Volume 15, Numbers 1 and 2 **ISSN 1087-9595**

ACADEMY OF ENTREPRENEURSHIP JOURNAL

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Academy Information
is published on the Allied Academies web page
www.alliedacademies.org

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Whitney Press, Inc.

Printed by Whitney Press, Inc.
PO Box 1064, Cullowhee, NC 28723
www.whitneypress.com

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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, understanding, and teaching 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.

As editors, we intend 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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This is a combined edition containing both Volume 15, Number 1, and Volume 15, Number 2

Articles for Volume 15, Number 1

SATISFACTION, STRESS, AND ENTREPRENEURIAL INTENTIONS

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ABSTRACT

The role of satisfaction in initiating and sustaining an entrepreneurial venture has long been of interest, yet past studies often indicate conflicting findings. In a survey of practicing entrepreneurs, nascent entrepreneurs and organizational employees, this study examined a range of satisfaction constructs. Findings suggest changes in the source of satisfaction as the individual moves from nascent to practicing entrepreneur. The intentions of nascent entrepreneurs appeared to be driven by a combination of lower extrinsic work satisfaction and higher non-work satisfaction. On-going entrepreneurs, in contrast, had the highest levels of general and intrinsic work satisfaction compared to both the nascent and organizationally employed groups.

INTRODUCTION

Entrepreneurship is increasingly acknowledged in U.S. society as a realistic, sometimes even preferable, method of work. For example, the Kauffman Index of Entrepreneurial Activity indicates that new venture creation in the U.S. continues to rise (www.bizjournals.com, 2008), and the percentage of young people who strive to start their own business is both robust and growing (Timmons & Spinelli, 2007). Considering the rising acknowledgement of entrepreneurship's positive influences on society, it is important to understand the factors that influence entrepreneurial intentions. Such intentions, according to Krueger and Carsrud (1993), are the single best predictor of entrepreneurial actions.

Previous research indicates a type of incubation period exists for individuals prior to the start of a new venture. Work and life satisfaction may be contributing factors in this period (Cromie & Hayes, 1991; Henley, 2007). Unfortunately, despite much research considering the influence of work and life satisfaction on entrepreneurial intentions, there is still conflicting evidence in this area. For example, in the most recent studies, Henley (2007) and Schjoedt and Shaver (2007) find opposite levels of job satisfaction for nascent entrepreneurs. Some of the earlier studies utilized entrepreneurs' remembered dissatisfaction with previous employment, as opposed to satisfaction with a current organizational work situation, which is potentially problematic. The more recent studies (e.g. Henley, 2007; Schjoedt & Shaver, 2007) vary in their definition of comparison groups, which may serve as a possible explanation for the conflicting findings. For example, in Henley's

(2007) study, all adults who are economically active are asked about entrepreneurial aspirations, utilizing the British Household Panel Survey. Those who are already self-employed and state entrepreneurial intentions are grouped with true nascent entrepreneurs, aspiring entrepreneurs who have never started a business. The individuals who are self-employed and state entrepreneurial intentions are considered to be moving into a new venture. Schjoedt and Shaver (2007) use the Panel Study of Entrepreneurial Dynamics and compare individuals already in the process of starting a business – who answer job satisfaction questions in regard to a former organizational job – with a comparison group not engaged in starting a business. An implied assumption is that the comparison group represents organizational employees. Neither of these studies breaks out job and life satisfaction levels into organizational employees, nascent entrepreneurs, and those already engaged in self-employment.

It is also quite possible that other influential factors may have an interactive effect with satisfaction on entrepreneurial intentions. For example, research indicates that the reasons for starting a business differ between women and men, with pull factors related to internal satisfaction appearing to be more important for women than external factors (Buttner & Moore, 1997; Brush, 1992). Yet, despite a moderate literature base on female entrepreneurial intentions, studies regarding gender differences in satisfaction with entrepreneurial and pre-entrepreneurial work are quite limited. Men and women differ in the effects of marital status on entrepreneurial intentions as well (Schiller & Crewson, 1997). It appears there is a greater opportunity cost for married men to pursue new venture creation than there is for married women. Thus, it is possible that, from a push perspective, married men need a higher level of dissatisfaction with their current job to pursue entrepreneurship than married women. This difference may also exist between married and unmarried men.

The purpose of this study is to provide a deeper understanding of entrepreneurial intentions by comparing multiple types of work satisfaction, life satisfaction, and stress level among three distinct groups: nascent entrepreneurs who plan to initiate a new venture but are still organizationally employed, organizational employees who do not wish to initiate a new venture, and current entrepreneurs. Thus, satisfaction and stress for those respondents who intend to leave their organization but have not yet done so, versus actual entrepreneurs and organizational employees with no intention of pursuing entrepreneurial activity, is reflected in the data. The three-group comparison provides a richer context and deeper examination of entrepreneurial intentions than some of the previous work in this area. Current research is also extended in this study by explicitly considering intrinsic and extrinsic work satisfaction, with gender and marital status considered as potential interactive factors. Thus, compared with previous work, the sample groups and satisfaction measures in this study are extended, and potential interactive factors are added.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Job Satisfaction

Entrepreneurial intentions have been studied for decades, with primary emphasis in earlier studies placed on an individual's level of satisfaction, referred to by some researchers as dissatisfaction, with their current employment. A long established definition of job satisfaction was developed by Locke (1976), who referred to it as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences (p. 1300). As noted by Schjoedt and Shaver (2007), conceptual models of new venture creation (Powell & Bimmerle, 1980; Shapero & Sokol,1982; Herron & Sapienza, 1992) position job dissatisfaction as a push factor which drives the initiation of a business as a way to escape a current job.

Job satisfaction can be separated into extrinsic and intrinsic dimensions (Brooke, Russell, & Price, 1988; James & James, 1989; Mathieu & Farr, 1991). Extrinsic job satisfaction is how one feels about job factors that are external to the actual tasks required, while intrinsic job satisfaction refers to an individual's sentiments about the actual work involved with a job (Hirschfield, 2000). From a work value orientation an extrinsic orientation is focused on material acquisition; an intrinsic orientation is related to the desire to achieve self-development in the workplace (Vansteenkiste et al., 2007). An external orientation is associated with lower levels of satisfaction (Behrman & Perreault, 1984), while an internal focus is positively related to job satisfaction (O'Reilly & Caldwell, 1980; Sujan, 1986). Surprisingly, research comparing extrinsic and intrinsic job satisfaction of entrepreneurs with that of organizational employees is essentially non-existent. It is important to examine each of these types of satisfaction, since individuals may report similar overall work satisfaction, for entirely different reasons.

Cooper (1970, p.11) described organizational employment as an incubator in which the "…satisfactions and frustrations help to influence the motivation of the prospective entrepreneur." And Shapero (1975) referred to a "displacement event," which for many is considered to be lack of satisfaction with current employment, creating the potential for entrepreneurial activity. Research based on national surveys (Blanchflower & Oswald, 1998; Bradley & Roberts, 2004) and panel data (Benz & Frey, 2008) in both the U.S. and Europe indicate that the self-employed have a higher level of job satisfaction than the organizationally employed. These findings support early work conducted by Brockhaus (1980), who utilized a retrospective measure and determined that entrepreneurs have lower satisfaction levels with their prior employment than current organizational employees. Cromie and Hayes (1991) conducted a survey of nascent entrepreneurs, thus avoiding a retrospective bias, reporting similar findings of dissatisfaction with previous organizational employment. More recently, Henley (2007), using a national panel survey in Great Britain, found a connection between current job dissatisfaction and entrepreneurial aspirations; however, job dissatisfaction appears to be insufficient for the actual initiation of a new venture. In contrast to these findings, however, are the results of a recent study conducted by Schjoedt and Shaver (2007). Using the Panel Study of Entrepreneurial Dynamics data, these authors found that the pre-entrepreneurial job satisfaction of nascent entrepreneurs was actually higher than that of the representative comparison group. Schjoedt and Shaver reasoned that entrepreneurs are more optimistic people than non-entrepreneurs in general, referring to a study of the differences between entrepreneurs and managers by Busenitz and Barney (1997).

Despite some conflicting results, prior research indicates that there are indeed differences in general job satisfaction among practicing entrepreneurs, nascent entrepreneurs, and organizational employees. Furthermore, the studies conducted by Brockhaus (1980), Cromie and Hayes (1991), and Henley (2007) suggest nascent entrepreneurs experience lower levels of general job satisfaction with their current organizational employment than organizational employees who have no entrepreneurial intentions. Additionally, studies by Blanchflower and Oswald (1998), Bradley and Roberts (2004), and Benz and Frey (2008) imply that practicing entrepreneurs experience higher levels of general job satisfaction than organizational employees. Based on this evidence and studies positioning job dissatisfaction as a push factor driving the initiation of a business (Powell & Bimmerle, 1980; Shapero & Sokol, 1982; Herron & Sapienza, 1992), we suggest the following hypotheses:

H1: General job satisfaction will be significantly different across entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions).

H1a: Nascent entrepreneurs will report <u>lower</u> levels of general job satisfaction compared to organizational employees.

H1b: Entrepreneurs will report <u>higher</u> levels of general job satisfaction compared to organizational employees.

Research characterizing the job satisfaction of entrepreneurs into extrinsic and intrinsic dimensions is quite limited. While a study by Kuratko, Hornsby and Naffziger (1997) found entrepreneurs sought both intrinsic and extrinsic rewards in sustaining their ventures, no studies have contrasted entrepreneurs' intrinsic/extrinsic work satisfaction with that of nascent entrepreneurs and organizational employees. Intrinsic job satisfaction has been found to play a more significant role in actual turnover behavior than extrinsic job satisfaction (Udechukwu, 2007; Tang, Kim, & Tan, 2000). Brockhaus (1980) used the Job Description Index (JDI) to assess job satisfaction, which broke it out into the components of promotion, co-workers, supervision, pay, and the work itself. Of these dimensions, the assessment of the work itself is somewhat of a proxy for an intrinsic job satisfaction measure. It is noteworthy that the lowest score for entrepreneurs regarding satisfaction with their pre-entrepreneurial employment is in the work component. Since Brockhaus assessed job satisfaction for individuals who had made the decision to leave organizational employment, his findings are consistent with other research that demonstrates the influence of intrinsic job satisfaction on turnover intention (Udechukwu, 2007; Tang, Kim, & Tang, 2000). Thus, there is some indication that dissatisfaction with the internal dimension of work satisfaction serves as a significant push factor in entrepreneurial intention. While research is limited, we can infer from Brockhaus' (1980) findings regarding entrepreneurs' pre-entrepreneurial employment satisfaction, and from the studies on turnover effect (Udechukwu, 2007; Tang, Kim, & Tan, 2000) that intrinsic job satisfaction varies among entrepreneurial intention groups, and that nascent entrepreneurs experience lower levels of intrinsic job satisfaction with current organizational employment than organizational employees with no entrepreneurial intention. Thus, we propose the following hypotheses:

> *H2:* *Intrinsic job satisfaction will be significantly different across entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions).*

> *H2a:* *Nascent entrepreneurs will report <u>lower</u> levels of intrinsic job satisfaction compared to organizational employees.*

While there are few studies of intrinsic work satisfaction for practicing entrepreneurs, studies of general job satisfaction indicate a higher level for this group compared with organizational employees (Blanchflower & Oswald, 1998; Bradley & Roberts, 2004; Benz & Frey, 2008). Additionally, there is a general correlation between overall job satisfaction and specific dimensions of satisfaction (Udechukwu, 2007) so a type of spillover effect may occur. Furthermore, predicting higher intrinsic satisfaction for practicing entrepreneurs is an extension of the limited evidence found by Brockhaus (1980) that nascent entrepreneurs experience higher intrinsic satisfaction than they did as organizational employees. Using these factors as support, we can infer:

> *H2b:* *Entrepreneurs will report <u>higher</u> levels of intrinsic job satisfaction compared to organizational employees.*

The absence of research comparing extrinsic job satisfaction of entrepreneurs, nascent entrepreneurs, and organizational employees is apparent. Yet, there is evidence that nascent entrepreneurs have lower levels of general job satisfaction than organizational employees (Brockhaus, 1980; Cromie & Hayes, 1991; Henley, 2007). And studies indicate that entrepreneurs have higher levels of general job satisfaction than organizational employees (Blanchflower & Oswald, 1998; Bradley & Roberts, 2004; Benz & Frey, 2008). In a survey of practicing entrepreneurs (Kuratko, Hornsbey & Naffziger, 1997), extrinsic outcomes were rated as the most valued goal of their ventures. Following the assumption that a higher level of general work satisfaction will correlate with higher satisfaction levels within specific dimensions of the construct we can infer the following hypotheses:

> *H3: Extrinsic job satisfaction will be significantly different across entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions).*

> *H3a: Nascent entrepreneurs will report lower levels of extrinsic job satisfaction compared to organizational employees.*

> *H3b: Entrepreneurs will report higher levels of extrinsic job satisfaction compared to organizational employees.*

Non-Work (Life) Satisfaction and Work Stress

Life satisfaction has been conceptualized as a pull factor in new venture creation (Schjoedt & Shaver, 2007), in which the promise of an improved living situation positively influences an individual's entrepreneurial intentions. A number of researchers have considered the relationship between life and work satisfaction. In a meta-analysis of more than 30 separate studies, Tait, Padgett and Baldwin (1989) found a consistent and strong positive correlation between job and life satisfaction. Rousseau (1978) also found a positive relationship between work and non-work satisfaction, using Wilensky's (1960) spillover model as the theoretical basis of her research. The premise of the spillover model is that work experiences will carry over into non-work situations. For example, un-enriched work is connected with non-work life that is similarly lacking in full and interesting events, whereas the opposite effect occurs with a lively and productive work environment. The compensatory model, however, is in theoretical opposition to the spillover model. The basis of the compensatory model is a negative relationship between work and non-work experiences. With this theory, an individual will compensate for an un-enriched work life with interesting and motivating non-work activities. Rousseau points out that the spillover model may be applicable for a wide range of jobs but that the compensatory model may be applicable for jobs with extremely undesirable features. That is, exceptionally un-enriched work may result in compensatory non-work activities.

Following our earlier hypotheses, nascent entrepreneurs experience lower levels of job satisfaction than organizational employees and practicing entrepreneurs. Thus, applying the spillover model (Wilensky, 1960), nascent entrepreneurs will experience subsequent lower levels of non-work satisfaction than the other two groups. Considering hypotheses H_{1b}, H_{2b}, and H_{3b}, entrepreneurs experience higher levels of job satisfaction than organizational employees. Therefore, again applying the spillover model (Wilensky, 1960), entrepreneurs will experience subsequent higher levels of non-work satisfaction than organizational employees. This rationale provides the basis for the following hypotheses:

H4: Non-work satisfaction will be significantly different across entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions).

H4a: Nascent entrepreneurs will report lower levels of non-work satisfaction compared to entrepreneurs.

H4b: Nascent entrepreneurs will report lower levels of non-work satisfaction compared to organizational employees.

H4c: Entrepreneurs will report higher levels of non-work satisfaction compared to organizational employees.

Physical stress has been associated with job and life dissatisfaction (Jamal 1997), and there has been some research concerning the stress level entrepreneurs face compared with non-entrepreneurs (Buttner, 1992; Chay, 1993; Harris, Saltstone, & Fraboni, 1999; Jamal, 1997). In Jamal's (1997) study, entrepreneurs reported significantly higher non-work satisfaction, but also higher physical stress, than the organizationally employed. Jamal's findings partially support those of Buttner (1992) who found entrepreneurs had higher stress, more health problems, and are less satisfied than managers. In an earlier study, however, Chay (1993) found no difference between entrepreneurs and organizational employees in psychological health. Harris, Saltstone, and Fraboni (1999) conducted a deeper investigation of job stress for entrepreneurs. According to their study, workload results in a higher level of stress for entrepreneurs than role ambiguity and underutilization of skills. These findings give some indication that the sources of work stress may differ for entrepreneurs and organizational employees. Whatever the characteristics of a work environment, stress is due to an individual's perception. Consequently, given the same set of work demands, those who perceive the situation as overwhelming are more likely to feel stress (Roberts, Lapidus, & Chonko, 1997). Thus, personal characteristics of entrepreneurs versus organizational employees may be a factor in work stress level variance between the two groups. For the most part, these differences remain unclear. Based on the research conducted to this point, however, there is evidence that entrepreneurs have an increased level of work stress compared to non-entrepreneurs. Thus, we propose the following hypotheses:

H5: Perceived work week stress will be significantly different across entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions).

H5a: Entrepreneurs will report higher levels of perceived work week stress compared to organizational employees.

Interaction Effects of Gender and Marital Status

It is unlikely that job and life satisfaction, along with work stress, function in a vacuum, without influence from other factors. Two of these factors – gender and marital status – have received limited attention in research regarding entrepreneurs and entrepreneurial intention. Early research on male and female entrepreneurs has revealed few differences as a function of gender (Fagenson, 1990; Kalleberg & Leicht, 1991; Masters & Meier, 1988; Stevenson, 1986). Additionally, no gender differences in either pre-entrepreneurial work satisfaction (Schjoedt & Shaver, 2007) or entrepreneurial stress (Buttner, 1992) have been identified by the limited research that has been conducted in these areas. Men are still more active in entrepreneurial activity than women, however, despite the increase in the number of women-owned businesses (Bullvaag, Acs, Allen, Bygrave, & Spinelli, 2005).

Some studies suggest that in similar work conditions, women express higher levels of job satisfaction than men (D'Arcy, Syrouk & Siddique, 1984; Phelan, 1994). Examining the sources of job satisfaction, Lambert (1991) suggests extrinsic and intrinsic factors are valued differently by men and women. Job satisfaction for males in Lambert's study was more strongly affected by extrinsic factors; in contrast, when more intrinsic social aspects of work were controlled for, males and females in this study had comparable satisfaction levels. Having meaningful work promotes satisfaction; however, for women, satisfaction may rest more on intrinsic factors, while for men, extrinsic work factors may be more important.

It is also apparent from previous studies that the likelihood of pursuing entrepreneurship may be affected by gender and marital status. Pull factors related to internal satisfaction appear to be more important to women than external factors. Buttner and Moore (1997) found that challenge and self-determination, along with the desire to balance family and work responsibilities, were among the most important motivations for women who left large organizations to become entrepreneurs. These findings support earlier studies, such as those conducted by Bigoness (1988) and Brenner and Tomkiewicz (1979) who found that intellectual stimulation and opportunities for personal and professional growth strongly influence job preferences for women. Similarly, Brush (1992) determined that women business owners balance intrinsic goals – like personal enjoyment and helping others – with economic goals. In a more recent study, Carter, Gartner, Shaver, and

Gatewood (2003) discovered that rating of 'desire for independence' was the highest scored career reason for both male and female nascent entrepreneurs. And while financial success was important to women considering opening their own business, it was less important than it was to men.

Marital status appears to play a role in entrepreneurial intentions as well. Specifically, it has opposite effects on entrepreneurial intentions for women than for men. Marriage reduces the probability of self-employment for men while it increases it for women (Schiller & Crewson, 1997), presumably because the husband's primary employment enables the wife to purse riskier secondary employment. Thus, greater job related dissatisfaction may be required to motivate entrepreneurship for this group. The opportunity cost effect lends support to the traditional roles played by women and men, which further suggests that women have a greater need to balance work with family and household responsibilities. In general, there is little research that considers marital status alone in entrepreneurial intentions. Thus, it is possible that it plays a role as one of several contributing factors.

Finally, there are indications that perceptions of non-work satisfaction differ by both gender and marital status. Using results from the General Social Surveys of the United States from 1972 to 1998, Blanchflower and Oswald (2004) found men tend to report lower life (non-work) satisfaction than women. In contrast, marriage, for both men and women, produced significant increases in life satisfaction.

While previous studies indicate possible differences in satisfaction by gender and marital status, much is unknown about the effect of these factors on the various types of pre-entrepreneurial satisfaction and stress. This is especially true when considering the three different entrepreneurial intention groups. In short, the possible effects are complex and quite possibly interrelated as multiple contributing factors on entrepreneurial intentions. There is insufficient research to predict directional hypotheses among the entrepreneurial intention groups; however, evidence from earlier studies does indicate potential interactive effects from gender and marital status. Thus, we predict the following hypotheses:

H6: There will be significant interactions among entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions) and gender and marital status in measures of general job satisfaction.

H7: There will be significant interactions among entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions) and gender and marital status in measures of intrinsic job satisfaction.

H8: There will be significant interactions among entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions) and gender and marital status in measures of extrinsic job satisfaction.

H9: There will be significant interactions among entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions) and gender and marital status in measures of non-work satisfaction.

H10: There will be significant interactions among entrepreneurial intention group (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions) and gender and marital status in measures of perceived work week stress.

METHOD

This study involved examining the effects of entrepreneurial intentions, and interactions with gender and marital status, on measures of work satisfaction (general, intrinsic and extrinsic), non-work satisfaction and perceived work week stress. While not a variable of primary interest, age can be a factor in entrepreneurial intentions. Reynolds (1997) found the rate of entrepreneurship among those aged 25 to 34 was three times that of those between 18 and 25 and between 35 and 54 years old. In the Reynolds study, nascent entrepreneurship was rare among those aged 55 and older, but findings reported in the Panel Study of Entrepreneurial Dynamics (2002) suggest it may no longer be so unusual in this age group. Since it was necessary to control for the influence of age in order to examine potential differences in satisfaction and work related stress, analysis of covariance (ANCOVA) was used. This procedure allowed the variables of interest to be analyzed, while adjusting for the potentially confounding effects of age.

Data for this study were gathered by means of a structured questionnaire administered through telephone interviews to randomly selected residents of a major southeastern U.S. metropolitan area. Respondents provided self-ratings which were used to assess the primary research questions in the study. Respondents were screened based on their current employment status and only working respondents were included in the final sample. Those who indicated they currently operated a business of their own were categorized as entrepreneurs. Those who indicated they were likely to start a business of their own in the next five years were categorized as nascent entrepreneurs. The remaining group consisted of those who were currently employed by an organization and stated that they were not at all likely to launch a business. The final sample was based on a total of 631 completed interviews: 119 entrepreneurs; 142 nascent entrepreneurs; and 370 organizationally employed individuals.

Measures

The following dependent variable measures were used to assess the hypotheses:

General work satisfaction

Providing an overarching assessment of work satisfaction, this variable was measured using a scale based on items developed by Dubinsky and Hartley (1986) and Hunt and Chonko (1984). Examples of these questions include "Most people doing the kind of work I do are very satisfied," and "Generally speaking, I am satisfied with my work." Respondents indicated on a five point response scale anchored by strongly agree / strongly disagree; higher scores represent higher levels of satisfaction.

Intrinsic work satisfaction

Four items comprised the intrinsic satisfaction scale which was based on measures developed by Sujan (1986) and Lucas, Parasuramen, Davis and Enis (1987). Intrinsic items included "I get a lot of personal satisfaction from my work" and "My work is interesting." Using a five point response scale anchored by strongly agree / strongly disagree, higher scores on this scale represent higher levels of intrinsic satisfaction.

Extrinsic work satisfaction

This variable was measured by four items using a five point response scale anchored by strongly agree / strongly disagree adapted from Teas (1980) and Hunt and Chonko (1984). Extrinsic items focused on external outcomes from work such as financial, security, position and social interactions. Higher scores on this scale represent higher levels of extrinsic satisfaction.

Non-work satisfaction

This variable was assessed by a four-item scale that was based on Rousseau's (1978) adaptation of the Job Diagnostic Survey (Hackman & Oldham, 1975). Scale questions included: "I use a lot of my skills and talents on things I do when I am away from work;" "I have the opportunity to make friends outside of work;" "I do a lot of different things when I'm away from work;" and "Overall, I'm satisfied with my life outside of work." Using a five response option anchored by strongly agree / strongly disagree, a higher score on this scale indicates a greater degree of non-work satisfaction.

Perceived work week stress

Perceived work week stress was measured by using items similar to those employed by Jamal (1997) and Rousseau (1978). These questions asked the respondents to think about a typical work week and rate how often they experienced headaches, upset stomach, trouble sleeping, tension, and fatigue during the day. Each health problem was rated on a five-point response scale ranging from never to almost always based on how frequently respondents perceived experiencing it in a typical work week.

RESULTS

Demographic characteristics of the total sample indicate an average age of just over 37 years; about 53 percent of the sample were female, with 45 percent possessing at least an associate's degree. Just over 30 percent of the sample had a parent who operated a business of their own. Some demographic differences were apparent across the entrepreneurial intentions categories. Of the three groups, entrepreneurs were older and most likely to be married, while nascent entrepreneurs were youngest and least likely to be married. Both the entrepreneur and nascent entrepreneur groups were more likely to have had an entrepreneurial role model in a parent. Males predominated in the entrepreneur group, while females predominated in the group that preferred organizational employment; the nascent entrepreneur group was more evenly split on gender.

Each of the dependent variables used in this study was calculated using a summated mean value for each scale. Reliability of each scale was assessed using Cronbach's α; scale reliability ranged from .70 to .85. Table 1 provides descriptive statistics and correlations among the variables used in this study. Consistent with prior research, there were positive correlations among all types of satisfaction and non-work satisfaction. All types of satisfaction were positively related to age, but negatively correlated with work week stress.

To test the hypotheses, analysis of covariance was run on each dependent variable (general, intrinsic, and extrinsic work satisfaction, non-work satisfaction and work week stress) using the three groups (practicing entrepreneurs, nascent entrepreneurs, and organizational employees who have no entrepreneurial intentions), gender and marital status as independent variables, while controlling for the effects of age as a covariate. No interaction effects were significant for any of these analyses. Consequently, gender and marital status were excluded from further analysis.

Table 1: Means, Standard Deviations and Correlations Among Variables
(N=631)

Variable[a]	Mean	SD	1	2	3	4	5	6	7	8	9
Independent variables:											
1	Entrepreneurial Intention	NA	-----								
2	Gender	NA	-----	-.189**							
3	Marital Status	NA	-----	-0.074	0.029						
Dependent variables:											
4	General job satisfaction	3.95	0.82	.175**	-.198**	-.067	(0.78)				
5	Intrinsic job satisfaction	3.76	1.07	.160**	-.068	-.102*	.732**	(.85)			
6	Extrinsic job satisfaction	3.73	0.91	-.019	-.120**	-.036	.602**	.496**	(.74)		
7	Non-work Satisfaction	3.98	0.83	.111**	-.101*	-.082*	.177**	.166**	.175**	(.70)	
8	Perceived work week stress	2.3	0.84	-.003	.177**	.064	-.305**	-.259**	-.218**	-.205**	(.70)
Covariate:											
9	Age	37.1	12.3	.097*	-.024	-.380**	.140**	.173**	.080*	-.062	-.123**

Note: Reliabilities (Cronbach's α) are provided on the diagonal in parentheses for all dependent variables.
a Entrepreneurial Intentions coded as Organizational Employees (not interested in becoming an entrepreneur) '1,' Nascent Entrepreneur (organizational employees who want to start their own business) '2,' and Entrepreneur (currently operate their own business) '3.' Spearman's correlations are reported for Entrepreneurial Intentions; all others are Pearson correlations. Gender and Marital Status coded as Male '1,' Female '0;' Married '1,' Unmarried '0.'Satisfaction and Perceived Stress scales reported on a '1' to '5' range.
** significant at < .01
* significant at < .05

For general and intrinsic job satisfaction differences across the three groups were significant ($_{General}$ $F=14.68$, $p\leq .000$; $_{Intrinsic}$ $F=13.92$, $p\leq .000$), supporting H1 and H2. (See Table 2.) Bonferroni tests were used to make additional pairwise comparisons. In both instances, nascent entrepreneur satisfaction ($M_{General}=3.83$; $M_{Intrinsic}=3.59$) was not significantly lower than that of organizational employees ($M_{General}=3.86$; $M_{Intrinsic}=3.67$), resulting in a lack of support for H1a and H2a. However, practicing entrepreneurs reported significantly greater ($p=\leq .000$) levels of both types of satisfaction ($M_{General}=4.31$; $M_{Intrinsic}=4.22$), than organizational employees, supporting H1b and H2b. For general and intrinsic, nascent entrepreneur satisfaction levels more closely resembled those of organizational employees.

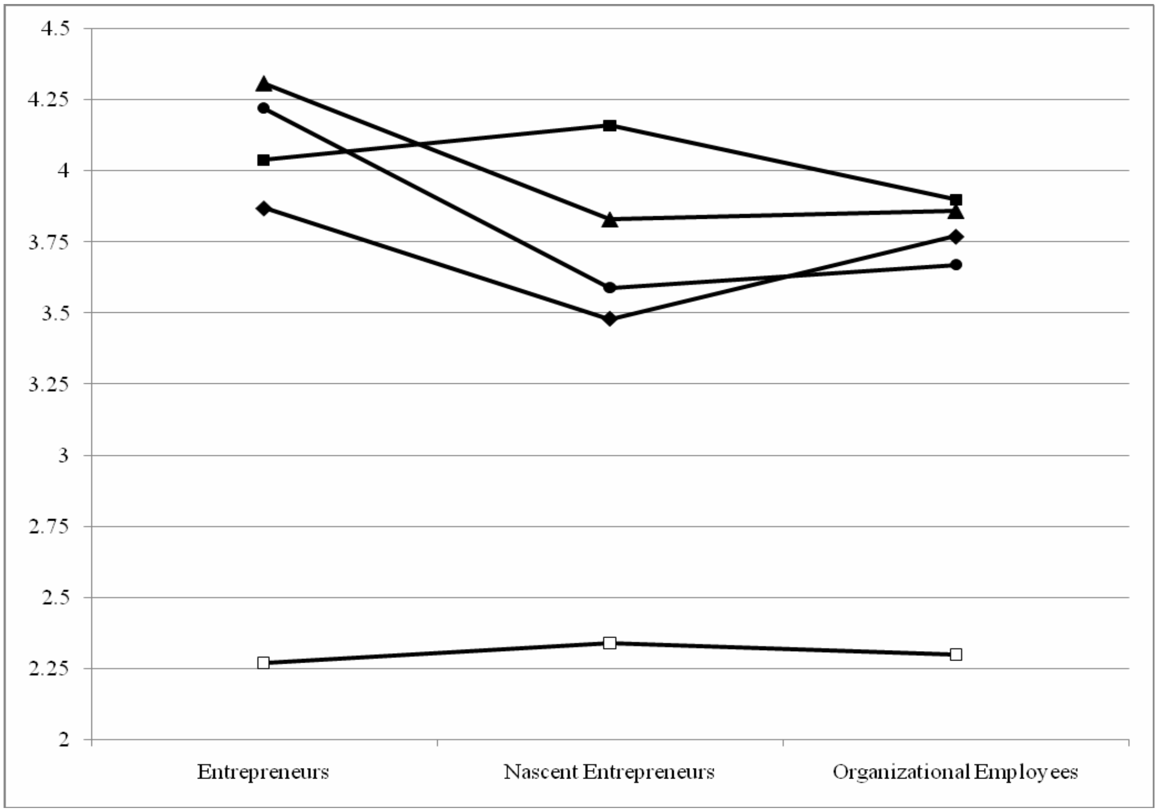
Table 2: ANCOVA Results Satisfaction, Stress and Entrepreneurial Intentions					
	Entrepreneurs (Currently operate own business)	Nascent Entrepreneurs (Organizational employees who want to start their own business)	Organizational Employees (Not interested in becoming an entrepreneur)		
	n=119	n=142	n=370	F	P
General job satisfaction	4.31	3.83	3.86	14.68	0.000
Intrinsic job satisfaction	4.22	3.59	3.67	13.92	0.000
Extrinsic job satisfaction	3.87	3.48	3.77	6.63	0.001
Non-work Satisfaction	4.04	4.16	3.9	5.17	0.006
Perceived work week stress	2.27	2.34	2.3	0.19	0.831

Differences across the three groups in extrinsic job satisfaction were also significant ($F=6.63$, $p\leq .001$), supporting H3. Pairwise examination revealed that nascent entrepreneur extrinsic job satisfaction ($M_{Extrinsic}=3.59$) was significantly lower ($p=\leq .002$) than that of organizational employees ($M_{Extrinsic}=3.67$). Thus, H3a was supported. Extrinsic satisfaction levels of entrepreneurs ($M_{Extrinsic}=3.87$) were not significantly greater than those of organizational employees; as a result, H3b was not supported.

Non-work satisfaction levels differed significantly across the three groups ($F=5.17$, $p\leq .006$), supporting H4. However, non-work satisfaction of nascent entrepreneurs ($M_{Non\text{-}work} = 4.16$) was not significantly different than that of entrepreneurs ($M_{Non\text{-}work} = 4.04$). Thus H_{4a} was not supported. Rather than the anticipated lower levels, satisfaction outside of work was significantly greater ($p\leq .001$) for nascent entrepreneurs ($M_{Non\text{-}work}=4.16$) than that reported by organizational employees ($M_{Non\text{-}work}=3.90$), leading to a lack of support for H4b. Finally, rather than higher levels, entrepreneurs' non-work satisfaction ($M_{Non\text{-}work}=4.04$) did not differ significantly from that of organizational employees; consequently H4c was not supported. As perceived work week stress did not differ significantly across the three groups, H5, in addition to H5a were not supported. The lack of any significant interaction effects among entrepreneurial intention group, gender and marital status resulted in a lack of support for H6- H10.

Figure 1 depicts the marginal means for all satisfaction and perceived work week stress variables across the three entrepreneurial intentions groups. It should be noted that all satisfaction levels for the three groups were well above the scale mid-point. Although the nascent entrepreneur group's satisfaction levels fell significantly below of those of organizational employees only in the extrinsic variable, nascent entrepreneur intrinsic and general job satisfaction levels were significantly lower than those of the entrepreneur group.

Figure 1: Marginal Means of Satisfaction and Stress and Entrepreneurial Intention



♦ Extrinsic job satisfaction
● Intrinsic job satisfaction
▲ General job satisfaction
■ Nonwork satisfaction
□ Perceived work week stress

DISCUSSION AND FUTURE RESEARCH

It is apparent from the current study that contrasts of entrepreneurs with the organizationally employed should take nascent entrepreneurs into account. In certain respects—general and intrinsic job satisfaction—the nascent entrepreneurs in this study resembled their organizational counterparts. Yet, in two areas—extrinsic and non-work satisfaction, clear differences were evidenced. Current findings suggest that organizational employees who had no entrepreneurial aspirations differed from the nascent group in these categories: they did not perceive a push for greater extrinsic rewards, or evidence a need for non-work satisfaction to compensate for their work situation. Rather, the group of organizational employees reported similar levels of all types of satisfaction; this is shown most clearly in Figure 1.

Results of the study indicate entrepreneurs have greater intrinsic and general job satisfaction than nascent entrepreneurs and the organizationally employed. This difference in general job satisfaction supports previous work indicating that the self-employed have higher levels in this area than the organizationally employed (Blanchflower & Oswald, 1998; Bradley & Roberts, 2004; Benz & Frey, 2008). While differences in intrinsic satisfaction between entrepreneurs and the organizationally employed have not been considered in previous research, it is understandable in an intuitive sense that entrepreneurs would gain greater fulfillment from the actual work involved with their job.

That nascent entrepreneurs had lower extrinsic, yet higher non-work satisfaction, supports work by Judge (1993), who found persons who were dissatisfied with their jobs, but with a positive outlook on life, were most likely to leave their jobs. Those with more positive life dispositions, Judge contends, perceive lower job satisfaction as a meaningful trigger: they are more willing to proactively change their lives. The nascent entrepreneur group represented those who had already made the decision to leave their organizational employment. Their higher levels of non-work satisfaction may represent the proactive attitude that will be necessary in the transition to entrepreneurship. This is further reinforced by the fact that 87 percent of these nascent entrepreneurs indicated their reason for starting a business of their own was an opportunity, rather than a necessity. It is interesting that nascent entrepreneurs have significantly lower levels of extrinsic satisfaction with their current organizational employment than entrepreneurs or organizational employees. By considering this result in conjunction with the higher level of intrinsic satisfaction for entrepreneurs a deeper understanding of the role of satisfaction in entrepreneurial intention emerges. Perhaps dissatisfaction with the external factors of a job provides the push for one to start his/her own business while intrinsic satisfaction is the reward for entrepreneurship.

Many entrepreneurs use a period of organizational employment as an incubator, gathering the skills, learning the market, and developing the network they will need in their own venture (Cooper, 1970). Westhead and Wright (1998) found nascent entrepreneurs were more likely to stay in the same industry as their last employer, using their work experience to recognize an opportunity and to attract the resources needed to pursue the opportunity. In the current study, while nascent entrepreneurs' intrinsic satisfaction was similar to that of their fellow organizational employees, their extrinsic satisfaction was significantly lower. These respondents approached entrepreneurship as a planned event, which could well incorporate facets of their pre-entrepreneurial work. At first glance, the current findings seem in contradiction to previous research which suggests lack of intrinsic, rather than extrinsic satisfaction, is more likely to trigger entrepreneurial intentions (Brockhaus, 1980; Tang, Kim & Tang, 2000; Udechukwu, 2007). For the nascent entrepreneurs in the current study, however, rather than a current lack of intrinsic satisfaction, the trigger may be the belief that more is possible for them: a greater satisfaction with work that is uniquely theirs, with the potential for greater extrinsic rewards as well.

Blanchflower and Oswald (2004) report that income, particularly perception of relative income, has a strong positive relation to life satisfaction. Yet, nascent entrepreneurs in the current study, who, compared to entrepreneurs and the organizationally employed, were least satisfied with their extrinsic job characteristics, reported the greatest non-work satisfaction. This finding fits with Wilensky's (1960) compensatory model in which individuals compensate for an un-enriched work life with fulfilling non-work activities. Moreover, the nascent entrepreneur group's higher level of non-work satisfaction adds support to the contention by Schjoedt and Shaver (2007) that non-work satisfaction is important in new venture creation. Entrepreneurs, with the highest levels of intrinsic and general job satisfaction, however, evidenced no more non-work satisfaction than organizational employees. Thus, there may be changes in the sources of satisfaction as an individual moves from organizational employment to entrepreneurship. Possibly, an increase in intrinsic satisfaction blurs the line between work and non-work satisfaction so that there is no longer a need to compensate for an area of lower satisfaction.

Finally, there were no differences in perceived work week stress among the three entrepreneurial intentions groups. This is somewhat surprising considering the differences among the groups in the various types of satisfaction. However, levels for intrinsic satisfaction and general satisfaction were relatively high for all three groups. Thus, it is possible that perceptions of work week stress were not a major factor for this sample.

Anticipated interactions among entrepreneurial intentions, marital status, and gender were not demonstrated, indicating that the differences among the entrepreneurial intentions groups were not affected by gender or marital status. While somewhat surprising, this finding does not necessarily mean that gender and marital status are not relevant, but that other related issues, such as the presence of dependents, need to be considered. De Martino and Barbato (2003) surveyed male and female MBA entrepreneurs and found that the motivations for starting a business differed significantly by gender when children were present, with family issues carrying much greater weight for married women with dependents than for married and single women without dependents. Moreover, Kuratko, Hornsby and Naffziger (1997) suggest that for many entrepreneurs, the goal of creating a business to pass on to dependents may at times overshadow intrinsic and extrinsic factors.

Despite a considerable literature base in the area of entrepreneurial intentions, much remains to be discovered before a deep understanding emerges of what influences the decision to engage in entrepreneurial activity. From the current study, several areas for future research become apparent. It is clear that extrinsic and intrinsic work satisfaction play different roles in entrepreneurial intentions, but the particular relevance of each is still unknown. Based on the results of hypotheses H2b, H3, and H3a , dissatisfaction with the external factors of a job provides the push for an individual to start his/her own business, with greater intrinsic satisfaction the reward for entrepreneurship. Thus, the results indicate a lack of external reward is the impetus for entrepreneurial pursuit. But just how much extrinsic work dissatisfaction is needed for that push? And how strong a role does the desire for greater intrinsic reward play in entrepreneurial intentions if extrinsic satisfaction is at a relatively high level? In other words, are there times when the desire for a greater intrinsic reward alone is strong enough to provide the push needed to spur entrepreneurial pursuit?

The role of non-work satisfaction in the decision to start a business of one's own is also intriguing. This study reveals that there may be changes in the sources of satisfaction – from non-work to work satisfaction – as one moves from organizational employment to entrepreneurship. Is the greater non-work satisfaction evidenced by nascent entrepreneurs a reflection of opportunity seeking, proactive characteristics that become part of work attitudes post venture launch? Longitudinal studies to trace these possible changes, as well as shifts in extrinsic and intrinsic work satisfaction, could be fruitful.

Limitations

This study was based on a random sample, however, respondents were drawn from a single geographic area. Though generally a limitation, this approach also controlled certain external factors (business climate, local resources supporting entrepreneurship, etc.) which could contribute to systematic bias. Self-reported data, the basis for the analysis, can be subject to limitations of memory and social bias. While these problems confront any survey research, the current study design attempted to minimize retrospective memory problems; no systematic social bias was evidenced. Although the nascent entrepreneurs in this study expressed a strong intention of starting a business of their own, it is unlikely that all of these respondents would actually launch a venture. Additionally, the cross-sectional nature of this research limits the causal interpretation of findings. Longitudinal studies are needed to further examine the changes in satisfaction as individuals move from organizational employment to launch of a business venture.

Conclusions

Satisfaction as a stimulus for entrepreneurial intention was examined at a deeper level in this study with the use of a three-level comparison group – organizational employees with entrepreneurial intentions, organizational employees with no entrepreneurial intentions, and active entrepreneurs – and with the examination of multiple types of satisfaction. In particular, a more comprehensive evaluation of work satisfaction was conducted than in previous studies with the inclusion of both extrinsic and intrinsic, along with general job satisfaction. The limited literature base on entrepreneurial and nascent entrepreneurial life and work satisfaction, concurrent with stress, was expanded through the emphasis on these factors in this study, along with the inclusion of organizational employees who have no entrepreneurial intentions.

The importance of considering satisfaction as a multivariate construct is clear. This study indicates that lower extrinsic satisfaction with organizational employment combined with a more positive outlook on life, demonstrated through higher non-work satisfaction, serves as a trigger for the nascent entrepreneur. In the actual practice of entrepreneurship, however, greater general and intrinsic work satisfaction emerge, indicating a possible shift in the means of satisfaction as one moves from a nascent to a practicing entrepreneur. A greater comprehension of how and why such a shift may occur could lead to a better understanding of why some individuals make the leap to new venture creation. Additionally, this study does not present evidence of interactive factors playing a role in satisfaction differences among the three groups. It is highly unlikely, however, that new venture creation is the result of a single factor. Rather, entrepreneurial intentions transpire as a result of multiple factors that interrelate in complex ways. Uncovering and analyzing these interrelated factors would be beneficial. The deeper the understanding of what triggers desire for entrepreneurial pursuit, the better equipped our society becomes in influencing this important area of economic activity.

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INTERNATIONAL EXPANSION OF FAMILY FIRMS: AN INTEGRATIVE FRAMEWORK USING TAIWANESE MANUFACTURERS

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ABSTRACT

Globalization and acceleration of technology diffusion has propelled the traditional family firms to undertake international expansion. However, the determinants of FDI and its relationship to firm performance for traditional family firms remains largely understudied in international business research. This paper attempts to test a set of existing theoretical constructs based on an integrative framework of internalization perspective, resource-based perspective, institution-based perspective and marketing signaling theory. Our empirical findings using data from 276 businesses not only confirm the relevancy of existing theories to explain the international expansion of family firms but also capture the mediating effects of FDI on firm performance which are not previously reported in current literature.

INTRODUCTION

Globalization and acceleration of technology diffusion has propelled the traditional family firms to undertake international expansion. With nearly one-quarter of the world's population and one of the fastest rates of economic growth for the past two decades, China has attracted many Asian family firms for their business expansion (Hsiao & Hsiao, 2004). Since 1996, the foreign direct investment (FDI) into China has exceeded $40 billion annually. Much of that has come from neighboring Asian countries or regions (Gao, 2005). During this period, there has been significant conceptual and empirical progress in the literature pertaining to the causes and outcomes of FDI (Huang et al, 2004). However, the research focus has been on multinational corporations from developed countries. The determinants of FDI and its relationship to firm performance, particularly for traditional family firms, remains largely understudied.

As more and more emerging economies participate in the global economy, traditional family firms have aggressively expanded their reach globally. For example, Hong Kong Li Ka Shing family has built a business empire that includes: banking, construction, real estate, plastics, cellular phones, satellite television, cement production, retail, hotels, transportation, airports, electric power, steel production, ports, and shipping. One of its flagship companies, Hutchison Whampoa Limited, is the largest port administrator managing more than forty-two ports worldwide. The importance of this phenomenon has attracted the attention of researchers. Many studies were carried out to understand whether there are any significant differences in the motives for traditional family firms and multinational enterprises (MNEs) (Fernandez & Nieto, 2006; Wang, 2006). Two research strands have made this direction promising. First, the emerging trend of international expansion of traditional family firms has provided a natural setting to further advance family business research. Most family-business research currently is largely descriptive rather than prescriptive. By using more analytical approach, Fernandez and Nieto (2006), and Wang (2006) have examined the impact of ownership structure on the international involvement of family firms. Second, there is an increasing body of research on the international expansion of small and medium sized firms (Lu & Beamish, 2001). Often the studies of SMEs may cross with the studies of family firms (Fernandez & Nieto, 2006).

Research involved in SMEs and family firms share the same difficulty to gather public information. Unlike most public-traded MNEs, SMEs and traditional family firms tend to be more restricted in disclosing their private information to the public. Therefore, case study and survey methodology have been used in the past to study SMEs and family firms. Research has indicated that a firm's level of FDI is a function of its ability to amass and develop strategically relevant resources subject to the institutional constraints. The differences in a firm's ability to accumulate and deploy strategic resources lead to sustainable competitive advantage and superior firm performance (Barney, 1991; Chi, 1994; Huang et al, 2004). Therefore, FDI is the outcome of a firm's exploitation of its strategic resources and competitive advantages across borders. Consistent with the internalization perspective and the resource-based perspective, the market signaling theory of FDI states that the level of FDI serves as a market signal to the public for not revealing a firm's private advantage (Liu, 1997). This market signaling in turn positively benefits the firm's performance. In this paper, we attempt to integrate the various theoretical perspectives of FDI and develop an integrative framework/model of international expansion of family firms. Particularly we apply the market signaling theory (Spence, 1973; Stiglitz, 1976) in the study of traditional family firms and aim to explain their FDI motivation and behavior. Our integrative model assumes that a firm's superior capabilities and relationship networking not only affect the firm performance directly but also affect the firm performance indirectly through the level of FDI. There is a market signaling effect that has not been reported in previous research. After this introduction, we provide a brief review of the literature. Then we introduce a conceptual framework (Figure 1) and research methodology. In the following section we test our hypotheses with survey data and structural equation model. The paper concludes with testing results and managerial implications.

REVIEW OF LITERATURE

Internalization Perspective

Derived from the industrial organization framework, the *internalization theory* of FDI stipulates that foreign expansion occurs when a firm, used as a "hierarchical governance structure", can be a more efficient form than the market by internalizing market for certain of its intangible assets. Such assets include superior production or marketing skills, technology know-how, patents and brands, managerial talent and consumer goodwill (Hennart, 1982, 1991; Morck & Yeung, 1991). These intangible assets are characterized as intermediate inputs, and the markets for trading intermediate inputs are often inefficient. This gives rise to foreign expansion of multinational firms. One of the key assumptions of the internalization perspective is that there is a problem of information asymmetry of trading intangible assets (Chi, 1994). Along this line, Dunning (1988) proposed an eclectic paradigm of foreign production. Dunning classified three groups of factors for firms to go multinational as three sets of advantages: Ownership, Location, and Internalization. The firms that have competitive or "ownership" advantages vis-à-vis their major rivals may utilize them by establishing production in countries that are attractive owing to their 'location' advantages. The firms' competitive advantages can be attributable to either the ownership of particular unique intangible assets (such firm-specific technology), or the joint ownership of complementary assets (such as the ability to create new technologies). Internalization advantages arise from the coordination of the use of complementary assets (productive, commercial, financial, and so forth). Such advantages can be enjoyed only through coordination within the firm rather than by arm's-length market transactions (Dunning, 1988). The internalization perspective sheds light on why there exist multinational firms and implies that hierarchy is a more efficient form of exploiting intangible assets. However, as a firm expands, the cost of coordination within the firm may overweight the benefits of internalization.

Resource-Based Perspective

Resourced-based perspective incorporates traditional strategy insights concerning a firm's distinctive competencies and heterogeneous capabilities. Barney (1991) defined firm resources as 'all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness'. Chi (1994) considered such resources as strategic resources which are commonly identified with a firm's distinctive competence in technology (secret know-how and/or superior R&D capability), marketing skills (skills in bundling product attributes) and management capabilities. These resources are valuable, rare, costly to imitate, and non-substitutable (Barney, 1991). Therefore, strategic resources consist of idiosyncratic firm attributes and enable the firm to conceive of and implement value-creating strategies and obtain sustainable competitive advantages. From this point of view, multinational firms are able to compete successfully against indigenous firms simply because of their superiority of possession of strategic resources. Departing from the assumption of information asymmetry, the resources-based perspective emphasizes unique firm competencies and resources in strategy formulation, implementation, and performance (Huang et al, 2004).

Institution-Based Perspective

The institution-based perspective addresses the specific relationship between a firm's strategic choices and the institutional frameworks (North, 1990; Peng, 2006). The institution-based perspective suggests two core propositions that are relevant to the strategy formulation, implementation, and firm performance. First, it states that managers and firms rationally pursue their interests and make strategic choices within institutional constraints. Secondly, formal and informal institutions combine to reduce uncertainty and provide constancy to managers and firms (Peng, 2006). During the time of fundamental institutional transition such as in a transitional economy such as China, firms may opt for a move from a relationship-based, personalized transaction structure to a rule-based, impersonal exchange regime (Peng, 2003).

Market Signaling Theory

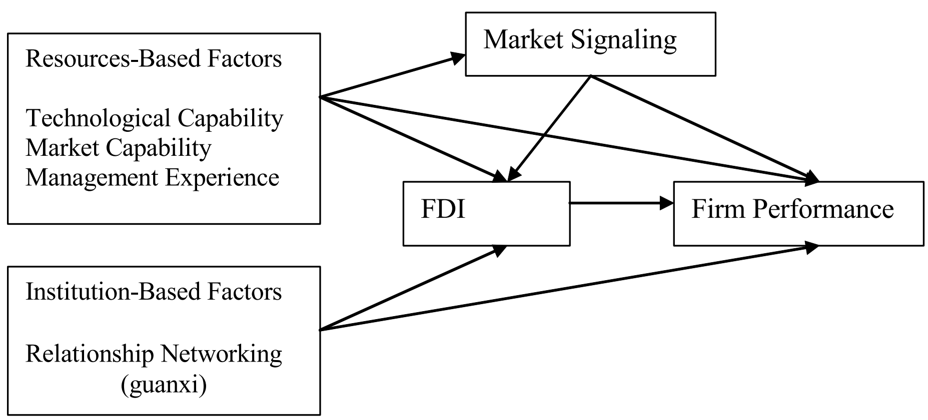
The market signaling mechanism develops in markets with asymmetric information. The mechanism reduces the uncertainty associated with market transactions and improves the information structure and efficiency of the market (Liu, 1997). Spence (1973) and Rothschild and Stiglitz (1976) independently developed the market signaling model in the labor market and in the insurance market, respectively. Since then, the signaling paradigm has been widely applied in the research of firm behavior. Liu (1997) developed a signaling model of foreign direct investment undertaken by multinational corporations. Consistent with the internalization theory and resourced-based perspective of the firm, multinational firms are assumed to have a know-how advantage (or core competency). To reap the benefits of economies of scale associated with the know-how, the firm seeks to exploit the know-how in the foreign market. Because the market inefficiency for transferring know-how to indigenous firms, the firm prefers self-use to maximize its return from ownership of know-how. However, the actions taken by a multinational firm for self-exploiting its know-how sends a market signal to others. Since the know-how is idiosyncratic firm attributes, market can only make an inference about the know-how due to asymmetric information. Therefore, multinational firm's foreign expansion provides the outsider with a basis to make an inference about some unobservable feature of the firm, and in turn may change the market perception about the firm (Duan, 2005; Liu, 1997).

THEORY AND HYPOTHESES

Theoretical model

This section provides an integrative framework of international expansion for family firms. We argue that while various theoretical perspectives may have different foci, they are not mutually exclusive. To integrate these different perspectives into a synthesized framework, we not only contribute to the understanding of the determinants of the level of FDI and its relationship to firm performance but also develop a set of testable hypotheses based on the integrative framework. Our integrative framework is presented in Figure 1.

Figure 1: An Integrative Framework of International Expansion of Family Firms



Hypotheses

The internalization perspective and resource-based perspective predicts that foreign firms need superior assets and capabilities to successfully compete with indigenous firms. A firm's superior assets and capabilities are reflected in its ability to develop differentiated products, marketing skills and international experience (Huang et al, 2004). Therefore, we hypothesize that the manufacturing firms from Taiwan entering mainland China must possess some degree of firm-specific advantages to overcome the difficulties of investing in a new environment. We examine several specific resources and capabilities and their impact on FDI and firm performance.

Technological Capabilities

Past studies have found that technological competence of firms has a positive influence on their ability to undertake FDI because intangible resources like the ability to innovate are an important source of sustainable competitive advantages (Barney, 1991). A firm's innovation can lower its manufacturing costs, improve product quality relative to competitors, and provide differentiated product portfolio to the target markets (Hitt et al, 1994). Therefore, a firm's superior technological capabilities may improve its performance and its position in FDI (Kotabe, 1990).

Managerial Capabilities

Ansoff and McDonnell (1990) defined general management capability as the ability to engage in behavior that will optimize attainment of the firm's objectives. Managerial capabilities are essential building blocks of organizational competence (Huang et al, 2004). Because they are often hard to imitate or transfer due to scarcity, specialization, and tacit nature embedded within the firm, they bestow considerable competitive advantages on a firm (Amit & Schoemaker, 1993, Barney, 1991; Huang et al, 2005). Therefore we expected that a firm's superior managerial capabilities are key factors to firm performance and its position in FDI.

International Experience

The institution-based view focuses on the dynamic interaction between institutions and firms. "Institutions directly determine what arrow a firm has in its quiver as it struggles to formulate and implement strategy and to create competitive advantage" (Ingram & Silverman, 2002). To overcome the difference in institutions, firms often rely on its management experience to adapt local conditions. Yu (1990) suggested two types of experience relevant for firms engaged in international business: country-specific experience and general international operations experience. Yu also supported the notion that country-specific experience exerts influence on the location of FDI. Foreign firms in China participate in a continuing process of intensive learning and interaction with the local market and business environment (Luo, 2003; 2007; Luo & Peng, 1999). Small family firms may miss business opportunities due to their insufficient levels of international experience. Managers charged with internationalizing should have international experience, be tolerant of ambiguity, capable of identifying key success factors in an unfamiliar opportunity, be prepared and flexible in response to changing foreign circumstances, and willing to take calculated risks (Huang et al, 2004). Meanwhile, managers should be experienced and skilled in dealing with cultural, social, and political factors that affect profit making in foreign countries (Carraher, Sullivan & Carraher, 2004; Gates, 1999). It has been argued that international experience can provide the cost advantages and strategic strengths that stimulate FDI (Davidson, 1980; Wright 2001). In this sense, a firm, which has international experience, is willing to mobilize firm resources to initiate or expand the firm's involvement in foreign markets (Chang, 2002; Das, 2000). A firm's international experience increases the likelihood of firms committing a large amount of resources to foreign markets (Johanson & Vahlne, 1977; Medcof, 2001). Through their international operations, firms gain important knowledge about customers, markets, cultures, and governments that facilitates future international expansion (Hitt et al., 1994; Hitt, Hoskisson, & Kim, 1997). On the other hand, costs associated with global activities constitute a major determinant of international expansion performance (Huang et al, 2004). Both the costs and the uncertainty of operating abroad, particularly specific knowledge about task and institutional environments, can be progressively reduced over time as accumulated learning takes effect in a host country (Buckley & Casson, 1981; Johanson & Vahlne, 1990, 1992; Benito & Gripsrud, 1992, 1995), and may enhance the effectiveness and efficiency of local operations as information is transferred (Davidson, 1980; Johanson & Vahlne, 1990; Vora & Kostova, 2007). Luo (1999) demonstrated that time-based experience has a significant effect on overall dimensions of foreign firms' performance in China. Therefore, we argue that the depth and breadth of a firm's international experience would influence its decision to undertake FDI and consequently its performance and hypothesize the following:

H1: A firm's superior capabilities and experience would be positively related to its level of FDI, *cet par.*

H2: A firm's superior capabilities and experience would be positively related to its performance, *cet par.*

Relationship Networking

Personal connections seem particularly important to firms in countries without a stable legal and regulatory environment (Xin & Pearce, 1996). This institutional constraint is salient for small family firms seeking to do business in a transition economy like China which is characterized by a weak rule of law and insufficient institutional support derived from established market mechanism. Therefore, managers tend to cultivate personal connections to substitute for reliable government and an established rule of law (Xin & Pearce, 1996). The personal connections with key decision makers in an institutional environment we labeled as "relationship networking" (e.g. Guanxi, in Chinese term). Guangxi in China are useful because prevailing social, cultural and institutional forces have shaped a business environment over the history that relationship networks have come to dominate institutions at various levels. However, given the importance of relationship networking in doing business, a few empirical studies have examined their impact on firm performance in general (Peng & Luo, 2000), and on the level of FDI in particular. We argue that a firm's superior relationship networking would facilitate its decision making process and consequently benefit its performance in China and hypothesize:

H3: A firm's superior relationship networking would be positively related to its the level of FDI, *cet par.*

H4: A firm's superior relationship networking would be positively related to its performance, *cet par.*

Marketing signaling theory suggests that a firm's foreign expansion may provide a basis for outsiders to make an inference about the firm's unobservable capabilities. Therefore, The level of FDI itself may serve as a signal to the market and change market perception on the firm. This eventually benefits the firm's performance through the market paying a premium price for its product or service or through extending favorable institutional support (e.g. tax break or preferential arrangement). Therefore, we argue that a firm's level of FDI is not only an outcome of the firm's resources and capabilities but also a contributor to the firm's performance. We propose the following:

H5: A firm's the level of FDI would be positively related to its performance, *cet par*.

RESEARCH METHODOLGY

Our research methodology centered in a survey of Taiwan manufacturers expanding to China. Taiwan's FDI developed noticeably in the late 1980s while its economy is still dominated by small and medium sized family firms - largely entrepreneurial family firms by American terms (Carland and colleague, 1984, 1988a, 1988b, 1992). Many Taiwanese firms invested in China seeking to lower production costs (Huang et al, 2004). In an initial pilot study, survey questionnaires were mailed to the president or general manager of twenty firms with known operations in China. The survey instrument was translated into Chinese and translated back to English to ensure accuracy of translation. These surveys were accompanied by a cover letter requesting participation and promoting the importance of the study. Suggestions for improvement of the survey were also sought. The survey was revised based on feedback before the primary data collection was initiated. In the primary data collection, simple random sampling drawn from a database of *Directory of Taiwanese Manufacturing Firms Investing in China* was performed in order to include firms with different sizes, age and industries. Survey questionnaires were sent to top executives who would likely be knowledgeable about operations in the China market and the personal connections between China and Taiwan entities. In order to secure a sufficient number of responses, survey questionnaires were sent out to 1,900 firms. A reminder letter was sent out two weeks after the first mailing. In two and a half months later, the initial mail-out with follow-up efforts produced 324 responses, of which 18 were incomplete, 30 were returned due to the wrong address or the withdrawal of investments by the firm. Two separate mailings yielded 276 usable observations, or a 14.5 percent response rate. No statistically significant differences were observed between responders and non-responders based upon firm size. It should be noted that Taiwanese investors often keep a very low profile regarding their investment in China because of the political tension between the two sides of the strait, and might have easily chosen not to respond (Bruton, Ahlstrom, & Yeh, 2004; Yang & Tu, 2004). The Taiwanese government has also regulated investments in China in some industries. In light of these circumstances, the 14.5 response rate is respectable.

Consistent with previous research, the level of FDI was measured by capital investment, number of employees, and revenues (Ursacki & Vertinsky, 1992). To overcome shortcomings associated with a single measure of performance (Seth, 1990) and in order to capture different strategic objectives of foreign investors, we measured firm performance (perf) along three financial dimensions: return in investment (ROI), sales growth rate (SGR) and profitability (PROF). We used six items to measure a firm's capabilities (capb): R&D intensity (TECHCAP), management capabilities (MGMTCAP), management experience (MGMTEXP), a firm's age (FIRMAGE), a firm's presence of time in China (PRCAGE), a firm's international experience (INTLAGE). We use three items to measure a firm's relationship networking (guanxi) in China: political connection (POLITIC), industry connection (INDAUTO), and local connection (GOVTAUTO).

The reliability of our measures is assessed by the Cronbach's (1951) alpha after checking their unidimensionality (Sethi & Carraher, 1993; Sturman & Carraher, 2007). Alpha coefficients were calculated for each of the constructs measured by multiple indicators. All but three exceeded the minimum benchmark of 0.7 suggested by Nunnally and Bernstein (1994). A confirmatory factor analysis was performed to ascertain the validity of the scales utilized in this study. The varimax rotation was performed on the underlying factor structure as it maximizes the sum of the variances of the required loadings of the factor matrix, thus enhancing the interpretability of the factor. In order to achieve strong correlations between the variables, Bartlett's test statistic for sphericity was calculated (Norusis, 1999). In addition, the Kaiser-Myer-Olkin (KMO) measure of sampling adequacy was calculated. It is an index for comparing the magnitudes of the observed correlation coefficients to that of the partial correlation coefficients. If the variables share common factors, the partial correlation coefficients between all pairs of the variables should be smaller, resulting in a larger KMO measure. A KMO value of 0.6 is considered acceptable (Norusis, 1999). Results of the separate factor analyses on each of variables reveal that Bartlett test statistics for Sphericity are significant, and the KMO measures of sampling adequacy are between 0.673 and 0.748. Hence, there exist strong correlations between the variables, which suggests that factor analysis is warranted. Careful attention was paid to the mathematical modeling of the of the phenomena (Ajaev, Klentzman, Sodtke, & Stephan, 2007; Carraher & Buckley, 1996; Carraher, Buckley, & Carraher, 2002; Klentzman, Ajaev, & Willis, 2008; Klentman, Markos, & Ajaev, 2006)

Empirical Testing

A structural equation modeling (SEM) approach was used to analyze the survey data using the AMOS 4.0 statistical package. The following equations were simultaneously tested to estimate the parameters for the model:

$$fdi = \alpha_0 + \alpha_1 capb + \alpha_2 guanxi + \epsilon \qquad (1)$$

$$perf = \alpha_0 + \alpha_1 capb + \alpha_2 guanxi + \alpha_3 fdi + \epsilon \qquad (2)$$

where:

fdi = The level of FDI
perf = Firm Performance
capb = Firm Capabilities
guanxi = Firm Relationship Networking
ϵ = random disturbance term

FINDINGS

We present our findings (estimated coefficients and corresponding T-values) in Figures 2-3. The overall model fit could be assessed by the Chi-square test, and heuristically by a number of goodness-of-fit indices: goodness-of-fit index (GFI), Normed Fit Index (NFI), the incremental fit index (IFI) and comparative fit index (CFI) (Anderson & Gerbing, 1988; Bollen, 1989). The fit indices indicate the extent to which the associations between the unobserved endogenous and exogenous latent variables and their observed indicators in the hypothesized model are significantly different from a random association model. Values of greater than 0.80 provide an acceptable level of fit (Carmines & McIver, 1981). As reported in Figures 2-3, all values of the four indices in our model are greater than 0.80, therefore the overall fitness of our model is acceptable.

It has been shown in Figures 2-3 that the links between a firm's capabilities to the level of FDI and firm performance, a firm's relationship networking to the level of FDI are statistically significant. Therefore H1, H2, and H3 are supported. The relationship between a firm's relationship networking to firm performance is not statistically significant. Therefore H4 is rejected by the model. However, both indirect links between a firm's capabilities to firm performance through the level of FDI, and a firm's relationship networking to firm performance through the level of FDI are statistically significant. Therefore H5 is supported. Combining all the results, the added value of an integrative model to explain foreign expansion of family firms is strongly confirmed.

Figure 2: Structural Equation Model and Estimates of Coefficients
GFI: 0.83; CFI: 0.86; IFI: 0.87; NFI: 0.84

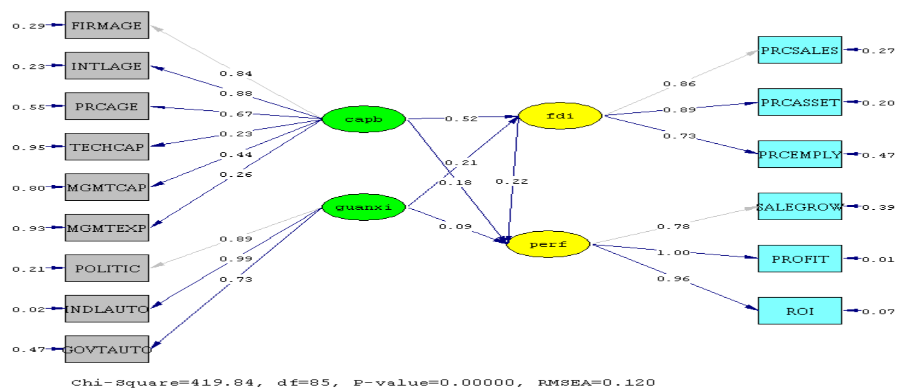
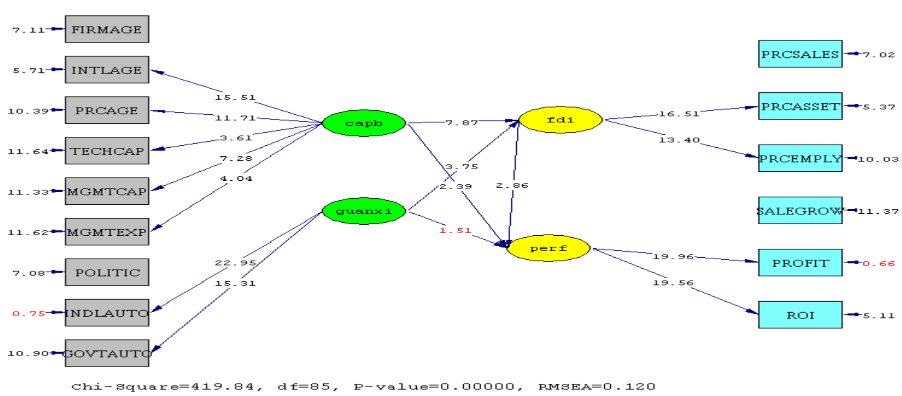


Figure 3: Structural Equation Testing Results (T-Values)



DISCUSSION AND CONCLUSION

In their recent comprehensive review of strategy research in emerging economies, Wright et al (2005) call for research on the internationalization of emerging economy firms either into other emerging economies or into developed economies. This paper attempts to answer this call and presents a unique study of international expansion of family firms from an emerging economy (Taiwan) into another emerging economy (China). The findings of this paper not only support the resource-based perspective that firms developed superior capabilities and are motivated to expand in a new market and achieve better performance but also support the institution-based perspective that firms adapting a changing institutional environment by developing relationship networking and in turn motivate the firm to expand in a new market. Specifically, our paper makes four contributions to the existing literature. First, it attempts to develop an integrative framework that encompasses internalization perspective, resource-based perspective, institution-based perspective and market signaling theory. The framework provides a strong theoretical background for us to understand international expansion of family firms which may behave differently from multinational firms (Buckley and colleagues, 1992, 1998, 2001, 2002, 2008). Second, given that most existing theories and research are developed in the West and focused on multinational firms, our empirical tests based on a sample of family firms in an emerging economy add external validity to the existing theories (Carraher, Carraher, & Mintu-Wimsatt, 2005; Carraher, Carraher, & Whitely, 2003). Third, to our knowledge, this study is the first one testing market signaling theory of FDI empirically. We found that a firm's superior capabilities and relationship networking not only directly contribute to the firm's international expansion but also indirectly to the firm performance through signaling effect (Carraher, Mulvey, Scarpello, & Ash, 2004; Carraher & Parnell, 2008). More importantly, the mediating effects of these variables through the level of FDI to the firm performance have been largely ignored by previous research likely due to their methodological limitation. This study is the first attempt to use structural equation modeling to capture these effects. Finally, our findings provides empirical evidence to the institution-based perspective of strategy that the possession, deployment, and development of market-based resources and capabilities for foreign entrants into a transition economy are likely to lead to better firm performance (Carraher, Franklin, Parnell, & Sullivan, 2006; Carraher, Parnell, Carraher, Carraher, & Sullivan, 2006; Carraher, Scott, & Carraher, 2004; Carraher & Welsh, 2009; Peng, 2003).

However, this study is not free from limitations. First, this study focuses on the investment behavior of manufacturing firms only. As Chinese economic transitions has proceeded continuously, more service industries such as banking, investment, trading, insurance and retailing are open to foreign investors (Carraher, Mendoza, Buckley, Schoenfeldt, & Carraher, 1998; Carraher & Sullivan, 2003; Huang et al, 2004). It would be interesting to explore the investment behavior of services firms, and to compare the findings reported in this study. Second, the generalizability of our findings is limited by our survey sample size. Subjective biases of managerial perception and the sample representativeness are difficult to be determined due to the limitation of original data. Future research may include observations in multiple countries and from multiple source countries (Carraher, Sullivan, & Carraher, 2005; Carraher, Sullivan, & Crocitto, 2008; Carraher & Whitely, 1998; Crocitto, Sullivan, & Carraher, 2005). A strategic implication from this study is that traditional family firms expanding to a transition economy like China 'need to raise a flag of caution when encountering simplistic, linear statement, such as "connections are all you need" (Peng, 2003).

Our findings support the notion that relationship networking may facilitate a firm to get a foot in the door but not necessarily contribute to the firm performance directly.

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PROLEGOMENA TO A NEW ECOLOGICAL PERSPECTIVE IN ENTREPRENEURSHIP

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ABSTRACT

This paper offers preliminary discussion of a new ecological perspective in entrepreneurship research. Six principles of this perspective are developed. These principles are: (1) The new ecological perspective embraces two ontological platforms: ecosystems and ecological succession, (2) The new ecological perspective operates at multiple levels of analysis, (3) Ecological problems are complex and often non-reducible, (4) The new ecological perspective requires a holistic approach to understanding, (5) The new ecological perspective embraces theory and political reality, and (6) Ecosystems have their own rationality. Implications for researchers and practitioners of entrepreneurship are discussed.

INTRODUCTION

Prior empirical work by the authors (McKenzie & Sud, 2008) found that an ecological perspective afforded new insight into the study of entrepreneurial failure. This paper offers preliminary discussion of a new ecological perspective in entrepreneurship research.

Scholars have long felt that the field of entrepreneurship does not have a cohesive explanatory, predictive or normative theory (Amit et al., 1993) and lacks a conceptual framework (Shane & Venkataraman, 2000). Bygrave (1989a) criticized entrepreneurship researchers for being guilty of "physics envy", which he defines as the inappropriate imitation of the theoretical and empirical methods of advanced rational scientific paradigms. Bygrave (1989b) suggested that a research methodology suitable to the study of entrepreneurship "must be able to handle nonlinear, unstable discontinuities." The position of this paper is that a new ecological perspective could offer suitable research insights.

The paper proceeds as follows: first, the literature of entrepreneurship research is reviewed to establish the background for current entrepreneurial theories. Next, past research utilizing the new ecological perspective is reviewed to discover the historic boundaries of this perspective. The social circumstances surrounding the emergence of a new ecological perspective are described and propositions defining this new perspective are developed. The paper addresses the implications for researchers and practitioners in the field of entrepreneurship. The paper concludes that the new ecological perspective warrants further attention of entrepreneurship scholars.

LITERATURE REVIEW

Entrepreneurship research has three founding disciplines: economics (Schumpeter, 1934), psychology (McClelland, 1961) and sociology (Weber, 1904). While, the historical development of the term has been well documented by a number of researchers (Hisrich, 1986, Gartner, 1988, Hoselitz, 1960), the word "entrepreneurship" has come to mean different things to different people. Most researchers have defined the field solely in terms of who the entrepreneur is and what he or she does (Venkataraman, 1997 #803). Thus, the focus of the entrepreneurship literature has traditionally been restricted to the relative performance of individuals or firms in the context of small or new businesses. In contrast, Gartner (1988) attempted to move the field of entrepreneurship research towards the study of what the entrepreneur does and not just who the entrepreneur is.

The literature of entrepreneurship research can be grouped into three underlying themes (Stevenson & Jarillo, 1990). These three main streams of research are (1) what happens when entrepreneurs act? (2) why do entrepreneurs act? (3) how do entrepreneurs act? In the first theme, the researcher is concerned with the results of the actions of the entrepreneur. In the second the primary interest of the researcher is the cause of individual entrepreneurial action. The third theme has researchers attempting to analyze the characteristics of entrepreneurial management (i.e. how entrepreneurs are able to achieve their aims).

The theme of what happens when entrepreneurs act involves studying the results of entrepreneurship and studies the net effect on the general economic system. This field has been dominated by economists with the earliest interest being expressed by Cantillon (1755) who coined the term "entrepreneur" and observed that entrepreneurship entails bearing the risk of buying at certain prices and selling at uncertain prices. Say (1828) broadened the definition to include the concept of bringing together the factors of production thus making the entrepreneur the protagonist of economic activity in general. Schumpeter (1934) considered the carrying out of new combinations as enterprise while the individuals whose function it is to carry them out could be termed "the entrepreneur". Entrepreneurship is thus the process by which the economy as a whole moves forward with innovation as the essence.

The theme of why entrepreneurs act has its basic discipline in psychology/sociology and revolves around studying and analyzing the causes of entrepreneurship. Research in this theme has been at two levels of enquiry. The first conceptualizes entrepreneurship as a psychological characteristic of individuals, which can be described in terms such as creativity, daring, aggressiveness etc. (Wilken, 1979). A second level of enquiry conceptualizes entrepreneurship as a social role that may be enacted by individuals in different social positions. Pioneered by McClelland (1961), other contributions include research by Delacroix and Carrol (1983), Greenfield, (1979) and Pennings (1982).

The theme of how entrepreneurs act covers the study of strategy formation in entrepreneurial firms and is now a legitimate area of inquiry (Mintzberg & McHugh, 1985). Stevenson and Jarillo

(1990) observed that there are two important areas of research in this domain. These are (1) studies concerned with different life cycles through which ventures pass and the problems entrepreneurs face as their company's mature (Gray & Ariss, 1985, Quinn & Cameron, 1983) and (2) studies that try to find predictors of success for new ventures by relating such success to either the entrepreneurs background, the chosen strategy, environmental considerations or some mixture of these (Cooper & Bruno, 1975, Dollinger, 1984, Miller, 1983). This stream of research covers the field of entrepreneurial management and hence focuses on understanding and improvement of actual managerial practice. Entrepreneurial and administrative behaviors are dimensions at two ends in a range of behavior, which extends between that of a trustee and of a promoter (Stevenson & Jarillo, 1990). A promoter would be confident of his ability to seize opportunities regardless of resources under current control while a trustee would emphasize efficient utilization of existing resources (Stevenson, 1983).

From these themes several broad definitions of entrepreneurship (Alvarez & Barney, 2000, Brockhaus & Horowitz, 1986, Bull & Willard, 1993, Hart et al., 1995, Sharma, 1998, Nodoushani & Nodoushani, 1999, McKenzie, Ugbah & Smothers, 2007), to name a few) have emerged and these definitions have enabled researchers to engage with both its individual and organizational manifestation. However, this perspective limits the study of the entrepreneurship by focusing on the actions of the individual and organization. Little study is given to the broad economic and social context in which the entrepreneur operates.

The limitation of contemporary approaches to entrepreneurship was brought to light in the recent work of Aldrich and Cliff (2003) which considers the intertwined nature of family and business. Evidence of this phenomenon was provided by (McKenzie, Ugbah & Smothers, 2007). Granovetter (1985, p.481) proposed "economic action is embedded in structures of social relations". This perspective stresses the importance of personal relationships and networks in the analysis of economic activity and suggests the importance of a holistic view in the study of business ventures.

In order to overcome the limitation of the study of the entrepreneurship on the actions of the individual and organization, inquiry needs to be expanded into the broad economic and social context in which the entrepreneur operates. This expansion forms the basis of the new ecological perspective.

THE ECOLOGICAL PERSPECTIVE

Background

Ecology, a term coined by Ernst Haeckel, studies "the relations of living organisms to the external world" (Tamm, 2004). Cowles (1898, 1899) is credited with establishing the concept of ecological succession. Thus, the new ecological perspective embraces two ontological platforms: ecosystems and ecological succession. Ecosystems are conceptualized as regulated natural systems in a state of dynamic equilibrium unless disturbed by an outside force (Kingsland, 2005, p.106). Ecological succession is conceptualized as the process by which a natural community moves from a relatively simple level of organization to a relatively more complex level of organization. Allee (1932) showed that success and failure in biological terms was more complex than a mere struggle for survival; cooperation amongst competitive species and exogenous factors had to be taken into account in properly model the evolution of species.

The ecological perspective has been applied to a number of disciplines outside of the biological sciences. Steward (1955) proposed cultural ecology as a holistic viewpoint for anthropology. Gardner (2005) proposed a link between the ecological perspective and the study of social justice. Blewitt (2006) connects the ecological perspective to education. In the study of management, Sisaye (2006) has linked the ecological perspective to management accounting; Tisdale (2004) and Nelson and Winter (1974) have linked the ecological approach to economics. Ehrenfeld (2000) has linked the ecological perspective to management. Within the discipline of entrepreneurship research, the ecological perspective has been applied using both the ecosystems ontological platform and ecological succession ontological platform. The ecosystem ontological platform has been useful in the study of industry clusters. The ecological succession ontological platform has been useful in studies of organizational evolution.

Ecosystems

The study of industry clusters has focused on the presumed impact that clusters have on regional economic development and national competitiveness (Rocha, 2004, p.368). Marshall (1890, p.225). A comprehensive review of the literature on industry clusters has been presented by Rocha(2004). Rocha and Sternberg (2005) have argued that industry clusters involve more than the spatial proximity proposed by Marshall. They concluded that the economic power of clusters stems from the personal relationships derived from geographical proximity, inter-firm networks and inter-organizational networks (Rocha & Sternberg, 2005, p.288).

Thorton (1999, p.21) reviewed interdisciplinary literatures on organization theory to suggest : "The idea that individuals and organizations affect and are affected by their social context is a seminal argument in both classic and contemporary sociology and has been applied to the study of entrepreneurship at different levels of analysis." Thorton concluded that Weber's (1904) theory of the entrepreneurial spirit underlies the dominant perspectives of entrepreneurship and that it is time to shift to multilevel models, which embrace the ecological perspective. Studies into the cluster of entrepreneurship in Silicon Valley by English-Lueck (2002), Kenney (2000), Koepp (2002) and Saxenian (1994) have highlighted the value of the holistic approach to research embodied in the ecological perspective.

Ecological Succession

Van de Ven and Poole (1995) suggest four theoretical explanations for how and why change occurs: life-cycle theory, teleological theory, dialectical theory and evolutionary theory. According to life-cycle theory, the developing venture has pre-configured form which moves the venture towards its subsequent form. Empirical evidence for this view in entrepreneurship has been found by researchers such as Bamford et al (2000). Teleological theory suggests that the philosophical doctrine or goal of the entity forms its guiding movement. Empirical evidence for this view in entrepreneurship has been found by researchers such as Lumpkin et al (1998). Dialectical theory assumes that organizations exist and compete in a pluralistic world. Empirical evidence for this view in entrepreneurship has been found by researchers such as Covin et al (2000). Evolutionary theory (referred to in this paper as ecological succession theory) is not a set of deductively linked law like statements but is more like a system of loose but apparently true and heuristic propositions and enables the generation of testable hypothesis (Langton, 1984, p.352). Van de Ven and Poole (1995, pp.533-534) conclude: "…observed change and development processes in organizations often are more complex than any on of these theories suggests because conditions may exist to trigger interplay amongst several change motors and produce interdependent cycles of change."

Ecological succession can be traced to Hannon and Freeman (1977) who analyzed the effects of environment on organizational structure and proposed this as an alternate to then dominant adaptation perspective. Ecological succession studies populations of organizations focusing on how they change over time especially through demographic processes. It considers the rise of new organizational forms and the demise or transformation of existing ones while paying attention to population dynamics especially the processes of competition among diverse organizations for limited resources such as membership, capital and legitimacy (Hannan & Freeman, 1989).

Ecological succession unites in a single coherent framework a concern for entrepreneurial outcomes and the processes and contexts making them possible using the basic concepts of variation, selection, retention and struggle over scarce resources (Aldrich, 1999, p.21). Variation refers to a departure from routine or tradition and has been aptly described by Aldrich as the raw material from which the next stage selection process "culls those that are most suitable" (Aldrich & Ruef, 2006, p.18). Variation may be both intentional (which occurs when people actively attempt to generate alternatives and seek solutions to problems) or blind (which occurs independently of the environment or selection process). Selection is the process which ensures the differential elimination of certain types of variations and can be external (forces external to the organization that affect its routines and competencies) or internal (forces internal to an organization). Retention is the process whereby selected variations are preserved, duplicated or otherwise reproduced while the scarcity of resources ensures a contest to obtain them.

Ecological succession seeks to explain how particular forms of organizations come to exist in specific kinds of environments. Aldrich (2006, p.26) observed that these processes occur simultaneously rather than sequentially and that they are linked in continuous feedback loops and cycles.

We can summarize the current application of the new ecological perspective in entrepreneurship with:

Proposition 1: *The new ecological perspective embraces two ontological platforms: ecosystems and ecological succession.*

LIMITS TO THE CURRENT ECOLOGICAL PERSPECTIVE

The ecological perspective operates at four levels of analysis: group, organization, population and community. However, researchers in the field of entrepreneurship have tended to limit their focus to studies of groups and organizations. For example, Aldrich (1990) has suggested that using an ecological perspective highlights the salience of organizations as key components of the environment. Other scholars, such as Thorton (1999) have observed that relatively little is known about the specific context of organizational founding others have attempted to pay more attention to the early days of rganizations, populations and communities (Aldrich & Ruef, 2006).

Dryzek(1983, p.26) has noted, "ecosystems exhibit a high degree of interpenetration." Interpenetration means that action at one level of analysis causes reaction as some other level of analysis. Allen et al (1987) have pointed to the difficulty ecologists face when confronted with studying complex systems at different levels of analysis. They note that moving to higher or to lower levels sometimes demands observation of entities that are hard to perceive and that observations must be conceptually linked before the structure can emerge (Allen et al., 1987, p.63). They also note that observation at different levels of analysis also may involve moving through boundaries that contain levels of analysis. These boundaries are often impenetrable and so linkages between the sides of the boundaries can be very difficult (Allen et al., 1987, pp.67-71). This broad perspective can be summarized in

Proposition 2: *The new ecological perspective operates at multiple levels of analysis.*

Homer-Dixon has developed a thesis that there is a gap between the scientific thinking that can be applied to the solution of social problems such as pollution, global warming and overpopulation and the humanistic thinking required to successfully define the problems within an acceptable social context. Homer-Dixon (1995, p.591) describes technical solutions to social problems as *technological ingenuity* and the definition of social problems as *social ingenuity*. He refers to the missing knowledge between these two types of ingenuity as the *ingenuity gap* (Homer-Dixon, 2000, p.193).

Smith (2003) has highlighted the need for integration of social and ecological science. Allen et al (2003, p.27) noted, "…the term *ecosystem approach* explicitly includes an economic component." Luke (1997, p.1) has noted that the conflicting agendas of environmentalism and consumerism have become complimentary. Luke (2006, p263) attempts to explain this integration of conflicting agendas through the introduction of Foucault's (1978) unification of biologic and historical reasoning. Ulanowicz (1997) noted that ecological researchers face many problems arising out of the need to work concurrently at multiple levels of analysis. Theoretical paradigms that work at one level of analysis often conflict with those that operate at another level of analysis. Hagen (1992, pp.136-138) has noted that the holistic nature of ecological problems makes them non-reducible and thus difficult to conceptualize and to solve.

Proposition 3: *Ecological problems are complex and often non-reducible.*

Studies of industry evolution by Arthur et al (2001) and Lindsay (2005) utilized complexity theory to develop new understanding of the development of industrial clusters. In both these studies, the researchers have found that that new insight can be derived from the ontological perspective of interpretive inquiry.

Interpretive inquiry includes a broad set of epistemological perspectives including deconstructive, hermeneutic, literary, reflexive, structural and symbolic analysis (Lett, 1997, p.5). The breadth of these perspectives has led to Gadamar's (1975, p.350) assertion that "all understanding is interpretation". Interpretation offers an alternative to scientific inquiry. Whereas scientific inquiry attempts to refute skepticism, interpretation attempts to contextualize skepticism. James Bohman (1991, p.130) outlined skeptical contextualism as a two-part thesis: (1) that interpretation is universal and (2) that interpretation is holistic. This leads to the statement:

Proposition 4: *The new ecological perspective requires a holistic approach to understanding.*

THE NEW ECOLOGICAL PERSPECTIVE IN ENTREPRENEURSHIP

A significant body of literature has built around the framework of what Jameson (1997) described as the "cultural logic of late capitalism". While Man and Nature (Marsh, 1864) is credited as the seminal work of the conservation movement (Magoc, 2006), Silent Spring (Carson, 1962) is seen as the text which introduced the paradigm of ecology to mainstream Americans (Wessels, 2006, pp.61-62). The potential for catastrophic climate change documented in the film, An Inconvenient Truth (Guggenheim, 2006), has caused politicians and citizens to examine the limits of sustainable economic development (Leonard, 2007). Korten (2006) has referred to the shifting public awareness of the limits to growth and the need for a re-thinking of the fundamentals as “the great turning.” Hawken (2007, p.13) claimed: “The movement for equity and environmental sustainability comes as global conditions are changing dramatically and becoming more demanding.”

Kottak (2006, p.40) has noted that the new ecological perspective “blends theory with political awareness and policy concerns”. Dryzek (1983, pp.150-156) has referred to this process as *moral persuasion* which can take a number of forms: education, propaganda, discussion, reasoning, linguistic manipulation and exhortation. These observations lead to the statement:

Proposition 5: *New ecological perspective embraces theory and political reality.*

Central to this new paradigm is a concept that Dryzek (1983) termed *ecological rationality*. Ecological rationality proposed that ecosystems have their own rationality. Dryzek (1987, p.44) makes the claim that “in the absence of human interests, ecological rationality may be recognized in terms of an ecosystem’s provision of life support to itself.” Dryzek’s frames the decision making of ecological rationality on the criteria of negative feedback, coordination, robustness, flexibility and resilience. Princen (2005, pp.351-352) has extended Dryzek’s concept into practical terms, describing ecological rationality as:

> …an inclination toward long-term societal investment, an understanding of the environment as life support, a sense of excess, a belief that meaning derives from engagement, a recognition of humans’ capacity to self-organize and innovate for collective self-management and restraint…underpin what I have termed ecological rationality.

Ecological rationality has been criticized for its circular reasoning (Princen, 2005, p.46). However, Nobel Laureate, Smith (2003) contrasted ecological rationality with the constructivist rationality of the standard socioeconomic science model and came to the conclusion that both rational orders exist simultaneously and that both rational orders are essential for understanding of socioeconomic life. This leads to the statement:

Proposition 6: *Ecosystems have their own rationality.*

DISCUSSION

The insights into a new ecological perspective developed in this paper have important implications for both researchers and practitioners. Researchers can benefit new ways of conceptualizing research problems and from new methodologies suggested by the new ecological perspective. Practitioners can gain valuable insight into new ways of identifying opportunities and better positioning their new ventures to achieve sustainable competitive advantage.

Implications for Researchers

The implication of Proposition 1, "The new ecological perspective embraces two ontological platforms: ecosystems and ecological succession," is that the new ecological perspective is likely to continue to provide researchers with understanding of the relationship of new ventures to their environment and understanding of the success and/or failure of new ventures. Prior entrepreneurship research into industrial districts and industry clusters have proven fruitful both in increasing the understanding of entrepreneurship and increasing our understanding of the relationship between the entrepreneur and his or her environment. These studies show that new ecological perspective can provide a vehicle for gaining understanding of the entrepreneurial ecosystem. Aldrich (1990) has noted that the ecological perspective holds promise for combining our understanding of the traits and rates approaches to organizational founding through the metaphor of ecological succession.

The implication of Proposition 2, "The new ecological perspective operates at multiple levels of analysis," is that the new ecological perspective can serve as a tool allowing researchers protocols for the study of entrepreneurship over time and space. Allen et al (2003, pp.167-171) have noted the importance of criteria and scale as components of observation. Criteria are used to define what phenomena are in the foreground and therefore what phenomena are in the background. Scale creates boundaries of the fineness of distinction and scope of observation.

The implication of Proposition 3, "Ecological problems are complex and often non-reducible," for researchers using the new ecological perspective is that complexity theory offers a methodology suitable for the study of entrepreneurship. The new ecological perspective suggests that researchers in entrepreneurship might benefit from the use of complexity theory. Selvin and Covin (1997) have noted: "The high-growth firm is in a constant battle against disorder and chaos." Lichtenstein (2000, p.128) has suggested that complex system theories offer researchers a new approach to describe this dynamism. Studies such as those done by Arthur et al (2001) and Lindsay (2005) have shown that complexity theory can provide entrepreneurship researchers with new understanding.

The implication of Proposition 4, "The new ecological perspective requires a holistic approach to understanding, " suggests that researcher's are wrong in expecting predictive power from entrepreneurship theory. Guth (1995, p.171) has defined the criteria for good theory in entrepreneurship theoreticians as theory "that is capable of being refuted empirically and that provides explanation as well as prediction." However, Cooper (1993) has noted that research examining predictors of new firm performance has shown mixed results and limited findings to date. Dryzek (1983, p.194) has claimed "ecology is not a predictive science, only an explanatory one."

Since ecological problems are complex, the solutions are not teleological in nature, but rather derive from the self-organizing, self regulating nature of the ecosystems.

The implication of Proposition 5, "The new ecological perspective embraces theory and political reality," is that the new ecological perspective deals with practical reality and is likely to be conducive to fieldwork methodologies such as active research (Reason & Bradbury, 2001), institutional ethnography (Smith, 2005) and case study (Scholz & Tietje, 2002). In 2006, Bill Joy, founder of Sun Microsystems and partner in the venture capital firm Kleiner Perkins Caufield & Byers, told a reporter for BusinessWeek: "I think the greatest legal creation of wealth today is in the green area -- not just in the U.S. but in the developed world" (Bartiromo, 2006). Joy's strength has always been the development of new products out of his vision of current theory. Gary Erikson, the founder of Clif Bar, Inc. parlayed his understanding of the new ecological perspective into sole ownership of a multi-million dollar baking company (Erickson & Lorentzen, 2004).

Proposition 6, "Ecosystems have their own rationality," provides an explanation for the logic of Sarasvathy's effectuation theory. Sarasvathy (2002, p.95) has made the claim: "economics has failed to develop a useful theory of entrepreneurship because of its inability to break out of the static equilibrium framework." The alternative framework that she suggests is effectuation theory (Sarasvathy, 2001). Briefly stated, "effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means" (Sarasvathy, 2001, p.245). Implied in this theory is the notion that entrepreneurship has its own rationality.

Implications for practitioners

Practitioners can gain two important lessons from the new ecological perspective. First, they can use this perspective as a new form of opportunity recognition; second, they can use this perspective as a means of better positioning their new venture in the community.

The new ecological perspective shifts the focus of opportunity recognition away from the over-simplified paradigm of neoclassical economics such as that presented by Hills and Shrader (1998). Shane (2000, p.449) found that:

> …(1) any given technological change will generate a range of entrepreneurial opportunities that are not obvious to all potential entrepreneurs; (2) entrepreneurs can and will discover these opportunities without searching for them ; and (3) any given entrepreneur will discover only those opportunities related to his or her prior knowledge.

Singh et al (1999) found that social networks are important at both the idea identification and opportunity recognition stages of the process. The new ecological perspective suggests that entrepreneurs can successfully identify opportunities by the societal level instead of at the technological level. It would appear that there is empirical evidence to support this suggestion. Derwall et al (2005) found that socially responsible investing led to superior portfolio performance.

The new ecological perspective can serve practitioners by assisting them to better position their new venture in community. Jack and Anderson (2002, p.468) use the term embeddedness to identify "the nature, depth and extend of an individual's ties into the environment." They found that embeddedness provided the entrepreneur with increased support during the founding of the venture and a likelihood of increased competitive advantage.

This view is very different from the more traditional view of the relationship between the entrepreneur and the environment expressed by Hunt (2000), which views the environment as a source of resources for the firm. The central concept of resource advantage theory is that a firm's portfolio of resources can mean "comparative advantage in resources" leading to production at higher profits. The ecological perspective would suggest that resource advantage theory provides a short-sighted strategy. The longer-sighted vision provided by the holistic approach of the ecological perspective suggests that resources are public goods and in the long term will succumb to over use as outlined by Hardin (1968) in his allegory: The Tragedy of the Commons. Greenfield and Strickon (1979, p.348) have cautioned entrepreneurs:

> The consequences of some changes…may not always be viewed as beneficial by all members of the community in which they occur. In fact, from the perspective of the values and definitions of the members of a given population, they even result in reduced access to resources by some, perhaps as a consequence of new and increased constraints

The ecological perspective suggests that entrepreneurs would be better off building competitive advantage by embracing environmental citizenship. Szersynski (2006) has defined environmental citizenship as "a distinctive way of linking environmental concern, the public and the policy process." Porter and Van Der Linde (1995) point out that real competitive advantage can arise from good environmental citizenship. They cite the example of how German and Japanese car makers developed lighter and more fuel efficient cars in response to new fuel consumption standards. American automakers chose to fight the standards and lost billions of dollars and competitive advantage by attempting to avoid good citizenship.

CONCLUSIONS

This analysis has shown that the new ecological perspective is complex in nature. However, we have been able to establish propositions which outline some of the important principles in this new perspective. These principles are:

1. The new ecological perspective embraces two ontological platforms: ecosystems and ecological succession.
2. The new ecological perspective operates at multiple levels of analysis.
3. Ecological problems are complex and often non-reducible.
4. The new ecological perspective requires a holistic approach to understanding.
5. The new ecological perspective embraces theory and political reality.
6. Ecosystems have their own rationality.

The paper concludes that the new ecological perspective warrants further attention of entrepreneurship scholars.

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This is a combined edition
containing both
Volume 15, Number 1, and
Volume 15, Number 2

Articles for Volume 15, Number 2

THE ROLE OF TRUST IN CITIZEN PARTICIPATION IN BUILDING COMMUNITY ENTREPRENEURIAL CAPACITY: A COMPARISON OF INITIATIVES IN TWO RURAL TEXAS COUNTIES

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ABSTRACT

Research has shown that citizen participation in entrepreneurial capacity building programs improves the outcomes and sustainability of the programs. Citizen participation, however, involves escalating effort and commitment as the level of participation increases. This paper suggests that the extent of participation is influenced by the level of trust citizens have in the program leaders. It appears that as the level of participation increases, the level of trust needed to sustain participation increases because of perceived increased personal risk to the citizen. The results of the development and implementation of programs in two rural Texas counties are used to evaluate trust's role in citizen participation in entrepreneurial capacity building programs.

INTRODUCTION

Entrepreneurship is recognized as a critical component of economic development (e.g., Formaini, 2001; Holcombe, 2003; Wennekers & Thurik, 1999). While some resent research calls into question many of the widely-held beliefs that may overstate the economic impact of small firms (e.g. Shane, 2008), the critical role entrepreneurship plays in rural community economies is well documented (e.g., Dabson, 2007; Drabenscott, Novack, & Abraham, 2003; Drabenscott, 2006; Low, Henderson, & Weiler, 2005). In many small communities, entrepreneurial activity plays a much larger role in the economy than may be reflected in national statistics (Markley, 2007). In response, many rural communities are looking for ways to encourage and support local entrepreneurs (Markley, Macke, & Luther, 2005; Walzer, Athiyaman, & Hamm, 2007; Hart, 2003). Successful programs, such as the Enterprise Facilitation program developed by Ernesto Sirolli (Sirolli, 1999) and the Home Town Competitiveness program developed as a joint effort of the Rural Policy Research Institute (RUPRI) Center for Rural Entrepreneurship, the Heartland Center for Leadership Development, and the Nebraska Community Foundation, promote entrepreneurship as critical to economic growth. A key component of each program is citizen involvement in building community entrepreneurial capacity. The basic premise is that citizen effort and participation are necessary to build sufficient entrepreneurial capacity for individual entrepreneurs to be successful in establishing businesses (Markley, Macke, & Luther, 2005; Sirolli, 1999).

Scholars argue that citizen involvement in entrepreneurial capacity building efforts, as well as all types of economic development programs, leads to better program outcomes and sustainability (i.e. Isham, Narayan, & Pritchett, 1995; Mansuri & Rao, 2003; Narayan, 1995). Taking a broad view of citizen participation, Putnam (2000) posited that voluntary participation and civic engagement, a form of "social capital," is good for economic development and social integration. More specifically, empirical research of the micro, or individual participation level of "social capital," indicates that trust and civic cooperation (participation) are associated with stronger economic performance (Putnam, 1993; Fukuyama, 1995; Helliwell & Putnam, 1995; Kaldaru & Parts, 2005). Because of the benefits of citizen participation, this paper attempts to extend our understanding of the role trust plays in determining levels of community participation (a form of civic cooperation) in entrepreneurial capacity-building programs. The paper proposes that perceptions of trust combined with assessments of the participation risks to the individual will determine the level of citizen involvement in such programs.

A unique opportunity presented itself to study citizen participation in economic/capacity building efforts. Two rural Texas counties that were in similar economic situations requested help in developing and implementing economic strategic plans. Because the counties were rural, much of each strategic plan was devoted to entrepreneurial capacity building. While observing the development and implementation of the strategic plans in the counties, it became apparent that the individual commitment and actions of citizens in the two counties were different. The development and especially implementation in one county were more successful than the other. Many factors may have impacted the results, but trust, or lack there of, seemed to emerge as the primary factor. Researchers have established a link between trust and individual action. In a seminal article by Mayer, Davis, and Schoorman (1995), the scholars developed a model that suggests that a certain level of trust is necessary before an individual will assume the risk of taking action. The model has had widespread use and provided positive results in a variety of research settings (Schoorman, Mayer, Davis, 2007). It was observed that as the economic development plans unfolded and more commitment and action were required of citizens, the more the effectiveness of the strategic initiatives differed. Therefore, it was theorized using the Mayer et al. (1995) trust model that as more commitment and action were required, the level of citizen trust needed to assume the risk of action was deficient in one county and sufficient in the other. Consequently, the differences in the level of trust led to the differences in results.

To test the theory, a method of analysis termed "theorypractice" was used (Phalen & Rabinowitz,1994). The methodology involves juxtaposing theory and narratives about what actually happened. Where the theory and narratives align, the theory is supported, and where there are differences, explanations are developed. Therefore, the narrative of what happened in each county was compared to the trust model developed by Mayer et al. (1995). The model and the theory aligned very well as will be discussed in the remainder of the paper. The alignment between theory and reality will greatly help our understanding of the role of trust in developing and implementing entrepreneurial capacity-building efforts.

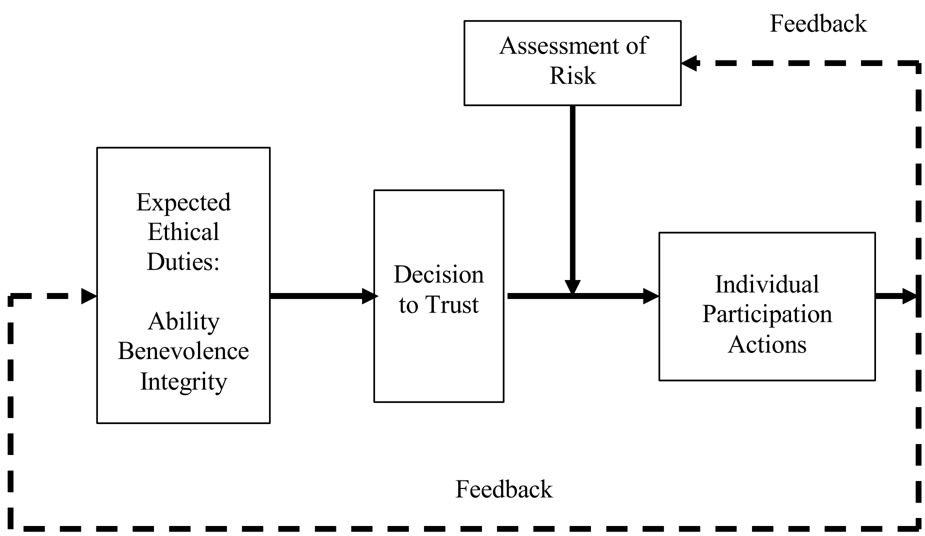
TRUST AND INDIVIDUAL ACTION

Mayer et al. (1995, p. 712) define trust as "…the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party." The definition suggests that trust is the result of an individual's evaluation of the trustworthiness of the other party – an expression of faith and confidence (Carnevale, 1995), and a willingness to be vulnerable (Mayer et al., 1995). Trustworthiness is defined as "the antecedent accumulated perceptual experiences that lead one to trust another person, institution, or organization (Caldwell & Clapham, 2003, p. 351)." Consequently, the act of trusting is based on experiences, interactions, and perceptions of others, organizations, and institutions (Caldwell & Clapham, 2003). Therefore, trustworthiness, or the level of trust, could be considered as a subjectively-perceived point along a trust continuum at which observed behaviors are perceived as being proper for a certain level of trust. To summarize, trust is based on an individual's perception of whether the person to be trusted has demonstrated he or she is trustworthy.

Mayer et al. (1995) suggested there are three factors which are used to determine if a person should be trusted – ability, benevolence, and integrity (Figure 1). To be trusted, a person(s) must demonstrate the necessary skills, competencies, and characteristics (ability) required to have influence in a specific domain (Mayer et al., 1995). For example, the person in charge of entrepreneurial capacity-building program development and implementation must be perceived to have the necessary ability to develop effective capacity building programs before others will have trust in that individual.

In addition, the trustee must demonstrate a level of benevolence toward the trustor. Benevolence is defined as the extent to which the trustee is believed to want to do or be good to the trustor (Mayer et al., 1995). In the context of community entrepreneurial capacity-building, individuals must believe the person(s) responsible for the capacity-building initiatives is motivated by wanting to serve the good of the community and not by selfish, personal gain. Finally, the trustee must have integrity. Integrity involves the trustor's perception that the trustee follows a set of principles deemed acceptable by the trustor (Mayer et al., 1995). In other words, people leading the entrepreneurial capacity-building program development and implementation must be perceived as following the accepted rules of the community or situation.

Figure 1: The Trust Process



The three characteristics are interrelated but separable (Mayer et al., 1995). For example, a leader of community entrepreneurial capacity-building may be perceived to have integrity but lack the necessary skills to effectively develop and implement such programs. The person would not be trusted. As another example, trust may be withheld from someone who appears to be competent but is perceived to be motivated by selfish interests. In other words, a person evaluates past experiences, interactions, and perceptions of another person(s) to determine if sufficient levels of ability, benevolence, and integrity exist to warrant his/her trust.

Trusting someone is necessary but not sufficient to cause action based on that trust (Mayer et al., 1995). An individual would not engage in activity until the perceived level of trust exceeds the threshold of perceived risk involved in taking action. In fact, Schoorman et al. (2007 p. 346) state that, "Trust is the "willingness to take risk" and the level of trust is an indication of the amount of risk one is willing to take." Consequently, an individual may trust someone enough to accept the risk associated with one level of action but not another. For example, an individual may trust someone enough to loan him/her $500, but not enough to give that person access to the individual's bank account information. The action would be moderated by the degree of risk involved as posited by the Mayer et al. (1995) model. Consequently, a person would not only need to trust the person(s) in charge of strategy development and implementation, but also evaluate the risk in taking action to help develop or implement the strategy. A favorable evaluation of the risk associated with taking action would be necessary before a person would engage in behavior to either develop or implement entrepreneurial capacity-building programs.

Are there risks to someone participating in capacity-building program development and implementation? The answer is yes. Chinman and Wandersman (1999) conducted an extensive review of the literature that researched the cost (risk) of voluntary participation in community organizations. A review of about a dozen studies indicated that there are a variety of costs of participation (pp. 56-57). Costs (risks) appear to fall into three categories: fianancial/resources costs that include items such as loss of time and out of pocket expenses, social costs that include embarrassment and feeling stigmatized, and psychic costs that include frustration and disagreement with goals. The Civil Society Institute (2007) produced a multi-dimensional Civic Empowerment Index. The index includes a "civic activity risk assessment" dimension. The Civic Empowerment Index project report (2007) included a study of the Lithuanian population which found the risk of civic participation included loss of job, stigmatization, public attack and slander, accusations of personal gain, and even death threats. While some of these may be extreme risks of participation and probably not a problem in participation in capacity-building programs, they do indicate that there are potential serious risks in participation. For example, people could fear a "loss of face" in the sight of others in the community and decreased self-esteem as a result of capacity-building programs that go wrong or being perceived as complicit in the political ambitions of community officials.

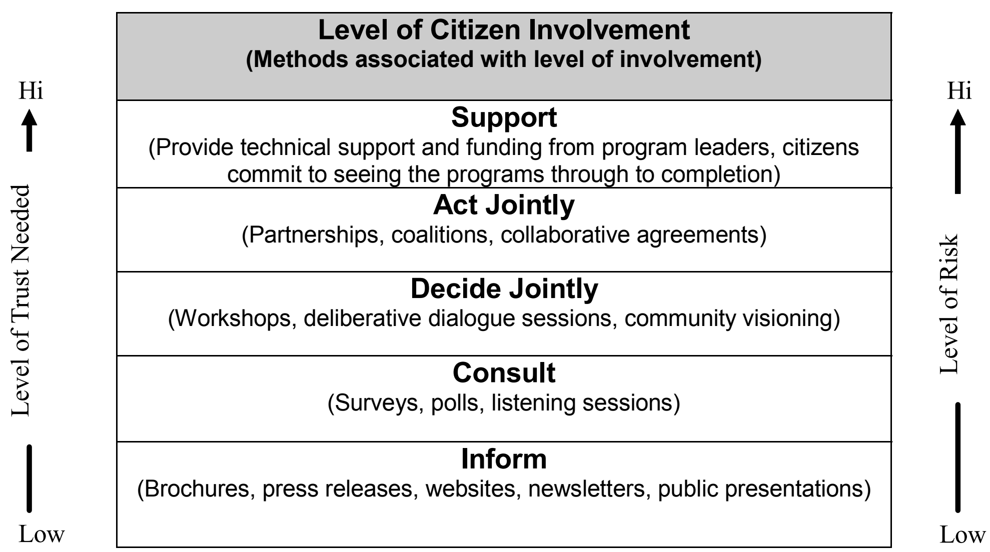
There are also benefits to participation that tend to offset the risks. The Chinman and Wandersman (1999, pp. 52-54) study also included a review of the literature of the benefits of participation. The benefit categories appear to follow the same ones as the costs, but with positive outcomes for participants. It appears that a participant conducts an internal cost/benefit ratio analysis to determine the level of participation (Prestby, Wandersman, Florin, Rich, and Chavis, 1990). Participants must perceive that the benefits outweigh the costs to continue participate (Rich, 1980). For example, positive results could be very favorable to those engaged in implementation of community building programs that go well. Therefore, according to the Mayer et al. (1995) trust model, only when a favorable evaluation of risk coupled with perception of trust is present will a person take action to implement strategy. Stated another way, a person will take action to help develop and implement entrepreneurial capacity-building programs when the ability, benevolence, and integrity of those in charge are sufficient to overcome the risks of taking action.

Finally, as the program development and implementation process progresses, the consequences of taking action provides feedback to reevaluate trust and risks before additional action is taken. Therefore, as the capacity-building program progresses, the individual decides to continue taking action based on an assessment of the experiences, perceptions, and interactions of past actions to determine the level of trust versus risk need for future actions. Remember, perceptions of trust and assessments of risk develop over time as individuals are able to observe and evaluate the behavior of others (Caldwell & Clapham, 2003; Mayer et al., 1995).

LEVELS OF COMMUNITY PARTICIPATION

Sherry Arnstein (1969) developed what was called a ladder of citizen participation. The latter represented eight rungs or levels of citizen participation. Drawing on the work of a variety of scholars, Bramson (2005) adapted and consolidated Arnstein's original ladder into five levels of participation. Figure 2 presents Bramson's levels of participation. Developing entrepreneurial capacity-building programs often follows the same patterns as Bramson's levels. An example of developing a typical program is found in the book *Energizing Entrepreneurs: Charting a Course for Rural Communities* (Markley, Macke, & Luther, 2005). The process outlined follows the process of holding town informational meetings, asking community members to identify and map entrepreneurs along with existing support assets, deciding what actions need to be taken, taking specific actions, and providing long-term support. Normally as community entrepreneurial capacity-building programs develop, the amount of citizen involvement increases as the process moves from reading information about upcoming town meetings (inform stage - minimum participation required) to the final program support stage (maximum participation required).

Figure 2: Levels of Citizen Involvement



The first stage, inform, requires minimal participation from the individual citizen. All that is required is for the individual to be receptive enough to evaluate information provided by those civic leaders proposing the capacity-building programs. The consult stage requires the individual citizen to participate by providing input through methods such as a community listening session or completion of a survey. Decide jointly requires citizens to participate in the actual development of the plans and goals through extensive participation in such activities as workshops, meetings, and discussion forums. Often the process of identifying entrepreneurs and existing support assets (asset mapping) is completed. Act jointly requires even more commitment and participation from individual citizens as citizens start to take responsibility for seeing the entrepreneurial support programs implemented. The support level requires the most participation from citizens as the support programs are implemented and carried through to completion (Bramson, 2005). The last step often requires a long-term personal commitment.

It would stand to reason that as the level of participation increases through the various stages, the level of trust needed by the individual citizen to support action would increase and the decision to continue participation may also change because the level of risk increases. As previously indicated (see Figure 1), the trust – action/participation relationship is moderated by assessments of risk (Mayer et. al., 1995). The more a citizen participates at higher and higher levels, the greater the level of trust that is needed because the individual risk of participating also increases. This is consistent with the findings of Prestby et al. (1990) that individuals conduct an internal cost(risk) benefit analysis to determine the level of participation. Much of the increased risk may stem from the increased community visibility and accountability associated with increased levels of participation. Consequently, the higher the risk to the individual citizen, the more the individual citizen must perceive that the official(s) in charge of the community entrepreneurial support program process possess sufficient benevolence, ability, and integrity to warrant the citizen's participation.

THE TALE OF TWO COUNTIES

The following narrative of the development and implementation of economic strategic economic development plans in two rural Texas counties is based on conservations with Jerry Pearce Director of DeGoLa which is the local affiliate of the Resource Conservation and Development Councils (RC&DC) a United States Department of Agriculture initiative. Mr. Pearce facilitated the planning process in both counties and continues to interact with both counties. The first author of this paper served as part of the resource team in the final stages of the process in Green Tree County. The second author served on the resource team for both counties.

Economic development is a priority for many Texas counties. In response, many organizations, both public and private, provide help in developing and implementing strategic economic development plans which include entrepreneurial capacity-building. Two rural Texas counties took advantage of the help provided by the Texas Rural Partners Inc. (formally known as the Texas Rural Development Council). Texas Rural Partners, Inc. is a nonprofit organization promoting community development and leadership training in communities throughout Texas. With the facilitation help of Texas Rural Partners Inc., economic development plans were developed and implemented in both counties, but with different results. Initial analysis suggested that trust played a critical role in producing different outcomes in each county.

It is important to note that the goal of the strategic economic plan was to establish the economic direction of the county and not just to build entrepreneurial capacity. The process used, however, closely followed the typical process used for entrepreneurial capacity-building as previously described. In fact, entrepreneurial capacity-building is often intermingled in overall strategic planning. Consequently, analyzing the results of the strategic planning process will help us better understand developing and implementing entrepreneurial capacity-building programs. The narratives of the results from each county were juxtaposed with the trust model (Mayer et. al., 1995). Where the theory and narratives align, the theory is supported, and where there are differences, explanations are developed. Remember, this methodology follows "theorypractice" as described by James Phalen and Peter Rabinowitz (1994). As mentioned previously, theorypractice involves juxtaposing a narrative of what happened to the theory and analyzing the fit. The following is what happened in the two counties and how the results aligned with the theory of trust suggested by Mayer et al. (1995).

Like many rural counties in Texas, Roy (pop. 20,595) and Green Tree (pop. 12,014) counties (actual names have not been used) faced uncertain economic times. According to the United States Census (2004), both counties had experienced slight population declines in the years just before the plans were developed (-0.03% Roy and – 2.4% Green Tree). The per capita income of $17,125 in Roy and $15,886 in Green Tree were both below the state per capita income of $19,617. The percentage of the population below the poverty line was approximately 16.5% percent in each county. The economic base of each county was very similar with both counties relying very heavily on agriculture, petrochemical operations, and tourism. Roy County is on the Texas Gulf coast and has several chemical plants and farming operations. The coast attracts sportsmen and others interested in saltwater activities. Green Tree County is located inland, but has petrochemical operations, ranching, and a large freshwater reservoir that attracts sportsmen and others interested in water sports. Consequently, both counties found themselves in similar economic circumstances.

THE PROCESS

Counties may request a Rural Community Resource Team Assessment to help develop a strategic economic development plan. The request must come from an individual, group of individuals, or an organization in the county. The resource team program is administered by the Texas Rural Partners, Inc., but must be requested by the county as described above before the program can be implemented in the county. The resource team assessment is carried out in partnership with various organizations such as Resource Conservation and Development Councils (RC&DC). The local RC&DC facilitated the assessments in both Roy and Green Tree Counties. Resource team members are volunteers from various fields who donate their time to evaluate the strengths, challenges, and goals within a community. Most team members do not live in the counties requesting the assessment. Developing the strategic economic development plan is done in two phases – plan development and plan implementation. Each phase has a variety of steps that require various degrees of community participation. Table 1 presents an outline of the ten step resource team assessment process for plan development and implementation, and how the process fits with the levels of citizen involvement presented in Figure 2.

The ultimate success of the process is determined by the degree of involvement of individual citizens. Several levels of citizen participation are required for both the development and implementation phases. The proposed proposition would suggest that as the level of participation increases, the level of risk to the individual increases which requires the level of trust to increase for participation to continue.

Table 1: The Resource Assessment Process and Levels of Participation

Phase of Process	Steps to be Taken	Level of Citizen Participation
Development of Program (entrepreneurial capacity building)	1. Someone in the county requests an assessment. 2. A local team leader is appointed who helps facilitate the local process. 3. Resource teams are developed. (The number of team members depends on the number of identifiable communities within the county.)	Steps 1, 2, and 3 often do not require individual citizens of the county to participate. The exception is the person, organization, or civic leader requesting the team. The resource teams are composed mostly of citizens from outside the county. Often, the requesting party becomes the trustor (who others must trust) in the trust model. This was the case in the two counties being discussed.
	4. Teams visit the county for two or more days. One day is devoted to familiarizing the team with the county. Team members attend listening sessions the following day(s) where citizens provide input. 5. At the end of the listening sessions, the resource team holds a "town hall" type meeting where the results are summarized and final citizen input is recorded.	Steps 4 and 5 require citizens to participate at the consult level. County citizens are asked to attend and provide input to the listening sessions.
	6. Team members return home and develop a written report with recommendations to the county for solving problems and implementing projects. 7. The individual reports are consolidated into a single report and returned to the county.	County citizen participation is not required in steps 6 and 7. These steps are completed by the outside resource team.

Table 1: The Resource Assessment Process and Levels of Participation		
Phase of Process	Steps to be Taken	Level of Citizen Participation
Plan Implementation	8. The county requests help with implementation. 9. Strategic planning sessions are held in the counties to concentrate on how to implement the recommendations.	Steps 8 and 9 require citizens to participate at the decide jointly level.
	10. Actions are taken to implement the recommendations.	Citizens are asked to volunteer to head committees and oversee the implementation of the economic strategic plan. Participation is at the act jointly level.
The resource team involvement ends after step 10. Implementation is left to the citizens who volunteered to oversee different parts of the plan.		The ongoing implementation of the economic strategic plan represents the Support level of participation.

APPLICATION OF THE PROCESS IN ROY AND GREEN TREE COUNTIES

Program Development

Prior to the invitation of the resource team, each county had been involved in politically-charged elections. In Roy County, an elected official invited the resource team and took a major role in coordinating the other steps of the process. In contrast, an individual representing a group of citizens called Leadership Green Tree invited the Green Tree resource team. Elected officials supported the initiative, but took a "behind-the-scenes" approach. Many citizens of Roy questioned the motives (benevolence) and integrity of the elected officials in requesting Roy's assessment. In fact, one Roy official indicated that the resource team assessment could (and would) be used in the upcoming campaign for re-election because the incumbents would have to use everything they could to win. Many citizens felt it was a breach of integrity to use an event designed to help the economic well-being of the county for personal political gain. In Green Tree County, however, the benevolence and integrity of Leadership Green Tree were not questioned. There is no evidence that the ability of the elected officials in Roy County or Leadership Green Tree in Green Tree County was questioned. Consequently, the initial level of trust in the county leadership requesting the resource team was higher in Green Tree County than in Roy County.

The program development phase appeared to go rather smoothly in both counties. The initial visits by the resource teams went well. There was good citizen participation in the listening sessions except for a few sessions in Roy. The poor attendance at some of the Roy sessions was attributed to the fact that the sessions were held during the day when many people were working. In the final analysis, there was a striking similarity in the strengths and challenges identified by the citizens in each county. The only major difference in the two counties was the attendance at the "town hall" meeting at the end of the team visit. The meeting in Roy was attended primarily by elected officials and resource team members. The Green Tree "town hall" meeting had a more diverse cross-section of its citizens. Overall, there appeared to be satisfaction and excitement about the team visits in both counties. The resource teams completed the reports concerning strengths, challenges, and recommendations and presented them to the counties.

There had been some concern that the team who visited Green Tree County did not have as much expertise and ability as the Roy team. In fact, the report delivered to Green Tree had a narrower range of recommendations for the strategic plan. It was feared that this would negatively impact implementation. It will be clear in the following section that this fear was unfounded. In both counties, however, the bulk of the recommendations corresponded directly to building the entrepreneurial capacity of each county.

Implementation

Both counties requested help with implementing the program. In Roy, citizens were asked to participate in the implementation of the resource team's recommendations. An implementation session was held where the participants were divided into committees to prioritize and address the issues identified in the final resource team report. The major concerns addressed were housing, beautification, infrastructure, and recreation. All felt that these areas were necessary to attract and encourage firm development. Attendance at this session was good except most participants had been involved from the beginning of the process. At the end of the session, there appeared to be consensus on what needed to be done. Only a few people, however, accepted responsibility for implementing the needed actions.

After approximately two years, only two actions had been completed. First, a "market days" promotion had been reestablished. "Market days," a monthly event showcasing the work of local artisans and craftsmen, is designed to attract people from outside the county to visit and shop with local merchants. The other result in Roy County is a Keep Roy County Beautiful Committee that is trying to beautify the county. It is uncertain exactly what beautification projects have been completed.

The lack of action was recently discussed with the elected official who initially requested the Roy resource team assessment. The official, who no longer holds elected office, indicated the major problem was the perception that the initiative was politically motivated and people did not want to participate as a result. The RC&DC resource team facilitator agreed with the elected official's conclusion about the poor results in Roy County and further speculated the trust issue resulted in a lack of willingness by individuals to take responsibility to guide the actions to completion. Everyone seemed to be waiting for someone else to take charge and get it done. Lack of trust in conjunction with the perceived risk involved led to limited participation which ultimately produced minimal results.

In Green Tree County, the implementation process was basically the same as the one used in Roy County. Citizens were invited to participate in sessions to set priorities and plan for the implementation of the economic plan. Attendance was good and the individual committees produced many implementation ideas. Committees were established to enhance economic development and entrepreneurial capacity by upgrading the county's technology infrastructure, emergency medical services, and housing. Several of the committees developed specific actions and found people who would be willing to ensure specific actions were taken. There appeared to be an air of excitement about economic development.

In the approximately 20 months after the implementation sessions were held, several major actions had occurred. The citizens formed the Green Tree County Community Development Corporation, a nonprofit (501c3) corporation, designed to coordinate economic development and provide a way for people to make tax deductible contributions to help economic development. Thus, the committees were combined into one unit that still meets on a regular basis. High-speed internet service has been obtained for businesses and individuals in the county (a goal of the technology infrastructure committee). Support was gained from the county commissioner's court to purchase a building for a senior citizens center. The building has been purchased and money is being raised to furnish it. The county may be successful in attracting a major retail or grocery store to the county, a goal of one of the committees. Overall, implementation in Green Tree County has been fairly successful and is ongoing.

The RC&DC resource team facilitator for both assessments attributes the success in Green Tree County to the lack of political problems that led to the mistrust in Roy County. Citizens appeared to trust the people who spearheaded the resource team visits. The increased trust allowed people to accept the increased risks associated with increased participation and voluntarily take action for the good of the community. In addition, several people were willing to take responsibility to ensure the actions were completed. It appears that implementation in Green Tree County is a continuing success.

DISCUSSION

In comparing the development and implementation of the economic strategic plans in Roy and Green Tree counties, the suggested proposition tends to be supported. It appears that perceptions of trust had an impact on results. Roy citizens questioned the benevolence and integrity of the people requesting the resource team assessments. Based on the highly-charged political nature of a previous election, too many county residents perceived that certain elected officials were using the Resource Team assessment for political gain rather than to benefit the county. Playing politics by using the economic plight of the county was seen as a violation of accepted behaviors for local elected officials and would call into question the benevolence and integrity of the officials. The abilities of the elected officials did not appear to be questioned. As Mayer et al. (1995) indicated, however, the expected conditions for trust of ability, benevolence, and integrity are interrelated, but can be separated.

It would be reasonable to assume that the mistrust in the county would impact the entire resource team assessment process. In Roy County, however, the program development phase and parts of the implementation phase appeared to go smoothly. The answer may lie in the assertion by Mayer et al. (1995) that trust is necessary but not sufficient to cause action. Action will result only after a positive evaluation of trust versus the risks involved in taking action (Figure 1). This suggests that, along the trust continuum (Caldwell & Jefferies, 2001), the level of trust versus the risks involved was sufficient for people to participate in at the consult and decide jointly levels, but not at the act jointly or support stages. The potential "loss of face" and reduced self-esteem associated with the accountability and exposure required to be part of the implementation overshadowed the level of trust. Consequently, people were not willing to commit to higher levels of participation. For example, the stigma of being used as a political tool in the re-election of a county official may have squelched the willingness to participate at levels that require more action and commitment.

In Green Tree County, the people requesting the assessments were perceived as having a sufficient level of ability, benevolence, and integrity to be trusted. In fact, the level of trust in relation to assessment of risk was sufficient to encourage people to engage at all levels of participation. Consequently, it can be concluded as the economic development program progresses, individuals continually evaluate the level of trust versus the risks involved in taking action. Therefore, economic development or community entrepreneurial capacity-building programs may hit snags along the way when action is stymied due to a lack of trust in relation to risk.

Finally, the possibility exists that program development and implementation in both counties were influenced by factors other than trust. There is, however, no evidence other factors had major influences. The counties are approximately the same in size and economic condition. The resource team process was applied consistently in both counties. The only apparent difference was perceptions about the people who requested the team visits. Furthermore, over the two years following the assessment team visits, there were extensive evaluative discussions between the local RC&DC facilitator and the citizens, elected officials, and resource teams for each county. These discussions have revealed that the level of trust is the primary reason for the differences in outcomes. In fact, one of the former elected officials from Roy County who was involved in requesting resource teams admitted that politics in Roy negatively impacted results.

CONCLUSION

In rural communities, building community entrepreneurial capacity is often critical to economic growth and is often part of comprehensive economic strategic plans. Therefore, successfully conducting the entrepreneurial capacity-building process is important. Because of the similarities, and often intermingling, of the process of entrepreneurial capacity-building and economic strategic planning, lessons from the development and implementation of economic strategic plans in Roy and Green Tree counties provides insight into the dynamics of the process of community entrepreneurial capacity-building.

Overall, the outcomes of the strategic initiatives in the two counties tend to support the application of the Mayer et al. (1995) trust model to entrepreneurial capacity-building programs. The results of the economic development plans in Roy and Green Tree Counties do indicate that trust would play a key role in citizen participation in entrepreneurial capacity-building programs. For individuals to participate, there must be a perceived level of trust based on the trustee's ability, benevolence, and integrity moderated by assessments of personal risk. While ability was not questioned in either case, the citizens of Roy perceived the leadership to have questionable motives (benevolence) and integrity. Overall, there appeared to be a greater initial degree of trust in Green Tree County than in Roy County. Consequently, the cases in Roy and Green Tree counties support the importance of trust versus risk evaluation in determining individual action. The evidence showed that certain levels of trust combined with an evaluation of the risks of taking action may be enough to spur participation in one instance but not another. In both counties, citizens trusted enough to participate in many lower-levels of involvement, but in Roy the level of trust was not enough to overcome negative perceptions of risks to participate at higher levels.

There are three major implications for successful community participation that can be applied to the entrepreneurial capacity-building process. First, community leaders must be perceived as being competent, benevolent, and having integrity. Second, it is also important to note that three expected behaviors are inter-related, but are separable. For example, a leader may be perceived as competent but lacks enough integrity or benevolence to be considered trustworthy. Third, a certain level of trust may be sufficient to overcome the risks of participation at one level, but not another. Therefore, community leaders must continually build levels of trust necessary to encourage citizen participation at all levels.

The primary limitation of the investigation into the capacity building programs is the observation about the role of trust was observed after the process had been completed. Therefore, it was not possible to verify many of the conclusions with actual participants. For this reason, it was decided to use the "theoryparctice" concept of juxtaposing the narrative of results with accepted theory. The close alignment of theory and actual results provides moderate support for the paper's premises.

While the fates of the programs in the two counties do not provide strong empirical evidence, they do tend to support the overall premise that higher levels of citizen participation are influenced by the level of trust. Further research, however, is necessary to verify the various relationships between trust, risk and participation. In addition, several unanswered questions remain. For example, are there specific behaviors that provide strong positive perceptions of ability, benevolence, and integrity? Are certain categories of risk more important to the process than others? Is it easier to build trust or destroy trust? The list is almost endless.

The lessons for practitioners of entrepreneurial capacity-building initiatives are clear and support the suggested proposition. Sufficient levels of trust must be built to offset citizen risk concerns, thus, encouraging increased levels of participation in all phases of the process. The payoff of increased citizen participation is the better likelihood that the capacity-building program will be successful.

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FRANCHISING AS A STRATEGIC MARKETING PLAN FOR SMALL ENTREPRENEURS: A TEST CASE OF THE REAL ESTATE BROKERAGE INDUSTRY

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ABSTRACT

Franchising is normally viewed as a governance mechanism and/or a distribution medium. Most of the existing literature on franchising takes the view of the parent corporation (Franchisor) in order to explain behavior from the corporate level. Measures used in many studies are firm level performance metrics which capture profitability and efficiency. In this paper, I attempt to find if there are differences between franchised firms and independent firms in the residential real estate brokerage industry. In essence, franchising in a fragmented industry such as real estate brokerage is an attempt at a strategic marketing plan. This plan includes a branding element which can be an important motivator to franchise. I find, in a sample of 158 real estate transactions, that there are no differences between the two types of firms by using three statistical techniques—T Test, Regression, and Probit Analysis—and five variables—Listing Agent Type, Days on Market, Original Asking Price, Sale to Asking Price Ratio, and Commission Rate. The results put in doubt the use of franchising for strategic marketing purposes in that independent firms fared as well as franchised firms. These findings have implications for studies in Marketing, Entrepreneurship and Strategy.

BACKGROUND

Differences in industry structure can help to explain divergences in the strategic planning that new ventures undertake. Considering that entry barriers are lower in highly fragmented industries, one would expect to find that many new entrepreneurial firms gravitate toward these industries. Amongst the topics that are key to this issue is that of a new firm's strategic planning and, more specifically, its strategic marketing. The strategic marketing plan for a new venture is crucial to firm survival for a number of reasons dealing with the nature of scarce resources in startup companies. Resources such as brand name, financial capital and founder experience are central to many startup firms. However, there are few instances where all three are present at the initial conditions of firm founding.

In order to optimize a firm's survival, founders must utilize their scarce marketing resources efficiently and effectively or risk failure through death or substandard profits. In a fragmented industry, one way to maximize firm exposure is through franchising. Although many scholars in the Strategy field have seen franchising as an issue in the context of Agency Theory, franchising can also be viewed as a technique to maximize the problem of newness (Stinchcombe 1965) that many small firms face. Therefore, franchising can address several issues pertaining to both small, new firms and fragmented industries.

First, in an environment that approaches perfect competition, franchising can consolidate sellers by placing them under a common umbrella. Secondly, franchising can allow a startup to have instant brand recognition giving it validity and legitimacy (Terreberry 1971) through acquisition. Thirdly, franchising can act as a management mechanism for the franchisor by delegating the franchisee as a de facto corporate manager even though the franchisee is technically a proprietor. This paper will treat franchising as a strategic marketing tool in the context of fragmented industry space. The test case for the industry type is the real estate brokerage industry in the United States. Real estate brokerages can be considered fragmented because there are numerous small agencies (sellers) in the marketplace. In the past 20 years, franchising has become more prevalent in the brokerage industry as firms such as Remax, Coldwell Banker, Long and Foster, and Prudential consolidate small agencies under one umbrella.

A number of research questions follow. First, are there significant differences between franchised and non-franchised brokerage firms in terms of the number of listings per agent employed, days on market (DOM) of listed properties, commission rates, and advertising presence? Secondly, and in light of the findings to the first question, can it be stated that becoming a franchised brokerage is a strategic marketing option over becoming an independent firm. In other words, franchising is a business trade off. For the recognition and standardization that the franchisee receives, he or she must incur transaction costs which have to be no more than the benefits incurred. Is this the case?

This study will use brokerage data from the Philadelphia Multiple Listing Service (MLS) to answer the preceding questions. The paper will be empirical in nature in that hypotheses will be posited and tested which correspond to these research questions. Multiple regression, T-Tests and Probit Analysis will be used to analyze the data in order to test the overarching notion that franchises in fragmented industries act as a strategic marketing option over independent agencies. This work will add to the existing literature in Marketing, Entrepreneurship and Strategic Management.

The gap in the current literature that I am addressing in this paper is in looking at the decision to franchise or not as a strategic marketing decision in an entrepreneurial setting. Although there is an extensive literature on franchising as a phenomenon, very little of it is focused on the decision of the franchisee. In this paper, I will posit several hypotheses related to the differences between those firms that franchise and those that choose to stay independent. If the results show that there are differences and that the differences are positive for franchisees, then franchising is possibly a strategic marketing move by firms that wish to consolidate both a brand and business processes. If the groups have no significant difference, then one needs to ask what is the actual benefit in franchising in fragmented industry space.

The structure of this paper is as follows. First, the existing literature on franchising will be presented. Secondly, the real estate industry, in general, and the real estate brokerage industry, specifically, will be explained. In Section 4, I will list the hypotheses to be tested. In section 5, I explain the data and variables used in the study and in Section 6 the study methodology will be described. Following these topics will be a Results Section as well as a Discussion.

EXISTING LITERATURE

Theories from the Strategy, Marketing, Entrepreneurship and Economics literature are pertinent to this analysis and will be discussed in this section. Franchising has different meaning to different scholars all who wear different functional lenses. To simplify, the Strategy literature tends to treat franchising as a control mechanism in which the franchisor can extend operations by implementing a de facto local management through the franchisee. The Marketing view of franchising is one that values the branding of the franchised name and the resultant success, or lack thereof, of firms that choose to franchise. The Entrepreneurship literature focuses on the question as to how franchising can help new ventures survive through a mixture of standardization, control, and branding. Finally, the Economics literature stresses property rights, externalities and choice in the decision to franchise.

Strategy Literature

More specifically, the Strategic Management literature includes topics such as vertical control without the cost associated with vertical integration (Carney and Gedajlovic 1991). In this manner, franchising can be viewed as a hybrid organizational form. Following on this theme are companies that mix operations whereby some outlets are company owned and others are franchised out. The ability for the franchisor to pick this strategy is derived from the amount of power involved in the relationship between mother firm and franchisee (Michael 2000).

Yin and Zajac (2004) argue that it is not whether companies franchise or not in terms of performance but instead that the right fit is incorporated into the company structure. Put differently, since flexibility is a benefit of franchising, firms that need to be more flexible will perform better if they choose franchising whereas a more rigid structure is conducive to more control oriented firms.

The resource based view of the firm (RBV) has been a leading framework for Strategy scholars for the past few decades. Along this line of reasoning, Knott (2003) stresses the tie between competitive advantage and tacit knowledge in the context of routines. Her logic is that if routines are what make firms flourish, then in a franchising system these routines must be transferred to the franchisees. However, if the routines do not contain tacit knowledge, they are easily transferable and not likely to garner a competitive advantage.

However, the prevailing Strategy-based them in terms of franchising is in the study of Agency Theory which is concerned with Principal-Agent alignment especially in incentive schemes. The problems that arise in the Agency approach are adverse selection, moral hazard and holdup. In order to minimize the first two issues, firms may choose to franchise operations in order to give the other party a residual claim on excess profits. In this manner, the franchisee can be viewed as a district manager but one that holds the right to earn these profits (Shane 1998; Lafontaine 1992; Brickley and Dark 1987). Conversely, franchising increases the probability of hold up (Klein, Crawford and Alchian 1978; Shane 1998). Empirically, Combs and Ketchen (1999) found that agency variables were significant predictors of firm franchising. However, they also found partial support for Capital Scarcity Theory which argues that franchising is a mechanism to for the franchisor to avoid capital depletion.

Marketing Literature

In the realm of Marketing, Srinivasan (2006) studies the link between the dual distribution schema of a firm and its intangible value. According to Srinivasan, the dual distribution consists of firms which own some of their retail locations while also franchising others. Although he focuses on the Restaurant industry, the finding that having a dual distribution mechanism of governance increases intangible value is pertinent for numerous industries. In addition, this paper is relevant to this analysis in that both are attempting to study industries which are highly fragmented.

Contractor and Kundu (1998) study another industry which has relevance to real estate brokerage—Hotels. Contractor and Kundu are interested in finding out what factors induce hotel chains to choose company run versus franchising in certain locations. They find that the level of development of the foreign market, the international experience of the firm and branding effect this strategic marketing choice.

Dant, Paswan and Kaufman (1996) follow the history of Oxenfeldt and Kelly's (1968) argument which was that once the franchisor established itself enough in terms of assets, experience and cash-flow generation, that it would discontinue franchising operations and, instead, only focus on company-run stores. They find that moderators such as sales share, lack of long-term contracts, net conversion gain and attrition are contributing factors in the ownership redirection thesis posited by Oxenfeldt and Kelly (1968).

Economics Literature

The Economics literature contains many works that reiterate some of the same themes previously discussed yet from a different, and often more quantitative, angle. Kalnins (2005) is concerned with franchisor-franchisee contracts in the context of development commitments. He finds that the larger the development commitment in the franchise system, the less likely a firm is to survive. Lofontaine and Shaw (2005) revisit the dual distribution schema that many scholars have studied and find that franchisors with high brand name value have higher rates of company ownership. Dnes and Garoupa (2005) focus on externalities in franchising systems. They posit that firms have a trade-off decision between managerial motivation and trying to limit externalities. Furthermore, this trade-off explains which organizational forms firms choose.

Windsperger (2002) emphasizes the role of intangible assets in franchising with a concentration on property rights. In essence, and after testing the hypothesis, he finds that there is a positive relationship between the amount of intangible knowledge that a franchisor owns and the amount of ownership rights that should be transferred to the franchisee. Following on the rights and contracts approach to franchising, Chaudhuri, Ghosh, and Spell (2001) show that franchisors, due to asymmetry in power and rights, choose more profitable locations for company owned stores and less profitable ones for franchisees.

Entrepreneurship Literature

The Entrepreneurship literature takes a different focus on franchising than Strategy, Marketing and Economics because, at its core, franchising is an entrepreneurial option. Combs, Ketchen and Hoover (2004) study franchising in the backdrop of strategic groups and find that those restaurant firms that franchise out of resource scarcity had poorer performance than other groups. Hoffman and Preble (2003) studied conversion franchising where franchisors pull independent firms in to their system as opposed to only recruiting potential entrepreneurs to commence new operations. This paper has important implications to real estate brokerage because conversion franchising has been an ever-increasing phenomenon in that space in recent years.

Kaufman and Dant (1998) look at four topics regarding franchising including 1) innovation, 2) concepts, 3) risk and 4) multi-unit franchising in an attempt to explain three key areas of their work namely traits, processes and activities. Wu (1998) focuses on the pricing of a brand name (i.e. Franchisor) in the motel services industry and asks a question that is pertinent to this analysis which is: Are franchised brands valuable? In other words, if franchised and non-franchised firms not only compete but thrive in the same space, how does branding help?

Real Estate Brokerage and Franchising Literature

There are a few studies in the academic literature which combines the topics of franchising and real estate brokerage. Anderson Et. Al. (1998) study the efficiencies of franchised firms versus non-franchised firms in the real estate brokerage industry and find that efficiency levels are similar in both types of firms. Anderson, Chinloy and Winkler (2007) look at the decision to franchise in the brokerage industry by studying the economic rents and the residual effect of the franchisor-franchisee setup. With data from the 2001 National Association of Realtors (NAR) Survey, they conclude that franchisors offer relevant additional inputs in helping their franchisees garner higher revenue.

Benjamin et al. (2006) also use the 2001 NAR Survey to study the profitability of franchising in real estate brokerage. Although two of the four co-authors are also included in the Anderson, Chinloy and Winkler (2007) study, they conclude that net margins are less for franchised firms. Excess rents, in their opinion, are absorbed by the franchisors when contrasting against independent firms.

Gaps in the Literature

There appears to be a plethora of franchising papers many of which are empirical in nature. However, there is a gap in the literature in looking at franchising as a strategic marketing tool. What is meant by a strategic marketing tool? As a thought experiment, think of an entrepreneur who has committed to starting a real estate brokerage. Since this is a fragmented industry and small firms are plentiful, the barriers to entry are low including both human capital and financial capital. In making the decision, the entrepreneur considers a national chain as a franchisee as well as a pure startup firm with no affiliation.

It is difficult to argue, if cost is taken out of the discussion, that a franchise is not more valuable. The instant brand recognition adds legitimacy to the franchisee immediately. However, franchises are costly. In addition to an up-front franchise fee, the franchisee must pay a portion of its revenues to both marketing and royalties. Although franchises help this person to claim a portion of the market, the fees paid to the franchisor are off of the top-line (i.e. Revenues and Start Up Capital) and, in no way, guarantee success.

Therefore, looking at the decision through the entrepreneur's eyes, it is important to distinguish the costs and benefits of this choice. Although a cost-benefit analysis is outside of the scope of this project, it must first be determined if there are performance differences between the two groups. Since independent firms are generally private, obtaining detailed data from them is difficult. Therefore, many of the studies cited here, while robust and important, are studying the decision from a purely academic standpoint.

Utilizing my data set, I am attempting to measure the differences between the groups with transaction-level data which is both recent and accessible. It is accessible because the Multiple Listing Service (MLS) contains information on transactions which is the same if the Listing Agent is a franchise or not.

INDUSTRY

Real Estate and Real-Estate Related

The real estate industry (to include Hotels) includes all firms that work primarily with real property. Major sub-groups are operative builders, general contractors, real estate brokerages, title insurance companies, real estate lessors, and hotels. This industry was chosen because it characterizes one that has been neglected in the literature of several disciplines. Additionally, real estate is an interaction of two industry types which have not been prevalent in many works. This interaction includes service industries which are also highly fragmented. Why is this interaction important to the literature?

The short answer is that fragmented service industries have not received the attention that they deserve. Concentrated industries consumed the early Business literature for good reason. First, data sets compiled in the 1960s and 1970s were of concentrated, and often oligopolistic, industries because it was much easier to collect data in this space. Secondly, many early studies were interested in manufacturing concerns which tended to be oligopolistic. However, the composition of the U.S. economy has changed in the past fifty years. The majority of U.S. business revenues are now derived from the service sector yet the academic literature has not kept up proportionately (Department of State Website 2006).

Another reason that this industry type is important is that, by its nature, it is filled with anomalies. A fragmented industry has low barriers to entry which leads to numerous small entrants. Some of these entrants remain alive for a long period of time (i.e. Holiday Inn, Centex Homes) while some enter and exit with great frequency. Therefore, the composition of the industry is contained within a dynamic state.

More specifically, real estate brokerage includes firms that list, market and sell real property. Although these firms can be residential or commercial in nature, this paper addresses only residential firms. The real estate brokerage sub-industry, like the broader real estate industry, includes many small firms none of which has a very large market share. Since this is the case, even the largest firms do not have excessive market power in setting the tone of the industry.

Characteristics of Fragmented Industries

Fragmented industries have several common characteristics that are present albeit to different extents. Porter (1980) describes fragmented industries as those that contain all or some of the following:

- ♦ Low Entry Barriers
- ♦ Lack of Power Advantages with Buyers

- Lack of Power Advantages with Suppliers
- Lack of Economies of Scale
- Lack of Economies of Scope
- Regional Issues such as High Transport Costs
- Regulation

All points have merit but three are key. First, low entry barriers are a given when discussing fragmentation because ease of entry disallows large firms to set the tone. Simply put, the lack of high entry barriers is an open invitation for more small companies to join the industry. One finds that in fragmented industries a plethora of small firms, many privately held operating alongside large, publicly traded corporations (Wright et al. 2004). The second common trait is a lack of power advantages with buyers in fragmented industries as buyers often are equally fragmented. Because buyer consolidation, usually through multiple distribution levels, is absent in these industries, power is absorbed in demand as opposed to supply (Briesemeister and Fisher 1998). This tends to lead to a greater variance in pricing than if buyers were a more solid cohort. The third aspect is low economies of scale which contribute to industry fragmentation as sparse resource origins supply different industry actors but in a non-unified way. Low economies of scale in fragmented industries are not in all inputs but often in a few important ones.

Porter's definition concentrates on industries that tend to produce something. However, in the new economy, many firms that are service-oriented tend to be in fragmented space. With the advance of technology, especially the internet, firm entry in the service sphere has become increasingly more tenable. This study combines the interaction between the service sector and fragmented structure.

Measurements of Fragmentation

Fragmentation measures typically have two variants. First, there are Concentration Ratios (CR) which measure a certain number of industry leaders. CR_4 and CR_8 levels are most common in the academic literature and they measure the top four or eight industry leaders, respectively, by market share. Mathematically, these levels are represented by:

$$\sum_{i=1}^{n} MSi$$

In this case, the summation of market shares (MS) of N market participants are simply calculated to derive at a number. In a highly concentrated industry, a CR_4 level is greater than 40 percent and often above 60 percent (Caves and Porter 1978). In a fragmented industry, these levels may fall to below 20 percent. The closer an industry approaches perfect competition, the closer the CR_4 level approaches zero.

Another measure of industry concentration is the Herfindahl-Hirshman Index (HHI). This differs from the previous equation in that the market shares are squared as shown by the equation:

$$\sum_{i=1}^{n}(MSi)2$$

The major difference is that the HHI (Federal Reserve Bank of Atlanta 1993) accounts for large industry players by squaring the market shares. The index has values that range from perfect competition (0) to pure monopoly (10,000). As a mental exercise, think of two industries. One has market leaders with respective market shares of 50 percent, 10 percent, 10 percent, and 10 percent while the other has a split of four leaders with 20 percent per firm. In each case, the CR4 level equates to 80 and this industry would be considered oligopolistic (CR4>60). However, if the market shares are squared to derive at an HHI value, Industry 1 has HHI=2,800 while Industry 2 has HHI=1,600.[1] These two values are significantly different because the HHI accounts for firms with very large market shares exponentially while the CR levels are a simple summation.

However, in a fragmented industry, the effect is reversed. Imagine an industry where there are 10 players with an average of four percent of market share and then a number of tiny firms each with less than one percent of the market share. The HHI would equate to $10*(4^2)$ or 160 plus the aggregated amount of the small firms. However, since the square of a market share under one produces a smaller value, even if there were hundreds of small firms, the aggregated figure would not have a significant influence on the HHI. In this case, squaring small values keeps the HHI low.

HYPOTHESES

Based on the research questions posed at the beginning of this paper and the gaps in the literature, the following hypotheses are presented. The hypotheses are focused on differences between franchised versus independent firms. This is an important distinction because if there are differences in marketing performance between the groups, then a follow up question would deal with the level of difference since there is significant cost involved in starting and running a franchised company. Conversely, if there is no difference between the groups, then this result would raise serious doubts to the effect of franchising as a strategic marketing tool regardless of if it is a superior managerial control mechanism. It should be stated again that the hypotheses and the subsequent results are important not just for Strategic Marketing research but also for Entrepreneurship because many industries that are entrepreneurial in nature have similar characteristics to real estate in that many are fragmented.

H1: Real estate brokerage firms that are franchised are significantly different from real estate brokerage firms that are non-franchised (i.e. independent) in terms of the amount of Days on Market (DOM) of the properties that they list for sale.

H2: Real estate brokerage firms that are franchised are significantly different from real estate brokerage firms that are non-franchised (i.e. independent) in terms of the commission rate charged to their customers.

H3: Real estate brokerage firms that are franchised are significantly different from real estate brokerage firms that are non-franchised (i.e. independent) in terms of the original price of homes that they list for sale.

H4: Real estate brokerage firms that are franchised are significantly different from real estate brokerage firms that are non-franchised (i.e. independent) in terms of the ratio of sale price to original price of homes that they list for sale.

DATA AND VARIABLES

Data for this study was downloaded from the Multiple Listing Service (MLS) of greater Philadelphia which includes the city of Philadelphia and surrounding suburban counties in Pennsylvania and New Jersey. All subject properties were sold and settled sales in Philadelphia county which settled during the week of June 1, 2009 and June 7, 2009. Only residential sales were included and all property types and sales price ranges were included. All told, there were 158 sales during this week ranging in price from under $10,000 to well over $1,000,000. Property types included condominiums, row/town houses, twin/semi-detached, and single/detached.

The variables used were as follows:

Ratio Index—This was calculated as the ratio of sold price to original price multiplied by 100. This is an important measure in attempting to uncover if one type of firm had a greater success at reaching the original sale price relative to the settled price on the property.

Natural Logarithm of Days on Market (Ln DOM)—Days on Market was measured as the amount of days the property was listed for sale until the date a sales contract was executed on the property. The Natural Logarithm of Days on Market was used as the variable for the tests because the range of values were extreme.

Commission Rate (Comm Rate)—Published rate of commission for the property. The Commission Rate is the one performance metric in this study that measures the performance of the firm types as opposed to the success or lack thereof in marketing the properties.

Natural Logarithm of the Original Price (Ln Op)—The property's original asking price. Additional information was available and recorded for a property's most recent asking price before a sale but this information was not used for two reasons. First, it was not available for all subject properties. Secondly, original price was important in attempting to determine which listings were won by which type of organization. The natural log was used because the range of values recorded were extreme.

Listing Agent Type (LA Type)—This is a dummy variable with 1=Franchised Brokerage and 0=Independent Brokerage.

METHODOLOGY

In order to determine if there was a significant difference between the two groups in question—Franchised Firms and Independent Firms—three separate statistical tests were completed. First, a T-Test for Group Means was run on SPSS. However, the T-Test is limited in the amount of information given as well as in its robustness and so additional methods were utilized.

To corroborate the findings from the T-Test, multiple regressions were run using the General Linear Model (GLM) function in SPSS. In using the Generalized Linear Model (GLM), several regressions were performed with all variables in the place of the dependent variable in subsequent iterations. In addition to three continuous independent variables, a dummy variable was included for the two groups (1=Franchised and 0=Independent). This method was chosen because I was trying to determine, in the face of the other three variables, which group (Franchised or Independent) had a superior metric and if there were real differences between them. I was more interested in the direction of the Listing Agent Type variable than in specific parameter coefficients although they are available in the charts below.

More specifically, the general model being tested is as follows:

$$\boldsymbol{Yij = \propto + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon ij}$$

The four models that were specifically tested in SPSS include:

$$Ratio\ Index = \propto + \beta 1(Ln\ OP) + \beta 2(Ln\ DOM) + \beta 3(Comm\ Rate) + \beta 4(LA\ Type) \quad (1)$$

$$DOM = \propto + \beta 1(Ln\ Op) + \beta 2(Ratio\ Index) + \beta 3(Comm\ Rate) + B4(LA\ Type) \quad (2)$$

$$Comm\ Rate = \propto\ + \beta 1(Ln\ Op) + \ \beta 2(Ratio\ Index) + \ \beta 3(Ln\ DOM) + \ \beta 4(LA\ Type) \quad (3)$$

$$Ln\ Op = \propto\ + \beta 1(Ratio\ Index) + \beta 2(Ln\ DOM) + \ \beta 3(Comm\ Rate) + \ \beta 4(LA\ Type) \quad (4)$$

Finally, using SAS, I tested the four independent variables-Ratio Index, Days on Market, Original Price, and Commission Rate—in a Probit Regression. Probit regressions are used when the dependent variable takes on a binary response as opposed to a continuous value response (Tabachnik and Fidell 2007). In this case, the dependent variable is the type of Listing Agent Brokerage with 1 equaling a Franchise and 0 equaling an Independent firm. The coefficients in a probit regression can be explained as Z-scores or standardized scores. Therefore, the model is measuring the propensity of the dependent variable equaling 1 (FranchisedFirm). The general probit model is:

$$\boldsymbol{P(Y = 1\ given\ that\ X = x) = \ \emptyset(X'\beta)}$$

Manipulating both sides yields:

$$\boldsymbol{\emptyset^{-1}P(Y = 1\ given\ that\ X = x) = (X'\beta)}$$

In this case, I am modeling the propensity, or probability, that the dependent variable (Y) is equal to 1 (1=Franchise), given that we have certain independent variables (X). Additionally, probit analysis is based on the central density function (∅) which is shown in the equation below. $(X'\beta)$ represents a vector of both independent variables and Beta coefficients. The cumulative central density function (CDF) is represented by:

$$\int_{-\infty}^{Z} \frac{1}{\sqrt{2\pi}}\ \mathbf{exp}(-\frac{1}{2}Z^2)\mathbf{dz}$$

The specific model used in this analysis is:

$$\boldsymbol{Y = \ \beta 0 + \ \beta 1(Ln\ Op) + \ \beta 2(Ratio\ Index) + \ \beta 3(Ln\ DOM) + \ \beta 4\ (Comm\ Rate)} \quad \mathbf{(5)}$$

RESULTS

Table 1--T Test Results		
Variable:		
	t-statistic	Significance
Ln Op	1.661	0.100
Ratio Index	1.335	0.185
LN DOM	0.035	0.972
Commission Rate	-1.408	0.163

Table 1 includes the results from an Independent T-Test using SPSS. As can be seen, all four variables have significance values above the critical level of 0.05. Since we will fail to reject the Null Hypothesis that there are no differences between groups, the conclusion is that the groups are the same from a statistical view point. However, T-Tests only measure certain characteristics related to group means and, therefore, their robustness is often questioned.

Table 2—Regression Results				
	Model 1	Model 2	Model 3	Model 4
Full Model:				
F-Stat	**13.111**	**12.674**	**5.467**	**9.590**
Significance	0.000	0.000	0.000	0.000
Levene's Test	0.032	0.991	0.032	0.352
R-Squared	0.257	0.250	0.126	0.202
Variables:				
Intercept	**101.851**	-206.456	**10.812**	**10.930**
Ratio_Index		**-3.105**	**-0.036**	0.005
Ln_Op	0.910	**50.053**	**-0.321**	
Ln_DOM	**-4.313**		-0.080	**0.282**
DOM				
Comm_Rate	**-2.016**	-7.537		**-0.101**
LA_Type	-2.133	10.383	0.224	-0.212

Table 2 includes the regression results which were run in the General Linear Model (GLM) in SPSS. Four models were tested which correspond to Equations 1 to 4 in the Methodology section. In each iteration, one of the four continuous variables was used as the dependent variable and regressed against the remaining ones. All four models are significant yet the Listing_Agent_Type variable is insignificant in each model. This finding leads to failing to reject all four hypotheses listed in Section 4 because the one measure that can give both a magnitude and direction of difference between franchised firms and independent firms is not significantly different than zero.

Table 3--Probit Regression Results

	Estimate	Chi-Square	P Value
Likelihood Ratio		6.150	0.1882
Variables:			
Intercept	-2.3339	2.0122	0.1560
LN Op	0.1696	2.0509	0.1521
Ratio Index	0.0095	1.1522	0.2831
Ln DOM	-0.0061	0.0047	0.9453
Commission Rate	-0.0676	0.8597	0.3538

To further test the groups, I computed a probit regression using SAS where I modeled the Listing Agent Type variable as the dependent variable. The specific model is Equation 5 in the Methodology section. If the model is significant, this would mean that the four independent variables predict the propensity for the franchised group to be the listing agent over the independent group. However, the model is insignificant (Chi-Sq=6.15, p-value=0.1882) which leads to the conclusion that these groups cannot be distinguished using the performance metrics in the model. Therefore, all three tests pointed to the same conclusion which is that the groups are not different.

DISCUSSION AND FUTURE RESEARCH

In this paper, I have shown that in a sample of property sale data from the Philadelphia Multiple Listing Service (MLS), there are no significant differences between franchised firms and independent firms in terms of how long their listings stay on the market, the commission that is charged, the original sale price that is chosen, and the ratio of final sale price to original asking price. This is important in the choice that entrepreneurs must make when choosing franchises because of the cost involved. If these results are validated in other studies, then the use of a franchise as a strategic marketing plan could be considered a sub-optimal choice.

This study has several shortcomings. First, the data is taken in one area of the country during one week. Although there is no reason to believe that the results would differ due to location and the time of year, this should be investigated. Secondly, the sample is small (N=158) and, therefore, a larger study using multiple regions would be recommended.

ENDNOTES

[1] For this simple example, the other 20 percent of the market share is assumed to be the same between the two industries

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IT WASN'T AN OPTION: ENTREPRENEURIAL CHOICE THROUGH THE LENS OF IMAGE THEORY

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ABSTRACT

Why do so few people choose the entrepreneurial career? After reviewing the basic principles and concepts of Image Theory, the author discusses possible explanations for the observed low self-employment rates. The theory proposes that a pre-choice screening mechanism is used by a decision maker that is separate and distinct from the actual decision event. Research to date supports the theory's claim that this mechanism determines the final decision pool of alternatives.

The author argues that most people not only don't choose entrepreneurship but that entrepreneurship is not even an option in their decision pool of alternatives. Reasons for this are discussed. The paper concludes with a discussion of some ways to address these cognitive hurdles as well as recommendations for future applications of the theory in entrepreneurship research.

INTRODUCTION

Entrepreneurial action is intentional (Krueger, 1993). It reflects the entrepreneur's affirmative attitude toward starting the venture – the action affirms the decision. Thus a decision to act is a necessary condition to entrepreneurship.

A decision is defined as a choice between two or more alternative courses of action. In the case of entrepreneurship then, the assumption is that the option to start a new venture is in the pool of viable alternatives to begin with. Based on casual observation of the general population in any given society, most people are either not choosing self-employment from among viable alternatives or self-employment is not in the final decision pool in the first place. In the first case, to put it another way, a person assesses the utility of self-employment relative to other options, getting a job for example, and determines that self-employment is not the best option. Or in the latter case, it never occurred to the decision maker to consider self-employment and therefore doesn't. In either case, the net result is that most people are not entrepreneurs.

Most research in entrepreneurship and the decision to entrepreneur focuses on the entrepreneur and not the non-entrepreneur. While this is certainly a typical and perfectly valid research approach, it does not address the far more perplexing issue that most people do not intend to engage in self-employment. While this is a somewhat obvious conclusion requiring little research to confirm, the vastness of the implications are startling.

Image Theory (Beach, 1998), as a decision theory, approaches these questions from an importantly different perspective. The theory proposes that most decisions in life do not involve a true choice among alternatives, but that there is typically only one alternative remaining at which point then the decision maker takes it or doesn't. The more important mechanism in the decision making process in image theory is the screening mechanism that determines the final decision pool of alternatives. Whether one is looking at the person who chooses self-employment or the one that doesn't, it is the screening mechanism that is central to the decision outcome and not the decision itself.

To explore the implications of this claim for entrepreneurship, we will first discuss the key components and processes of image theory, focusing particularly on the screening mechanism, and summarize briefly the research to date that has tested the theory. Next, the theory is used to discuss potential reasons for why self-employment is not the career choice of most individuals. Finally, the paper will conclude with a discussion of some ways to alter the relatively low self-employment participation rates and recommendations for future applications of the theory in entrepreneurship research.

IMAGE THEORY

According to image theory, all decisions are ultimately made by individuals (Beach, 1997). The theory derives its name from the notion that every decision maker uses 'images' in memory to arrive at efficient choices for action. Our discussion will first focus on these images, followed by the decision frames by which these images are selected and applied, and finally the kinds of decisions specified by the theory will be reviewed.

Images

Images are stored cognitive frameworks constructed from experience. They reflect a person's sense about what should happen in any given situation, as well as the how and why. Each image is comprised of three categories: value, trajectory and strategic images. Each of these categories is made up of a constituent membership of descriptors that is associated with a particular image or decision context.

The *value image* is what the person stands for, thus the goals worthy of pursuit and how they are to be pursued. Its constituents are the decision maker's principles, what Beach (1997) calls those "self-evident truths". They are the decision maker's values, morals and 'first' principles. While not all constituents of the image are drawn upon for every decision, nonetheless, the value image sets the stage for what is possible or acceptable in the remaining two image categories.

The second image is the *trajectory image*, which determines the goals that are to be pursued. The constituents of this image are those goals previously determined. It reflects what the decision maker seeks to be or to achieve, his or her vision of the future. They can range from quite specific to abstract. But they are what the person is pursuing and these images must not conflict with relevant value image constituents. The third image is the *strategic image*, which houses the plans for and forecasted results from using selected strategies to achieve goals. The constituents of this image are the previously approved strategies selected to achieve goals.

To sum up, according to image theory decision makers have multiple goals being pursued at any given moment and these goals are not significantly in conflict with each other nor are they in conflict with underlying values or principles of the person. Plans are then made to achieve the chosen goals and expectations as to results from using such plans are estimated, all of which are consistent with the underlying values and principles of the decision maker.

Decision Framing

A decision frame is the bringing of relevant image constituents to bear on a particular situation in order to structure it and to make sense of it. Image theory, as a schema theory, posits that individuals use scripts, prototypes, among other things, and images, to structure or frame their world in an efficient and familiar way. This familiarity is rooted in experience with like or similar situations of the past, allowing the decision maker to tap into the store of knowledge he or she has accumulated from previous decision scenarios.

In image theory, the relevant constituents from the three images are used to frame or structure the decision scenario of the new situation and set the standards that will ultimately determine the outcome. The frame is selected based on an acceptable match between the salient information gleaned from the new decision context and an identical or similar scenario pulled from memory. That is, framing is the process a decision maker goes through that allows him or her to approach a new decision scenario using an existing image from memory. The current situation will be framed in light of past experience if possible.

DECISION TYPES AND TESTS

The type of decision determines the test used to by the decision maker to evaluate new alternatives (Beach, 1997). Two decisions are identified: adoption and progress decisions. The two tests are the compatibility and profitability tests.

Adoption decisions relate to those cases where new goals or plans are proposed to be added to the existing set of image constituents (ie. start a new venture). These decisions involve a two step process in image theory. New alternatives must first meet “the decision maker’s standards, as defined by the image constituents that make up the decision frame” (Beach, 1997, p. 168). Simply put, proposals for adoption that don't fit in with the existing 'crowd' of image constituents won't get in. This screening process evaluates the alternative using the relevant principles, existing goals and plans to determine if it is compatible with the current decision frame. This is referred to as the compatibility test. If an alternative violates the decision frame at some threshold level, it is rejected and will not make it into the final decision pool.

For those alternatives that pass the compatibility test, and assuming there is more than one alternative remaining after screening, image theory proposes that a profitability test is used to make the final decision. If only one alternative remains after the compatibility test, it will be accepted without further analysis.

The compatibility and profitability tests differ in fundamental ways. First, the *profitability test* is essentially an expected value maximization model, one most familiar to normative decision theorists. It is proposed as the decision rule when selecting among remaining alternatives.

The *compatibility test*, however, is based on screening out all alternatives that violate the existing decision frame beyond a certain threshold. This rejection threshold is based solely on the number of violations, the seriousness of the violation and whether the sum of these violations exceeds some absolute level. Its focus is on all the things 'wrong' with an alternative and how 'wrong' it is, with no consideration of what is 'right' about it. It is an additive, non-compensatory process; thus, a very conservative criterion. Whereas the expected utility model of the profitability test argues for the best overall value proposition (maximize benefits relative to costs), the compatibility test seeks to eliminate all alternatives that have an unacceptably high level of negatives, ignoring any positives associated with the alternative.

The second decision type is the *progress decision*. This type of decision applies to existing constituent goals and plans where compatibility between the actual progress toward goal achievement relative to the forecasted progress is being evaluated. If progress toward the trajectory image (goal) is deemed incompatible with expectations, the strategic image (executed plan) is modified or a new one is devised that meets relevant image constituents. Again, the compatibility test is violation-threshold based.

LITERATURE REVIEW

Our review of the research that has tested the model reveals considerable support for the main claims of the theory. Of particular interest to our discussion is the support found for the two-stage screening-choice model in the adoption decision proposed in image theory.

Adoption Decisions

Potter and Beach (1994), in a series of studies, found that subjects used information differently depending on whether they were screening options or choosing a final option among a set of alternatives. Consistent with image theory, subjects in the screening step used information in a non-compensatory, additive manner in order to eliminate unacceptable options. In the later choice step of the decision process subjects used a compensatory, multiplicative model to arrive at the best choice. Multiplicative is used in the sense that probabilities were used to weight the likelihood of any particular outcome of a decision, positive and negative. The additive model used in the screening stage treats probabilities as either violations or non-violations, adding up the violations relative to the decision frame. These results supported earlier studies on the screening process (Beach and Strom, 1989; van Zee, Paluchowski, & Beach, 1992).

Potter and Beach (1994) also demonstrated that the quality of information about options affected the screening process. Missing information or weak information was generally treated as a violation, as was low probability options. Subjects in these studies appeared to be more inclined to reject options which they knew less about as opposed to those in which they knew more.

In further support of this two-stage model, van Zee et al (1992) found evidence that information used in screening was not used in the subsequent selection decision to arrive at the best choice. As described by Beach in his 1998 review of the literature, subjects seemed to consider the screening information as 'used up' as if it had nothing more to contribute to the subsequent decision.

To sum up at this point, when making adoption decisions, evidence strongly suggests that subjects treated information about alternatives for adoption differently depending on whether they were in a screening versus choice mode of the decision process. Further, the screening process involved a non-compensatory violation model to filter options – what we called the compatibility test, whereas in the choice process, a more expected utility model was used to arrive at the best choice – what we've referred to as the profitability test. Finally, information used in the screening process was disregarded in the choice stage when other information was available.

Progress Decisions

Recall that progress decisions refer to previously accepted goals and plans and is a subjective assessment of the progress being made toward those goals. Dunegan (1993) found that assessments of compatibility between trajectory images (goals) and actual performance were influenced by the framing of performance. Performance framed in negative terms yielded ratings of higher incompatibility, resulting in a review of existing plans to achieve these goals. The opposite was true for the same information positively framed. Dunegan (1995) found additional support for framing effects with subjects in positively framed scenarios indicating intent to continue with projects and more willing to commit additional resources to these projects, unlike their counterparts in negatively framed scenarios.

Regardless of framing, however, the larger the incompatibility between goals and perceived performance, theory and evidence indicate that the decision maker will become more engaged in re-evaluating the plan by putting more effort into making existing plans either more effective, changing strategies or changing goals (Beach, 1998; p. 29). However, research suggests that there is a bias toward the ‘status quo’ in that subjects have a tendency to seek any evidence of progress toward existing goals so as to conclude compatibility (Dunegan, 1995). That is, subjects were more sensitive to information that supported a current course than information that did not. This is consistent with Sharpiro’s (1982) suggestion that inertia was the ruling principle in human behavior and as such, people would not normally change course without being forced by what he called ‘displacement’ events.

To summarize the progress decision research, it can be seen at this point that current plans and strategies are favored over new ones. Decision makers have a bias toward current commitments and seem anxious to find evidence to support current strategies for achievement. This point is important for our understanding of why incidence of entrepreneurial behavior among the general population is relatively low.

IMAGE THEORY AND THE IMPLICATIONS FOR ENTREPRENEURSHIP

A number of descriptive models of entrepreneurship have been introduced in business literature over recent decades which seek to explain the process leading up to actions we call the entrepreneurial event. One of the more frequently tested models has been the intentions-based models. Ajzen’s (1991) Theory of Planned Behavior and Shapero and Sokol’s (1982) Entrepreneurial Event Model being most representative of this group and researchers have attempted to use these models to predict or encourage entrepreneurial behavior (Krueger, 1993; Krueger, Reilly & Carsrud, 2000; Kuehn, 2008).

Research in this area has been encouraging with findings suggesting that social desirability, self-efficacy and a predisposition to act predicted entrepreneurial intentions. Intentions, then, are decisions made to act in an entrepreneurial manner. Fundamental to intentions theory, and any other decision model, however, is that it assumes the decision maker has entrepreneuring as one of the choice options. This research stream does this by making entrepreneurship salient to the decision maker and thus is ensuring that it is the option of interest for research purposes. Or, if the study uses existing entrepreneurs, the option is already salient among the subjects tested (see Krueger (1993) as an example). These conditions would not be naturally occurring for most decision makers.

WHY THERE ARE SO FEW ENTREPRENEURS

Our discussions to this point have emphasized the key claims of image theory and reviewed the research to date, which has been generally supportive. Now we turn our attention to the implications of the theory on entrepreneurship and to the general lack of entrepreneurship observed across societies. As noted earlier in this paper, most research has focused on the process that leads a person to entrepreneur. This paper looks at entrepreneurship from the perspective of the vast majority who do not choose self-employment as a career path with the intent of using image theory to expose the significant cognitive barriers that must be addressed.

Image theory suggests two areas that would explain the general lack of entrepreneurship in society. First, if entrepreneurial options are to be available for choice, they need to be found compatible with existing images. This is no easy feat. The compatibility test determines the adoption of new alternatives based on existing criteria and 'punishes' the option if it deviates too far from the status quo. That is, if it violates existing rules of the game too much it doesn't make the decision round. Recall also that when it comes to adoption decisions, research evidence suggested that low or uncertain probability, vagueness or lack of information, all typical of any new venture formation context, are deemed to be violations in image theory. Further, Beach (1998) explained that by the time people reach adulthood, they have already amassed a significant store of images with which to address life. Any new alternatives must make it past an imposing array of existing constituents that make up the individual's decision frame in order to be adopted. Thus, the relevant image constituents used by the person to screen an entrepreneurial option must include the criteria that would deem the option compatible to existing standards, goals and strategies. Based on the adoption decision alone, the bias against entrepreneurship is substantial, particularly to the degree it was not part of the person's experiential history.

A second, though related, reason why entrepreneurship will not likely be in the choice pool is that people tend to favor existing goals and plans over new ones. Research supports the theory's claim that people will demonstrate a bias toward the status quo. This is explicit in adoption decisions and more implicit in progress decisions. Progress decisions favored evidence for staying the course over contradictory information. Further, the rejection threshold for change of goals and strategies appeared to be quite low. That is, it appears that almost any evidence of progress was taken as sufficient to retain the current goal and/strategy (Dunegan, 1995). Beach and Mitchell (1990) called this the 'status quo' tendency. Shapiro and Sokol (1982) referred to it as inertia, where humans as creatures of habit do not readily change course unless forced to. So much was this seen as the case that they suggested that a 'displacement event' was necessary for people to seriously consider new options. Displacement events included such things as a divorce or the loss of a job. More will be said about this in the following section.

Image theory would explain the current lack of entrepreneurial activity by most people as a result of entrepreneurship not being among individual's choice options, due to the screening process having excluded it. Intentions models assume that it would be among the options. Image theory demonstrates that that is unlikely.

Kuehn (2008) noted as much in his critique of the intentions theories and how they were often tested. He observed that causing subjects to state intentions regarding entrepreneurship is artificial at best and at worst implies a process that is not naturally occurring. That is, our choice field is usually not contrived as in a lab setting or when prompted by a survey. Our field is typically what we 'see' based on our predispositions, which are formed from prior experience. Hence, there is greater likelihood to find entrepreneurs coming from entrepreneurial families or that entrepreneurs who've done it once will likely be found to do it again, expectations supported by research (Shane, 2003). Therefore, so called entrepreneurial cultures will expose more people to entrepreneurial experiences, all fueling higher incidence rates of entrepreneurship than non-supportive cultures or organizations.

Image theory emphasizes that it is the screening process that most effects entrepreneurial activity. One can only state an entrepreneurial intention when the option is in the decision pool. What can be done to encourage more incidences of entrepreneurial choice?

IMAGE THEORY AND THE MAKING OF ENTREPRENEURS

Based on our review of image theory, it might be concluded that we either have to accept that a small percentage of people will choose entrepreneurship as relatively few have such a predisposition based on prior experience. Or we seek to inject such experiences early on in a person's life so that the entrepreneurial constituents are built-in for later execution. A third option seems possible. As decision frames determine the constituents used in assessing new options for a person, triggering different frames could alter decision outcomes. Each of these possibilities are discussed in turn below.

It could be said that 'entrepreneurs beget more entrepreneurs' much like two attractive parents are likely to have attractive children. This simply recognizes that each of our life paths expose us to experiences that form our predispositions toward things we encounter in the future. Early socialization experiences solidify images over time, which Beach (1998) notes are pretty well formed by the time we reach adulthood. The implication seems to be that it becomes harder and harder to 'teach an old dog new tricks', or an adult to think differently about future options. The end result of this view is that one can at best play on the margins when it comes to encouraging entrepreneurship as only a few are predisposed to act in this manner.

The second option, introducing entrepreneurial constituents into the broader population at an early age, has some merit. A number of initiatives in North America and Europe seek to introduce entrepreneurship into primary and secondary public school systems (ie. Kauffman Foundation Youth Entrepreneurship). The degree these programs make a meaningful and lifelong impact on individual attitudes is unknown. However, in image theory terms, this has potential to inculcate image constituents that are more favorable to entrepreneurial options in the future.

The third option, perhaps of more immediate impact, revolves around influencing the decision frame selection. Image theory states that the decision frame is "the constituents of the three images that are deemed relevant to the decision at hand and that set the standards that influence that decision" (Beach, 1997; p. 167). The cues picked up on in the current situation are used to identify a 'recognized' image from memory. That is, an image from memory matches the elements of the current decision (or one close that can be modified), which in turn determines the image constituents used to screen the option. While this screening mechanism is important in the decision process, the frame selected for screening options may be even more important to the outcome. Can the frame selected be influenced? The literature suggests that it can.

As discussed earlier, Shapiro and Sokol (1982) proposed an entrepreneurship model where a displacement or some trigger event was an important precursor to new venture formation. While not all events had to be negative in nature (ie. laid off from a job), they were viewed as more powerful than positive events (ie. receiving large inheritance) when it came to causing life direction changes.

In image theory terms, progress toward life goals is placed in doubt when the strategies are rendered irrelevant or significantly undermined by circumstances. For example, if I plan to retire by a certain age with a certain income and this is dependent on my current job, and if that job is lost, the prospects for the current strategic image is more likely to be seen as inadequate. It fails the compatibility test. The decision maker will be open to alternatives to the current strategies, even to new plans (goals) as well. Image theory would suggest that such events invoke new decision frame constituents as key features of the decision field have changed.

There is additional evidence from the entrepreneurial cognition and psychology literatures that decisions are altered when alternatives are framed differently. Abundant evidence in the area of behavioral decision theory research has demonstrated that reframing invariant alternatives in positive or negative terms influences choice (Tversky & Kahneman, 1981). It is recognized that how a situation is understood by the decision maker will influence how he/she will construct the decision field (frame it) and that it is in a more heuristic-based logic (ie. representativeness) than an analytical one (See Mitchell, Busenitz, Bird, Gaglio, McMullen, Morse, & Smith, 2007 for a recent overview of this as it relates to entrepreneurial cognition).

Again, the question in image theory terms is can the selection of image constituents of the decision frame be affected? One additional research stream suggests they can be, further illustrating the point that how a situation is presented impacts subsequent choice. Slovic, Peters, Finucane and MacGregor (2005) conducted research that proposed that the degree of affect (feelings) toward a decision alternative determines image constituent selection. Referred to as the 'affect heuristic', it is argued that decision makers faced with decision situations react first affectively and automatically to the context. Based on earlier work by Zajonc (1980), Slovic et al (2005) suggest that these automatic processes predispose decision makers to particular sets of constituents. They describe the process as follows:

> All of the images in people's minds are tagged or marked to varying degrees with affect. An individual's "affect pool" contains all of the positive and negative markers associated (consciously or unconsciously) with the images. The intensity of the markers varies with the images.

> People consult or “sense” the affect pool in the process of making judgments. … Using an overall, readily available affective impression can be easier and more efficient than weighing the pros and cons of various reasons or retrieving relevant examples from memory.… (p. 36)

Their results have demonstrated support for the affect heuristic on decision making. This research seems relevant to the central concepts of image theory by adding to our understanding of how image constituents are selected. If negative affect is associated with entrepreneurial ‘themes’, and thus related words and phrases, then the low participation rates may in part be explained by the larger socio-cultural ‘conversation’ and perceptions about entrepreneurship. Hence, someone starting a company may be viewed as a bit ‘weird’ or unusual, but no such reaction is given to someone starting a job.

RESEARCH IMPLICATIONS AND CONCLUSION

Mitchell et al (2007) called for more exploration of entrepreneurial cognition and how it impacts entrepreneurial choice. This paper has suggested that the process of entrepreneurial choice is less about the decision itself as it is about how the decision pool is filled, or better, emptied of alternative candidates for consideration. The implications for entrepreneurship going forward appear to be several. Two are suggested here as central. The first is whether the case made here for image theory can be established empirically, which would then suggest that in some sense we’ve been ‘barking up the wrong tree’ when it comes to the relative importance of entrepreneurial choice in new venture starts. Specifically, further study of image theory within an entrepreneurial context would need to examine the two-stage decision process that is so central, and unique, to the model.

A second area needing investigation surrounds the notion that image constituents selected for screening can be altered. Earlier discussions noted that there was evidence that image constituents are selected based on salient features of the context being faced. It was further suggested that this saliency may be related to the ‘affect heuristic’, a phenomenon supported by research. The merit of this explanation as well as the extent of its influence needs evaluated. There are likely other factors as well.

In conclusion, the growth in entrepreneurship education across levels, formal and informal, would seem to suggest that people so exposed will develop more positive images of entrepreneurship as a personal career option. As we started this discussion, so we end it – with a definition of a decision. A decision is defined as a choice between two or more alternative courses of action. It is one thing to find that most people choose not to engage in entrepreneurship, it is a very different thing if they don’t even consider it as an option.

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THE COLLABORATIVE FRONTIERS OF SOCIAL NETWORKS AND OPPORTUNITY RECOGNITION IN CONVERGENT TECHNOLOGIES

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ABSTRACT

Opportunity recognition has long been considered a key aspect in entrepreneurship process. This leads to exploring the influential role of social networks and information exchanges in opportunity recognition in convergent technologies that will be a dominant force in the global markets in the next decades. In this paper the effects of collaborative frontiers of key social network players on opportunity recognition in convergent technologies is studied. Further the effects of information generated from convergent technology key players and the role of knowledge structure as a potential mediator in opportunity recognition process are discussed. Building on this framework, a model is developed and a set of propositions is offered for the future research.

INTRODUCTION

Opportunity recognition has long been considered as a crucial aspect of the entrepreneurial process. (Ventakaraman, 1997; Gaglio, 1997; Hills, 1995). To understand the influential role of social networks in entrepreneurial opportunity recognition in emergent technologies first it is essential to review the essence of opportunity recognition in prior literature. To date much prior opportunity recognition research has in common that "innovation" and "information" are two important elements in this process.

Opportunity recognition involves having specific information regarding market, industry and technology conditions and other factors (Ozgen & Baron, 2007) and the discovery of an innovative idea to create new businesses (Schumpeter, 1934; Kirzner, 1973; Kirzner, 1997). Opportunity recognition is also defined as an act of innovation in new service, process and production (Schumpeter, 1934; 1943) that involves seizing new marketable ideas (Kuratko & Hodgetts ,1998).

To date researchers applied various approaches in opportunity recognition. Some focused on the role of active and systematic search for information in the identification of entrepreneurial ideas and innovations for new markets, products, services, methods or processes (Schumpeter, 1942). In other words, entrepreneurs recognize opportunities by scanning the environment for information and focusing on markets, industry, customers and technological developments (Bhave, 1994; Reitan, 1997; Busenitz & Barney, 1996).). Prior research found a strong link between the industry change, i.e. growth of sales, entry barriers and manufacturing possibilities, or market structure such as demographics and socio-cultural factors lead resigning of opportunities and creation of new ventures (Drucker, 1985; Dean & Meyer, 1992). Changing industry or market conditions may shift the demand and production possibilities and lead to entrepreneurial inventions (Timmons, 1999; Kuratko & Welsch, 2001; Dean & Meyer, 1992). Especially, scanning the environment focusing on technology, consumer economics, social values and governmental regulations play an important role in the recognition of opportunities (Stevensen & Gumpert, 1985). Therefore, it was suggested that systematic search based on specific information leads the discovery of entrepreneurial possibilities (Shaver & Scott, 1991; Kaish & Gilad, 1991; Herron & Sapienza, 1992; Fiet, et al., 2000, Fiet el al., 2002).

Some researchers suggested that possession of information or alertness is critical in identifying and exploiting market opportunities (Kirzner, 1973) and claimed that entrepreneurial opportunities exist because people possess different information (Hayek, 1945). Possession of different information leads individuals to discover entrepreneurial possibilities because any given individual cannot identify all opportunities (Kirzner, 1973). Therefore asymmetries of information (Shane & Venkataraman, 2000) lead entrepreneurial innovations.

A stream of research applying a cognitive approach focused on the way people think and process information (Baron & Markman, 1999) and examined entrepreneurs who evaluate and discover opportunities and explored the skills, cognitive processes (Baron, 1998). These researchers found that “alertness”, in other words, the way entrepreneurs perceive information and process knowledge play a key role in opportunity recognition. Therefore, opportunity recognition is a cognitive process and in the mind of certain individuals and opportunities are identified by being “alert” to possibilities that the market presents (Woo et al., 1992; West & Myer, 1997; De Koning, 1999).

Opportunity recognition is also defined as a joint function of individual and the environment and entrepreneurs’ interaction with the environment shapes the evolution of ideas (Vesper, 1990; De Koning, 1999; Shane & Ventakaraman, 2000). In other words, opportunities are both out there and also in the minds of certain individuals. Therefore, opportunity recognition is a joint function of personal (background, experience, education) and external factors (contextual and environmental factors) (Singh, 2000).

Although different approaches were applied in prior opportunity recognition studies much of all these earlier investigations have in common that “innovation” and “information” play a central role in this process. Consequently, the recognition of entrepreneurial opportunities is linked to having specific information regarding with market, industry and technology conditions and innovative ideas. Since information and innovation are the essence of opportunity recognition much research has investigated possible sources of these two crucial factors in opportunity recognition. One potential source of these two key elements that has received much attention has been social networks.

SOCIAL NETWORKS AND OPPORTUNITY RECOGNITION

Social Network Theory suggests that network ties provide access to resources and information that is critical to opportunity recognition and venture formation (Butler & Hansen, 1988; Burt (1992). According to the Social Capital Theory social network ties increase an entrepreneur's capacity in attracting, employing and circulating resources and providing possible access to information (Aldrich & Zimmer, 1986; Dubini & Aldrich, 1991; Zhao & Aram, 1995; Birley, 1985; (Simon, 1976; Floyd & Wooldridge, 1999; Sexton & Bowman-Upton, 1991). Social network ties connect structural holes, link lack of connections, increase resource supply; ease information transfer and facilitate innovation (Burt, 1992; Johannisson, 1990; Johannisson, 1996; Ostgaard & Birley, 1996). Earlier research found that social networks provide knowledge for new possibilities opportunity to manage information to overcome barriers in entrepreneurial process (Johannisson, 1990; Johannisson, 1996; Ostgaard & Birley, 1996; Butler & Hansen, 1988).

Christensen and Peterson (1990) reported that in addition to other factors social networks are often a source of venture ideas and are positively linked to opportunity recognition for creating viable new ventures. Entrepreneurs who used network sources identified significantly more opportunities than those who developed their venture ideas individually (Hills, et. all 1997). Social network contacts allow entrepreneurs to have an access to a wide range of information (Singh, Hills, Hybels, & Lumpkin, 1999; (Shane & Cable, 2002) and create linkages between resources and opportunities (Singh, 2000). Access to diverse commercial social networks updates entrepreneurs with changes in industry and market conditions from customers, government regulations and competitors (Almeida & Kogut, 1999; Shane & Cable, 2002; Gargiulo & Benassi, 2000) and underpins entrepreneurs' knowledge base (Bozeman & Mangematin, 2004) leading to innovations and idea generation and recognition of opportunities (De Carolis & Saparito, 2006; Ozgen & Baron, 2007).

Social networks and opportunity recognition in convergent technologies

Social network ties are especially crucial in recognizing opportunities and enhancing innovation capabilities in technology domain. Network alliances increase innovative performance of high tech industries (Soh & Roberts, 2006) and play an influential role in idea generation, transferring knowledge and opportunity recognition (Greve & Salaff, 2003, Dimov, 2007). Therefore, it is logical to assume that a fundamental understanding of the social networking strategies in opportunity recognition process in emerging technologies will be as of timely and worthwhile for entrepreneurship researchers.

Convergent technologies are emergent technologies that combine a set of technologies and various scientific disciplines. The term "convergent technologies" indicates the convergence of new emerging technologies, such as nanotechnology, biotechnology, information technology and new human technologies. It is expected that convergent technologies will revolutionize science and technology in the next decade and lead to dramatic developments in a variety of fields such as medical science, material science, electronics, military, healthcare, chemical plants, transportation, pharmaceuticals, manufacturing, agriculture, energy, environmental management, etc. (Roco & Bainbridge, 2001).

As the emergent technologies will create remarkable advances over the globe in the next decade it is considered worthwhile to further explore opportunity recognition in convergent technologies. Innovation and information have long been considered as the essence of opportunity recognition and social networks are found as one possible source of these two crucial elements. Although prior research contributed our understanding of opportunity recognition immensely to-date how socially generated information lead to opportunity recognition within the complex and multifaceted system of convergent technologies has not, as yet, been carefully explored.

CONVERGENT TECHNOLOGY KEY PLAYERS AND SOCIALLY GENERATED INFORMATION

Dealing with innovation and opportunity recognition in convergent technologies requires exploitation of social networking, social cohesion and networking strategies among major players, such as businesses, universities and government (Sorenson & Waguespack, 2005; Roco & Bainbridge, 2001; Mazzola, Nature Biotech, 2003; Liebeskind, Oliver, Zucker & Brewer, Org Sc., 1996; Powell, Kogut & Smith-Doerr, ASQ, 1996).

The multifaceted nature and complex structure of convergent technologies heavily depend upon the accumulated knowledge of multitude disciplines, such as science, engineering and technology, across boundaries between disciplines and a vibrant set of industry, government and university activities (Roco & Bainbridge, 2001). Since the complexity of methods and procedures increase in convergent technologies the need for collaborations among a variety of partnerships with different skills and capabilities increase. Therefore we suggest that it is crucial to investigate key social network players and information generated from these sources in transferring knowledge as predictors of innovation and new ideas (Sorenson & Waguespack, 2005) in opportunity recognition research in convergent technologies.

Information generated from interdisciplinary collaborations in Academia

Previous entrepreneurship research found that teams with multidisciplinary background lead to idea generation and innovation especially in high tech industries (Alves, Marques, Saur, Marques, 2007; Kamm, Shuman, Seeger & Nurick, 1990; Timmons, 1994). Currently convergent technologies are driven by academic research. Consequently, academic social network that consists of multidisciplinary teams of scientists, engineers and technicians may be particularly critical in opportunity recognition in convergent technology domain (Roco & Bainbridge, 2001).

As the process of developing new products and processes get progressively more complex in convergent technologies, collaboration of cross-functional team members in academia will be crucial in facilitating resource accumulation, idea generation and creating linkages to entrepreneurial ideas.

Convergent technology domain connects basic science and engineering disciplines and accents diverse scientific and technical information and knowledge accumulation to support research infrastructure. Recent entrepreneurship research suggests that knowledge transfer, large-scale multidisciplinary collaboration and outreach activities across various disciplinary lines (Brush, Duhaime, Gartner, Stewart, Katz, Hitt, Alvarez, Meyer & Venkataraman, 2003; Shook, Priem, & McGee, 2003) will be critical in future entrepreneurship research (Dean, Shook & Payne, 2007).

An academic social network consisting of highly trained people with expertise in diverse disciplines such as physics, chemistry, biology, materials and engineering will increase diffusion of information, broaden knowledge and research base (Roco & Bainbridge, 2001). Social network of academicians will foster new knowledge creation and access to wide range of scientific and technical information that will lead radical innovations, which stimulate opportunity recognition and increase entrepreneurial behavior.

It was found that information and prior knowledge add significant insights into entrepreneurial discovery. Prior knowledge of a particular field provides individuals the capacity to recognize entrepreneurial opportunities (Shane, 2000). Therefore social network of academicians with different background and expertise will help entrepreneurs combine diverse pieces of knowledge to recognize an entrepreneurial opportunity. Based on this reasoning we propose that:

P1. The greater the extent to which entrepreneurs in academia with different background and expertise team up in new projects, the more likely they will be to discover opportunities for new ventures in convergent technology.

Information generated from industry- academia collaboration

Convergent technology domain involves interaction among scientists and diverse links between academic and industrial participants. Therefore an effective use of social networking strategies constitutes a valuable tool to interweave diverse links and bridge the gap between academic and industrial participants (Adler & Kwon, 2002) and is considered a critical aspect in opportunity recognition within the ecosystem of convergent technologies.

To date it was found that developing social capital is a major challenge for academic entrepreneurs in universities compared to entrepreneurs in commercial environments (Mustar et al., 2006; Lockett & Wright, 2005; Nicolaou & Birley, 2003). Accessing social networks is crucial to commercialize technological innovation (Delmar & Shane, 2004). Yet at present much convergent technologies research is constrained to university and national lab environment (Wolff, 2006). Convergent technology innovations are driven by academia and therefore to be able to identify opportunities with commercial market applications (Lockett, Wright, & Franklin, 2003) and capture the full potential of nanotech innovations entrepreneurs in universities need to broaden their scientific networks in university environment to commercial networks in industry environment. Commercialization potential of innovations in convergent technologies across a wide range of projects and creating new materials, products and techniques for industrial manufacture require coordinated efforts and interaction between university and industry sector.

Collaboration between academic and industry participants is a crucial path in recognition of opportunities in convergent technologies. Developing partnerships and forming social networks between academic institutions and the industry private sector will strengthen ties between academic researchers and the industry sector and create a broader approach in cross fertilization of ideas. Industry-academia social network will support easing the transfer of mutual intellectual input and feedback and fostering establishment of convergent technologies industry hubs (PMSEIC, 2005).

We suggest that entrepreneurs in academia can often obtain valuable information from persons that they meet or contact in the industry (these individuals might include but not restricted to venture capitalists, investors, suppliers, manufacturers, producers, etc.) on changing trends in the market, social behavior patterns, consumer economics, changing structure of the industry and current market circumstances. Further social network collaborations between private sector and academia will also assist academicians in making contacts in the field, such as with financiers, suppliers, and customers, keeping industry specific knowledge up-to-date and accessing to informed decision-making. Therefore, social networks formed between university and industry private sector will help entrepreneurs in convergent technologies scan the environment and identify opportunities by using different types of information about the market.

Social networks formed between large firms and universities enhance industry-wide applications ideas of convergent technologies and this will create new demand and supply curves for new products, methods and processes replacing existing ones. As it is suggested in creative destruction theory innovative processes in new products, production or organizational methods, markets, sources of input and market structures (Schumpeter, 1934) through applications of convergent technologies projects will induce implementation of new applications in a range of industries and bring innovations to the market. Increase demand for new technologies and methods will enhance opportunity recognition in various markets and boost entrepreneurial behavior and innovations in convergent technologies.

Companies investing in university research funds through joint projects gain access to new technological developments and innovation (Chesbrough, 2003). Social networking with academia and private sector will ease the transfer of the nanotech research results into commercial application and facilitate entrepreneurial opportunity recognition. Further, university spin-outs have long been considered as an important source in generating technology development and transferring university-invented technology to industry and markets (Roberts, 1991).

Universities are increasingly becoming the center of convergent technology development. Therefore, through private sector and academia network universities transfer nanotech innovations and more in-depth reflections of emerging technological developments back into the market and industry in the form of new entrepreneurial venture opportunities. Universities on the other hand through joint development agreements will be given a range of initiatives to support and strengthen the academic research along with financial support and access to information on possible commercial market applications. This leads to the next propositions:

P2. The greater the extent to which entrepreneurs in academia collaborate with the private sector in industry as a source of information, the more likely they will be to identify opportunities for new ventures in convergent technologies.

Government generated information

Opportunity recognition in emerging technologies is closely linked with the government collaboration. Prior research findings show that university and government research institutions play a significant role in advancing scientific activities (Miyazaki & Islam, 2007). In this study "government" refers to "government generated information and funding for convergent technology projects".

When new technologies start developing the infrastructure required for that technology needs to be developed as well including regulations, legitimation and resource fundings (Van de Ven, 1993). That means, the legal requirements of entrepreneurship in convergent technologies not only include patents, licensing, intellectual property rights and commercial application issues but also a wide range of law and policy requirements and regulations that engage environment, safety and social responsibility (Reinert, Andrews, & Keenan, 2006). Therefore information obtained from government on regulations and standardization of the new technology will be helpful for entrepreneurs in prioritization and coordination efforts to bridge knowledge gaps in recognition of opportunities.

Further, convergent technology initiatives involve high cost and start-up funding initially and could create an obstacle in launching new research programs. Prior research found that more entrepreneurial firms were founded in states with high science and technology and economics initiatives than those without such initiatives (Woolley & Rottner, 2008). Therefore, we expect government generated information and funding for any convergent technology projects will not only give an access to research funding for promoting new technology and build confidence in the capital market but also ease understanding of the regulatory frameworks (PMSEIC, 2005) for the new technology.

In sum, government generated information and funding for convergent technology projects will facilitate innovations and rapid commercialization of research results and lead to meaningful progress in recognition of opportunities (NNI, 2008). This leads to the next proposition:

P3. The greater the extent to which entrepreneurs receive government related information and funding for convergent technology projects the more likely they will be to discover opportunities in convergent technologies.

KNOWLEDGE STRUCTURE AS A POTENTIAL MEDIATOR

Knowledge structure is a cognitive factor that is derived from "schemas", i.e. mental frameworks that give structure to and organize information in memory and enable individuals to perceive connections between events and knowledge (Baron, 2006).

Schema theorists imply that individuals remember information that fits well with the schema (Hastie & Kumar, 1979). Applying pattern recognition theory and the prototype model, Baron (2006) proposed that mental frameworks play an essential role in opportunity recognition because individuals more likely notice information relevant with their existing schemas. Baron (2006) suggested that training, previous experience and learning shape individuals' mental frameworks, which influence their perception of external world. Thus, it might be easier to notice and identify opportunities through information relevant to individuals' existing schemas than information irrelevant to existing schemas (Baron, 2006).

For instance, individuals with better-developed schemas related to an industry can "access signals from information services or channels, to which they subscribe, based on their prior knowledge" (Fiet, Piskounov, & Gustavson, 2000, pp.198). Their background may help them to filter signals from the environment and transform them into information, carry out data handling, adapt complex technical developments and utilize available information processing.

Prior research findings suggest that alertness schemas play an important role in opportunity recognition Gaglio and Katz, 2001) and the more developed entrepreneurs' schemas for knowledge in a particular field, the more likely they use this information in opportunity recognition (Ozgen & Baron, 2007).

Extending previous research finding on the importance of schemas in opportunity recognition we suggest that further studying the extent of knowledge structure, referring the way in which individuals organize knowledge in "three specific schema layers", will be valuable in understanding the opportunity recognition process. Knowledge structure refers to three basic schemas called "declarative", procedural" and "structural" under which knowledge may be organized. Declarative knowledge includes information about concepts, names and things. Procedural knowledge contains how to steps to be able to do a task; and structural knowledge refers to deeper understanding of a material or a concept (Grotzer, 2002). We suggest that studying the extent of entrepreneur's knowledge structure will provide us a better understanding on "how" entrepreneurs employ information that they obtain from various sources in recognizing opportunities in convergent technologies. We predict that the better developed declarative, procedural and structural knowledge of an entrepreneur in a given technological field the better and more organized knowledge structure the individual has. As a result, better developed knowledge structure will ease processing information and informed individuals are more likely to identify stimuli relevant with their existing knowledge.

Based on this reasoning we propose that the impact of social network collaboration mechanism on opportunity recognition is partially mediated by the strength of entrepreneurs' knowledge structure for convergent technology related information. Entrepreneurs who have better developed knowledge structure in convergent technologies are more likely recognize new business opportunities through social network collaboration compared to those who have less developed knowledge structure in convergent technologies. These individuals with better developed knowledge structure will better apply and utilize information generated from these social sources in recognition of opportunities for viable new ventures.

P4. The effects of social network mechanism on opportunity recognition in convergent technologies will be partially mediated by knowledge structure.

The proposed model is shown in Figure 1 on the following page.

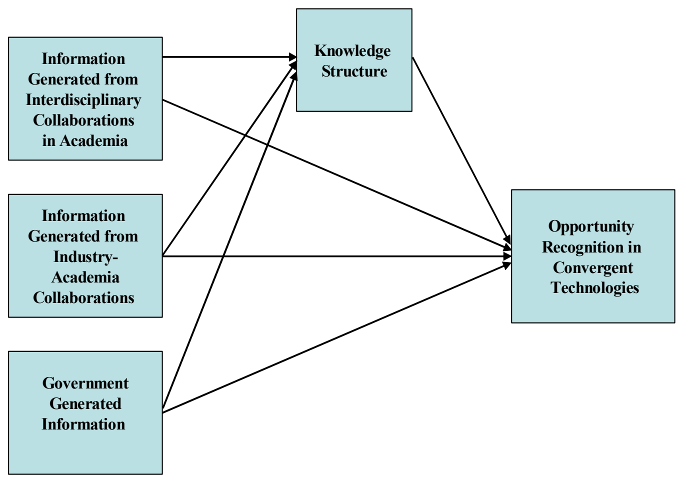
SUGGESTIONS FOR METHODOLOGY

As the field of convergent technologies is still developing it is suggested to study nascent entrepreneurs in convergent technologies in opportunity recognition research. Nascent entrepreneurs are those who are involved in independent business start-up efforts and/or trying to start a new venture (Delmar & Davidson, 2000) either alone or with others (Reynolds, 1999). This involves any behavior associated with starting a new firm such as earning money on sales, doing market research and saving money to start business (Delmar &Davidson 2000). Individuals who qualify as nascent entrepreneurs expect to be owners or part owners of a new venture; have been active in trying to start-up a new venture in the past 12 months and the effort is still in the start-up or gestation phase (Reynolds, 1999. pp.170).

Opportunity recognition measure could be adapted from one used in previous research (Singh et al., 1999) that includes entrepreneurs' self assessments and also from various other quantitative and verifiable methods such as "the number of companies started; number of patents held; number of opportunities recognized and cross-validation of entrepreneurs' self-assessments by persons who know them well and are familiar with their actual success in identifying opportunities". (Ozgen & Baron, 2007, p. 24). Knowledge structure measure could be adopted from previous research (Grotzer, 2002). The other measures could be developed by the researchers as needed.

Structural Equation Modeling Analysis is suggested to analyze the data as it is a reliable straightforward method of dealing with multiple and interrelated dependence relationships simultaneously while providing statistical efficiency (Hair, 1998).

Figure 1: The Model of Opportunity Recognition in Convergent technologies



FURTHER THOUGHTS FOR FUTURE OPPORTUNITY RECOGNITION RESEARCH

At present convergent technologies are still in infancy. Consequently, initial costs of new applications are expected to be high in the beginning. The high cost of research and start-up packages may pose some difficulty in recognition of opportunities for cutting edge ideas and transferring these opportunities into new research programs. Therefore, until it builds up impetus initially convergent technology initiatives require very high funding and investment.

As much convergent technology research is carried out in university environment at present convergent technology researchers in academia use information stem from similar academic or scientific environment such as scientific conferences, journals, reports and workshops and thereby are constrained with diversity of information sources (Wolff, 2006). The main challenge in convergent technologies includes forming intense social network collaborations among industry, academia, government and other sectors that help to build a knowledge base and convert knowledge into commercial outcomes, in other words transferring research results from academia or laboratories to industry (NNI, 2008). The multifaceted challenges in opportunity recognition in convergent technologies involve the collaboration of many disciplines, managing diverse social networks, working across many different fields, integrating different perspectives among partners, handling massive diverse volume of information and assessing business implications and commercial results of nanotech innovations (Bean, Chapas, Collins & Kingon 2005).

Exploring various other information sources with commercial market applications could expose convergent technologies to many possible application areas. Scholars suggest further studying collaborative efforts between industry and academia that lead to identifying commercial needs to project for large-scale market impact opportunities (Osman, Rardon, Friedman & Vega, 2006). Further, opportunity recognition researchers could explore the influence of diversity of information coming from various social network sources.

A longitudinal study on academic entrepreneurs' social network ties revealed that differences in the human capital and prior business experience of academic entrepreneurs could play a significant role in forming social network ties with industry (Mosey & Wright, 2007). Regardless of academic discipline the lack of prior business experience could create structural holes in the social connections between university and private sector and form a barrier for academicians in building effective social network ties with investors and managers in industry (Mosey & Wright, 2007). Therefore, having business experience or developing human capital could be regarded as a significant factor for academicians in emerging technologies. Hence, the lack of prior business experience in academia could pose difficulty in forming social network ties with industry and recognition of entrepreneurial opportunities with commercial market applications.

U.S. National Science and Technology Council Report proposed that fostering R&D infrastructure, promoting vital research areas, encouraging and developing the scientific and technical human capital are among the major challenges in convergent technologies domain (NSTC, 2000). Scholars suggest implementing considerable changes in academia to offer courses, training and degrees in convergent technologies and build interdisciplinary centers of expertise to provide depth and broad approaches in social network formation which lead to recognition of opportunities for viable new ventures (Greg, 2004).

In conclusion, the conceptual model presented here is only a step towards understanding the collaborative frontiers of social networks in opportunity in convergent technologies. It is hoped that the ideas suggested here may provide insights for the future opportunity recognition research in convergent technologies.

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