Carter, 1965; Higgins, 1996). Simon (1957) explained a need for such a general guide or criterion -- “referent” -- when people encounter similar or a repetitive problem. This leads one to speculate a generalized query of the following kind: “what criteria can I discover which can be used whenever a problem of this kind arises?”

A referent criterion, thus, could be a solution carried from past situations to repeated problems (Simon, 1957), a cognitive “schema” (Fiske & Linville, 1980), “categories” (Carlston & Smith, 1996), it can be a cognitive “schema” and “cross-situational attitude” to those bits of cognitive and attitudinal knowledge that guide problem solving and decision making (Grunig, 1997). Development of such a heuristic rule generally reduces the need for costly information search by the problem solver. In this study, we define referent criterion as *any knowledge or cognitive structures either from education and past experience or subjective judgmental system* such as motives for desired-end states one activates or improvises in problematic life situations. Entrepreneurship researchers noted that the process of entrepreneurial discovery is often driven by knowledge one acquired from previous experiences rather than by new search for knowledge in the decision situations (Kirzner 1997; Shane, 2000). In other words, one’s types of referent criteria exert specific influence on the way one approaches problem solving because it provides

cognitive guidelines or decision frames to evaluate and select information during a problem-solving process (Shane, 2000; Venkataraman, 1997).

## **OBJECTIVE VERSUS SUBJECTIVE REFERENT CRITERION TYPES**

We distinguish *entrepreneurial cognitive structures* as objective or subjective referent criterion in assessing and making a decision about a business opportunity. *Objective referent criterion* or objective knowledge structure is a decisional guideline one searches and activates in a decision situation (Higgins, 1996). It is called “objective” in that its utilities as a decision rule or a decision frame have been tested already by oneself or by others who experienced similar problems in the past. An objective referent criterion is activated as one enters into a problematic situation and searches for knowledge internally and externally. The sources of objective referent criteria are one’s previous education or achieved experience as one experimented and refined a solution or decision rules in previous problem solving (Shane, 2000; Ucbasaran, Westhead, & Wright 2009).

In contrast, *subjective referent criterion* or subjective cognitive schema is also a decisional guideline but is comprised of any knowledge one improvises or creates as one enters into problematic situations such as identified situational goals or desired outcomes (“goals as knowledge structures,” Gollwitzer & Moskowitz, 1996 ). This type of decision frame is functionally equivalent in problem solving in that it guides selection or interpretation of information and helps to make a decision. Its utilities, however, were never contested in similar types of problematic situations in the past. Quite often, it is a kind of “directional motivation” toward the end-state (Kruglanski, 1996). The most common type of a subjective referent criterion is subjective goals such as *wishful thinking* or *willful thinking about the desired-end state* one brings up in the given situation (Gollwitzer & Moskowitz, 1996). It is often improvised when one encounters a problem and works as a heuristic tool for filtering and selecting information one takes and gives in the problem-solving process. Despite its functional equivalence in problem solving it may not be equivalent in terms of problem-solving efficacy to achieve desired outcomes.

Based on recent research findings (Higgins & Kruglanski, 1996), motivation, cognitive structures, and cognitive processing are intertwined in persons’ problem solving or decision situations. We posit, specifically, that whereas education or experience (objective referent criterion) provides entrepreneurs both preventive thinking and promotive thinking, our motive or determination about the successful business (subjective referent criterion) provides mainly promotive thinking. In other words, the objective type of referent criterion is a form of *competence* and the subjective referent criterion is a form of *confidence* in problem solving.

Generally speaking, objective referent criteria lead problem solvers to suffer less from individual biases in problem solving because they have been tested to some degree in previous situations. In contrast, subjective referent criteria are more likely to be self-perpetuating

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decisional referents (e.g., wishful thinking) and lower one's problem-solving effectiveness because of their reduced effectiveness in diagnosing problem characteristics and employing self-complacent solution building and evaluation. Once a problem solver retrieves such a self-fulfilling referent (e.g., a goal, a desire, or a preference), this will strongly influence the interpretations and selection of the data one encounters during problem solving. The stronger presence of such self-perpetuating referents will result in more selective information processing and lead to less than ideal problem solving (Kim & Grunig, forthcoming).

## REFERENT CRITERION AND COGNITIVE FRAMES

Activation of subjective referent criterion from memory will primarily induce a "gain and non-gain" decision frame, whereas activation of objective referent criterion will induce both a "gain and non-gain" decision frame and a "loss and non-loss" decision frame. If one relies on the gain and non-gain decision frame, he or she will attend to success potential in the given opportunity evaluation. In contrast, if one relies on the loss and non-loss decision frame, he or she will attend to extent of risks embedded in the opportunity evaluation.

During the same opportunity evaluation, it is likely that objective referent criterion consisted of both positive types (e.g., successful business cases or opportunities) and negative types of cognitive structures (e.g., conditions likely to fail a business cases or risk factors). For example, much of business-management curricula adopt case studies in which a substantial portion of the cases are oriented to lessons learned from negative experiences. In contrast, subjective referent criterion involves mainly positive or successful business outcomes because people's desired end-states are almost always positive ones. Baron (2000a, b) noted that entrepreneurs are often susceptible to some "heuristics" and cognitive "biases in thinking" such as overgeneralization or optimistic tendencies. He (1998, 2000a, Baron & Markman, 2000) also found that pre-nascent entrepreneurs are less likely to think counterfactually and therefore could be less attentive to unforeseeable consequences of their decisions. Such observations and empirical findings explain why would-be entrepreneurs are likely to activate or be influenced by subjective referent criterion. So the decision frame induced from subjective referent criterion (i.e., "gain- and non-gain frame") will lead the frame holder to attend more to positive information and less to negative information in the business situation. In contrast, the decision frame triggered from objective referent criterion (i.e., "loss- and non-loss frame") will lead one to attend more to negative information and less to positive information. In this vein, we posit:

- H1 Greater use of objective referent criterion will result in more optimistic opportunity evaluation (H1a) and more perceived risk in opportunity evaluation (H1b).*
- H2 Greater use of subjective referent criterion will result in more optimistic opportunity evaluation (H2a) and less perceived risk in opportunity evaluation (H2b).*

With the H1 and H2 hypotheses, we can test if knowledge from business-management courses would increase optimistic opportunity evaluation or opportunity recognition. Objective referent criterion mainly comes from education, experiences, and learning from other successful business problem solving in the past – i.e., related with *competence* in business problem solving. The activation of such types of knowledge is likely to increase opportunity recognition. However, reliance on the objective referent criterion type could lower entrepreneurial potential. Specifically, one's business knowledge about managerial process would steer one to recognize potential risks embedded in the business opportunity. A good business opportunity cannot be risk-free in most cases. Therefore, use of an objective referent criterion would increase both optimistic opportunity evaluation and perceived risks in business opportunity at the same time (cf. double-edged sword).

In contrast, reliance on the subjective referent criterion type is related more with *confidence* in problem solving. Subjective refers to one's state of determination to solve a problem in a preferred direction. Such preferences can manifest themselves in various ways – mostly in the form of complacent wishful thinking and/or self-fulfilling willful thinking. Here, we expect that subjective confidence will increase the desire to seize a business opportunity because of a heightened, self-fulfilling optimism. In contrast, subjective confidence or one's desire toward an outcome can make one less conscious about the potential pitfalls associated with the opportunity evaluation. We predict that unlike objective referent criterion, subjective referent criterion will not only increase optimistic opportunity evaluation but also decrease perceived risks in the business opportunity.

## **ANTECEDENTS: PERSONAL CHARACTERISTICS**

We now turn to what individual characteristics would influence the two types of referent criterion. We identified two individual characteristics: The first, *self-efficacy*, has an established role in models of entrepreneurial orientation and opportunity evaluation, and the second, *cognitive multilateralism*, is a newly introduced concept with particular relevance to the examination of cognitive processing during opportunity evaluation.

Potential entrepreneurs develop more numerous and higher quality cognitive structures usable in new venture opportunity evaluation when they exhibit enduring personal characteristics that foster self-competence and confidence (self-efficacy) and as they explore and experiment with different ideas (cognitive multilateralism). Thus, we hypothesize and test whether these two factors would affect activation of distinct knowledge structures applied to a given entrepreneurial decision task. We next review and introduce each concept in detail.

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## SELF-EFFICACY AND OPPORTUNITY EVALUATION

The concept of self-efficacy is an element of social cognitive theory which assumes that people “enact” or actively shape the situations and contexts within which they operate rather than just reacting to external stimuli or factors (Bandura, 1997). As such, one’s perceptions of personal competence are socially embedded and evolve through ongoing person-environment interaction. The most powerful contributor to self-efficacy perceptions are the result of one’s own attempts at performance in a certain arena (Maddux & Gosselin, 2003). Bandura (1997) thus defined self-efficacy as the beliefs by an individual about their ability “to organize and execute courses of action required to produce given attainments” (p. 3). Although there are measures of general self-efficacy (e.g., Scherer et al, 1982), self-efficacy beliefs are usually viewed as perceptions that are cross- situational, not an inherent personality trait such as optimism.

Self-efficacy is particularly relevant to the context of entrepreneurial decisions and actions because of its effect on how an individual regulates their level of effort in an activity, choice of goal difficulty, and problem solving (Chen, Greene, & Crick, 1998). High self-efficacy engenders higher motivation and perseverance in overcoming obstacles even to the point of overestimating personal capabilities (Bandura & Locke, 2003). Taylor and Brown (1988) referred to this overestimation potential as “positive illusions” and Hmieleski and Baron (2008) found that high entrepreneurial self-efficacy combined with high dispositional optimism among lead founder-managers operating in highly dynamic environments produced negative effects on firm performance. This was likely due to unfavorable biases in judgment.

Exploring this potential bias in judgment as it relates to the particular entrepreneurial activity of opportunity evaluation and subsequent judgment on action with regards to a business opportunity is a key focus of this study. Specifically, do self-efficacy perceptions regarding one’s ability to recognize business opportunities influence the choice of a subjective or objective referent criterion used to judge and make an actionable decision about a business opportunity? It is generally accepted that the higher an entrepreneur’s self-efficacy the greater his/her proactivity, risk taking, and likelihood of attempting to create a new venture (Cools & Van den Broeck, 2007; Crant, 2000; Hmieleski & Baron, 2008). Hence, we predict that self-efficacy will increase the use of both subjective and objective referent criterion.

*H3 The higher the self efficacy, the greater the use of subjective referent criterion (H3a) and objective referent criterion (H3b).*

## COGNITIVE MULTILATERALISM

As one recognizes a problematic state – a perceived discrepancy between experienced state and expected state in a life situation, he or she initiates cognitive activity and information search efforts for problem solving to reduce the discrepancy (Higgins, 1996; Kruglanski, 1996).

As a narrowing mechanism or problem-solving effort, one starts an internal search whether there is an applicable solution available (“knowledge activation,” Higgins, 1996). If this search does not lead to a relevant solution, one then starts an external search for solutions – information seeking (“knowledge action,” Kim & Grunig, in press, forthcoming). Through information-seeking efforts, problem solvers increase their cognitive inventory of candidate solutions to facilitate problem solving. The identified pieces of candidate solutions consist of past experiences, decision rules, or pieces of information usable in building a new solution (Higgins, 1996). And the inventory of such candidate solutions could vary across problem solvers. Kim and Grunig (in press, forthcoming) conceptualize this varying extent or cognitive breadth one develops in problem-solving process as *cognitive multilateralism*.

*Cognitive multilateralism* is the extent of a problem solver’s “cognitive breadth” he or she adopts during the problem-solving process, and cognitive breadth refers to one’s level of tolerance to competing or contradictory ideas or proposals about a problem (i.e., prefactual thinking). It can be measured by the number of alternatives one generates and the granted tolerance of rival information and alternative solutions during problem-solving process. Cognitive multilateralism has conceptually related with cognitive tolerance to ambiguous situations (Bunder, 1962; Begley & Boyd, 1987) and cognitive flexibility (Spiro, Feltovich, Jacobson, & Coulson, 1995) to structure and restructure knowledge in various ways matching the changing situational demands. Ambiguity is associated with novelty, complexity, and insolubility from a situation, and one’s tendency of tolerating ambiguity increases creative behaviors (Budner, 1962). Begley and Boyd (1987) found that business founders are more likely to tolerate ambiguity than nonfounders. Overall, cognitive multilateralism is associated with one’s cognitive flexibility to modify one’s preference in thinking about solutions (Kim & Grunig, forthcoming). This tolerance to rivalrous or incompatible ideas from a fluid environment could foster various opportunities (Timmons, Smollen, & Dingee, 1985). Thus, as one is more cognitively multilateral, one tends to recognize more possibilities for action and solutions within given problem-solving situations.

Cognitive multilateralism can be conceptualized not only as a within-an-individual trait (an intrapersonal variable), varying across different problems, but also as a personal trait varying across individuals (an interpersonal variable). In problem solving some people have a tendency to obtain more cognitive breadth and tolerance about rival or alternative solutions than others as an enduring personal trait. A more multilateral person will be more likely to increase their cognitive inventory of approaches to a problem and grant more tolerance among competing or even conflicting candidate solutions. As a result, multilaterally-thinking people will be more likely to include both subjective and objective referent criterion in their opportunity evaluation decision process.

*H4      The higher the cognitive multilateralism, the greater the use of subjective referent criterion (H4a) and objective referent criterion (H4b).*

## CONSEQUENCES: SITUATION EVALUATION AND ENTREPRENEURIAL DECISION

### OPTIMISTIC OPPORTUNITY EVALUATION

Entrepreneurial opportunities have been defined as “situations in which new goods, services, raw materials, markets, and organizing methods can be introduced through the formation of new means, ends, or means-ends relationships” (Eckhardt & Shane, 2003: p. 336). The issue for the market in coordinating such economic activity is that information about these opportunities is asymmetrically distributed across individuals and organizations and the price mechanism is an insufficient guide. As Eckhardt and Shane (2003) have further elucidated, price doesn’t help explain how to serve new markets, exploit new technologies, or pursue new ways of organizing. This requires human agency and the entrepreneur “can develop *hunches* (italics added) about how a new variable such as a technological breakthrough or an environmental change will impact a specific project long before it can be methodically and rationally explained” (Busenitz et al., 2003, p. 299).

Characterizing entrepreneurial opportunity evaluation as “hunches” has been formalized by Kor, Mahoney, and Michael (2007) as the entrepreneur’s *subjective* productive opportunity set. They cite the classic work of Penrose (1959) who stated: “the decision to search for opportunities is an enterprising decision requiring entrepreneurial intuition and imagination and must precede the ‘economic’ decision to go ahead with the examination of opportunities for expansion” (p. 34). The market is then the arbiter of which new business models are viable, but the initial opportunity evaluation by the entrepreneur is based on his/her unique ability to create new business solutions. Doing so entails a combination of opportunity recognition and evaluation as well as personal motivation regarding one’s own ability and desire to serve as the human entrepreneurial agent. It is this combination which our model addresses through two paths; the first examines subjective proclivities that may contribute to optimistic opportunity evaluation and the second addresses the knowledge referent applied to opportunity evaluation.

### OPPORTUNITY EVALUATION, PERCEIVED RISK, AND DECISION TO LAUNCH

One factor commonly identified in the opportunity evaluation phase is the entrepreneur’s perception and preferences of risk (Grichnik, 2006 Norton & Moore, 2006; Wu & Knott, 2006). Entrepreneurial risk can be explained as the ‘*likelihood* and *magnitude* of below target outcomes which may follow from a given behavior or set of behaviors’ (Mullins & Forlani, 2005: 51). Thus it is easy to infer the greater risk taking propensity of entrepreneurs, at least from empirical observations (e.g., the high failure rate of new ventures). However, some studies have shown that there is no significant difference of risk taking propensity between entrepreneurs and others

(Brockhaus, 1980). This counterintuitive finding can be further explained by the ‘perceived risk’ of entrepreneurs, instead of their ‘risk propensity’ per se. Entrepreneurs make risky decisions (e.g., new venture formation with uncertainty) because they perceive less actual risk from their decisions than others typically do (Baron, 2004); they are not simply risk takers by nature (Palich & Bagby, 1995; Kahneman & Lovallo, 1993).

As noted by Busenitz and Barney (1997), opportunity evaluation involves judgments usually in situations that are ill-defined, complex, and full of uncertainty. In addition to this uncertainty, the entrepreneur faces potential losses as a result of venture failure and potential benefits as a result of venture success. A significant cognitive element of perceived risk is the individual’s conceptualization of subjective values of loss and/or gain (Baron, 2004; Plous, 1993), and others include, but not limited to, confirmation bias (Johnson-Laird & Bara, 1984), optimistic bias (Shepperd, et al., 1996), affect infusion (Forgas, 1995), illusion of control (i.e., overestimation of entrepreneur’s role in success) and belief in the law of small numbers (i.e., accuracy/generalizability of small samples of information; Simon, Houghton, & Aquino, 2000). Consequently, entrepreneurs tend to take risky actions (e.g., new venture creation) if they perceive less than the actual risk embedded in the decision

The focus of this study is on opportunity evaluation. As such, we are most interested in examining how perceived risk is evaluated by entrepreneurs when presented with the need to make an actionable decision about a new venture opportunity. Thus, while others hesitate to move on to the next level because of a higher level of perceived risk regarding the existing opportunity, entrepreneurs tend to make a ‘go’ decision. This lower degree of perceived risk enables them be more optimistic about outcomes from the given set of behaviors, *ceteris paribus*. Therefore, we hypothesize the following,

*H5      The more the optimistic the opportunity evaluation, the more likely a choice will be made to pursue the opportunity.*

As we illustrated in preceding sections, we draw another cognitive aspect in entrepreneurial decision making from the ‘regulatory focus theory’ (Baron, 2004; Higgins, 1997). An entrepreneur who is primarily subscribing to a ‘promotive thinking’ approach as his/her regulatory focus, tends to pursue positive outcomes (e.g., unique opportunity and future success) and tries to test lots of means, alternatives, hypotheses to reach to the desired goal. This promotive thinking parallels the concept of entrepreneurial orientation which is most commonly thought of as a combination of innovativeness in creativity and experimentation, risk taking in terms of committing resources in the face of uncertainty, and proactiveness in opportunity-seeking and a forward-looking perspective (Runyan, Droge, & Swinney, 2008). Furthermore, it appears that pre-nascent and nascent entrepreneurs are more likely to engage in promotive thinking relative to those with prior experience. For example, in a survey study of college students, Hmieleski and Corbett (2006) found that inexperienced, nascent entrepreneurs were

more likely to engage in improvisation (i.e., extending or reconfiguring a course of action based on the perceived low likelihood of success with current course of action/referents) than follow a planning or trial-and-error approach. In other words, they were more likely to extend their promotive thinking in creative ways to pursue their entrepreneurial objectives than more experienced entrepreneurs. Their research extended the work by Baker, Miner, and Eesley (2003) who found through interviewing employees at 68 start-up companies that very few had engaged in rational planning. Such entrepreneurs are likely to see the brighter side of decisions (e.g., opportunity) and, consequently, the odds of exploiting existing true opportunities is high although there is also a greater chance of choosing a false opportunity (Baron, 2004).

On the other hand, an entrepreneur who is primarily subscribing to a 'preventive thinking focus' usually looks for a safe solution (not having negative outcomes) over achieving positive accomplishments. Therefore, these entrepreneurs typically tend not to learn much about the potential of existing opportunities and are very passive and conservative in espousing uncertain opportunities. Indeed, in a survey study of 517 nascent entrepreneurs in the pre-startup phase, Gelderen, Thurik, and Bosma (2005) found that perceived market risk was the only significant predictor of success probability for those with considerable work experience. Therefore, regardless of the quality of opportunities, an entrepreneur *subscribing more to a promotive thinking* focus is more proactive and optimistic about the existence of opportunity while an *entrepreneur subscribing more to a preventive thinking* focus is more doubtful and pessimistic about the existence of opportunity. This logic is represented in the following hypothesis:

- H6      The greater the perceived risk in the opportunity evaluation, the more likely a choice will be made not to pursue the opportunity.*

## METHOD

### SAMPLE

Ideally, primary data collection in entrepreneurship research should be conducted with samples of individuals or teams engaged in the creation of new ventures. The key issue, as with top executives, is access due to time constraints and a reluctance to divulge proprietary information. While not a substitute for such data collection, Shook et al. (2003) have suggested that the use of simulations, scenarios, and laboratory experiments are a viable complement to gathering information related to the new venture creation decision making process. This study intended to further understanding of the "go/no-go" decisions related to evaluating a new venture opportunity and we included such a scenario in our survey data collection for measurement of our dependent variable. In addition, we had access to a diverse population of business and non-business students at three universities in different geographic areas of the U.S.: Eastern,

Midwestern, and Western regions. Thus, to test our hypotheses we administered a role-playing scenario embedded in a survey that asked questions prior to and after the respondents read the scenario. A total of two-hundred-and-seventy-nine undergraduate business and communication students served as participants in exchange for extra credit. To compare the model findings between business and non-business majors, we divided our sample in two groups: a business student group ( $n = 206$ ) and a communication student group ( $n = 73$ ).

## **PROCEDURE**

The researchers complied with the *American Psychological Association's* ethical standards in the treat of our participants by obtaining review and approval of the stimuli and procedures by Institutional Review Board offices of all three universities.

In data collection, the researchers visited the capstone strategy classes for senior business undergraduates and the mass media and public relations classes for junior and senior communication majors. Assembled in small groups, participants were instructed about the purpose and steps in the study. Participants were given a survey booklet that contained the general instructions of the study, questions and scales measuring sociodemographics, psychological traits, entrepreneurial cognition, a scenario of a potential startup business opportunity adapted from Keh, Foo, and Lim (2002; see Appendix I), and evaluation and decision questions of the new business proposal.

## **MEASURES**

### **OBJECTIVE REFERENT CRITERION**

Four items measured the objective referent criterion on a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*): (a) "I am very knowledgeable in management principles," (b) "I got A's in most business management courses," (c) "I am confident about my knowledge in dealing with problems in the above case," and (d) amount of time worked for a small and/or family businesses (years). The reliability of the four items was at  $\alpha = .75$ .

### **SUBJECTIVE REFERENT CRITERION**

Three items measured the subjective referent criterion on a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*): (a) "I strongly support a certain way of approaching the problems in the above case," (b) "I have a strong preference for how the problems in the above case should be settled," and (c) "No matter what happens I will pursue this venture." The reliability was at  $\alpha = .79$ .

## **SELF EFFICACY**

As noted by Maddux and Gosselin (2003) in their review of self-efficacy research, the measurement of self-efficacy beliefs must be specific to the domain(s) of interest. This study was most interested in individual beliefs about one's ability to recognize new business opportunities. While a comprehensive scale of overall entrepreneurial self-efficacy has been developed (De Noble et al., 1999), for reasons of survey length and the narrower scope of opportunity evaluation, we adapted Tierney and Farmer's (2002) scale for creative self-efficacy.

We used their eight items with a business opportunity recognition referent rather than a creativity referent to measure the self efficacy. Sample items were: "I am confident about my ability to recognize new business opportunities," "I have the ability to recognize previously unnoticed new business opportunities," "I have the ability to recognize new business opportunities before most of my peers" (strongly disagree = 1 – strongly agree = 7)." The Cronbach's alpha was .92.

## **COGNITIVE MULTILATERALISM**

We used four items to measure the cognitive multilateralism on a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*): Sample items were: "I love to know many solutions to one problem," "I often consider contradictory suggestions at the same time," and "I always look to alternative solutions to solve a problem." The Cronbach's alpha was .82.

## **OPTIMISTIC OPPORTUNITY EVALUATION**

Three items measured the extent of optimistic opportunity evaluation on a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*): (a) "I would consider this business an opportunity," (b) "This business is worth considering," and (c) "This business is feasible in this situation." The reliability of the three items was at  $\alpha = .88$ .

## **PERCEIVED RISK IN BUSINESS OPPORTUNITY**

We used four items to measure the extent of perceived risk in the business opportunity on a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*): (a) "The overall risk of the business is high," (b) "The probability of failure is high," (c) "The founder stands to lose a lot financially," and (d) "There is a lot of uncertainty when predicting how well the business will do." The reliability of the four items was at  $\alpha = .74$ .

## ENTREPRENEURIAL DECISION

Participants' opportunity evaluation judgment about the new venture scenario was measured ("I want to make this business venture happen") on a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*). Responses were then median-splitted and recorded into *likely to invest* (= 1) versus *not-likely to invest* (= 0).

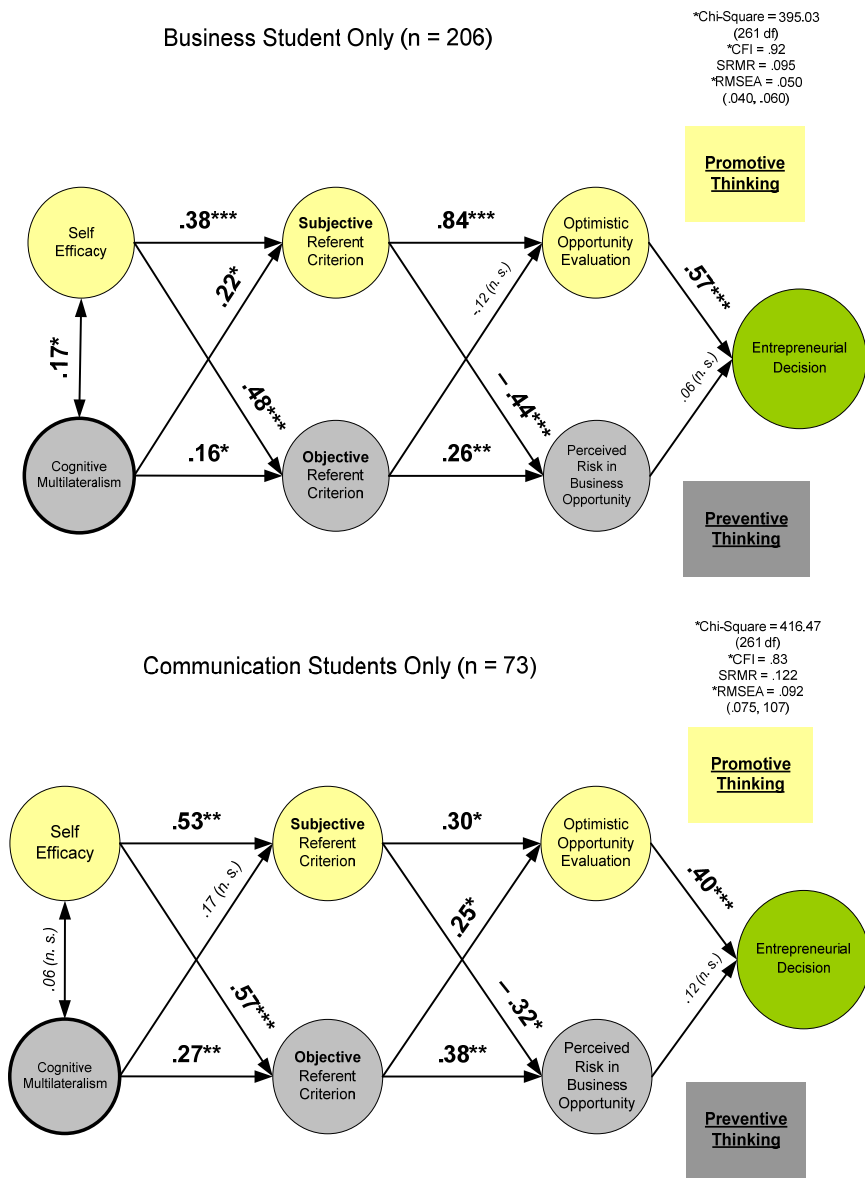
## RESULTS

We conducted structural equation model (SEM) analysis using the EQS 6.1 to test hypotheses. We summarized all hypotheses in Figure 1. In Figure 2 we summarized the outputs of tested model and parameter estimates. As presented in Figure 2, the structural models tested reached adequate model fits (RMSEA = .052 and SRMR = .089) based on Hu and Bentler's (1999) joint criteria (i.e.,  $CFI \geq .96$  and  $SRMR \leq .10$ , or  $RMSEA \leq .06$  and  $SRMR \leq .10$ ). To examine non-significant paths we conducted two separate model tests for Business-management student group (n = 206) and Communication student group (n = 73). We summarized the model fit information and parameter estimates in Figure 3. As shown, the Business student model reached an acceptable model fit (RMSEA = .050 and SRMR = .095) but the Communication student model did not (RMSEA = .092 and SRMR = .122) – although it approached the acceptable joint-criteria.

H1a-b and H2a-b were to examine the relationships between types of referent criterion employed, optimism about the new venture, and perceived risk of the new venture. In H1a and H1b we posited subjective referent criterion fosters more optimistic evaluation (H1a), while suppressing risk perception (H1b). We found support for both hypotheses: .74,  $p < .001$  for H1a and -.36,  $p < .01$  for H1b. In H2a and H2b we predicted a positive influence of objective referent criterion on optimistic evaluation (H2a) and to risk perception (H2b). We found support for H2b (.28,  $p < .01$ ) but not for H2a (.05, *n. s.*).

H3a-b and H4a-b tested two personal characteristics, self efficacy and cognitive multilateralism, favorable personal traits in entrepreneurial thinking process. We hypothesized that these factors would influence opportunity evaluation as they trigger search for "available" and "applicable" cognitive structures -- types of activated "knowledge" (Higgins, 1996) -- one utilizes in a given entrepreneurial decision situation. In H3a-b, we predicted that higher self-efficacy in business problem solving would induce both subjective (H3a) and objective (H3b) types of referent criterion. We found support for both predictions: .41,  $p < .001$  for H3a and .52,  $p < .05$  for H3b. In H4a-b, we again postulated that one's cognitive breadth and tolerance for competing or conflicting ideas will increase use of both subjective (H4a) and objective types (H4b) of referent criterion. The findings support these two predictions as well: .15,  $p < .05$  for H4a and .16,  $p < .05$  for H4b.

**FIGURE 3**  
**Comparison between Business and Communication Students**



H5 posited a positive relationship between optimistic opportunity evaluation and a positive opportunity evaluation. H5 was supported. H6 predicted a negative relationship between perceived risk in the new venture opportunity and a positive opportunity evaluation. H6 was not supported.

Overall, our hypotheses tests were all supported except for H2a and H6. Two situationally based cognitive paths represented in the conceptual model, promotive thinking and preventive thinking, were expected to jointly influence the likelihood of pursuing the new venture opportunity. We based these two distinct yet concurrent paths on Higgins' (1997) theory of regulation focus, wherein human behaviors or decisions are explained as the products of two motivational forces (promotion focus and prevention focus). This theoretical approach received strong support for our test of the dual path model and points to a promising way to understanding how entrepreneurs think and make decisions about opportunity evaluation.

Regarding H2a, another unsupported hypothesis, our model comparisons between business-management student and non-business-management student groups introduced some insights. Originally, we posited a positive influence from objective referent criterion such as education and past working experience to optimistic opportunity evaluation. In the business-management student model, the path was found still non-significant. Interesting in the communication student model, however, the path was positive and significant (.25,  $p < .05$ ) despite the lack of power related to small sample size. With some caution, we interpret this as an educational effect for opportunity recognition. In the business student sample, the education about business principles and knowledge might not vary as much within the sample as it would in the non-business sample, who took fewer business courses and a wider range of other courses. The positive and significant path seems to suggest that business experience and education would improve opportunity recognition for non-business majors wishing to start new businesses.

Finally, regarding the unsupported hypothesis H6, the path from risk perception to opportunity evaluation decision, it seems that risk perception is a relatively less important factor in entrepreneurial decision making than optimistic opportunity evaluation, particularly for pre-nascent entrepreneurs. Optimistic thinking in business decision situations is more important in understanding who becomes an entrepreneur.

## **DISCUSSION & CONCLUSIONS**

In this study, we identified and tested the influence of person and situation variables on an inexperienced, pre-nascent entrepreneur's likelihood of deciding to pursue an entrepreneurial opportunity. We identified self-efficacy and cognitive multilateralism as antecedent individual variables that we hypothesized to activate distinct types of entrepreneurial cognitions as well as subjective and objective referent criteria. Each type of entrepreneurial cognition then exerts influences on one's situational assessment in two ways: optimistic opportunity evaluation vs. perceived risk in the business.

Specifically, we hypothesized that the subjective referent criteria are likely to foster an optimistic opportunity evaluation while they are likely to suppress risk perception embedded in the entrepreneurial situation. In contrast, we posited that the objective referent criteria are likely to foster both risk perception in the situation and optimistic opportunity evaluation. For example, education and past working experience in a small/family business (objective referent criterion) are likely to trigger both promotive thinking and preventive thinking in the given business decision situation; whereas willful or wishful thinking about the desired outcomes (subjective referent criteria) trigger more promotive thinking and suppress preventive thinking. Our predictions are also supported by the types of decision frames (gain/non-gain as well as loss/non-loss frame) that will steer one in different directions in the recognition of opportunities and risks.

### **IMPLICATIONS FOR ENTREPRENEURSHIP RESEARCH**

In this paper we introduced the concepts of cognitive multilateralism and two different types of referent criteria—subjective and objective—to the study of entrepreneurial cognition research. These individual and situational concepts illustrate the parallel thinking processes adopted by entrepreneurs during the opportunity evaluation phase of the new venture creation process. This study thus makes several significant contributions to theory building for entrepreneurial cognition research.

First, as we applied the new conceptual variables within the theory of regulation focus (Baron, 2004; Higgins, 1997), we created a comprehensive model that describes how the dual-motivational forces – promotion focus and prevention focus – are produced in the entrepreneurial opportunity evaluation. We explained how the two motivational forces are activated and influence an entrepreneur’s thinking when situational activation of two types of cognitive structures occurs. We further accounted for how the two types of cognitive structures are likely to be activated from two enduring individual factors. Our review of extant early literature suggests that most of it assumed people experience entrepreneurial optimism (promotive thinking) and entrepreneurial pessimism (preventive thinking) in a mutually exclusive way – one is only present at the expense of the other’s absence. However, as we have shown, it seems entrepreneurial thinking on business venturing is more intertwined with conflicting or at least competing motives and decision frames in practice. The two frames of gain/non-gain and loss/non-loss are the yin and yang of entrepreneurial thinking we would adopt in reality. In this sense, our conceptual model is a viable description of the phenomenon -- how the entrepreneur’s mind is working during opportunity evaluation situations.

In addition, the newly introduced concept, cognitive multilateralism, is worthy of further application in entrepreneurship research. Prior theory development suggests that entrepreneurs are better able to discover or create something unusual that others cannot identify, often ignore as trivial, or dismiss as not worthy of additional information search or learning costs (e.g., Zahra, 2008). Such a distinct tendency is conceptually captured and predicted by cognitive

multilateralism – as one possesses a cognitive breadth and tolerance for inconsistent or rivalrous ideas, she or he is more likely to find some “unthinkable” solutions. We thus have another way to distinguish entrepreneurs’ unique cognitive style in addition to the extant psychological concepts such as self-efficacy.

In addition to differing referent criteria, there are the cognitive structures we may retrieve from memory or improvise spontaneously in a given decision situation. While the conceptual ideas might lack novelty, the distinctions between subjective and objective referents allow us to make additional predictions on two competing situational assessments during opportunity evaluation. The utility of the different types of referent criteria seems promising in that they are new concepts that help to explain entrepreneurial cognition linkages between individual factors and situational judgment.

Finally, we introduced and tested two cognitive processing paths, promotive and preventive thinking, to capture the general parallel flow of entrepreneurial opportunity evaluation. These concepts present a useful and intuitive conceptual frame to illustrate the notion of dual-motives and dual-thinking paths toward entrepreneurial decisions and actions. This is a significant contribution to the entrepreneurial cognition literature because we can develop normative or prescriptive research to devise measures to foster more effective entrepreneurial opportunity evaluation in future research.

Methodologically, the use of inexperienced pre-nascent entrepreneurs is a limitation to the study in terms of generalizability, but also has its strengths as pointed out by Bishop and Dixon (2006). The use of such a sample reduces prior learning effects related to our dependent variable--judgment of action on a new venture opportunity. In addition, examining such a sample provides base rate data and findings for comparison to studies of similar cognitive models with samples of more experienced entrepreneurs.

### **IMPLICATIONS FOR ENTREPRENEURSHIP PRACTICE**

Experienced entrepreneurs consider awareness of danger as well as opportunity, whereas novice entrepreneurs are more focused on newness, novelty, the perceived superiority of their ideas, and intuition (Baron & Ensley, 2006). These researchers suggest that novice entrepreneurs might be ‘cognitively dazzled’ by novelty and the perceived potential of the unique business ideas they generate such that they may fail to devote sufficient attention to financial and business factors. The Catch-22, of course, is that premature application of preventive reasoning will result in fewer and less frequent new business ideas. This seeming trade-off between promotive and preventive thinking may help to explain two observed phenomena: founding rates of new ventures and failure rates for new ventures.

As reported in the GEM Global Report (GEM Consortium, 2005) opportunity-driven entrepreneurs have lower failure rates among early-stage businesses and all early stage entrepreneurs perceive less market competition (i.e., risk) than established business owners. In

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examining closure rates of small businesses, Headd (2003) found that a substantial minority of firms that closed their doors were not failures in that they were planned exits either through selling a viable business or retiring from the workforce. Firms considered successful at closure tended to have young owners and no debt. While this is at a late stage in the new venture process, it suggests that pre-nascent and nascent entrepreneurs may view the motivation to create a new venture or the goals for their new ventures quite differently from experienced entrepreneurs.

Perhaps these young and/or inexperienced entrepreneurs are often less motivated by personal wealth creation, more interested in creating a unique solution to a perceived or imagined future need, and are less vested in controlling the eventual success of the new venture than experienced entrepreneurs—recognizing and creating a new venture is much more of a ‘grand life experiment’. This would support a greater balance and presence of parallel cognitive processing in pre-nascent and nascent entrepreneurs. This would also help to explain differential founding and failure rates between pre-nascent/nascent entrepreneurs and experienced entrepreneurs (GEM Consortium, 2005). The former group would be more likely to found a new venture due to greater “over-optimism” from employment of subjective referent criteria and lower perceptions of risk. Experienced entrepreneurs meanwhile would likely to be more pessimistic, employ objective referent criteria, perceive greater risk, and less likely to found a new venture. Both cognitive paths are employed but differentially by pre-nascent/nascent versus experienced entrepreneurs. This also helps to explain differential *closure* rates and potentially, failure rates, in that pre-nascent/nascent entrepreneurs would have started more new ventures, but of lower success potential, on average than those founded by experienced entrepreneurs. So, “liability of newness” may be less of a concern for young entrepreneurs because closure may not be perceived as, or actually, a failure. The first new venture opportunity is, rather, a life experiment whose learning outcomes are more valued than financial success.

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**APPENDIX I**  
**Business Opportunity Scenario**  
**(Adapted from Keh, Foo, & Lim, 2002)**

Instructions: Please answer the questions below after you read this brief case study.

Jimmy Parker has been a successful manager for a medium-sized local company for five years. The idea of being his own boss, taking calculated risks, and making a fortune all appeal to him. He has an idea for his first new business and decides to ask around to see if it is a good idea. He has some very positive feedback from some potential customers and some associates who know the industry well. Jimmy does not have the resources to do in-depth market research to find out whether the business is going to work and published data are too general to be useful. However, he feels that there is money to be made based on the positive feedback from potential customers and his associates. He is enthusiastic about starting the business even though he has no experience in the particular industry in which his start-up would compete.

There are a few, large companies in the same industry but they have not targeted the market segment Jimmy is aiming for. He feels that these large companies are likely to move into the market segment if his new business proves successful and he will not be able to prevent this major threat. He is unsure whether the market is still growing or has matured. If the market reaches maturity, it is likely a new business will be squeezed out. If the market is still growing, the new business will be able to survive the entry of large companies into this market segment. Jimmy finds out that there are only a few, small businesses that are still surviving in the industry.

Jimmy estimates he will need at least \$150,000 to finance the new business. As he only has \$40,000 in savings, he has to borrow from the bank or find partners to get the rest of the investment funds needed.



# SELECTION OF REGIONS FOR ENTREPRENEURSHIP: AN APPLICATION OF THE CAPM

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## ABSTRACT

*The Capital Asset Pricing Model is assumed to apply to the state and county personal income growth rates. Systematic risk is measured based on the covariance of the individual region's personal income growth rate with that of the United States. The results suggest that it is possible for entrepreneurs to compare states and counties based on both their systematic risk and on their unsystematic risk. Economic policy makers can use this tool to design programs that may affect their area's risk profile or to craft their region's marketing message to prospective entrepreneurs.*

## INTRODUCTION

In the classic Capital Asset Pricing Model (CAPM) of Sharpe (1964) and Lintner (1965), the total return (current income plus price growth) of an asset is expressed as a linear function of non-diversifiable, systematic risk. Systematic risk is measured by the covariance of the asset's total return with the total return of a market index such as the S&P 500 Index. An important factor that contributes to total return is the growth rate of income. Focusing on the growth rate of income, rather than total return, reduces the influence from variation of discount rates. In addition it eliminates the need to know the original price, or cost, of an investment when calculating return. This opens up the possibility of testing for risk/return relations when income data is available, but not prices or initial investments. Per capita personal income by state and by county are two data sets in which only income data is available.

This paper describes an application of the CAPM to regional growth. In this application the growth rate of personal income of a particular region, such as a state, is an increasing linear function of its systematic risk. Further, systematic risk is measured as the covariance of the growth rate of the personal income of the region with the growth rate of personal income of the entire United States. The results enable ranking of the states (and counties) based on both systematic risk and on excess growth.

The contribution of the paper is two fold. First, this paper is an application of Campbell and Vuolteenaho's (2004) assertion that the CAPM holds when the data considered is relatively free from variation of discount rates (or dividend yields). The regional economic growth rate data used in this study meets this criterion. Second, the paper demonstrates, for the first time, the

application of the classic CAPM notion of systematic and unsystematic risks to regional economic growth and related location decisions.

A relation between personal income growth and growth systematic risk has several implications. First, individuals and firms deciding whether to locate in a particular state can temper the attractiveness of a state's high-growth rate with that state's accompanying higher systematic risk. Particularly for firms operating in multiple states or regions, the marginal effect on the firm's overall risk exposure from locating a new facility in another state or region may be quantified by referring to the systematic part of total risk which can not be diversified away. Second, entrepreneurial individuals and firms may consciously choose to seek out states or regions with above average non-systematic risk. Because individuals can effectively choose to live and work in only one state, knowledge of region-specific characteristics that make higher than risk-adjusted average personal income growth rates possible may influence the selection of one region over another. Entrepreneurs may choose to start their business in a region with these unique characteristics to grow their revenues quickly. Third, state and regional economic policy makers can measure the effect of their actions over time on the risk/return profile of their region in comparison to all other regions. For example, policies that improve personal income growth without raising the state's systematic risk can be emphasized. Fourth, economic development professionals seeking to position their state competitively in the minds of potential new residents and investors have a new tool to consider in designing their message. They can target their message to segments that are more likely to be attracted to their area due to its growth/risk profile.

The remainder of the paper is organized as follows. In Section 2, a review of the CAPM and an explanation of why the CAPM should hold for growth rates are presented. Considerable space is devoted to this review to explain the applicability of the CAPM to regional growth data in spite of the fact that the model has generally been rejected in the asset pricing literature. In Section 3, the applicability of the CAPM to personal income growth rates is specifically discussed. Section 4 contains a description of the data and methodology. Results are described in Section 5. Conclusions, limitations and areas for future research are presented in Section 6.

## REVIEWING THE CAPM WITH AN APPLICATION TO INCOME GROWTH

The CAPM expresses expected next period return of an investment  $j$  in terms of a "risk-free" rate,  $R_f$  and the systematic risk  $\beta_j$  relative to the return of the common index  $R_M$ .

$$R_j = R_f + \beta_j(R_M - R_f) \quad (1)$$

Where,

$$\beta_j = \frac{\text{cov}(R_j, R_M)}{\sigma_M^2} \quad (2)$$

The CAPM assumes that utility functions are normal (or quadratic), and there is no labor income (e.g. Campbell and Cochrane 2000). Early test results supported the CAPM (e.g. Fama and MacBeth, 1973). However, later cross-sectional studies such as Banz (1981) and Reinganum (1981), Basu, (1983), Rosenberg, Reid and Lanstein, (1985) and Chan, Hamao and Lakonishok, (1991) found that the CAPM did not hold because “value stocks”, identified by the ratio of price-to-book value or price-to-earnings enabled returns in excess of those predicted by the CAPM. Due to the value stock anomaly, Fama and French (1992) advocate use of multifactor models that include other variables. However, researchers have not all given up on the usefulness of the CAPM.

### **GENERALIZING THE CAPM TO MULTIPLE PERIODS**

The CAPM is a two-period model. Merton (1973) proposed an intertemporal CAPM (ICAPM) because the information set changes over time. The ICAPM necessitates adding other factors in addition to the market index. Jagannathan and Wang (1996) assume the CAPM holds *conditional* on the information set available at a particular time, but that betas and the market price of risk vary over time. They show that when the conditional version of the CAPM holds, a two beta model obtains unconditionally. One beta is the traditional one, based on the covariance of the asset’s return with the market index. The other beta is based on the covariance of the asset’s return with the market price of risk, which varies over time due to the business cycle. Their proxy for the variable market price of risk is interest rates. Campbell and Vuolteenaho (2004) argue that a two beta model is required because one beta is needed to measure the risk associated with an index proxy that captures market dividend yields and another beta is needed to measure the risk associated with an index proxy that captures expectations about long run cash flows (or earnings growth) of the firm. They find that when the assets under study have more or less constant ratios of the two types of risk, then the single index CAPM performs adequately. This was the case in the early Fama and French (1973) study. Thus, when the risk associated with variation in dividend yields is controlled for, the unconditional CAPM is supported.

### **ALTERNATIVES TO THE STOCK MARKET INDEX**

Cochrane (2001, p.152) notes that the CAPM does not take into account labor income and shows that it is a specialized case of the Consumption Capital Asset Pricing Model (CCAPM) of Lucas (1978), Breeden (1979) and Brock (1982). The CCAPM is often tested using the growth rate of consumption as the “market index”. One basic premise of the CCAPM is that any asset whose return covaries positively with consumption makes consumption more volatile, justifying a higher return because the investor’s consumption-enabling income stream is made more volatile. Mankiw and Shapiro (1986) point out that the CCAPM is preferred on theoretical grounds because it takes into account the presence of other assets besides stocks in the wealth

portfolio serving as the market index. The value of a broader index is supported in the few tests of the CAPM using return data for real assets such as commodities and agricultural or timberland, instead of stock returns. When these tests use the traditional stock market index to measure risk, the results generally do not support the CAPM (e.g. Holthausen and Hughes, 1978 and Bjornson and Innes, 1992). However, when a specially constructed market index is adapted for real assets, the CAPM is generally supported (e.g. Barry, 1980, Redmond and Cabbage, 1988 and Slade and Thille, 1997).

Jagannathan and Wang (1996, p.13) point out that the return on stocks will not measure the return on aggregate wealth because dividends from stocks represent less than 3% of household personal income, and labor income is a much more significant source of personal income. Thus, many of the assets included in investor wealth may not have a published market price available (e.g. privately held assets and the value of education). Despite its attractive theoretical generality, empirical tests of the CCAPM for total returns of stocks have been supported even less than the CAPM. Mankiw and Shapiro (1986), for example, find that even the unconditional CAPM performs better than the CCAPM. Campbell and Cochrane (2000) argue the reason the CAPM performs better than the CCAPM is that the growth rate of consumption does not capture the variation in dividend yield, whereas the stock market index does. This variation in dividend yield is the same discount rate risk identified by Campbell and Vuolteenaho (2004). Campbell and Vuolteenaho (2004, p. 1271) conclude that, when attempting to validate the CAPM, the cash flow-related beta is the most relevant, with the discount rate beta of only secondary influence. This conclusion is also supported by Lee (1998) who found earlier that the influence on stock prices of non-cash flow related fundamentals, such as discount rates, declines as the time horizon increases. The income growth rates investigated in this paper represents just such a data series: one which is free of non-cash flow related information.

Roll (1977) argued that a proxy for the “true” market index, consisting of all wealth could not be identified, making it impossible to test the CAPM. Fama (1990) finds that the growth rate of GDP explains about 43% of the average real return on stocks while proxies for discount rate changes explain about 30%. Thus, enhancing the stock market index with macroeconomic variables may improve models. Jagannathan and Wang (1996) use a market index that combines a traditional stock market index with the growth rate of labor income in a conditional CAPM and find that value stocks can no longer earn excess returns. Knez and Ready (1997) suggest that a risk premium on small stocks exists because small stock returns are correlated with investor’s future labor income, but that this correlation is not captured with a stock index return. Jagannathan, Kubota and Takehara (1998) find that although a traditional stock market index beta alone could explain only 2% of the variation of Japanese security returns, including a labor income beta in the model explained 75%. Korniotis (2006) finds that a measure of regional risk that includes variance of consumption growth by state is priced in stock prices.

The collective results of these studies suggest the following: First, even though a stock market index does not perform as well as a conditional two beta model, the stock market index captures some influence of dividend yield changes that a macroeconomic index such as consumption growth does not capture. Second, creating a combined index containing influence from both the stock market and from macroeconomic growth variables improves the performance of the CAPM. Third, and most important to this paper, when the asset returns under study are controlled for the influence of dividend yield, the focus is on measuring cash flow beta and a single macroeconomic index, like consumption or income growth, is appropriate.

### RESTRICTING ALL RETURN DATA TO GROWTH RATES

A simple way to control for effects of changing dividend yield is by restricting the measure of return on all assets under study to income growth rates rather than total return. The Gordon (1962) perpetual dividend growth model can be used to present the CAPM in terms of growth of cash flow. Gordon (1962) modeled the investor's expected return  $R_j$  on a security  $j$  assuming an expected constant growth rate,  $g_j$  of current dividends  $D_{j0}$  and an initial investment price  $P_{j0}$ . With the expected growth  $g_j$  being conditional on the information set available at time  $0$ , the return is expressed as:

$$R_j = \frac{D_{j0}(1 + g_j)}{P_{j0}} + g_j \quad (3)$$

A similar expression for the return on the common market index,  $M$  is

$$R_M = \frac{D_{M0}(1 + g_M)}{P_{M0}} + g_M \quad (4)$$

Assume, as did Jagannathan and Wang (1996, p.5), that the CAPM in (2) holds for total returns *conditionally*, i.e. based on the available information set at a particular point in time. Then, substituting (3) and (4) into (2) and solving for  $g_j$

$$g_j = \frac{(R_f - \beta_j R_f - D_{j0}/P_{j0} + \beta_j D_{M0}/P_{M0})}{(1 + D_{j0}/P_{j0})} + \frac{\beta_j (1 + D_{M0}/P_{M0})}{(1 + D_{j0}/P_{j0})} g_M \quad (5)$$

To simplify (5), note that  $R_f$ ,  $D_{j0}/P_{j0}$  and  $D_{M0}/P_{M0}$  are all known at time  $0$ , and note that  $\beta_j$  is constant, given the information set and then let

$$\kappa = \frac{(R_f - \beta_j R_f - D_{j0}/P_{j0} + \beta_j D_{M0}/P_{M0})}{(1 + D_{j0}/P_{j0})} \quad (6)$$

$$\gamma_j = \frac{\beta_j(1 + D_{M0} / P_{M0})}{(1 + D_{j0} / P_{j0})} \quad (7)$$

With these substitutions, the expected growth rate is a linear function of the expected growth rate of the market index.

$$g_j = \kappa + \gamma_j g_M \quad (8)$$

Since the measure of systematic growth risk, gamma or  $\gamma_j$  is a slope, the regression estimate for it  $\gamma_j'$  can be written as

$$\gamma_j' = \frac{\text{cov}(g_j, g_M)}{\sigma_{g_M}^2} \quad (9)$$

Thus, if the CAPM is valid conditionally based on total returns, then it is also valid conditionally when the focus is restricted to growth in dividends. While the rate on treasury securities is often used as a proxy for the risk free rate,  $R_f$ , there is no security whose rate of return can proxy for the intercept  $\kappa$  in (6). In this paper,  $\kappa$  will be referred to as the “zero risk” growth rate. It can be interpreted as the rate of growth available when no systematic growth risk is assumed. The implication of (8) is that investors can form their expectation about the individual investment’s growth rate  $g_j$  knowing the estimate for the investment’s systematic income growth risk provided in (9). In addition, recall from (3) that the investor’s rate of return is also a function of the expected growth rate  $g_j$ , so that forming an expectation about future growth rate allows forming an expectation about future return, given the current status of dividend yields. For a firm, dividends cannot grow unless earnings grow. In addition, except for short run cost-cutting measures, earnings cannot grow unless revenues grow. Thus, the essential driver of returns to investors (entrepreneurs) is sales growth in the regions in which they operate.

## **APPLYING THE CAPM TO PERSONAL INCOME GROWTH BY REGION**

A region such as a county or a state may be viewed as a portfolio of entrepreneurs or firms producing revenue from production. This revenue is divided among suppliers of labor, equity and debt capital, and intermediate materials and appears in measures of their personal income. These suppliers of resources may be viewed (loosely) as “investors” in the firm. For example, even though a worker may not be an owner of the firm, he commits (invests) his time (human capital) to the firm and receives a return. The return to these suppliers/investors can be measured as the growth rate in their incomes which results from their association with the firm. The form of the CAPM presented in equation (8) suggests a linear relation between growth risk and return, measured as income growth, even when there is no investment price data available. Measures of macroeconomic income such as the Personal Income series tabulated by the Bureau

of Economic Analysis of the U.S. Department of Commerce can provide the income growth data required. A novel exploitation of (8) is, then, to test for the linear relation posited by the CAPM using the growth rate of personal income for each of the 48 contiguous states and also for county data. Thus, when a state's personal income growth systematic risk is high, as measured by its covariance with the United States, higher growth rates, higher rates of return and lower prices should be expected on the assets in that state. The wealth (assets) in the state will include privately held small businesses and the value of human capital, such as education and training.

There is some previous evidence to suggest that a tradeoff between income growth and volatility does exist in regions. For example, Barlevi (2004) documents the reduction in consumption associated with higher volatility of national income. For Italian households, Guiso, Japelli and Terlizzese (1996) construct a measure of income risk based on expectations of the variance of inflation and income growth and find that households reduce their ownership of risky assets when confronted with higher income risk. Similarly, Heaton and Lucas (2000) find that households with higher variance of business income hold less wealth in equity shares. When holdings are reduced, prices fall, indicating rates of return rise. Chandra (2002) documents a relation between a state's economic growth rate and the total risk or instability of growth as measured by the standard deviation. The innovation of this paper, compared to these studies, is that the measure of risk is systematic risk, measured in a CAPM context, rather than total risk.

Applying the CAPM to regional growth rate data, gives entrepreneurial individuals and firms a new analytical tool to help them form expectations about the growth rate of personal income in each state and county. Risk-adjusted expectations about growth should assist in selecting the preferred regional locations for investing both financial capital and human capital. A state, for example, may be selected as a location because of its tendency to grow at above systematic risk-adjusted rates due to non-systematic risk characteristics. Chatterjee, Lubatkin and Schulze (1999) posit that firm managers care about non-systematic risk and seek to control it at the individual firm level because investors cannot completely diversify their investments as well as the CAPM assumes. In addition, workers must choose to work in one state and many entrepreneurs, at least when starting out, can only operate in a few states. To the extent that they cannot achieve good diversification, these workers and entrepreneurs are forced to bear non-systematic growth risk. Similarly, state economic policy makers and economic development professionals can seek to control, even design, their state's non-systematic risk characteristics. For example, Kalemlı-Ozcan, Sorensen and Yosha, (2003) find that a high level of regional production specialization leads to not only a higher growth rate but also higher volatility and that regions can offset the increased volatility by risk-sharing through financial diversification between regions. Thus, diversifying the production activities in a region will tend to reduce non-systematic risk. In addition, state economic policy makers and economic development professionals can seek to raise or reduce their state's systematic risks. This might be achieved by, for example, encouraging firms whose revenues have a high covariance with personal income to locate in their region.

The two period CAPM assumes that betas and the market price of risk are stable over time. For a state or region, this implies stability of the circumstances that make it more or less risky than the average. The large body of literature attempting to explain regional growth rates can be categorized based on what is said about this assumption of stability. Martin and Sunley (1998), for example contrast the traditional theory that regional economies will “converge” and become more alike, with the newer idea that regional economies will “diverge”, resulting in regions with unique characteristics. The rationale for convergence is that, with mobility, self-correcting free market processes will adjust prices and wages and the supply of labor and capital will equalize across regions. The argument for divergence is that economies of scale, specialization and the achievement of critical masses of resources will lead to further accumulations of resources and capabilities within regions that tend to be self-perpetuating. Mankiw, Romer and Weil (1992) have argued for blending of these two approaches so that regions reach “conditional convergence” to the extent they have similar government policies, societal preferences, access to technologies and other structural circumstances, but each region will ultimately reach a unique steady state of relative volatility and growth. Evans and Karras (1996) find that differences in the levels of technology, the share of total income paid to capital and the per cent return to capital in the 48 contiguous states are evidence that the states converge rapidly to stable growth levels that are significantly different. Carlino and Sill (2001) find that the regions of the United States differ significantly in terms of long term volatility of economic growth. In this paper, it is assumed that, while the price of growth risk is stable over the long run, the practical possibility exists for economic policy makers to target policy changes in a particular state that may, over time, result in changes to the state’s systematic growth risk.

## **DATA AND METHODOLOGY**

The empirical tests to be performed in this paper use per capita personal income by state and county data available from the Bureau of Economic Analysis (BEA) website (<http://www.bea.gov>). Per capita data is used, rather than aggregate personal income data to follow the convention established in the CCAPM literature (e.g. Mankiw and Shapiro, 1986). The tests are restricted to annual data for two reasons. First, Fama (1990, p.1106) finds that income growth and asset returns are related over more than one quarter and this leads to autocorrelation and measurement problems when using quarterly data. Second, some information related to proprietor income and dividend and interest income are not included in the quarterly personal income estimates – only the annual figures. Annual personal income data for the 48 contiguous states was available from 1929 through 2006, on a per capita basis. In addition to these data, personal incomes per capita by county are available from 1969 to 2005. For each of the data sets, “gross” growth rates of personal income per capita are calculated as the simple ratio of current year per capita personal income to that for the previous year. Thus, positive “net” growth rates are reflected in the data as “gross” rates which are greater than one

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and negative net growth rates are reflected as gross rates which are less than one (but greater than zero).

Using the annual growth rates over the years for which data is available, an estimate for systematic risk for each state and region is calculated using (9). In (9), the growth rate of per capita personal income of the United States serves as the proxy for  $g_M$ . For the same time period over which the regional estimates of systematic risk,  $\gamma_j$  are calculated, the simple average of the regions' growth rates are also calculated. Then, having pairs of estimates of systematic risk and average growth rates for each region, the linear relation between risk and growth posited by the CAPM can be evaluated. Cross-sectional regressions of these average returns on their respective estimated systematic risks are performed using Generalized Least Squares (GLS) to determine whether the prices of risk (slopes) are different from zero, at the 99% confidence level. Because a state is a "portfolio" of multiple counties, the availability of these data sets makes it possible to look for the effect of diversification. For example, a higher  $R^2$  should be expected for the regressions of state data versus the county data sets because more unsystematic risk has been diversified away in the portfolios. In addition, because counties are smaller, in terms of population and total personal income, the possibility of a CAPM-compromising "size effect" can be examined. Two sets of 48 portfolios of counties (about 65 counties in each portfolio) are created: one set created at random, based on an alphabetical listing and the other set created after sorting the counties based on total personal income. If a size effect exists, then the price of risk (slope) of the regressions of size-sorted portfolios of counties will be statistically different from that for the states and for the random (alphabetically sorted) portfolios. To make these comparisons, the two regressions are tested for equivalence using a version of the Chow (1960) test. When the regressions are found to not be equal, tests of the equality of the two slopes and intercepts are carried out using the dummy variable method, as described by Gujarati (1970). The test methodology is more fully described in the Appendix.

## RESULTS

Table 1 shows the results of the cross-sectional regressions for the various data sets. The regressions for the 48 states over the entire period, 1930-2006 and for each of the two sub-periods, 1930-1969 and 1970-2006 were statistically significant at the 99% confidence level since the confidence intervals for the slopes do not contain zero. The  $R^2$  for the entire period, 1930-2006 was .175 and that for the early and later sub-period regressions were .264 and .158, respectively. The regressions for individual counties over the period 1970-2005 were also statistically significant, with an  $R^2$  of .300. When the counties were sorted into 48 portfolios of counties created both randomly and sorted based on size, these regressions were also all statistically significant. The  $R^2$  for the portfolios of counties increased to .379 and .843, for the random and size-sorted, respectively.

Table 2 records the results of tests for equality of slopes and intercepts for various pairs of regressions. The comparison of the regressions for the two time periods (1930-1970 and 1970-2005) for the 48 states indicates that while the slopes (prices of risk) are equal, the intercepts are not. This indicates the “zero risk” rate has declined in recent times for the states. The comparison of the regression of 48 states to the regression of 48 portfolios of counties sorted by size also showed that the slopes are equal but the intercepts are statistically different. The comparison of the regression of randomly created portfolios of counties to that for the 48 portfolios of counties created by sorting them based on size were not statistically different.

	<b>Zero Risk Intercept</b>	<b>Conf. Int. Intercept *</b>	<b>Price of Risk (slope)</b>	<b>Conf. Int. slope *</b>	<b>R<sup>2</sup></b>
48 States 1930-2006	1.0407	1.0161-1.0652	.0280	.0053-.0507	.175
48 States 1930-1969	1.0276	1.0034-1.0519	.0350	.0127-.0573	.264
48 States 1970-2006	1.0508	1.0285-1.0730	.0247	.0035-.0460	.158
3089 Counties 1970-2005	1.0510	1.0498-1.0521	.0141	.0131-.0150	.300
48 County Portfolios Random	1.0494	1.0411-1.0577	.0155	.0078-.0231	.379
48 County Portfolios Size-sorted	1.0386	1.0339-1.0433	.0255	.0212-.0298	.843
* 99% Confidence level					

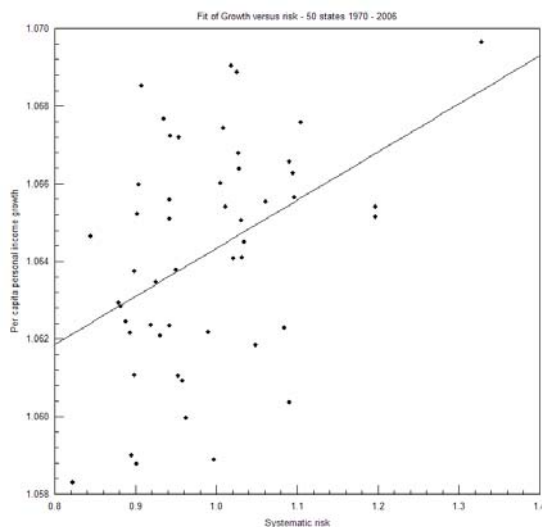
<b>First Regression</b>	<b>Second Regression</b>	<b>Equal Slopes?</b>	<b>Equal Intercepts?</b>
48 States 1970-2006	48 States 1930-1969	YES	NO
48 States 1970-2005	48 County Portfolios Size-sorted	YES	NO
48 County Portfolios Size-sorted	48 County Portfolios Random	YES	YES

Figure 1 shows the fit of per capita personal income growth versus systematic risk for the 50 states, including Alaska and Hawaii. Note that the regression results given in Table 1 include

only the 48 contiguous states to compare to the early time period in which data for the last two states were not available.

Figure 2 shows the fit of per capita personal income growth versus systematic risk for 3089 individual U.S. counties. It can be seen that the data is clustered with a few outliers.

**Figure 1**



**Figure 2**

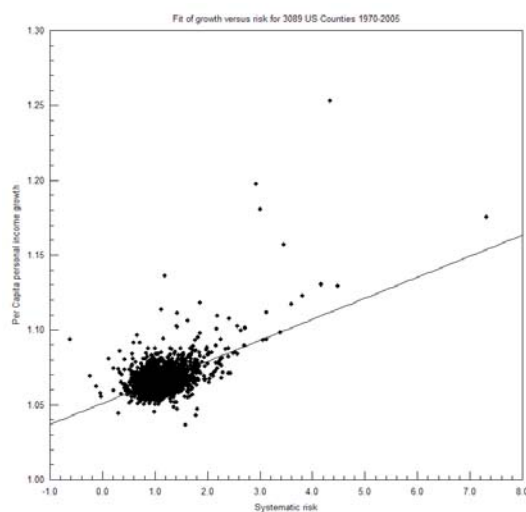


Figure 3 shows the fit of per capita personal income growth versus systematic risk for 48 randomly created (based on alphabetical order) portfolios of U.S. counties. The visual fit appears to improve with portfolios compared to individual counties and this is confirmed by the  $R^2$  's given in Table 1.

Figure 3

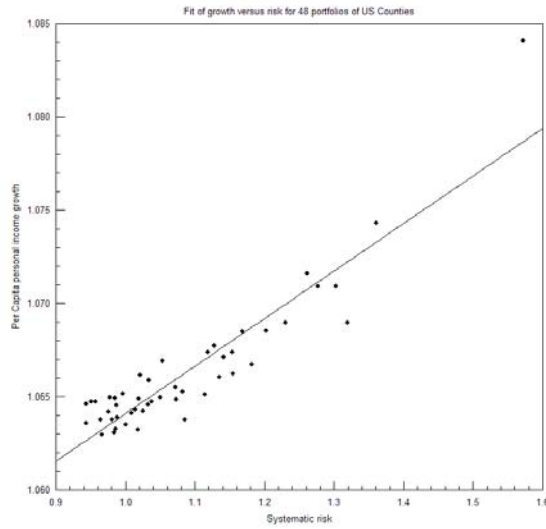


Figure 4 shows a scatter plot of a pairing of the size rank of each portfolio of counties that constructed based on size (total personal income) with the percent residual

Figure 4

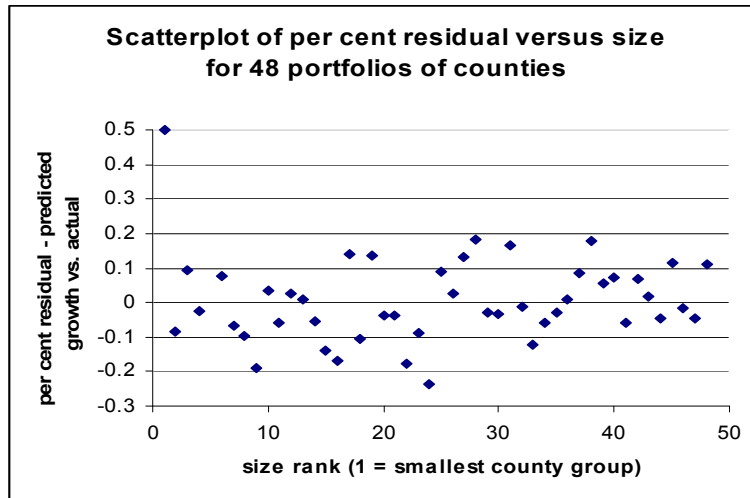


Table 3 shows the ranking of the 50 states based on systematic risk. The five states with the lowest systematic risk are Hawaii, West Virginia, Montana, Utah, and Idaho. The five states

with the highest systematic risk levels are Connecticut, Louisiana, Texas, Oklahoma, and North Dakota.

State	Average Growth	Systematic Risk	Excess Growth	State	Average Growth	Systematic Risk	Excess Growth
HI	1.0583	0.8220	-0.00383	OH	1.0599	0.9625	-0.00392
WV	1.0646	0.8444	0.00223	WA	1.0622	0.9895	-0.00203
MT	1.0629	0.8790	0.00009	AK	1.0589	0.9973	-0.00542
UT	1.0628	0.8815	-0.00003	SC	1.0660	1.0052	0.00161
ID	1.0625	0.8875	-0.00049	VA	1.0674	1.0083	0.00299
OR	1.0622	0.8935	-0.00087	NJ	1.0654	1.0116	0.00093
NV	1.0590	0.8947	-0.00403	SD	1.0690	1.0183	0.00447
RI	1.0637	0.8982	0.00066	KS	1.0641	1.0206	-0.00052
DE	1.0611	0.8989	-0.00201	WY	1.0689	1.0256	0.00421
MI	1.0588	0.9008	-0.00434	AR	1.0668	1.0273	0.00211
NM	1.0652	0.9024	0.00209	NC	1.0664	1.0279	0.00170
MD	1.0660	0.9038	0.00282	GA	1.0651	1.0308	0.00034
AL	1.0685	0.9070	0.00534	FL	1.0641	1.0321	-0.00065
WI	1.0624	0.9188	-0.00097	KY	1.0645	1.0339	-0.00026
PA	1.0635	0.9253	0.00005	AZ	1.0618	1.0484	-0.00310
MO	1.0621	0.9304	-0.00139	MN	1.0655	1.0607	0.00044
MS	1.0677	0.9349	0.00414	IA	1.0623	1.0842	-0.00309
ME	1.0656	0.9416	0.00197	CO	1.0666	1.0898	0.00112
VT	1.0651	0.9419	0.00147	CA	1.0604	1.0906	-0.00509
NY	1.0623	0.9420	-0.00128	NH	1.0663	1.0951	0.00075
TN	1.0672	0.9427	0.00360	CT	1.0656	1.0963	0.00011
NE	1.0638	0.9503	0.00006	LA	1.0676	1.1043	0.00196
IN	1.0611	0.9530	-0.00271	TX	1.0654	1.1963	-0.00137
MA	1.0672	0.9537	0.00343	OK	1.0651	1.1967	-0.00164
IL	1.0609	0.9580	-0.00290	ND	1.0696	1.3280	0.00124

Table 4 shows the ranking of the 50 states based on historic ability to grow at rates in excess of the expected growth rate on a risk-adjusted basis. The five states with the highest excess growth are Alabama, South Dakota, Wyoming, Mississippi and Tennessee. The five states with the lowest excess return averages are Ohio, Nevada, Michigan, California, and Alaska.

**Table 4. Ranking of the 50 states by Excess Return (highest to lowest)**

State	Average Growth	Systematic Risk	Excess Growth	State	Average Growth	Systematic Risk	Excess Growth
AL	1.0685	0.9070	0.00534	NE	1.0638	0.9503	0.00006
SD	1.0690	1.0183	0.00447	PA	1.0635	0.9253	0.00005
WY	1.0689	1.0256	0.00421	UT	1.0628	0.8815	-0.00003
MS	1.0677	0.9349	0.00414	KY	1.0645	1.0339	-0.00026
TN	1.0672	0.9427	0.00360	ID	1.0625	0.8875	-0.00049
MA	1.0672	0.9537	0.00343	KS	1.0641	1.0206	-0.00052
VA	1.0674	1.0083	0.00299	FL	1.0641	1.0321	-0.00065
MD	1.0660	0.9038	0.00282	OR	1.0622	0.8935	-0.00087
WV	1.0646	0.8444	0.00223	WI	1.0624	0.9188	-0.00097
AR	1.0668	1.0273	0.00211	NY	1.0623	0.9420	-0.00128
NM	1.0652	0.9024	0.00209	TX	1.0654	1.1963	-0.00137
ME	1.0656	0.9416	0.00197	MO	1.0621	0.9304	-0.00139
LA	1.0676	1.1043	0.00196	OK	1.0651	1.1967	-0.00164
NC	1.0664	1.0279	0.00170	DE	1.0611	0.8989	-0.00201
SC	1.0660	1.0052	0.00161	WA	1.0622	0.9895	-0.00203
VT	1.0651	0.9419	0.00147	IN	1.0611	0.9530	-0.00271
ND	1.0696	1.3280	0.00124	IL	1.0609	0.9580	-0.00290
CO	1.0666	1.0898	0.00112	IA	1.0623	1.0842	-0.00309
NJ	1.0654	1.0116	0.00093	AZ	1.0618	1.0484	-0.00310
NH	1.0663	1.0951	0.00075	HI	1.0583	0.8220	-0.00383
RI	1.0637	0.8982	0.00066	OH	1.0599	0.9625	-0.00392
MN	1.0655	1.0607	0.00044	NV	1.0590	0.8947	-0.00403
GA	1.0651	1.0308	0.00034	MI	1.0588	0.9008	-0.00434
CT	1.0656	1.0963	0.00011	CA	1.0604	1.0906	-0.00509
MT	1.0629	0.8790	0.00009	AK	1.0589	0.9973	-0.00542

## CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

We did not conduct a strict Fama and McBeth (1973) three-step test to confirm the validity of the CAPM using our growth data. Rather, the CAPM's validity is simply assumed so that it can be applied to our growth data. Overall, the results support this application of the CAPM to personal income growth rates. First, the slopes of the relations between growth risk and growth are all statistically significant. Second, regressions of aggregated data result in higher  $R^2$ , as would be expected in data for which the CAPM holds. However, the  $R^2$  for the states is lower than that for the regression of individual counties. This would not be expected and is a

divergence from the CAPM. Outliers may be a possible reason for this failure since it appears in Figure 2 that a few data points may have significant influence on the results and bias the  $R^2$  of that regression upward. Third, no preliminary evidence of a size effect was identified in the portfolios of counties. These results support previous studies (e.g. Campbell and Vuolteenaho, 2004) which find that datasets which have low influence from discount rate variation can be modeled using the CAPM.

The intercept was found to be lower for the early 1930-1969 state data than for the later 1970-2006 period. Thus, the “zero risk rate” of growth appears to have risen in recent times. One possible explanation for this is the idea that government transfer payments and other public and private insurance programs which have been instituted in more recent times have made it possible to achieve higher growth rates without assuming systematic risk.

The fact that the intercept from the regression of the 48 states was different from that for the 48 portfolios of counties sorted by size is not a violation of the CAPM, because the prices of systematic risk are the same as posited by the CAPM. Thus, this result indicates there is no size effect. However, the difference in intercepts is a curiosity, since it indicates that counties have a lower “zero risk” growth rate than states, on average. It may be speculated that, as in the case of 1930-1969 dataset compared to the 1970-2006 dataset for states, this may be due to risk mitigation programs at the federal or state level that have not reached or been targeted at small counties.

Another way to test for a size effect in the size-sorted portfolios of counties is to examine the residuals (predicted growth versus actual growth) to see if there is a tendency for large or small county portfolios to have positive excess returns. In Figure 4, the smallest portfolio (rank = 1) appears to be an outlier. Ignoring that point, there appears to be slight upward slope, indicating that portfolios of larger counties tend to earn positive excess returns. However, even after removing this “outlier”, the slope of the regression fit of percent error versus size rank is not statistically significant at the .01 level (F statistic = 5.2, confidence level = .027). Thus, the portfolios of counties sorted based on total personal income do not exhibit a size effect.

The results support the application of the CAPM to regional economic growth rates. As in other applications of the CAPM, the individual analyst must decide whether a high, medium or low level of risk is preferred. The ranking in Table 3 and in Table 4 can assist individuals and firms in selecting regions based on their preferences. From the point of view of fully diversified firms with investments in many states, the measure of systematic risk (Table 3) is relevant but the ranking of the states by excess growth (Table 4) is not. Table 5 shows a grouping of the states that takes into account both their systematic risk and their excess growth (i.e. unsystematic risk).

For these multi-state, well-diversified firms, Table 5, in its entirety, is relevant. If, for example, a firm’s management is willing to tolerate medium risk levels, then all 18 states contained in the middle column of Table 5 would be viable choices for location of a new establishment or plant. However, for small firms or entrepreneurs considering where to locate

their first (or perhaps second or third) establishment, both systematic risk and excess growth are relevant. This is also the case for workers who wish to choose from among a few possible job offerings based on the locations. For these investors, the states listed in the second row of Table 5, which had negative excess growth rates, would probably not be good choices. Under these circumstances, a firm, for example that is comfortable with high levels of risk, should select a location from the states listed in the upper right-hand grouping in Table 5 (i.e. AR, NC, GA, MN, CO, NH, CT, ND, or LA).

	<b>Low</b> Systematic Risk	<b>Medium</b> Systematic Risk	<b>High</b> Systematic Risk
<b>Positive</b> Excess Growth	WV MT RI NM MD AL PA	MS ME VT WY TN NE MA SC VA NJ SD	AR NC GA MN CO NH CT ND LA
<b>Negative</b> Excess Growth	HI UT ID OR NV DE MI WI MO	NY IN IL OH WA AK KS	FL KY AZ IA CA TX OK

Consider also an individual who works (say) for a national restaurant chain and is given the choice of transferring as an assistant manager to one of two states. It is reasonable to assume that the relative success of the restaurant in which he works is dependent on regional personal income growth. If his forecast of the national rate of personal income growth is up (down), such an individual may choose to locate in the state with the higher (lower) systematic risk.

State economic development officials can use Table 5 to assist them in defining the target market for their promotional message. For example, the states listed in the second row of Table 5, which had negative excess growth rates, might want to focus their promotional efforts on larger well-diversified firms to whom only systematic risk is relevant. Other states with positive excess growth, may wish to advertise the special circumstances that they feel result in their state's unique risk character.

The focus of this paper is on the growth/risk tradeoff and not on identifying specific factors which "explain" different risk levels. There is a need for more research to identify what economic variables may be adjusted by policy makers to, in turn, adjust a region's systematic risk. However, economic developers may wish to encourage firms having certain systematic risk levels which will raise or lower the average of the state (or region) to locate in their region.

This paper was limited in scope to regional personal income growth rates. The results suggest that a similar study using revenue growth rates of stocks with U.S. personal income growth, or perhaps consumption growth, as the market index may yield interesting results. Such

a study will help identify firms and industries that can be added to the existing regional portfolio to adjust its risk. In addition, the model can be tested using other income datasets such as GDP by state or income data from other countries for interesting comparisons.

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# **PROACTIVE PERSONALITY AND ENTREPRENEURIAL LEADERSHIP: EXPLORING THE MODERATING ROLE OF ORGANIZATIONAL IDENTIFICATION AND POLITICAL SKILL**

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## **ABSTRACT**

*The goal of this article is to show the importance of looking at proactive personality, organizational identification, and political skill in the context of entrepreneurship leadership. Individual differences such as personality may be useful in predicting entrepreneurial leadership and it has several implications for practice. Leadership research indicates that the trait approach facilitates the selection of leaders. Viewed from a selection perspective, organizations can determine the desired employee profile to meet their needs.*

*The concept of entrepreneurial leadership has become increasingly important because organizations must be more entrepreneurial to enhance their performance, their capacity for adaptation and long-term survival. Proactive individuals may be more successful in entrepreneurial leadership and may contribute more to the organization. Proactive personality, which is the tendency to show initiative and take action in one's environment in order to effect meaningful change, may be more specifically tailored to predicting entrepreneurial leadership in firms than the more general Big Five factors and facets. The proactive personality construct fits well conceptually with the current emphasis on entrepreneurial leadership and has been linked empirically to a number of career outcomes.*

## **INTRODUCTION**

In this present article, I will explore the possibility that organizational identification and political skill moderates the relationship between proactive personality and entrepreneurial leadership. Research has begun to move from merely examining personality as a main effect (Barrick, Parks, & Mount, 2005) to focus on the moderating or mediating effects that explain how personality influences dependent variables. This approach can also be taken to examine the relationship between proactive personality and entrepreneurial leadership and to investigate whether organizational identification and political skill moderates the relationship. The ability for practitioners to identify individuals that will successfully lead innovation and take risks in the workplace is very beneficial for organizations. Leadership research indicates that the trait

approach facilitates the selection of leaders. Viewed from a selection perspective, organizations can determine the desired employee profile to meet their needs (Naquin & Holton, 2002).

### **ENTREPRENEURIAL LEADERSHIP**

The concept of entrepreneurial leadership involves fusing the concepts of “entrepreneurship” (Schumpeter, 1934), “entrepreneurial orientation” (Miller, 1983; Covin & Slevin, 1988), and “entrepreneurial management” (Stevenson, 1985) with leadership (Gupta, McMillan & Surie, 2004). It emphasizes taking a strategic approach to entrepreneurship, so that the entrepreneurial initiatives can support development of enhanced capabilities for continuously creating and appropriating value in the firm (Gupta, McMillan & Surie, 2004). Thus, entrepreneurship can form a basis for competitive advantage and technological growth in all types of firms that are oriented towards leadership and excellence in the new global economy (Gupta, McMillan & Surie, 2004). Entrepreneurial leadership is defined as leadership that creates visionary scenarios that are used to assemble and mobilize a ‘supporting cast’ of participants who become committed by the vision to the discovery and exploitation of strategic value creation (Gupta, McMillan & Surie, 2004). This definition emphasizes the challenge of mobilizing the resources and gaining the commitment required for value creation that the entrepreneurial leader faces, which involves creating a vision and a cast of supporters capable of enacting that vision (Gupta, McMillan & Surie, 2004). The two challenges of forging a vision and building a cast of competent and committed supporters are interdependent since the former is useless without the latter (Gupta, McMillan & Surie, 2004). Thus, entrepreneurial leaders envision and enact a proactive transformation of the firm’s transaction set (Venkataraman & Van de Ven, 1998). Entrepreneurial leadership has much in common with transformational leadership in that the leader evokes super-ordinate performance by appeals to the higher needs of followers (Gupta, McMillan & Surie, 2004). However, the entrepreneurial leader’s ability to evoke such performance is founded in the context of the firm’s need to adapt to emerging environmental contingencies (Gupta, McMillan & Surie, 2004). Thus, the basic challenge is to create a willingness in followers to abandon current conventional but career-secure activities for creative, entrepreneurial action (Gupta, McMillan & Surie, 2004).

Entrepreneurial leadership can also be thought of as leading, through direct involvement, a process that creates value for organizational stakeholders by bringing together a unique innovation and package of resources to respond to a recognized opportunity (Darling, Keeffe, & Ross, 2007). In fulfilling this process, entrepreneurs function within a paradigm of three dimensions: innovativeness, risk-taking and proactiveness (Morris, Schindehutte & Laforge, 2004). Innovativeness focuses on the search for creative and meaningful solutions to individual and operational problems and needs (Darling, Keeffe, & Ross, 2007). Risk-taking involves the willingness to commit resources to opportunities that have a reasonable possibility of failure (Darling, Keeffe, & Ross, 2007). Proactiveness is concerned with implementation, and helping to

make events happen through appropriate means, which typically include the efforts of others (Darling, Keeffe, & Ross, 2007). The practice of successful entrepreneurial leadership is thereby fulfilled within an array of exciting activities and new creative developments that are full of innovations and evolving concepts, constantly changing, and in many cases eluding classification (Darling, Keeffe, & Ross, 2007). Entrepreneurial leadership is all about breaking new ground, going beyond the known, and helping to create the future (Darling, Keeffe, & Ross, 2007). What makes a truly successful entrepreneurial leader is not narrowly focused on only intelligence, education, lifestyle or background (Darling, Keeffe, & Ross, 2007). A principal factor that seems to determine success is the entrepreneur's ability to deal with opportunities through the dynamics of organizational setting, thereby enabling and motivating the people concerned to be actively and enthusiastically involved and successful (Darling, Keeffe, & Ross, 2007). The basic challenge of entrepreneurial leaders (McGrath and MacMillan, 2000) is to envision future possibilities and enable the organization to transform its current transaction set (Venkataraman & Van de Ven, 1998). Moreover, such adaptation must be accomplished without overstraining the unit's resource endowments (Gupta, McMillan & Surie, 2004). In addition, this must often be done in the face of conservative and risk-averse attitudes stemming from followers' lack of confidence in the gains from innovation in uncertain environments (Gupta, McMillan & Surie, 2004).

### **PROACTIVE PERSONALITY**

Despite the widespread acceptance of the five factor model, theorists have argued that when attempting to link personality to a specific criterion of interest, the criterion-related validity of basic personality traits is likely to be exceeded by compound or emergent personality variables that are more specifically tailored to the outcome (Hough & Schneider, 1996). According to Hough and Schneider, "Compound personality traits are comprised of basic personality traits that do not all covary" (p. 57). Proactive personality is thought to be one example of such a compound variable (Hough, 2003), and it has proven to be predictive of a number of career development outcomes. Bateman and Crant (1993) developed the proactive personality concept, defining it as a relatively stable tendency to effect environmental change that differentiates people based on the extent to which they take action to influence their environments. Individuals with a prototypical proactive personality identify opportunities and act on them, show initiative, take action, and persevere until meaningful change occurs (Crant, 2000, p. 439). In contrast, people who are not proactive exhibit the opposite patterns: they fail to identify, let alone seize, opportunities to change things. Less proactive individuals are passive and reactive, preferring to adapt to circumstances rather than change them (Crant, 2000, p. 439). As work becomes more dynamic and decentralized, proactive behavior and initiative become even more critical determinants of organizational success. For example, as new forms of management are introduced that minimize the surveillance function, companies will increasingly

rely on employees' personal initiative to identify and solve problems (Frese, Fay, Hilburger, Leng, & Tag, 1997).

Crant (2000) defined proactive behavior as taking initiative in improving current circumstances or creating new ones; it involves challenging the status quo rather than passively adapting to present conditions. Employees can engage in proactive activities as part of their in-role behavior in which they fulfill basic job requirements (Crant, 2000). For example, sales agents might proactively seek feedback on their techniques for closing a sale with an ultimate goal of improving job performance. Extra-role behaviors can also be proactive, such as efforts to redefine one's role in the organization. For example, employees might engage in career management activities by identifying and acting on opportunities to change the scope of their jobs or move to more desirable divisions of the business (Crant, 2000). Crant (1995) demonstrated that proactive personality accounted for incremental variance in the job performance of real estate agents after controlling for both extraversion and conscientiousness. Proactive personality seems more specifically tailored to predicting motivation in learning contexts than the more general Big Five factors and facets (Major, Turner, & Fletcher, 2006).

Several researchers have examined an array of potential outcomes of proactive personality at work. For example, Crant (1995) examined the criterion validity of the proactive personality scale developed by Bateman and Crant (1993). Using a sample of 131 real estate agents, results indicated that the proactive personality scale explained an additional 8% of the variance in an objective measure of agents' job performance beyond experience, social desirability, general mental ability, and two of the big five personality factors—conscientiousness and extraversion. Parker (1998) found that, using a sample from a glass manufacturing firm, proactive personality was positively and significantly associated with participation in organizational improvement initiatives. Becherer and Maurer (1999) examined the effects of a proactive disposition on entrepreneurial behaviors. Results from a sample of 215 small company presidents suggested that the presidents' level of proactivity was significantly associated with three types of entrepreneurial behaviors: starting versus not starting the business, the number of startups, and the types of ownership.

Proactive personality appears to have the potential for providing further insight into the personality trait-entrepreneurship relationship (Crant, 1996). The proactive personality scale measures a personal disposition toward proactive behavior, an idea that intuitively appears to be related to entrepreneurship (Crant, 1996). In a study conducted by Crant (1996) that examined the relationship between proactive personality and entrepreneurial intentions, proactive personality was positively associated with entrepreneurial intentions. This may also be the case for entrepreneurial leadership; because people with a proactive personality may be more inclined to mobilizing the resources and gaining the commitment required for value creation that the entrepreneurial leader faces. More proactive people may have a greater desire to become entrepreneurial leaders in order to help create value for their firm.

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***Proposition 1: There will be a positive relationship between proactive personality and entrepreneurial leadership.***

## **ORGANIZATIONAL IDENTIFICATION**

As threats to employee loyalty resulting from organizational mergers, take-overs, and restructuring have become part of everyday organizational life, the ability to elicit a certain level of identification with an organization has become increasingly important to the well-being of both organizations and their members (Dutton, Dukerich, & Harquail, 1994). Social identity theory provides the theoretical basis for the concept of organizational identification (Elsbach, 1999). Social identification thus refers to the 'perception of belongingness to a group classification' through which 'an individual perceives him or herself as an actual or symbolic member of the group' (e.g. 'I am a man', 'I am a biologist') (Mael & Ashforth, 1992, p. 104). Self-conceptions may also include an awareness of the features that distinguish oneself from other individuals (e.g. 'I am cheerful', 'I am generous', etc) (Abrams, 1992, p. 59). Further, depending on social identity salience, identification is closely associated with high commitment and involvement within, and efforts invested into, a social group (Ellemers, De Gilder, & Haslam, 2004; Ellemers, Kortekaas & Ouwerkerk 1999). Organizations can be conceived as social systems through which individuals define their self-conceptions. Organizational identification is seen as a form of the construct of social identification (Ashforth & Mael, 1989; Bergami & Bagozzi, 2000; Elsbach, 1999). That is, organizational identification is a particular facet, while social identification is a multifaceted construct. According to Dutton et al. (1994), organizational identification refers to the cognitive connection between the definition of an organization and the definition a person applies to him or herself.

A sense of organizational identification may prevent employees from becoming alienated and may be an important precondition for general feelings of job satisfaction. Moreover, members that identify with an organization may be more likely to remain with the organization and to expend effort on behalf of the organization (Dutton et al., 1994). The notion of organizational identification (OI) has become a central concept in the area of organizational behavior and is attracting increasing attention in management research more generally. The reason for this is that OI is seen as a key psychological state reflecting the underlying link or bond that exists between the employee and the organization and, therefore, potentially capable of explaining and predicting many important attitudes and behaviors' in the workplace (Edwards, 2005). Cheney (1983) argued OI can be seen as a mechanism of persuasion. Through identification, employees can be influenced by getting them to buy in to the organization's activities. The organization's goals become the individual's goals, and those who identify strongly are more likely to be motivated to work hard to help achieve these goals.

Individuals who hold strong organizational identification are concerned with the well-being of their organization. As noted by Dutton et al. (1994, p. 254), when people strongly identify with their work organization, their sense of survival is tied to the organization's survival. This link leads individuals to direct efforts on behalf of their colleagues and the organization as a whole (Dutton et al., 1994) as part of the process of creating distinctiveness from other groups and favorable bias towards members in the group with which the individuals are associated (Kramer, 1991). Hence, it is likely that employees who strongly identify with their organization will perform their tasks better than employees who identify less with their organization (Carmeli, Gilat, & Waldham, 2007). Social identity theory suggests that organizational identification is likely to result in enhanced in-role performance because people who strongly identify with their organization are likely to exert much effort, contribute their best for the social system, cooperate, develop lower turnover intentions and actual turnover, and are expected to exhibit high performance as they feel a strong sense of belongingness (e.g., Abrams et al., 1998; Mael & Ashforth, 1995; Tyler, 1999). Carmeli et al. (2007) tested the relationship between organizational identification and job performance and were able to provide support for the role of organizational identification in the enhancement of job performance. Their findings confirm the notion that employees who identify with a particular organization tend to exert their best efforts for it, and thus exhibit a relatively higher level and quality of performance (Carmeli et al., 2007).

Entrepreneurial leaders also build commitment by encouraging others to experiment and learn for themselves (Gupta, McMillan & Surie, 2004). The intent is not only to get followers to be super-normally motivated to work hard but also to help them develop a different perspective (Gupta, McMillan & Surie, 2004). Further, the mechanism is not charisma, values, or team pressure, but a collective spirit of conscious innovation (Gupta, McMillan & Surie, 2004). This has a lot of implications for the relationship between organizational identification and entrepreneurial leadership because it makes sense conceptually that if someone strongly identifies with the firm that they work with will engage in higher levels of entrepreneurial leadership than those who do not identify themselves with the organization.

***Proposition 2: Organizational identification will moderate the relationship between proactive personality and entrepreneurial leadership such that the higher the organizational identification score, the more individuals will display entrepreneurial leadership.***

## **POLITICAL SKILL**

Individuals that possess political skill have the ability to read others and suitably adjust their behavior in accordance with the situation to achieve favorable outcomes (Ferris, Perrewe, Anthony, & Gilmore, 2000). It is defined as an interpersonal style construct that combines social

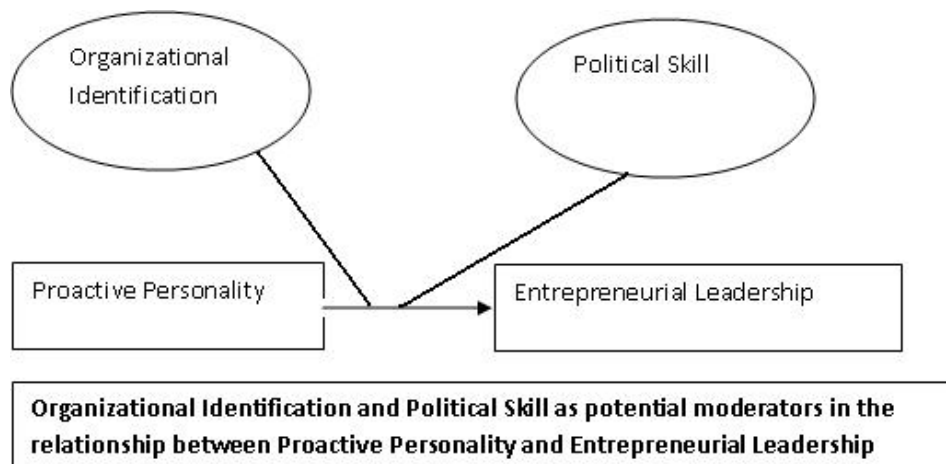
astuteness with the ability to relate well, and otherwise demonstrate situationally appropriate behavior in a disarmingly charming and engaging manner that inspires confidence, trust, sincerity, and genuineness (Ferris, Perrewé, Anthony, & Gilmore, 2000). According to Ferris, Treadway, Perrewé, Brouer, Douglas, and Lux (2007), it is the ability to effectively understand others at work, and to use such knowledge to influence others to act in ways that enhance one's personal and/or organizational objectives. The authors characterize it as a "comprehensive pattern of social competencies, with cognitive, affective, and behavioral manifestations" (Ferris et al., 2007). Therefore, political skill is a multi-dimensional construct that involves perspicacity, the art of persuasion, the knack of forming the right connections, and the seeming embodiment of authenticity. Ferris et al. (2007) explain the dimensions, namely social astuteness, interpersonal influence, networking ability, and apparent sincerity. Todd, Harris, Harris and Wheeler (2009) viewed political skill as a skill that employees used to achieve desired outcomes in the form of career benefits. They tested the effect of political skill on the five career-related outcomes of total compensation, total promotions, perceived career success, life satisfaction, and perceived external mobility and their findings indicated that the overall political skill construct was significantly related to all of the career outcomes except total compensation (Todd, Harris, Harris, & Wheeler, 2009). Social influence theory is a theoretical framework for understanding the effects of political skill (Todd, Harris, Harris, & Wheeler, 2009). Using social influence theory, researchers try to understand how individuals use their social influence to achieve desired outcomes (Todd, Harris, Harris, & Wheeler, 2009). In the work context, individuals often want to influence others to attain desired roles, assignments, and rewards (Judge & Bretz, 1994).

Politically skilled persons possess social competencies that enhance their personal and/or organizational goals through their understanding and influence of others in social interactions at work (Blickle, Wendel, & Ferris, 2010). Hogan's (1991; Hogan & Shelton, 1998) socio-analytic theory suggests that personality needs social skill to demonstrate its influence, and he argued that specific personality traits are the embodiment of the motives to get along (Blickle, Wendel, & Ferris, 2010). By implication, strong personality prediction of entrepreneurial leadership should not be expected without the presence of social effectiveness competencies. Political skill is a social effectiveness competency that already has demonstrated its effectiveness as a predictor of important work outcomes (Ferris, Davidson, & Perrewé, 2005; Ferris et al., 2008; Semadar, Robbins, & Ferris, 2006), and moderators of stress-strain (e.g., Perrewé et al., 2004) and influence tactics-performance (e.g., Treadway, Ferris, Duke, Adams, & Thatcher, 2007) relationships. In addition, it might be that political skill may also play a facilitating role with proactive personality in the prediction of entrepreneurial leadership.

Entrepreneurial leaders elicit high levels of participation and involvement by the group and they orchestrate constantly changing role definitions driven by an uncertain organizational context (Gupta, McMillan & Surie, 2004). Entrepreneurial leadership requires an ability to be effective at bargaining and team building and emphasizes path clearing for opportunity exploitation and value creation (Gupta, McMillan & Surie, 2004). In their "path-clearing" role,

entrepreneurial leaders negotiate the internal and external environments (Cyert & March, 1966; Thompson, 1983). They are able to anticipate and dissolve potential resistance, obtain support from key stakeholders within the firm as well as from external constituencies, and eliminate obstacles to the accomplishment of desired goals. Critical resources and information are thereby made available (Daily & Dalton, 1993; Lewis, 1980). To be successful at all of this requires a leader with political skill.

***Proposition 3: Political skill will moderate the relationship between proactive personality and entrepreneurial leadership such that the higher the political skill score, the more individuals will display entrepreneurial leadership.***



## FUTURE DIRECTIONS

Researchers need to conceptualize entrepreneurial leadership frameworks that can be utilized to develop individuals who can make positive impacts in their organizations. This will link entrepreneurial leadership with human resource development and it will aid in developing individuals who have a desire to create value in their firms.

There is also general agreement that social networks play a major role in the entrepreneurial process by providing the fundamental resources necessary for starting a business (Boyd, 1989). This has implications for entrepreneurial leadership and there is also a need to determine if a social network plays a role in individuals becoming entrepreneurial leaders and whether it facilitates the entrepreneurial leadership process via strong or weak ties.

Future research should also consider other possible moderating mechanisms involved in the proactive personality and entrepreneurial leadership relationship. It is possible that organizational climate, achievement goals, locus of control, and entrepreneurial self-efficacy moderate the relationship between proactive personality and entrepreneurial leadership. Researchers should also try to determine if gender role orientation plays a role because the career psychology literature provides a substantial amount of evidence that gender is a significant variable in understanding differences in career self-efficacy (Lent & Hackett, 1987; Nevill & Schleckler, 1988). Overall, empirical evidence suggests that women are likely to have lower expectations than men for success in a wide range of occupations (Eccles, 1994); however, I suspect that this may not be the case for women's desire to become entrepreneurial leaders.

### **IMPLICATIONS**

The ability for practitioners to identify individuals that will successfully lead innovation in the workplace is very beneficial for organizations. As previously stated individuals with a prototypical proactive personality identify opportunities and act on them, show initiative, take action, and persevere until meaningful change occurs (Crant, 2000, p. 439) and this has tremendous implications because these individuals may be more successful in becoming leaders in the workplace because of their desire to take action and to create a positive change in their work environment. Practitioners may want to identify employees that identify with an organization because they may be more likely to remain with the organization and to expend effort on behalf of the organization (Dutton, Dukerich, & Harquail, 1994); this has implications because employees who strongly identify with an organization may strive to create value for the firm. It may also be beneficial to identify those proactive individuals who are politically skilled because of their ability to read others and suitably adjust their behavior in accordance with the situation to achieve favorable outcomes such as creating a vision and a cast of supporters capable of enacting that vision (Gupta, McMillan & Surie, 2004). Also if the findings do indeed show that the moderating variables (organizational identification and political skill) moderate the relationship, steps should be taken to continue and implement HR practices that will create a climate that fosters organizational identification; also steps should be taken to offer training in political skill.

### **CONCLUSION**

Dispositional characteristics have not been emphasized in previous studies, which have tended to rely more heavily on situational variables (Naquin & Holton, 2002). The goal of this article is to show the importance of looking at proactive personality, organizational identification, and political skill in the context of entrepreneurship leadership. Individual differences such as personality may be useful in predicting entrepreneurial leadership and it has

several implications for practice. Leadership research indicates that the trait approach facilitates the selection of leaders. Viewed from a selection perspective, organizations can determine the desired employee profile to meet their needs (Naquin & Holton, 2002). The concept of entrepreneurial leadership has become increasingly important because organizations must be more entrepreneurial to enhance their performance, their capacity for adaptation and long-term survival (Gupta et al., 2004). Proactive individuals may be more successful in entrepreneurial leadership and may contribute more to the organization. Proactive personality, which is the tendency to show initiative and take action in one's environment in order to effect meaningful change, may be more specifically tailored to predicting entrepreneurial leadership in firms than the more general Big Five factors and facets. The proactive personality construct fits well conceptually with the current emphasis on entrepreneurial leadership and has been linked empirically to a number of career outcomes (Seibert et al., 1999).

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