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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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MANUSCRIPTS

WOMEN ENTREPRENEURS: HOW IMPORTANT ARE THEIR PERCEPTIONS?

Rolanda P. Farrington Pollard, San Jose State University

ABSTRACT

Archived transcripts of 57 women entrepreneurs were qualitatively (using content analysis) and quantitatively (using canonical correlation) analyzed. Content analysis was conducted to create nominal scales, which could be quantitatively investigated with canonical correlation analysis. The goal was to determine the relationship between women entrepreneurs' support and success from both actual and perceptual perspectives. Analysis supported research propositions suggesting women's perceptions of support have a greater effect on their success in entrepreneurial ventures than actual support, regardless of whether traditional measures or women's own perceptions of success were considered. Women's motivations toward entrepreneurship were strongly correlated with perceptions of success. Additionally, women's perceptions of success were highly correlated with their perceptions of support, suggesting that women may perceive actual or future success as a form of support. Implications for the use of research findings, is discussed.

INTRODUCTION

The "radical acceleration" (Weiler & Bernasek, 2001, 85) of women entrepreneurs, and their significant contribution to the global economy, has increased public interest increasing research on their entrepreneurship (Bennett & Dann, 2000; The Independent, 2000; Malaysian Business, 2001). Women-owned firms comprise 25-33% of businesses worldwide, and in many countries the number of women-owned businesses are growing faster than the respective country's national economy (NFWBO, 1999). Bureau of Labor (1998) statistics show that women make up 50% of the US labor force, with sixty percent of all women employed outside the home (Management Review, 1997). Women earn in excess of \$1 trillion annually (Walker, 1998), including an 81.2% increase in women's business receipts between 1982-1987 (Van Auken & Rittenburg, 1994). The "sharp rise in [the] number of women entrepreneurs" (35) is estimated to have risen by over 22% between 1998 and 2001, consisting of nearly 33% of all new ventures (Financial Management, 2001).

Women have been starting businesses at twice the rate of men and this trend of women-owned businesses, which increased by 57.4% between 1982 and 1987 (Van Auken & Rittenberg, 1994), led to projections that by the end of the year 2000, 66% of all business in the US would be women-owned (Van Auken & Rittenburg, 1994; Walker, 1998), reversing the majority from male-

owned businesses (Bureau of US Census, 1998). The 5.4 million, women-owned businesses employed 7.1 million people and generated \$818.7 billion in 1997 alone (US Bureau of Census, 2001). Women do outnumber men in self-employment in the US, UK, and Australia (Bennett & Dann, 2000; NFWBO, 2000). According to Bureau of Census data (1998) women-owned businesses increased in all sectors except in the finance industry, with the most significant increases in traditionally male-dominated industries, such as construction (94.78%), agriculture (72.99%), and wholesale trade (87.29%), although nearly half of women's businesses are in retail, leisure, and personal services industries (Financial Management, 2001). Between 1992 and 1997 women-owned businesses increased at three times the rate of all start-ups (US Bureau of Census, 2001).

However, empirical research on women entrepreneurs and constructs significant specifically to their success is fragmented at best and, therefore, deficient (Russell & Burgess, 1998; Stevenson, 1990). Investigating sociological and psychological factors unique to women – from a feminist perspective (Kilduff & Mehra, 1997) – is necessary because “there is a need to feminize the research conducted on entrepreneurs in order to include the experiences of women” (Stevenson, 1990, 439). Coviello and Jones (2004) call for “research designs that integrate positivist with interpretivist methodologies” (485) in international entrepreneurship research for the same reasons such research is necessary in research on women entrepreneurs.

The original research, upon which this paper is based, attempted to fill such gaps (Perry, 2002) by addressing two goals: 1) to create a new model for understanding women entrepreneurs, which will be discussed in another paper and 2) to increase understanding about women's perceptions as related to their success, which is the focus of this paper.

LITERATURE REVIEW

Women's entrepreneurial endeavors provide so much satisfaction that 58% of women, who have left secular employment for entrepreneurship, state there is nothing attracting them to return to the corporate world (Catalyst, 1998). Given that this trend is not likely to reverse, Stevenson's (1990) emphasis to “feminize” research on women entrepreneurs to better understand their experiences, becomes important. The main deficiency of current research in this area is that traditional measures of entrepreneurial success are limited to financial success and growth measure identified often at traditional, venture capital standards, which reduces the number of women entrepreneurs in research samples (Perry, 2002). The characteristics identified in the literature as being associated with entrepreneurial success are often determined from completely male samples (Hunter College, 1995; MacDonald, 1985). For example, only 57 studies investigating women entrepreneurs were conducted in the fourteen years between 1977-1991 (Brush, 1992). However, women who meet those traditional measures of success may have “feminist” components of success, misinterpreted because traditional measure often overlook sociological and psychological factors of entrepreneurial success (Coviello & Jones, 2004; Kilduff & Mehra, 1997).

Such factors are especially important to understand, because research suggests that women perceive their businesses, not as separate economic units, but rather as integrated facets of their own lives and identities (Brush, 1992; Chodorow, 1995; Kent, Sexton & Vesper, 1982). Therefore, women's perceptions and identities must be considered in addition to traditional business measures (Betz, 1994; Brush, 1992), using an "Integrative Perspective" (Brush, 1992, 6) "to combine theoretical, empirical, and anecdotal perspectives" (Weiler & Bernasek, 2001, 90) in research. This study investigated women entrepreneurs using both the traditional and non-traditional (or perceptual) constructs to address the deficiency in understanding women's entrepreneurial experiences.

Although research suggests a difference between men and women, research on the relationship between managerial, demographic, psychological, and motivational variables is minimal (Geoffee & Scase, 1985; Holmquist & Sundin, 1990; Van Auken & Rittenberg, 2000). Women appear to face more economic discrimination in self-employment than in wage employment (Weiler & Bernasek, 2001); women-owned businesses appear to be less successful than men-owned businesses (Lustgarten, 1995) in capital acquisition endeavors despite being equally as credit worthy, (NFWBO, 2000), however, women entrepreneurs do not fail at a higher rate than men (Perry, 2002) as would be supposed. Perhaps as a result, women-owned businesses "fail" at a higher rate than those of men. The assumption in this research was that the differentiating factor was in the way women perceived themselves, their support, and their success, which led to different financial (Carter, Brush, Green, Gatewood & Hart, 2003), advertising (Van Auken & Rittenberg, 2000), and management (Hodgson & Watson, 1987; Jelinek & Adler, 1988) strategies and choices (Perry, 2002).

Because many studies have found that women often lack the management and strategy skills to be successful in career advancement, many women entrepreneur development programs focus on helping women develop such skills. However, according to Devine (1994) women entrepreneurs may have a higher level of skills than non-entrepreneurial women and there is no evidence their skills are inferior to male entrepreneurs, which should result in higher success rates for women-owned businesses. Factors such as access to capital (Carter, et al., 2003) and networking discrimination (Moore & Buttner, 1997) are only partial answers. Women typically do not undertake their own venture until they are confident they have the abilities (Moore, 2003), but once start a business tend to solicit more outside advice and have more varied career experiences to draw from, than men (Journal of Accountancy, 2001).

According to Neider (1987) entrepreneurial research on women can be divided into three distinct categories: "[1] dealing with the personal characteristics of women entrepreneurs, [2] reports...to pinpoint specific issues/barriers, ...and [3] studies which explore organizational characteristics" (22) of their ventures. The research presented here attempts to better understand the reasons why some women entrepreneurs succeed while others fail, despite highly differentiated levels of support on their behalf. The goal was to determine which specific sources of support, if

any, are most salient to a woman's perception of success and how women's perceptions correlate with actual success. Contemporary research often investigates sources of support, despite acknowledging that women's perceptions have a stronger effect on behavior (Chodorow, 1995). However, the problem is that understanding the effect of women's perceptions of support must include broad interdisciplinary research which can originate in the fields of sociology, organizational socialization, social psychology, psychology, and feminist and entrepreneurship studies (Pollard, 2001)¹.

The interdisciplinary perspective focused on identifying women's perspectives with regard to support and success, rather than relying on the traditional interpretations of factors deemed necessary for successful entrepreneurial ventures with "recognition of the systematic...gaps" which demand new "conceptual frameworks" (Hess & Ferree, 1987, 11). "Deconstructing" traditional constructs (Kilduff & Mehra, 1997; Mumby & Putnam, 1992) to discriminate new findings from existing literature as suggested by Roseneau (1992), was considered an interpretive strength of this research because the discussion of constructs did not subscribe to existing causal models (Linstead, 1993). For example, psychological and demographic trends of women in business and the organizational climate affecting their choices, perceived and real, are often investigated as a function of a woman's personality (Betz, 1994). Personality research (such as Bandura, 1977; Troki & Orioli, 1994) was applied to women's standards, and self-reports, of success, which create misunderstandings in actual and perceptual failures for women (Inman, 1997; Russell and Burgess, 1998), underscoring the need to understand how women cope with barriers and obstacles (Buttner & Moore, 1997), and what factors lead to success (Betz & Fitzgerald, 1993; Hunter College, 1995; Neider, 1987). These factors range from perceptual and subjective, to tangible and measurable, validating the need to investigate actual and perceived, success and support. Considering Barerra's (1986) assertion, this research interpreted women's stories on an individual basis rather than exclusively through traditional variables and their assessment (Chodorow, 1995; Mumby & Putnam, 1992; Russell & Burgess, 1998).

METHODOLOGY

The original research, upon which this paper is based, was an exploratory investigation, designed to better understand women entrepreneurs and to create new areas of research, specific to women (Ehlers & Main, 1998; Gergen & Thatchenkery, 1996; Stevenson, 1990), with the goal of configuring variables to be used as the basis for the development of a model explaining the complex relationship between variables affecting the success of women entrepreneurs, which can be drastically different across women. The research assumed that women's perceptions are more predictive of women's success than actual support in starting and succeeding with a new venture. "In other words, there is something either empowering or inhibiting in the way women perceive the obstacles and challenges they face. Such a supposition led to the creation of the Center to Develop

Women Entrepreneurs (CDWE) and was the impetus (Pollard, 2001, 45)” for the collection of data used in this research. Others (see Chrisman, Carsrud, DeCastro & Herron, 1990; Ehlers & Main, 1998; Inman, 2000) have recognized the need as well. The research focused on three propositions:

1. A significant difference in the amount of perceived support between the two groups (successful or unsuccessful) of women entrepreneurs would be reported.
2. Higher levels of perceived support reported by women would be highly correlated with success and, therefore, more predictive of a woman’s success potential, and vice versa.
3. The source of support will not be as indicative as the perception of it, for women’s success.

Archived transcripts² of women’s narratives from a series of structured interviews with 57 women protégés in the CDWE were analyzed using content analysis. The content analysis method used, was designed explicitly to investigate inconsistencies between the literature and women’s actual experiences. The qualitative coding, conducted by the researcher and a trained coder, resulted in a 2x2 rubric for each woman, which was then quantitatively analyzed using canonical correlation, in a two-part process (Table 1).

Table 1 Research Rubric			
Support			
<i>Predictor</i>	<i>Construct 1</i>	<i>Predictor</i>	<i>Construct 2</i>
Self-disclosure Internal recognition of support External support	Actual Support Score	Locus-of-control Perceived obstacles Evaluation of support	Perceived Support Score
Success			
<i>Criterion</i>	<i>Construct 1</i>	<i>Criterion</i>	<i>Construct 2</i>
Entrepreneurship Risk-aversion Definition of success	Actual Success Score	Expectations of Success Gender stereotypes Focus & Discipline	Perceived Success Score

The quantitative analysis was based on the significance of perceptual trends found in women’s stories of entrepreneurship (a feminist, post-modern approach), allowing significant results to be linked to individual stories before being generalized to a larger population, as Gergen and Thatchenkery’s (1996) suggest:

Research technologies may produce data, but both the production and interpretation of the data must inevitably rely on forms of language embedded within cultural relationships. ... At the same time, there is nothing about post modernism that argues against the possibilities of using empirical technologies (366).

Variables that emerged from the literature review were thematically categorized to cross-reference and trace intersections across constructs significant to women, such as, personality traits, perceived support, actual support, and motivation (Pollard, 2001)³. The content analysis method designed for this investigation, utilized inductive classifications of actual and perceived, support and success with emergent non-traditional variables based upon feminist theory, as well as comparisons to traditional measures of success and support, such as financial, business growth, and longevity measures.

For example, the complexity of women's identity and multi-role perceptions (Osipow, 1990; Super, 1990) suggest that congruence between mutual roles, and congruence between women's occupational expectations and the choices they make (Betz, 1994) are especially important in understanding women entrepreneurs. To emphasize emergent themes, content analysis focused on how women perceived actual support and success factors without making assumptions about whether factors were traditionally considered supportive or unsupportive (Chodorow, 1995)⁴. Although both perceived and actual support are accepted variables in most theoretical models, unique to this research, constructs were coded using women's interpretation of the affect of construct, allowing results to reflect each woman's perceptual processing of her environment (Chodorow, 1995; Mumby & Putnam, 1992).

Because psychological complexity does not lend itself to hypothesis testing, which often minimizes multiple relationships and individual variation, each construct was coded for the positive or negative affect a woman perceived or faced. Statistical analysis was conducted on the data that emerged from the content analysis, to determine the level of significance of women's perceptions of support and success when correlated with the actual support in their environments, and traditional measures of success. Canonical Correlation Analysis (CCA) was selected for its sensitivity to non-directional, non-causal regression models common to exploratory research goals and new model development (Kenny, 1979; 1994). CCA did not assume that success was caused by support, but rather investigated the relationship between all proposed research constructs simultaneously, to understand the relationships between women's actual and perceived, support and success, through three types of investigation: "1) to understand each variable as a separate entity, 2) to understand pairs of variables as relationships, and 3) to understand groups of variables as models" (Hartwig & Dearing, 1979, 77).

Subjects included actual and potential women entrepreneurs in the Silicon Valley of California between 1994-1998. All the women in the study were members in the CDWE mentorship program, which paired each woman protégé with a volunteer mentor (a successful woman entrepreneur); participating in longitudinal research, which generally lasted for three years, was an

explicit requirement of all CDWE protégés. CDWE women were diverse in age, income, ethnicity, marital and familial status and education. Two-thirds of the women were married without children and only 14% had less than a bachelor's degree. They were single and married mothers, single and married without children, stay-at-home mothers, full- and part-time employees (both satisfied and unsatisfied). Nearly 30% had no additional household income (to supplement their entrepreneurial income), yet, only 9% had a personal income level of less than \$10,000 a year. (Only 12% of the CDWE women had a personal income of less than \$20,000 per year.) Women in the sample primarily considered themselves Caucasian, however, minority women consisted of a third of the group. The major similarity between the women was their interest in entrepreneurship and hearing about the program through some affiliation, even distant, with San Jose State University, where the CDWE program was housed.

METHODOLOGICAL RELIABILITY AND VALIDITY

Several supplemental reliability and validity calculations were conducted to assess the strength of the research model. Because of the subjectivity associated with content analysis, and because this was exploratory research investigating emergent themes, inter-rater reliability measures were used to validate the content analysis model was reliably measuring significant constructs; inter-rater reliability was very high ($r = .93$, $p < .00001$, $F [28, 169] = 13.68$)⁵. Table 2 presents the inter-rater reliability values across constructs.

Variable Correlation Matrix				
<i>Interrater</i>	<i>Rater Act.Sup.</i>	<i>Rater Perc.Sup.</i>	<i>Rater Act.Suc.</i>	<i>Rater Perc.Suc.</i>
Act.Sup	$r = .52$	$r = .47$	$r = .47$	$r = .41$
Perc.Sup.	$r = .17$	$r = .78$	$r = .66$	$r = .67$
Act.Suc.	$r = .30$	$r = .78$	$r = .75$	$r = .74$
Perc.Suc.	$r = .13$	$r = .72$	$r = .67$	$r = .76$

Assessing the validity of CCA is also difficult, since “no general guidelines have been established for the interpretation of [CCA]. Assessment...is normally based on the contribution of the findings to better understand the research problem” (Hair, Anderson, Tatham & Black, 1995; 1996) under investigation. To strengthen the claim of validity, Thompson's (1984) interrelated research questions were used to explain and/or uncover the complex relationship between the constructs of success and support, as a tool to assess the validity of the research design. As an

exploratory investigation, this research expanded the knowledge on the variables investigated and their relationship to women entrepreneurs.

The research model limited the CCA to two functions, since the maximum number of functions performed on the data must equal the number of variables in the smallest data set (Hair et al., 1995). The first function, which measured correlation between all four constructs, was significant ($R = .86, p < .01$) in explaining the correlation, so the second function was not discussed.

Reliability for CCA is difficult to assess because of the complexity of specifying the commonalities between interrelated variables (Wollenberg, 1977). However, a redundancy coefficient is the substantive measure of reliability for CCA (Thompson, 1984), and performs two functions: 1) measuring the proportion of variance for each set, which is explained by its own canonical variance, and 2) measuring the proportion of variance for each set, which is explained by the opposite canonical variance.

Only $1 = .26$ of the total variance was not explained by differences between the constructs investigated. Because χ^2 was large and significant ($\chi^2 [4, n = 47] = 77.98, p < .0001$) the inter-relatedness of variables, and the relationships between them was supported. The support construct explained $\lambda = .61$ of its own variance and $\lambda = .65$ of the variance in the success construct. The success construct explained $\lambda = .88$ of its own variance and $\lambda = .45$ of the variance in the support construct. None of the single canonical correlations would be statistically significant if considered individually,⁷ suggesting the relationship between variables investigated in this research are complex and inter-related. The perceptual variables (support and success), however, contributed more to the function than actual variables, further supporting the notion that women's perceptions of the environment are more important than the environment itself.

Canonical loadings assess the contribution variables make to their respective canonical construct before canonical weights are assessed. The canonical loadings for support corroborated research suggesting that women's perceptions of support are more important than actual support⁸. The canonical loadings for success were both large (actual success, $1 = .90$, and perceived success, $1 = .98$) reinforcing the literature that women value actual (traditional tangible) and perceptual (personal satisfaction) measures of success equally.

Canonical cross-loadings measure the correlation between each variable including the aggregate weights of the opposite canonical composite. Cross loading values were consistent with the canonical loading values, suggesting that the relationships between variables were stable⁹. These values suggest that CCA was an appropriate method of analysis for the data investigated in this research.

RESULTS

CCA corroborated previous research findings that perceived and actual support are not highly correlated ($r = .43$), however, perceived and actual success constructs in this research were

strongly correlated ($r = .79$). Although actual support was weakly correlated with actual success ($r = .35$) and perceived success ($r = .41$), perceived support was highly correlated with both ($r = .77$ and $r = .84$, respectively). Each proposition is discussed in further detail.

Proposition 1: A significant difference in the amount of perceived support between the two groups (successful or unsuccessful) of women entrepreneurs would be reported.

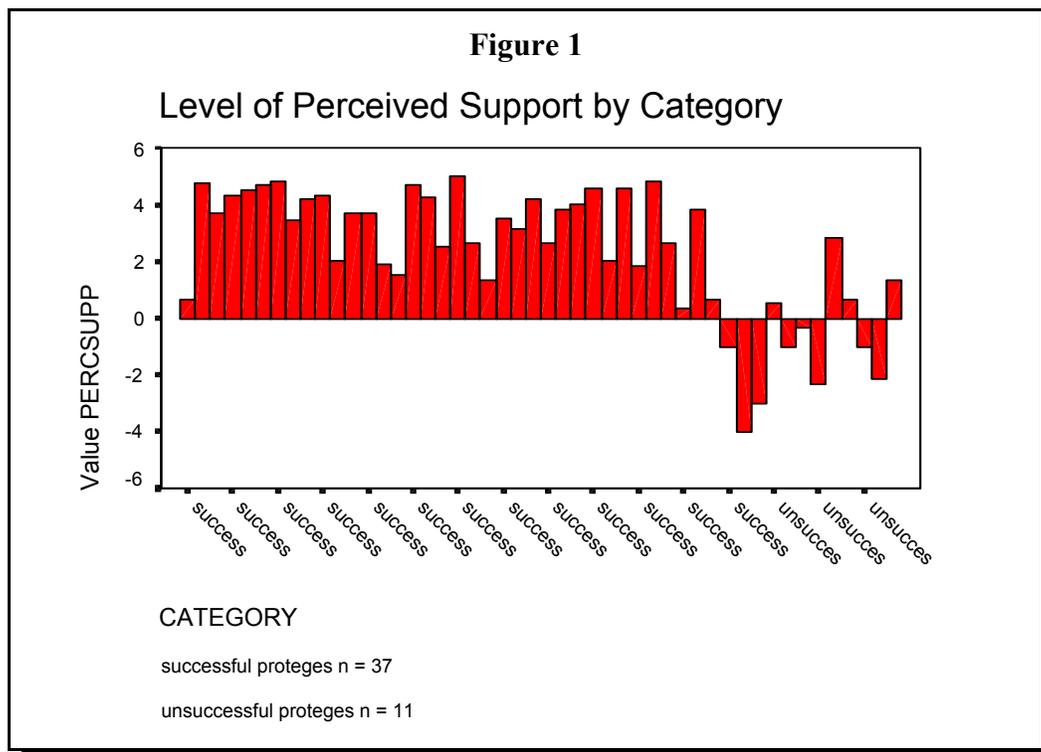
After sorting data into three groups (a continuum of successful and unsuccessful women entrepreneurs, and those who fit neither category) the perceived support construct was analyzed for the successful and unsuccessful women at either end of the continuum. Successful women entrepreneurs did perceive greater support in their environment than their non-successful counterparts. A protégé was considered successful if her actual success score, derived from the content analysis, was greater than two and unsuccessful if her actual success score was less than zero. Because the actual and perceived success constructs were highly correlated, the disadvantage to choosing one over the other was minimized, and since the standard deviation for actual success was smaller than that of perceived success, it was used as the more stable construct. Of 57 women in the study, 37 were classified as successful, 11 as unsuccessful, and the remaining 9 were excluded in the categorized statistics.

Linear regression analysis suggests that the relationship between perceived support and actual success for the successful entrepreneurs was $r = .62$, $p < .0001$, 2-tailed. Results were insignificant for the unsuccessful protégés. Perceived support appears to be a significant construct in a successful woman's success, but not for an unsuccessful woman, as can be seen in the ANOVA results in Table 3.

Table 3 ANOVA Comparison					
ANOVA Successful Entrepreneurs					
Model	SS	df	MS	F	p
1 Regression	8.700	1	8.700	22.00	.0001
Residual	13.839	35	.395		
Total	22.540	36			
ANOVA Unsuccessful Proteges					
Model	SS	df	MS	F	p
1 Regression	5.708	1	5.708	3.474	.10
Residual	14.787	9	1.643		
Total	20.495	10			
a predictors: (Constant), PERCSUP					
b Dependent Variable: ACTUSUC					

Proposition 2: Higher levels of perceived support reported by women would be highly correlated with success and, therefore, more predictive of a woman's success potential, and vice versa.

The perception of support had the highest correlation with success for the sample at large. The perception of support was strongly correlated with actual success ($r = .77$) and very strongly correlated with the perception of success ($r = .84$) at the $p < .0001$ level of significance. In contrast, actual support was weakly correlated with actual success ($r = .35$, $p < .01$) and perceived success ($r = .41$, $p < .001$). Figure 1 illustrates the differences between actual success and perception of support in the two categories (successful and unsuccessful), suggesting that the most successful women entrepreneurs in the study perceived a positive amount of support in their environments. Eighty percent of the successful entrepreneurs had significant perceptions of success, whereas much lower perceptions of support were found among the unsuccessful protégés; ninety percent of the unsuccessful protégés perceived very little or negative amounts of support in their environment.



Proposition 3: The source of support will not be as indicative as the perception of it, for women's success.

The source of support was not as indicative as the perception of it for a woman's success. By confirming this proposition, one of the major foundations of this research was supported. When actual and perceived support were compared, only a moderate correlation ($r = .44$, $p < .001$) resulted.

The perceived and actual success constructs had a stronger correlation ($r = .66$, $p < .001$), so additional analysis was conducted to validate the significance, despite reliable redundancy analysis.

When classified in either successful or unsuccessful categories, the correlation between perceived and actual success constructs appeared more variable. For successful entrepreneurs the correlation was less moderate ($r = .57$, $p < .0001$, 2-tailed). For unsuccessful protégés, correlation was relatively the same ($r = .679$) but less significant ($p < .02$, 2-tailed). However, when compared to the perception of support, the relationship between variables differed significantly between the two groups of women. The correlation between the perception of success and perception of support had a moderately weak and insignificant result ($r = .36$, $F[1, 10] = 1.33$, $p < .28$) for the unsuccessful protégés, but a strong and significant correlation ($r = .73$, $F[1, 36] = 40.13$, $p < .0001$, 2-tailed) occurred for the successful entrepreneurs. These results would suggest that perceived support is a discriminating variable for both groups of women.

ADDITIONAL FINDINGS

In addition, women's perceptions of support were more strongly correlated with success than with actual support sources available to them. In fact, one perceptual source of support appeared to be the perception of success, which had the highest correlation ($r = .84$, $p < .0001$) with the perception of support, leading to the assumption that perceived success functions as a source of support (Pollard, 2001).

DISCUSSION OF RESULTS

As an exploratory investigation the research served its purpose by isolating trends, which can be investigated further. The strength of this research is the degree to which it provided greater understanding of how powerful women's perceptions are in affecting the success of their entrepreneurial ventures. In addition, the model utilized was an effective model for simultaneously investigating the insights gained from unique, individual stories, and generalizing empirical results to a larger population. However, as exploratory research the model conceptualization should continue to be tested, so the discussion of results identifies areas for further research.

The strong correlation between women's perceptions of, and actual success, may be the result of limitations in the research model, but there may be other explanations as well. The strength of women's perceptions seems to be validated, yet there may be an unclear boundary between actual and perceived success, which may demonstrate incompatibility between traditional success formulas and the CDWE women's criterion for success (Inman, 2000; Perry, 2002). For example, CDWE women included traditional, external success qualifications in their own definitions of success; they wanted to "operate in the black", "show a profit", and "make a decent wage". However, meeting these success objectives was not enough to perceive success and many profitable women did not feel

successful if these were the only objectives they met. Success also meant “giving back”, “doing something for others”, “maintaining balance”, and “having an impact on society.” The high correlations between actual and perceived success could have been the result of this “additive” nature of success; there seems to be a difference between criteria necessary for success, and criteria a woman must meet to perceive herself successful (Pollard, 2001). Handy, Kassam and Ranade (2002) report similar findings in their research on Indian women, 40% of whom have altruistic goals and 100% who consider success as “giving back” (147) to society. Additional research on this relationship should be considered.

Although results exhibited some variation and insignificant relationships, they did suggest consistent relationships between constructs. Investigating multiple variables, in conjunction with each other, rather than the study of individual variables in series, was hoped to lead to an increased knowledge of these complex relationships and should be continued (Coviello & Jones, 2004).

PRACTICAL APPLICATIONS

Transcripts of the women in this study often included accounts of support found within the CDWE program; women were “happy just to know someone else is going through the same thing.” Disseminating the results of research investigating constructs unique to women entrepreneurs might be influential for other women.

Practitioners could utilize the results during one-on-one mentoring, to help a woman understand how her perceptions and definition of success strengthens or inhibits her potential, and would complement other types of skill development work. Several women in the study remarked that such self-understanding was critical in their decision to become an entrepreneur. Fischer, Reuber, and Dyke (1993) found that practitioners differed in the type of advice they gave to men and women, by presenting women with more, but less complex guidance. Although the reason for this was not explained, a better understanding of the complexity of women’s entrepreneurial issues could result in more effective guidance. Intuitively, the advice given to a woman who states “I think positive... I don’t think I’m ever going to have obstacles” should differ from advice given to a woman who feels “I never know what’s going to hit me next. There are so many obstacles that keep you from the obstacles that you need to get through”, suggesting practitioners may need to give more individualized, yet complex generalizations.

One way to increase the complexity of information provided is to utilize construct pairs and the relationships between them, in addition to discussing single variables. For example, a practitioner could help a woman include both perceptual and tangible success factors, so that she understands what level of personal satisfaction she needs in order to consider, and present, herself as a successful entrepreneur. CDWE stories illustrate the significance of such knowledge. Several protégés were already self-employed when they joined the program; some considered themselves successful already, “I’m a successful entrepreneur. I can eat now.” Others did not, despite

acknowledging they had met several external income, length of business, and growth success criteria. For example, “I’ve been hitting the numbers I’m supposed to hit, but I just don’t know where I need to be to be successful” or “I have two full-time employees now, and a person to help part-time, but I don’t feel like I’m doing it right.” Neither woman was confident to take the measured risks to expand their businesses to the next step; a practitioner who understands the strength of a woman’s perceptions could help women understand factors of success in different ways.

Another practical application derives from the original impetus for this research – to spawn further research. Entrepreneurship development programs could collect data with the intent of critiquing the effectiveness of using approaches designed uniquely for women. For instance, “microenterprise” training programs typically ignore sociocultural conditions women must manage (Ehlers & Main, 1998, 424). Research specific to different populations of women could help understand the different obstacles and barriers, different types of entrepreneurs, experience.

CONCLUSION

“Social science is cumulative, not in possessing ever-more refined answers about fixed questions, but in possessing an ever-richer repertoire of questions” (Cronbach, 1986, 91). This research, therefore, attempted to do as Kilduff and Mehra (1997) championed, using “the simultaneous availability of apparently incongruous research methods, including...experiments, deconstruction, ethnography, and sophisticated statistical analysis” (464), to increase understanding of complex relationships unique to women and their entrepreneurial efforts. The results were consistent with other literature, suggested new insights, and presented several areas for further research.

ENDNOTES

- 1 This interdisciplinary literature review conducted during construct development will be discussed in another paper.
- 2 Original data was collected from a series of structured interviews, using open-ended questions designed to elicit women’s stories of entrepreneurship, and track those experiences over a three-year period. The interviews were recorded and then transcribed into verbatim transcripts, which constituted the raw data used for the research presented herein. The original interview questions are located in Appendix A.
- 3 Although many constructs emerged in the original research, only three are discussed here, in order to present a broad overview of the research methodology, with emphasis on aiding the reader in understanding the results. The content analysis developed for the original research will be fully discussed in another paper

- 4 For example, children are traditionally considered an obstacle, yet some women viewed young children in the home as very supportive, whereas other women viewed the demands of childrearing -- even for school-age children -- as a lack of support.
- 5 Inter-rater reliability is assumed to be unusually high, and is explained as a result of extensive training of the rater, which included a number of transcripts (excluded from inter-rater reliability calculations), which were orally coded in tandem.
- 6 All statistics were significant at $p < .001$, 2-tailed, unless specified otherwise
- 7 Actual support contributed, $l = .04$; actual success contributed, $l = .14$; perceived support contributed, $l = .41$; and perceived success contributed, $l = .31$ to the canonical function.
- 8 Actual support contributed, $l = .48$, whereas perceived support contributed, $l = .99$ to the support construct.
- 9 Actual support contributed, $l = .41$, and perceived support contributed, $l = .86$ to the support constructs after considering success variable weights. Actual success contributed, $l = .772$, and perceived success contributed, $l = .841$ to the success constructs after considering the contribution of support variable weights.

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THE ROLE OF IT MANAGEMENT RESOURCES IN THE DEVELOPMENT OF SMALL ENTREPRENEURIAL FIRM CUSTOMER RELATIONSHIP CAPABILITIES

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ABSTRACT

Minimal knowledge exists in regard to how IT is integrated into small entrepreneurial ventures to increase their customer focus. This article maintains that the IT resource management activities implemented by small firms influenced their abilities to build customer relationships. The importance of developing a customer-focused IT platform is a basic assumption in this study. As such, the IT maturity was examined in small, entrepreneurial firms in order to assess their abilities to retain, respond, and satisfy customers.

About 200 surveys mailed to small business entrepreneurs were analyzed to obtain data characterizing their respective resource management activities and relationship management capabilities. Hence, a taxonomic approach was utilized to examine similarities and differences in IT resource scope and investigate their ability to predict the strength of customer relationship management capabilities. The results provided support for the utilization of IT as a tool to facilitate customer-focused capability building.

The implications of the results should be especially interesting to entrepreneurial firms contemplating their long-term survival as well as IT vendors, development centers, consultants, and the like interested in assisting them. IT has allowed small firms to develop business capabilities historically associated with large company settings. This study suggests that many small firms have also acquired a technological vision for sustaining competitiveness and staying close to customers.

INTRODUCTION

There has been an increased focus on how developing and maintaining customer relationships have become imperative for companies of all sizes in the global marketplace. To survive, firms must strive to obtain repeat business from existing customers in order to compensate for the higher costs typically associated with obtaining new clientele. Relational bonding with customers is especially critical to small business marketers operating with less resources to attain and satisfy customers than their larger counterparts.

As an example, one small firm with limited marketing resources, Auckland's Number 5 Restaurant, committed early on to keeping customers satisfied by developing ways to regularly

communicate with them to facilitate repeat business. To start, the up-and-coming venture made the decision to strategically deploy IT resources to build customer-focused capabilities recognized today as crucial to their success. This encompassed continuously interacting with customers to obtain data on overall customer needs and experiences, maintaining a customer contact database, and then creating personalized and targeted messages directed at their customer base utilizing the detailed information collected and maintained in the database.

In the city of Chicago alone over 500 restaurants closed their doors, while approximately 700 new ventures were opened last year. This serves as an example of how the competitive landscape has intensified for not only the restaurant industry in one city, but across industries and the globe. Survival in business today requires capitalizing on opportunities to enhance customer focus and company competencies.

The importance of digitizing customer-focused activities for Auckland and other small firms can not be understated. Although different perspectives have been discussed regarding the value of information technologies (IT) as an asset to this process, most agree that a technological platform is now a critical prerequisite for executing customer-related processes (Barua, Konana, Whinston and Fin 2001; Burrows 2001; Violino 2001). Technology serves as an essential component in the competitive positioning and growth stance for businesses of all types, by facilitating regular information access, knowledge management, stronger relationships and more efficient value chains.

While it is evident that a well-planned and managed IT platform could be a tremendous asset to firms, research suggests that small companies appear to be reluctant to invest in and deploy technological innovations, especially for customer relationship initiatives. One study conducted by the National Federation of Independent Business found that of the nation's five million plus small employers—those with fewer than 250 workers—less than 3% of their total expenditures were on information technologies, 36% did not have computers and 43% were not online (Hopkins 2001). These findings suggest that many small companies might rely on manual or haphazard record-keeping within their business environments which could impact the overall quality of customer relationship management. Additionally, a more recent survey revealed that although information technology spending grew about 13% last year among small and medium-size businesses, the diffusion rate of customer relationship management (CRM) tools for small business enterprises was around five percent (Stodder 2004).

With the growing prominence of small firms in our society, it becomes increasingly important to understand how they incorporate CRM activities into their business environment. In this regard, this study focused on the role of IT in the development of strong customer-related processes that play an integral role in their success and survival. Thus, the central purpose of this research was to develop and examine the concept of IT resource-based customer relations strategy. Although it has been implied that the utilization of IT helps organizations with maintaining their competitiveness (Day 1994, Keen 1991), no research to date has explored the relative impacts of IT resources in the development and maintenance of key customer-relations capabilities.

LITERATURE REVIEW

A Resource-based View of Small-Enterprise IT-based Customer Relations Strategy

Sheth and Sesodia (1995) asserted that the outcome of any business undertakings is to attain and retain clientele profitably. To achieve this, companies must make use of organizational resources to develop their business competencies, especially those which are customer-related. In this regard, a resource-based view of the firm could be a useful viewpoint when considering how sustainable customer relationships can be developed. The basic premise behind this theory suggests that what firms achieve will be based on what assets they possess; thus, the basis for firm performance is how firm resources are used to build competencies necessary for competitive positioning in the marketplace.

Grant (1991) proposed a framework for a resource-based approach to competency development. This theory relies on two main premises: first, internal resources and competencies are the fundamental basis for a firm's strategy, and second, resources and competencies are the primary vehicle for organizational performance. Thus, businesses must continually assess how their resources act as a mechanism for building competencies that shape and support their business strategies.

In their review of firm resources garnered by small business enterprises, Tsengh et al. (2004) observed that a vast amount of research has focused on resource constraints, especially relative to financial assets, as opposed to how resources are used strategically by small firms for competitive positioning. Two other categories of resources central to the resource-based perspective include intangible resources and physical resources. Entrepreneurship and a simple capital structure have been identified as two distinct intangible resources held by small businesses. The former refers to the experience and judgment primarily of the owner-founder of the small firm, while the latter encompasses the flexibility and advantages gained based on the management of fewer, less complex physical assets (Yu 2001).

Technology has been found to be a key physical resource for small businesses in new product development and manufacturing processes. Owners/managers have regarded newer technologies as strategic assets that can be leveraged to improve organizational efficiencies or facilitate the customization of these processes (Yu 2001).

Much less is known regarding how technology is utilized in small business enterprises in order to develop and maintain customer relationships. The retail and services sectors, dominated by small firms, offer the best insights into how IT might be used effectively in the area of customer relationship management. Davis (1997) observed how IT applications had been utilized routinely by some small retailers in order to obtain valuable customer data that enhanced customer relations.

This finding coincides with Day's (1994) seminal commentary on the importance of firms building distinctive "customer-linking" capabilities for survival in the constantly changing

marketplace. The essential need for such capabilities stems from the desire of businesses to establish and maintain close relations with valued customers. This requires companies to develop a means for systematically documenting customer interactions (often referred to as *touchpoints*) in order to improve customer loyalty and responsiveness to their needs, in addition to establishing an organizational infrastructure facilitating rapid access to information, information sharing, and the management of intra- and inter-firm business activities. Day concluded that IT resources could play an integral part in building such competencies which allow firms to synchronize actions directed toward customer value and satisfaction.

The customer-linking activities described above require a strong commitment to collecting and disseminating critical data among company staff, business partners, as well as customers. Yet, several studies have concluded that such tasks might be particularly challenging for small firms due to the information silos that are often created when essential knowledge retained by key employees is erratically stored and not made available for organizational-wide use (Cravens, Greenley, Piercy and Slater 1997; Davis 1997).

Building Customer Relations Competencies in the Small Business Environment

The current information economy has brought about an onslaught of technological innovations that could be used in the management of customer relationships. This has resulted in a more prominent role for a myriad of IT resources in the development of customer care tactics.

The diffusion of formal, well-integrated CRM initiatives only began in the late 1990s. Early adopters had tended to be large firms with the means for implementing such wide-ranging projects. Research has indicated that the majority of initial CRM undertakings was deemed unsuccessful, and at times was considered detrimental to long-standing customer relationships. Major reasons for failures include unrealistic expectations, as well as lack of focus on customer-centric processes, services and results (Baumeister 2002; Britt 2005; Sudhir 2004).

Although many of the initial missteps provided learning opportunities for other firms, additional issues have hindered small firms from embracing CRM projects. Along with constraints on their capital and human resources, small businesses have lacked the ability to easily integrate CRM solutions into their IT environment (Baumeister 2002; Vermond 2004).

Telem (1989) developed an IT integration model for small firms involving three phases of growth in their IT environment-- initiation, contagion, and maturity. The initiation phase set in motion the practice of integrating IT resources into the small business environment, primarily for processing business transactions. Phase two, contagion, focused on enhancing the internal IT infrastructure with the addition of electronic tools facilitating intra- and inter-firm communications. The final phase, maturity, finds IT resources fully integrated and central to small-firm business operations. The IT infrastructure developed permits access to crucial information regarding customers and other business contacts anywhere, anytime. Front and back office applications are

seamlessly integrated to track important customer touchpoints. Business owners or managers often use analytic and reporting tools to gain real-time insights on performance metrics.

The first two phases of Telem's model coincide with the development of what Day (1994) referred to as *inside-out* business capabilities that identify what a firm is capable of doing internally to create economic value. This particular set of capabilities helps to ensure the tools are in place to facilitate value-chain activities including the creation of product offerings, logistics, human resource management, and financial management.

The maturity phase of the IT integration model corresponds with the *outside-in* capabilities that Day states are also required to connect the internal business operations to the customer residing outside organizational boundaries. These externally-focused capabilities are needed for developing timely and accurate responses to customer needs and marketplace changes, and for building ongoing relationships with customers.

While a mature IT platform could aid in the development of relational capabilities, the actual strength of these capabilities would to a large degree be dependent on how adaptable the IT resource platform is over time to the ever changing business environment (Duncan 1995). Thus, a flexible IT infrastructure stands to play an integral role in the ongoing development of essential relational capabilities.

Karimi, Gupta, and Somers (1996) assert that an IT infrastructure can improve a firm's strategic movements by providing faster and improved decision-making, in addition to organizational flexibility. This is because a flexible IT infrastructure does not predefine how data is to be used which encourages information acquisition from diverse sources, analysis and modeling behaviors, and prompt delivery of information used to find problems and spot opportunities (Igbaria, Zinatelli, Cragg, and Cavaye 1997).

Sashittal and Wilemon (1996) found that strategic-thinking small manufacturing firms had greater success with business activities centered on relationship development and information sharing; and were more likely to utilize IT resources to: (1) assist with the identification of environmental contingencies to monitor, and (2) improve responsiveness to key market constituents. This implies that small firms, which incorporate IT into their business strategies and plans, would be better positioned to exploit business opportunities and proactively alter business practices as needed.

Investigating IT-based Customer Relations Capabilities in Small Firms

The growing realization that customer relational capabilities are critical to the competitiveness and survival of all companies suggests a need for linking their development to the underlying properties of the factors that can assist in their maturity. Hence an IT-based resource approach to capabilities building is a viable means for gaining insights into how IT can facilitate the execution of essential relational capabilities.

Research shows that relevant pieces of information and knowledge needed to provide effective decision-making and customer support is distributed among many individuals (Rathnam, Mahajan and Whinston 1995). As a result, information must constantly be exchanged among individuals involved in customer interactions. Coordinating the interdependencies within these processes requires not only that collaboration takes place among firm personnel involved with collecting and making use of pertinent market data, but also calls for the continuous intra- and interorganizational exchanges and communication of information regarding customer needs, problems, and emerging requirements.

Thus, an IT resource platform regarded as *mature* in scope provides firms with an IT infrastructure supporting superior customer relationships. Without mature IT systems, firm employees engaged in customer interactions must access data from various manual or computerized systems, and then develop a process for consolidating the data. These types of information silos have often been found to permeate in small-business environments (Igbaria, Zinatelli, Cragg, and Cavaye 1997).

Berry (1995) wrote that an integrated IT resource platform could be useful in helping companies perform these processes more efficiently and effectively. For example, the resolution of customer problems that small firms have been found ill-prepared to handle (Sashittal and Wilemon 1996) might be enhanced if a mature IT platform with an integrated database containing reusable solutions and decision processes was available to coordinate or communicate customer responses. As such, the maturity of a small firm's IT resources can impact its proficiencies in executing the underlying tasks required to build strong relational capabilities.

Research suggests that the development of a mature IT platform can be looked upon as a resource management issue (Duncan 1995). The implication here is that the planning, implementation, and control of all relevant IT resources serves as the foundation for building a firm's IT-based capabilities. Karimi, Gupta, and Somers (1996) noted that significant formalization of such a process signifies a strategic-oriented approach to IT resource management. Based on the above discussion it is anticipated that in the aggregate:

H₀: The perceived strength of customer relationship capabilities (as viewed by a firm's owner or manager) will vary significantly across small firms with different levels of IT resource maturity.

METHODOLOGY

The owners and managers sampled for this study were in listed in a recent directory of small business contacts obtained from a government official in a Midwestern state. This directory was especially designed for small companies in compliance with the U.S. Small Business Administration's (USSBA) operational definition for small-businesses. As such, all firms that were

mailed questionnaires had to meet the necessary USSBA criteria (by industry) for size and company sales in order to participate in this analysis.

Mechanisms commonly used to enhance response quality and rate were used. The questionnaire was formulated drawing on the expertise of small-business owners or managers representing nine different industries, two small-business consulting firms, as well as a Small Business Development Center officer located in a Midwestern city. The results of these interviews were compiled to develop a profile of key customer relationship and IT management proficiencies needed by small firms to sustain competitiveness. A survey instrument was then developed and pretested, revised and edited using small firms that were excluded from the official data collection stage of this research.

A total of 552 questionnaires were initially mailed with a cover letter designed to solicit study participation. Additionally, follow-up phone calls were made to request and encourage involvement. Phone conversations with potential participants whom had lost or misplaced their questionnaire resulted in another mailing of 94 research instruments. In total, 199 surveys were returned and deemed usable for the data analysis phase of this study. The response rate of 36% was above the norm for mail surveys directed at smaller firms (Pope 2002). The distribution of respondents among ownership and industry classifications is shown in Table 1.

Table 1: Cross Tabulation of Small Firms by Business Classifications		
Profile Variables	Number Sampled	Percent Of Total
OWNERSHIP CLASSIFICATION		
Nonminority-owned	75	37.7%
Women-owned	29	14.6%
Minority-owned	61	30.6%
Women/Minority-owned	34	17.1%
TOTAL	199	100.0%
INDUSTRY CLASSIFICATION		
Goods-related	38	19.1%
Service-related	88	44.2%
Wholesaler	14	7.1%
Retailer	59	29.6%
TOTAL	199	100.0%

The extent of customer relationship capabilities was operationalized using three subconstructs reflecting concepts presented in Day's (1994) research focused on distinctive capabilities—customer loyalty and retention, responsiveness to customer needs, and overall customer satisfaction. Each subconstruct had three underlying dimensions that respondents were asked to assess using a five-point Likert scale (ranging from 1=Strongly Disagree to 5=Strongly Agree). Attention was devoted to ensure each scale item chosen imparted "a different shade of meaning" to respondents (Bagozzi 1994).

Measures of small-firm IT maturity targeted the ability of small companies to strategically develop a flexible and adaptive IT resource infrastructure. As discussed above, this is considered a resource management issue and encompasses: (1) planning to extend the infusion and diffusion of IT; (2) paying close and ongoing attention to the details of successful IT implementation; and (3) maintaining controls on IT based on an assessment of benefits, priorities, and technical standards. Karimi, Gupta, and Somers (1996) used these factors as the basis for developing and validating measures on benchmarks for the evaluation of these managerial practices. These authors' five point scales (ranging from 1=Strongly Disagree to 5=Strongly Agree) were incorporated into this research.

An additional measure of small-firm IT maturity was taken using Telem's (1989) three-stage growth process of integrating IT into the small-business environment—initiation, contagion, and maturity. Each of these stages is associated with a different level of IT software, communication, and hardware sophistication. Accordingly, the small firms surveyed in this study were queried regarding their level of IT sophistication. For example, did the firm have stand-alone computers, networked computers, or servers where data could be shared from a central location? Concerning software, what applications are supported by the firm's computer system? To what extent did a firm's computer system support sending and receiving information between intra- and inter-company locations; provide access to company files and data by employees while away from the office; and make information available to customers—for instance, on an Internet site?

Cluster analysis was then executed on the aggregate number of predictor IT resource maturity variables for both formation and holdout subsamples using Ward's method of Euclidean distances. Based on an analysis of the clustering coefficients in both samples, a three cluster solution was justified. Univariate profiles of the three-cluster groups are provided in Table 2. A review of the data presented in this table revealed that small firms in the first cluster had the highest level of IT maturity, small firms in the second cluster had the lowest level of IT maturity, and small firms in the remaining cluster rated somewhere between the previous two clusters in terms of overall IT maturity. Thus, the rest of the analysis incorporated the labels of high, medium, and low for cluster profiling and evaluation.

Finally, analysis of variance tests were applied to the cluster sets in order to understand how they differed relative to the criterion variable (i.e., the extent of IT-based customer relations capabilities). To pinpoint where differences were between and among the cluster groups, the results were analyzed for mean effects. An examination of the means using Duncan's contrast procedure

revealed that IT-based customer relations capabilities increased with the level of IT resource maturity (see Table 3). Therefore, it can be concluded that small firms implementing mature IT resource platforms tend to have greater IT-based customer relations capabilities than those that do not.

IT MATURITY VARIABLES	CLUSTER 1	CLUSTER 2	CLUSTER 3
Dependable/Reliable	4.89	2.88	3.71
Ease of Use/Convenience	4.91	3.22	3.67
Ease of Data Access	4.73	2.89	3.53
Ease of Data Consolidation	4.78	2.63	3.61
Locatability	4.86	2.87	3.84
Alert to Innovative IT Uses	4.82	2.30	3.66
Monitor IT Performance	4.81	2.19	3.45
Clear IT Responsibility	4.78	2.24	3.25
IT Used to Meet Objectives	4.90	3.41	2.19
IT is of Strategic Importance	4.84	2.11	3.03
IT linked to Business Strategy	4.66	3.48	2.78
Hardware Configuration	3.91	1.05	2.19
Communications Capabilities	3.62	1.21	2.08
Software Configuration	9.98	5.22	7.07

Criterion Variables:	IT System Supports Customer Loyalty and Retention ^a IT System Facilitates Fast Customer Responses ^b IT System is Integral to Customer Satisfaction ^c				
Predictor Variables:	Level of IT Resource Maturity (14 clustered variables)				
Source of Variance	Sums of Squares	Mean Square	Degrees of Freedom	F-value	Significance Pr > F
Cluster Groups	^a 287.140	147.182	2	421.45	0.0001
	^b 285.342	143.294	2	452.82	0.0001
	^c 293.226	145.315	2	508.66	0.0001

Table 3: Summary of Anova Results Continued

Cluster Groups B	High Resource Maturity (n = 71)	Medium Resource Maturity (n = 65)	Low Resource Maturity (n = 63)
Supports Customer Retention (Means) * Duncan Group Mean Differences	4.89 (A)	3.65 (B)	2.03 (C)
Facilitates Responsiveness (Means) * Duncan Group Mean Differences	4.94 (A)	3.59 (B)	2.11 (C)
Integral to Customer Satisfaction (Means) * Duncan Group Mean Differences	4.91 (A)	3.51 (B)	2.09 (C)

* Means with the same letter are not significantly different.

DISCUSSION

Overall, an examination of the results provides strong support for the use of IT-based marketing strategies in our increasingly competitive and global society. The findings presented clearly support how customer-linking capabilities improve with mature IT platforms. Results revealed that the use of such mature platforms by small firms provided benefits similar to those found in studies focused on corporate firms, such as: (1) positive effects on the ability to exhibit responsiveness to customer needs (Proctor 1991; Mayros 1990; Freedman 1990); (2) enhanced ability to practice knowledge-based and customer-valued marketing (Brannback 1997; Berry 1995; Sashittal and Wilemon 1996); and (3) improved decision-making geared at maintaining loyal customers (Davis 1997; Karimi, Gupta and Somers 1996). Thus, it was encouraging to discover that almost one-third of the small firms surveyed in this study were willing to invest in, manage and leverage IT resources, as Day (1994) suggested, in their efforts to build critical customer linking capabilities.

The firms characterized in the three profiles also exhibit certain features integral to Brannback's (1997) discussion of the IT-enabled marketing concept. Specifically, Brannback suggests that management must pay attention to IT resources and marketing resources simultaneously, as "IT is a key enabler, which requires competent management" (p. 298). In relation to this particular phase of the study, the most competently managed small firms were found to be in the cluster depicting the highest level of IT resource management activity. As such, competent management led to significantly higher IT-based capabilities.

From a different standpoint, small firms in this study with medium and low levels of IT resource management activity found it increasingly difficult to develop a similar level of IT-based

capabilities. Brannback's research findings suggest that a key reason for this might be that lesser competent management has a harder time viewing IT as a mechanism for supporting the knowledge-based marketing required in today's marketplace. Instead, it appears that these aforementioned small firms view IT as a *support* function rather than a *strategic* function. According to Brannback, the inherent danger of this viewpoint is that IT stands to become a bottleneck over time causing all marketing efforts to become obsolete and eventually fail.

Sheth and Sisodia (1995) surmised that firms stand to compete better if IT-based capabilities are employed to facilitate responsiveness and "effective-efficiency." The efficiencies created by implementing such capabilities are especially crucial to small-firms whom must often cover a broad constituency base with fewer organizational resources than their larger rivals. Overall, an examination of the results provides strong support for the use of IT-based customer relation strategies in our increasingly competitive and global society. The findings presented clearly support how such capabilities improve with mature IT platforms.

CONCLUSIONS

The increasingly competitive and global marketplace has made it necessary for firms to consider means for survival. Day (1994) suggests that firms can better position themselves by building "the special capabilities that set market-driven firms apart" (p. 38). Day defined capabilities as a "complex bundle of resources" that allow business activities to be carried out which create value for customers, and alluded to the potential of information technologies in helping firms build the distinctive capabilities directed at developing and maintaining customer relationships.

The vast array of computing and communication technologies available in today's marketplace that can be used to manage information, as well as facilitate responsiveness to customer needs, permits firms of all sizes to benefit from the implementation of an IT resource infrastructure that is customer focused (Day 1994, Sashittal and Wilemon 1996). Minimal research to date has explored the relative impacts of IT maturity in the development and maintenance of customer relationship capabilities, especially in the small business environment. The results of this study contribute to understanding how resource-based theory can be used as a vantage point for examining the how IT resources can be used as a mechanism for building relationships with customers.

This research was directed at investigating whether small firms how small-firm IT resource management impacted their customer relationship capabilities. Specifically, it was concluded that IT resource management helped small firms to enhance their customer relationship capabilities. A positive and significant association was found between IT resource management activities and the ability for small companies to retain, respond and satisfy their customers.

It appears that marketing scholars would benefit from utilizing resource-based approaches to further understand how company resources might be exploited to build essential capabilities that can augment business performance and help to differentiate small firms from their competitors.

Evidence suggests that the conceptualization of relationship strategies within a resource-based paradigm facilitates the examination of linkages such as those created between IT and customer-focused capabilities within the small business environment.

All firms have an opportunity to use IT resources to build distinctive capabilities. The soaring economy has increased overall demand for goods and services, which in turn, has increased the demands on businesses of all types. Customers are demanding more volume and better services whereas more profitable rivals and Internet breed competitors are garnering resources to attract new customers and retain existing ones. Thus, whether a firm expects to grow quickly, slowly, or not at all, it is imperative that they look to flexible and integrated IT solutions for increasing their customer focus and building long-term customer loyalty.

ASPs, application service providers, as well as CRM software vendors are poised to help small firms implement IT-based relationship management solutions that were once deemed too costly and complex for smaller business ventures. Thus, new avenues now exist to allow small firms to develop distinctive IT-based customer-focused capabilities.

It is a surety that such capabilities are needed by all businesses wishing to compete in today's and tomorrow's marketplace. Survival requires a well-managed IT resource infrastructure that facilitates consistently satisfying customer experiences, timely connections to business constituents and the ability to share reliable, timely and detailed customer-focused information.

While academic pundits have traditionally isolated IT as a factor to create strategic advantage and performance enhancements, Day (1994) noted that business disciplines should seize the opportunity to promote a "more dynamic and multidimensional" means of competitiveness. This means that firms must harness a set of resources to strengthen their abilities to anticipate and respond effectively to customer needs. From this standpoint, it should be noted that IT alone is not the bulwark of competitiveness.

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GROWTH ASPIRATIONS, RISK, GENDER AND LEGAL FORM: A LOOK AT THE SERVICES INDUSTRIES

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ABSTRACT

Previous research has noted differences between entrepreneurial enterprises owned by men and women. Some authors have attributed these differences to bias against women entrepreneurs, whereas others have focused on hypothesized differences in risk preferences and lifestyle. This study examines differences between the form of legal organization chosen by male and female owned entrepreneurial enterprises as an indicator of growth aspirations and risk preferences. Specifically we argue that the choice to organize as a corporation rather than a sole proprietorship is generally associated with greater growth aspirations.

Relying on a sample of nearly 12,000 service organizations in San Diego County, we find no evidence that the likelihood of organizing as a corporation rather than a sole proprietorship is related to the gender of the owner. We do find, however, that this result masks significant differences in the choice of legal form for women- and male-owned businesses within particular service industries.

INTRODUCTION

Two of the fastest growing sectors of the economy are women-owned businesses (WOBs) and service firms. Gundry, Ben-Yoseph and Posig (2002) note that at the end of 1999, nearly 40% of all firms in the U.S. were women-owned, according to the National Foundation for Women Business Owners (NFWBO, 2001). From 1992 to 1997, the number of women-owned businesses increased by 16% with a 33% increase in revenues, in comparison with a 6% increase in the total number of U.S. firms and a corresponding 24% increase in revenues (Brush, Carter, Gatewood, Greene and Hart, 2001; U.S. Census Bureau 2001). With slow to negative growth in the manufacturing sector, services are an increasingly important segment of the U.S. economy. Over 50% of all small firms are in the service and retail sectors (Brush and Chaganti, 1999).

In this study, we examine the impact of gender differences on the choice of legal form of organization. The choice of legal form can be used as a proxy to measure both the growth intentions of an entrepreneur and the willingness to assume risk by entrepreneurs. A number of researchers

(i.e. Almus and Nerlinger, 1999; Davidsson, Kirchoff, Hatemi-J., and Gustavsson, 2002; Harhoff and Stahl, 1998; Storey, 1994) find that firms with legal forms that grant their owners limited liability with respect to personal losses grow faster. Two rationales exist for this finding - first, limited liability forms facilitate raising capital necessary for higher growth and secondly, entrepreneurs are more willing to implement higher risk strategies since their personal assets are protected. Because the choice of legal form is made fairly early in the life of a venture, this objective and easily measurable variable serves as a good measure of owner intentions and attitudes.

Considerable debate exists about women entrepreneurs and their attitudes towards risk and growth. While a number of studies find that women avoid using debt and are more risk averse than men (i.e. Brown and Segal, 1989; Chaganti, 1986; Jianakoplos & Bernasek, 1998; Sunden and Surett, 1998), others find no difference when compared to men (Coleman, 2002). Here, we take the unique approach of analyzing the effect of gender differences on the choice of legal form in the service industries, which include the highest percentage of WOBs (U.S. Census Bureau, 2001).

Women are concentrated in personal service and retailing, which represent their traditional areas of employment, serving a household clientele (Anna, Chandler, Jansen and Nero, 1999; Bates, 2002; Brush, 1997; Gundry et al., 2002). This trend has remained fairly stable over time with 50% of all women entrepreneurs operating in services in 1982 (U.S. SBA, 1986), compared to 55% of all women entrepreneurs in services in 1997 (U.S. Census Bureau, 2001).

Unlike most previous large-scale studies that group small businesses in multiple industries together, this study of over 12,000 new ventures focuses exclusively on services. In addition, we examine each of 14 segments of the services industry separately. By comparing the choices of male-owned businesses (MOBs) and WOBs with regard to legal form in services, the business sector with the highest concentration of female ownership, we can determine if women face different types of opportunities and/or barriers in the industries representing their traditional strengths. This approach also minimizes the impact of industry differentials in examining attitudes towards risk and growth for WOBs and MOBs.

Various explanations are advanced for the discrepancy in growth intentions and risk aversion between WOBs and MOBs, and they tend to fall into three distinct categories. One set of arguments reflects a liberal feminist point of view and claims that women face barriers that men do not such as the lack of key resources for growth (Cliff, 1998), less access to business and government clients (Bates, 2002), and difficulties in being perceived as credible (Brush, 1997; Gundry et al., 2002). As a result, women would reduce their growth intentions and be unwilling to assume large amounts of risk.

However, social feminist theory suggests that these size differences are primarily result of the different socialization, and the different preferences and goals of men and women. In these cases, women prefer smaller businesses and take on less risk because they are more concerned about maintaining a satisfactory work/family balance, and place a lower value on high growth than men (Cliff, 1998).

Finally, industry distribution may explain the perceived risk aversion and low growth intentions of WOBs. Anna et al. (1999) note that female business ownership is concentrated in the retail and service industries where businesses are relatively smaller as opposed to firms in manufacturing, high technology or construction. According to Coleman (2002), these firms would be unlikely to require large amounts of external capital and can be successful even if they are very small. Thus, the relatively high concentration of women in industries with smaller scale businesses may be WOBs appear to have lower risk thresholds and more limited growth intentions overall.

Here, we develop and test a hypothesis based on both the liberal and social feminist points of view regarding the choice of legal form for WOBs and MOBs in service industries. By limiting our study to a single sector, we minimize the impact of industry distribution on the relative sizes of male and female owned new ventures. By examining 14 segments of the services sector separately, we can more carefully examine the relationship between growth aspirations, risk preferences and gender. This paper is structured as follows: Section Two provides review of current literature on WOBs and services, while Section Three presents the conceptual framework and hypotheses. Empirical methodology and results are discussed in Section Four, while implications and conclusions are presented in the final section.

LITERATURE REVIEW

Storey (1994) includes legal form as one of six factors of significance, in addition to age, size, industry sector/markets, location and ownership, in his overview of research on firm growth. He notes that firms that choose legal forms which limit liability grow more rapidly. Storey concludes that this is likely because these forms provide improved opportunities to obtain the equity capital necessary for growth.

In a study of high-technology German firms, Almus and Nerlinger (1999) show that firms with limited liability realize higher growth than firms in which the founders' private capital investments are liable. They surmise that the limited liability form increases the willingness of entrepreneurs to take risks since the founders' personal capital is protected from heavy losses. Davidsson, Kirchhoff, Hatemi-J., and Gustavsson (2002) confirm the relationship between positive growth and the limited liability form of business on a sample of over 11,000 Swedish businesses.

Robb (2002) finds that sole proprietorships were more likely to fail than partnerships and S-corporations in a study of survival rates of minority and women - owned firms. Campos, Carrasco and Requejo (2003) confirm these results on a set of Spanish manufacturing firms, using a model allowing for both legal form and risk exposure to be endogenously determined. They note that limited liability allows for more of the downside to be shifted onto debtors while the upside gain is left to the stockholders, lending support to the limited liability effect discussed in the finance literature (Faure-Grimaud, 2000; Showalter, 1999).

Using a sample of 11,000 West German companies, Harhoff and Stahl (1998) also show that firms under limited liability have higher growth and higher insolvency rates than comparable firms under full liability. While limited liability firms displayed higher growth rates than firms under unlimited liability in all industries, which were primarily sole proprietorships in their sample, they did note significant variations across industries.

The greatest difference in employment growth between full and limited liability firms occurred in the service industries where limited liability firms grew 5.7% faster compared to 3.6% and 3.7% faster in the manufacturing and construction industries respectively. Also, a particularly high rate of bankruptcies was observed in the construction industries.

Although tax implications differ under various legal forms, Ayers, Cloyd and Robinson (1996) find that non-tax factors such as injury risk, default risk, and firm age are important determinants in the selection of an organizational form. In their study of over 3,000 small businesses, they demonstrate that increases in default risk raise the likelihood that a firm will be a C-corporation rather than a sole proprietorship. While manufacturers are more likely to be incorporated than unincorporated, service firms are more likely to be unincorporated.

CONCEPTUAL DEVELOPMENT

The entrepreneur's choice of legal form reflects his/her assessment of the riskiness of the projects undertaken, and therefore the firm's growth and survival chances (Harhoff and Stahl, 1998). In a seminal paper, Stiglitz and Weiss (1981) advanced the hypothesis that limited liability is linked to entrepreneurial activity that is simultaneously both more risky and has a greater growth potential. This results in the prediction that both higher growth and higher bankruptcy would be observed among firms with limited liability legal forms. As Ayers et al (1996) postulate, business risk and capital requirements may vary across industry sector. Manufacturing firms may be more likely to be incorporated because they have both greater product liability concerns and a greater need to attract external capital.

In their survey of the theoretical work on sex, gender and entrepreneurship, Fischer et al. (1993) identify two organizing frameworks - liberal feminism and social feminism. We will examine each perspective here, and then apply it to the legal form of new ventures in the services sector.

In liberal feminist theory, women are overtly discriminated against or systematically deprived of important resources (Watson, 2002). It is implicitly assumed that women would behave similarly to men if they had equal access to the opportunities available to men, such as education, work experience and other resources (Unger and Crawford, 1992). Studies examining whether or not women are discriminated against by lenders and consultants, and if women have less relevant education and experience, are consistent with this perspective.

While Fischer et al. (1993) maintain that these types of studies provide modest evidence that overt discrimination or systematic lack of access to resources inhibits the success of women, more recent research identifies significant barriers to women business owners. Kalleberg and Leicht (1991) suggest that women's relative lack of relevant work, industry, and start-up experience explains the smaller size, slower income growth and lesser sales per employee. Bates (2002) finds that WOBs have less access to business and government clients even after capacity traits (i.e. sales revenues, industry and other factors) are held constant, and therefore, they may be serving their traditional household clientele by default.

Cliff (1998) argues that women are more likely to face conflict between their professional and personal lives since they have greater household and childcare responsibilities. The primary domestic responsibility of men, which consists of providing, is compatible with running a growing firm. Thus women have inadequate resources for growth, in the form of lack of freedom from household responsibilities as well as more commonly noted deficiencies such as insufficient business experience. Therefore, women respond by deliberately adopting lower growth expectations and being less willing to assume risk for their businesses.

In addition, women face barriers to credibility and legitimacy despite similarities to male entrepreneurs. They are often perceived as not well-suited for managerial roles, and require legitimation by men. Furthermore, they may be disliked if they display masculine leadership styles (Gundry et al., 2002). Brush (1997) notes that these perceptions are strongest outside of the traditional WOB niches of services and retailing. As a result, women complain that they are not taken seriously by large corporate buyers, and must work harder than men, even when they do have the same capacity as males (Brush, 1997; Bates, 2002).

Social feminist theory takes the view that men and women are inherently different by nature, and that these differences do not mean that one sex is inferior to the other. Men and women differ inherently due to differences in early and ongoing socialization, and therefore may develop different and equally effective traits (Fischer et al., 1993). Men are expected to possess high levels of agentic qualities such as self-assertion, self-expansion and the urge to master, while women are expected to possess high levels of communal qualities such as selflessness, a concern for others and interpersonal sensitivity. Men tend to focus more on economic values and quantitative measures of success, while women focus more on social values and qualitative measures of success (Unger and Crawford, 1992).

As a result, women adopt different approaches to business which may or may not be as effective as those adopted by men (Watson, 2002). Studies comparing men and women on socialized traits and values are consistent with this perspective. According to Fischer et al., (1993), these studies have documented few consistent gender differences, and suggest that existing differences have little impact on business performance. For example, men and women may differ in the value they attach to business growth. Men were more likely to denote size as a measure of success, while

women were more likely to pursue a balance between economic and non-economic goals (Brush, 1992, 1997; Cliff, 1998).

According to Fischer et al. (1993), while WOBs are smaller, they show no difference in productivity and returns. Watson (2002) corroborates these results with his finding that while WOBs had fewer inputs in terms of total assets and owner's equity, they achieved returns comparable to those of MOBs in terms of ROA and ROE. Consistent with the social feminist perspective, it is possible that women are compensating for lack of experience in ways that current research does not flush out.

With regard to the choice of legal form, both the liberal and social feminist perspectives suggest that WOBs will be less likely to choose limited liability forms than MOBs. However, the rationales for this choice differ for each point of view. In the liberal feminist view, services may be a stronghold for women business owners by necessity - women lack the capital, contacts and/or experience to enter into faster growing, more profitable and/or more capital-intensive industries. Discrimination from non-household clients and from the suppliers of capital may force entrepreneurial women into the services sector.

With low entry barriers and easily imitated competitive advantages, labor-intensive small service businesses require minimal start-up investments, but face intense competition; as a result, these companies have lower growth and lower earnings prospects than businesses in other industries (Kalleberg and Leicht, 1991; Brush and Chaganti, 1999). This factors hold strongly in personal services, which is the least profitable subgroup of US small businesses (Bates, 1997).

The same societal dynamic of lack of key resources and lack of credibility which lead women into services should be expected to hold true within the services industries. Due to resource and credibility problems, WOBs should have lower growth intentions than MOBs, and therefore should more often be sole proprietorships as opposed to limited liability forms of organizations.

However, under the social feminist perspective, women may choose to start businesses in slower growing industries, like services, because it affords them more flexibility and a better work/family balance. This is consistent with personal considerations overriding economic considerations in business expansion decisions (Cliff, 1998). The findings of Anna et al. (1999) and Gundry and Welsch (2001), in which women in traditional industries such as services place a higher value on life balance and security than to their counterparts in non-traditional industries, also support the social feminist perspective.

Although women are motivated primarily by choice as opposed to being restricted by barriers, we would still expect WOBs to have a higher percentage of sole proprietorships than MOBs within the service industries because of women's preferences for flexibility and life balance. Thus, both the liberal and social feminist perspectives predict more sole proprietorships for WOBs, even though the rationale for each prediction differs. This give rise to the following hypothesis:

H1: In the services sector, women-owned businesses will have a higher percentage of sole proprietorships, on average, than men-owned businesses.

METHODS

The primary data source was the CALDATA database of all small businesses registered in the County of San Diego, California. The data is collected and maintained by Data Solutions of El Cajon, California, and was made available through the San Diego office of SCORE. Our sample includes all the firms in CALDATA with the following characteristics:

1. The business was started during 1998 - 2003 time period. Thus, the businesses in this sample are aged from years 1 to 6. The start year was based on the year that the assumed name of the firm was registered with the County of San Diego.
2. The venture was classified under one of the services SIC codes: 70,72,73, 75,76,77,78,79,80,81,82,83,84,85, 86, or 87.

These selection criteria yielded a total of 12,874 new ventures. The CALDATA lists the name, title and sex for the owner primary contact. This source also indicates whether or not the firm is organized as a corporation. For 11,961 firms in the sample, information on owner gender and organization forms was available.

Table 1 below displays the distribution firms across industry, as well as the percentage of firms within the industry organized as corporations and owned by women.

SIC Code	Industry	Sample Size	%Corporation	%WOB
70	Lodging	209	69.9	34.9
72	Personal Services	1849	11.7	52.6
73	Business Services	4117	39.4	32.0
75	Auto Repair	904	28.9	11.2
76	Misc. Repair	406	20.2	12.7
78	Motion Picture	80	27.5	19.8
79	Amusement/Recreation	404	27.8	33.4
80	Health Services	1945	36.2	32.6
81	Legal Services	663	12.3	25.0
82	Education Services	160	36.4	50.6
83	Social Services	262	41.8	76.3
84	Museums, Galleries and Gardens	7	57.1	42.9
86	Membership Organizations	78	70.9	34.6
87	Accounting, Engineering, Architecture	877	32.8	24.5
	Total	11961	30.9	35.3

RESULTS

Hypothesis 1 predicts that WOBs will less frequently be organized as corporations than MOBs. To test this hypothesis we performed a t-test the sample as a whole and for each of the 14 hypotheses separately. The results of these tests appear in Table 2 generally fail to support our hypothesis.

For the sample as a whole, the results in Table 1 indicate that 30% of WOBs are corporations, whereas 31.3% of MOBs are corporations. This difference is statistically insignificant ($t = -1.44$) and provides no support for the hypothesis that WOBs are less likely to be corporations than MOBs. Within the various sectors of the services industry, however, there are significant differences in the frequency with which MOBs and WOBs organize as corporations.

Table 2: T-Test of the Difference in Percentage of Firms Organized as Corporations for WOBs and MOBs by Industry					
SIC Code	Industry	N	WOB	MOB	t
			%Corporation	%Corporation	
70	Lodging	209	69.9	69.9	.01
72	Personal Services	1849	9.9	13.7	-2.58***
73	Business Services	4117	38.1	40.0	-1.17
75	Auto Repair	904	40.0	27.7	2.58***
76	Misc. Repair	406	36.5	17.8	3.18***
78	Motion Picture	80	18.8	29.7	-.87
79	Amusement/Recreation	404	22.2	30.9	-1.83*
80	Health Services	1945	38.2	29.4	3.99***
81	Legal Services	663	17.8	10.2	2.59***
82	Education Services	160	29.6	44.3	-1.93*
83	Social Services	262	39.5	50.0	-1.46
84	Museums, Galleries, Gardens	7	100.0	25.0	2.54
86	Membership Organizations	78	70.4	70.6	-.02
87	Accounting, Engineering, Architecture	877	26.5	34.7	-2.24
	Total	11961	30.0	31.3	-1.44

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

For 9 of the 14 industry sectors, statistically significant differences in form of organization for MOBs and WOBs were found. For Personal services, Amusement and Recreation services, Education services, and Accounting, Architecture and Engineering services, WOBs were significantly less likely to be organized as corporations than MOBs. For Auto Repair services, Miscellaneous Repair services, Health services, Legal services, and Museums, WOBs were significantly more likely to be organized as corporations. Thus, the results for the entire sample mask important differences between sectors within the services.

In particular, WOBs were more likely to be organized as corporations in industries with relatively fewer WOBs. WOBs accounted for less than 20% of the businesses in auto repair and miscellaneous repair. In both of these male dominated industries, WOBs were significantly more likely than MOBs to be organized as corporations ($p < .01$).

SUMMARY AND CONCLUSIONS

Previous researchers have suggested female entrepreneurs have lower growth aspirations than male entrepreneurs. In this paper we argue that the choice of legal form of organization reflects the growth aspirations of the owner. In particular, we argue owners organizing their firms as corporations have higher growth aspirations than those that organize their firms as sole proprietorships. This implies that woman owned businesses are less likely to be organized as corporations than male owned businesses.

In this study, we test this hypothesis on a sample of nearly 12,000 service firms. For the sample as a whole, we find no evidence that female entrepreneurs have lower growth aspirations than male entrepreneurs. However, by examine 14 service industries separately, we find significant differences in the relative propensity of women to organize their firms as corporations. In male dominated industries, such as auto repair and miscellaneous repair, where less than 20% of firms are owned by women, woman owned businesses are significantly more likely to be organized as corporations than male owned businesses. In other service industries, the opposite is true.

These have a variety of implications. First, there is no evidence that female and male entrepreneurs generally differ in their attitudes toward risk and growth. Second, the motives of entrepreneurs likely vary with the choice of the industry they enter. Women entering the personal services industry appear to have lower growth aspirations relative to men than those entering the auto repair industry, for example. The reason for these industries differences provides an intriguing issue for future research. Finally, our research highlights the importance, more generally, of controlling for industry in studies examining entrepreneurial practices. Even within services, there are clear industry differences that may be masked by studies forced to combine industries due to sample size limitations.

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A PROCESS FRAMEWORK OF ENTREPRENEURSHIP: FROM EXPLORATION, TO EXPLOITATION, TO EXIT

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ABSTRACT

We develop a process framework of entrepreneurship covering exploration and exploitation of the opportunity as well as the entrepreneur's exit, and suggest that dialectic process theories have the potential to explain the transitions between these phases of the entrepreneurial process. In addition, we apply theories from the fields of sociology, economics, and strategy to better understand and explain various salient activities within the entrepreneurial process. A particular contribution is to increase awareness of the exit phase of the entrepreneurial process, the transition into this phase, as well as the link between entrepreneurial exit and re-entry decisions.

INTRODUCTION

Although many scholars advocate the view of entrepreneurship as a process (Davidsson *et al.*, 2001; Low & MacMillan, 1988), content models dominate the literature. Those frameworks that adopt a process perspective tend to focus on narrower segments of the field, such as internal corporate venturing (Burgelman, 1983), new venture creation (Shaver & Scott, 1991) or business start-up (Baucus & Human, 1994), and family business succession (Davis & Harveston, 1998). Many of these frameworks focus solely on the exploration of opportunities, such as Ardichvilia, Cardozob, and Ray (2003), or include both exploration and exploitation of opportunities, such as Bhave (1994). This paper seeks to develop a more comprehensive process model of entrepreneurship highlighting the entire process of entrepreneurship from exploration, to exploitation, to the entrepreneur's exit, including the transitions between these three phases.

A process-oriented framework is important for entrepreneurial research because of temporal and contextual concerns. Entrepreneurial activity is not carried out in isolation—devoid of context—nor is it carried out at a single point in time. Entrepreneurship is a process that must be viewed in dynamic terms and requires linkages or relationships between key components of the process (Aldrich & Zimmer, 1986). Entrepreneurial activity is shaped and modified by event sequences and interactions among the entrepreneur, the environment, and other relevant actors that unfold over time. Although content models study the antecedents and consequences of constructs, and provide a useful context for studying processes, these models do not tell us how events unfold

over time. Furthermore, prior research oftentimes has not described the salient activities and behaviors that constitute the entrepreneurial process, but instead focused on variables affecting the process rather than on the process itself (Baucus & Human, 1994). The proposed framework not only highlights the interconnectedness and dynamic nature of the entrepreneurial process, but also reflects a historical development perspective; that is, path-dependent relationships exist so that later phases are affected by activities in the earlier phases.

Reviews of entrepreneurship research also consistently call for a more theory-driven agenda in entrepreneurship research and for integration of the various theoretical perspectives (Bygrave, 1993; Low & MacMillan, 1988). One way to achieve integration is to link different theoretical perspectives along the entrepreneurial process (Poole & Van de Ven, 1989). We show how specific theoretical perspectives shed light on salient activities within this process.

In the following sections, we first develop a definition of entrepreneur and entrepreneurship. We then introduce a framework that highlights the three phases of the entrepreneurial process. Next we discuss salient entrepreneurial activities at each phase, followed by an examination of the transitions between the phases based on dialectic process theory. We conclude by highlighting the contribution of this paper to future empirical and conceptual research.

ENTREPRENEURS AND ENTREPRENEURSHIP

Previous work recognizes a lack of consensus on the meaning of the terms entrepreneur (the individual) and entrepreneurship (the process) (Davidsson et al., 2001). Entrepreneur and entrepreneurship are different yet inseparable. A focus on defining an entrepreneur has led to an emphasis on the characteristics and traits of the entrepreneur (Gartner, 1988), and may have impeded theory development in entrepreneurship research (McDougall & Oviatt, 2000). On the other hand, the essence of entrepreneurship is the entrepreneur (Mitton, 1989), hence a model of entrepreneurship must recognize the importance of human volition (Bygrave, 1993), or risk the neglect of the entrepreneur (Demsetz, 1982). Since entrepreneurship, as a process, is the broader of the two terms, we suggest scholars focus on adopting a common definition of entrepreneurship that recognizes the role of the entrepreneur as the central figure in the process.

We propose that entrepreneurship is a context-dependent process of creating future goods and services that involves the cycle of exploration and exploitation of opportunities by individuals or groups of individuals (the entrepreneurs), who may exit and re-enter this process.

This definition does not restrict entrepreneurship to the creation of a new enterprise (Low & MacMillan, 1988) or new organizations (Bygrave & Hofer, 1991). Instead, we adopt a dynamic perspective by emphasizing the potential cyclicity of the entrepreneurial process, which an entrepreneur can exit, remain in, or re-enter. By considering exit and re-entry as part of the entrepreneurial process, we extend current definitions that implicitly suggest the process ends with the exploitation of opportunities (Shane & Venkataraman, 2000). Furthermore, we recognize the

entrepreneur as central to the process (Mitchell *et al.*, 2002) and highlight the importance of context (Thornton, 1999).

A PROCESS FRAMEWORK OF ENTREPRENEURSHIP

Figure 1 summarizes the entrepreneurial process as three major discrete phases, although the boundaries between the phases may be less refined in reality. We argue that separating the phases for theory-building purposes provides a useful framework to examine and discuss the entrepreneurial process. The first two phases of exploration and exploitation are adapted from March's (1991) seminal work on organization learning, while the final phase is the entrepreneur's exit. Salient entrepreneurial activities are highlighted within each phase for discussion. The arrows (in bold) represent the transition of the entrepreneur from one phase to another. The three entrepreneurial phases are linked in a continuous loop, with the passage of time moving in a clock-wise direction.

Figure 1: A Process Model of Entrepreneurship

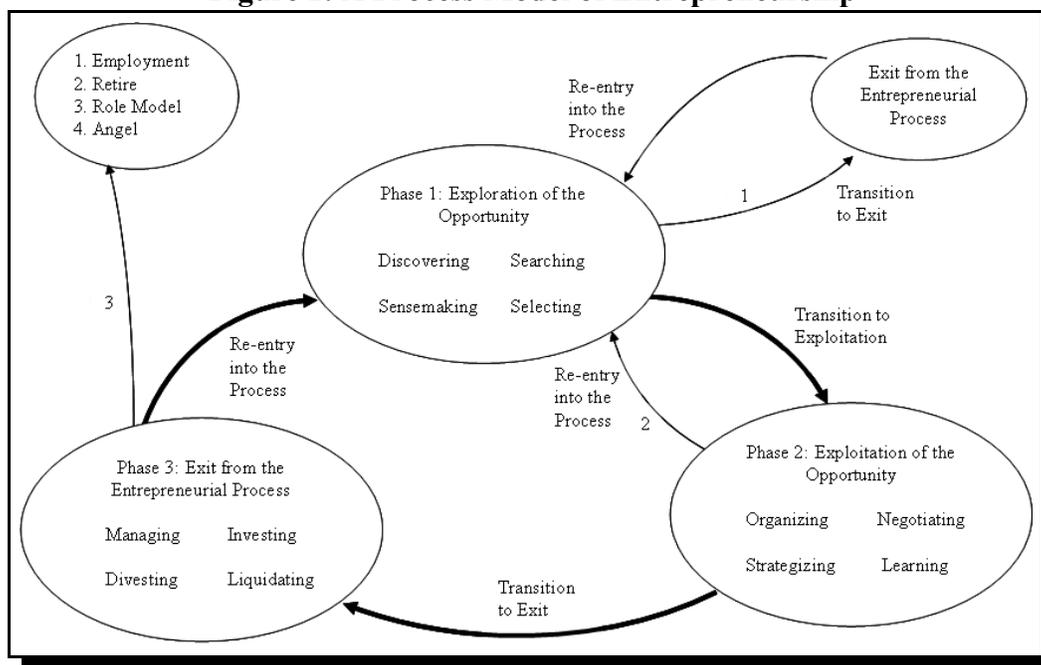


Figure 1 captures the various paths in the entrepreneurial process. Generally, entrepreneurs enter the process through exploration, transit to exploitation, eventually exit, and potentially re-enter the process again. However, some entrepreneurs may transit from exploration to exit, without exploiting the opportunity (arrow 1). In addition, entrepreneurs who have transited to the exploitation phase may re-enter the exploration phase without making any exit (arrow 2). For

example, “portfolio entrepreneurs” exploit more than one entrepreneurial opportunity at a given time without exiting the entrepreneurial process (Hall, 1995). Furthermore, arrow 2 reflects options theory’s suggestion that the exploration and exploitation of an opportunity may occur at the same time (McGrath, 1999). Finally, not all entrepreneurs who exit the entrepreneurial process after exploitation will re-enter the process again (arrow 3). While we focus our discussion on individual entrepreneurs, we believe this process applies in principle to entrepreneurial teams as well. In the following section, we shall discuss the activities of the entrepreneurial process, followed by another section on the transitions between the entrepreneurial phases.

ENTREPRENEURIAL PROCESS: ACTIVITIES

The entrepreneurial activities shown in Figure 1 are not intended to be comprehensive, but are chosen for their salience and relevance to the entrepreneurial process based on a thorough review of the literature. More importantly, these activities illustrate the utility of different theoretical perspectives in entrepreneurial process research.

Exploration Phase

The entrepreneurial process begins with the exploration phase. According to March (1991), exploration includes search, risk-taking, experimentation, discovery, innovation and other activities. Applied to the entrepreneurial process, exploration begins with the discovery of opportunities (McCline *et al.*, 2000). An alert entrepreneur is the first to discover market imperfections (Kirzner, 1997). Entrepreneurial discovery may be viewed as a vehicle for realizing opportunities in a constantly changing marketplace (Jacobson, 1992). Opportunities arise as a result of market imperfections or inefficiencies that lead to market disequilibrium. Market imperfections may stem from changes in the economic system and the way knowledge is imperfectly distributed, communicated and acquired by economic actors (Hayek, 1945). Such changes in the economic system may arise from continual changes in taste, resource availabilities, and known technological possibilities (Kirzner, 1997).

After discovery of the opportunity, effective and efficient discernment of the nature of the opportunity is critical. Entrepreneurial errors occur frequently in differentiating between actual and perceived opportunity (Kirzner, 1997). Although entrepreneurial errors also occur in the exploitation phase, a wrong perception of the actual opportunity will aggravate resource shortages, surplus or misallocation. The magnitude of entrepreneurial errors is primarily determined by the uncertainty regarding the nature of the opportunity. Hence, after discovering an opportunity, entrepreneurs attempt to reduce uncertainty through information searching and sensemaking at the exploration phase reflected in Figure 1. However, not all entrepreneurs who discover opportunities will engage in information search and sensemaking. For instance, some may decide to exit the entrepreneurial

process (arrow 1 of Figure 1) if the discovery immediately appears not to fit well with the entrepreneurs' stock of resources, and may subsequently re-enter the process in search for opportunities better aligned with their resources.

Searching for information is a central task for the entrepreneur (Cooper *et al.*, 1995). Although there is a variety of information sources (Welsch & Young, 1982), they may be generalized into two categories: the entrepreneur's own stock of knowledge and experience, and external sources of information including those available to the public as well as the entrepreneur's private network of economic and social actors. These actors include family members, colleagues, business associates, or professional information brokers. When information is sought from external sources, social network theories offer interesting insights into the quality of information search. For instance, Granovetter's (1973) concept of strong and weak ties may shed light on the quality of information obtained from an entrepreneur's social network (Hills *et al.*, 1997).

Given the novelty of the opportunity, uncertainty will not be totally eliminated through accumulation of information. Furthermore, cognitive limitations suggest that entrepreneurs are boundedly rational (Simon, 1957) and exhibit cognitive biases in evaluating an opportunity (Keh *et al.*, 2002). Hence, the amount of uncertainty reduced through a systematic information search not only depends on the availability of information, but also on the entrepreneur's information-processing capabilities. Even if information is available, entrepreneurs will not continuously engage in systematic information search because the marginal utility of additional information is expected to decrease as entrepreneurs approach their maximum information processing capacity. Hence, the act of sensemaking is not only required to make sense of the accumulated information, but also to establish closure in the information search.

Few studies apply the concept of sensemaking to better understand the entrepreneurial process (Forbes, 1999; Hill & Levenhagen, 1995). Sensemaking, with its emphasis on plausibility rather than accuracy in inference, and on a social rather than individual process, provides valuable insights into the entrepreneurial process. Although Weick (1995) posits sensemaking as primarily retrospective in nature, the domain of sensemaking can also include prospective elements (Gioia & Mehra, 1996). This is particularly relevant in the exploration phase when both retrospective elements (such as framing from past experience) and prospective elements (such as envisioning the exploitation of opportunity) are crucial determinants of future action. Sensemaking uses an individual's cognitive schemas to interpret the environment (Gioia, 1986; Shaver & Scott, 1991). These schemas are derived from an entrepreneur's existing stock of knowledge and experience (Shane & Venkataraman, 2000).

The outcome of sensemaking and information search is selecting, the final act in the exploration phase when the entrepreneur decides on whether to exploit the opportunity or exit the entrepreneurial process given the accumulated information. The final decision is likely rooted in economic and social factors (Kouriloff, 2000; Shaver *et al.*, 2001). Economic issues include the type of resources required to exploit the opportunity and the ease of garnering these resources.

Eventually, economic considerations lead to estimating the expected entrepreneurial rents from exploitation, defined as the difference between the ex post value (or payment stream) generated from exploiting the opportunity and the ex ante cost (or value) of the resources combined to exploit the opportunity (Rumelt, 1987). Entrepreneurial rents increase with uncertainty, for with certainty, rents will be competed away or appropriated by the factors of production (Coff, 1999). Therefore, given high uncertainty and bounded rationality, resolution of economic issues will be far from satisfactory, and the mode of decision making becomes one of satisficing among alternatives (Aldrich & Martinez, 2001). The entrepreneur is also likely to consider social norms and conditions (Dubini & Aldrich, 1991). For instance, the social nature of sensemaking implies that entrepreneurs would take into account the likely impact of their own actions on other significant stakeholders, such as direct family members and friends (Kouriloff, 2000).

Exploitation Phase

According to March (1991), exploitation includes refinement, choice, production, efficiency, implementation, and execution. As part of the entrepreneurial process, the decision to exploit an opportunity triggers a chain of salient activities, as shown in Figure 1, specifically organizing, negotiating, strategizing, and learning.

Organizing refers to the institutional arrangement employed to exploit the opportunity (Venkataraman & MacMillan, 1997). According to Shane and Venkataraman (2000), there are two major modes of exploitation—the creation of new firms (hierarchies) or the sale of opportunities to existing firms (markets). Accordingly, the chosen mode of exploitation may be explained by transaction cost theory (Williamson, 1985). Broadly speaking, the decision to exploit an opportunity through hierarchy occurs in the presence of market failure. One type of market failure is that knowledge created and exploited by entrepreneurs may have public good characteristics. As a public good, knowledge once transferred is hard to protect. Therein lies the dilemma for entrepreneurs. If entrepreneurs wish to sell their knowledge in the market, they may find it difficult to convince existing firms to buy the knowledge at the requested price without revealing the nature of the knowledge (Mosakowski, 1991). However, once the knowledge is revealed to potential buyers, there is no guarantee that the buyers will not engage in opportunistic behavior by exploiting the entrepreneurs' knowledge-base for the buyers' advantage. If the market mode of exploitation is adopted, entrepreneurs exit the entrepreneurial process upon completing the sale of their knowledge base. Entrepreneurs adopting the hierarchical mode of exploitation create new ventures and remain in the entrepreneurial process.

Negotiating refers to the process of accumulating critical resources necessary to exploit the opportunity. This activity is likely to have the greatest impact on the appropriation of entrepreneurial rents by the entrepreneur. For instance, entrepreneurs negotiate with venture capitalists (Hoffman & Blakey, 1987) and suppliers (Massaro & Light, 2001). Resource-dependence theory, which

suggests that one actor's dependence on another for critical resources affects the relationship between the actors in predictable ways (Pfeffer & Salancik, 1978), sheds light on negotiation processes and outcomes. Entrepreneurs have an incentive to engage in activities that reduce their dependency on other stakeholders of the environment or, conversely, increase these stakeholders' dependency on them. Hence, the stakeholders' relative bargaining power determines the outcome of the negotiation process (Coff, 1999). Generally, the lower the dependency of an entrepreneur on other stakeholders, the greater the entrepreneur's bargaining power and the larger the entrepreneurial rent appropriated (Green & Light, 2000).

Strategizing refers to the way acquired resources are deployed to improve new venture performance (Lichtenstein & Brush, 2001). In the long run, strategizing aims to create and sustain a new venture's competitive advantage and may be better understood by applying theories in business strategy. Rumelt (1984) characterizes a firm as a bundle of linked and idiosyncratic resources and resource conversion activities. The knowledge-based view (Conner & Prahalad, 1996; Grant, 1996) and the dynamic capabilities approach (Teece *et al.*, 1997) identify knowledge and capabilities embedded within the firm as critical resources. To sustain a new venture's competitive advantage derived from the entrepreneurs' knowledge-base (Willard *et al.*, 1992), entrepreneurs focus on building isolating mechanisms that impede the ex post imitation and dissipation of entrepreneurial rents (Rumelt, 1987). Hence, the strategizing act of entrepreneurs in sustaining competitive advantage lies in building these isolating mechanisms and investing in barriers to imitation (Reed & DeFillippi, 1990). However, a strategy of sustaining the venture's original competitive advantage may prove fatal in the long run due to the erosion of a firm's knowledge stock (Dierickx & Cool, 1989) as a result of technological obsolescence (Anderson & Tushman, 1990). Hence, learning is important for entrepreneurs to create new competitive advantages to generate entrepreneurial rents.

Learning refers to the process of accumulating experience and new capabilities over time. This activity is critical for the entrepreneur to create new competitive advantage. Entrepreneurial learning determines a new venture's strategic direction by integrating environmental, organizational, and individual processes to create strategic value (Honig, 2001). Learning is a process involving repetition and experimentation that improves the content of the entrepreneur's knowledge stock (Minniti & Bygrave, 2001). Hence, the entrepreneur's knowledge stock is the cumulative result of knowledge flows that builds upon prior knowledge, where prior related knowledge confers an ability to recognize the value of new information, assimilate it, and apply it to commercial ends (Cohen & Levinthal, 1990). Although the creation of competitive advantages necessarily builds upon the entrepreneur's original stock of knowledge, the entrepreneur's role in knowledge-creation diminishes with the creation of a new venture. As the new venture grows, the core capabilities of the firm become an interrelated knowledge system made up of the entrepreneur's and the employees' knowledge-base, the firm's technical and managerial systems, and the culture associated with the process of knowledge creation and control (Leonard-Barton, 1992). This path-dependent, firm-

specific, cumulative knowledge-base of the firm acts as a source of competitive advantage as well as a constraint (Nelson & Winter, 1982). In other words, entrepreneurial learning is supplemented by organizational learning over time, where the absorptive capacity (Cohen & Levinthal, 1990) of the new venture to assimilate and exploit new knowledge is the key to creating new competitive advantage.

Exit Phase

The final phase of the entrepreneurial process is exit. There is a need to define exit because it has received little attention in the entrepreneurship literature. Ronstadt (1986) views exit as the ending of entrepreneurial pursuits in favor of working for someone else. Gimeno, Folta, Cooper, and Woo (1997) define entrepreneurial exit as the discontinuation, as opposed to the survival or sale, of the entrepreneurial venture, while Petty (1997) defines exit as the harvesting of the new venture business. Hence, current definitions of entrepreneurial exit focus on either the entrepreneur or the new venture. We adopt the approach that an entrepreneur's exit from the entrepreneurial process should not be equated with the status of the new venture. Although the discontinuation of a new venture is a sure sign of exit, the continuation of a new venture does not mean that the entrepreneur is still actively exploiting the entrepreneurial opportunity. For instance, an entrepreneur may exit the entrepreneurial process by selling the entire stake in the new venture to a third party. Therefore, we define entrepreneurial exit as the cessation of an entrepreneur's active exploitation of an opportunity and/or the absence of rights to the residual returns of exploitation. This characterization of entrepreneurial exit is illustrated in Figure 2.

Figure 2: The Definition of Exit from the Entrepreneurial Process			
		Active Management of the Venture	
		Yes	No
Ownership of Venture	Yes	<p><u>Cell A</u></p> <p>Continued Exploitation of Opportunity as an Entrepreneur</p>	<p><u>Cell B</u></p> <p>Entrepreneurial Exit: From an Entrepreneur To an Investor</p>
	No	<p><u>Cell C</u></p> <p>Entrepreneurial Exit: From an Entrepreneur to a Manager</p>	<p><u>Cell D</u></p> <p>Entrepreneurial Exit: Divestment or Liquidation</p>

In Figure 2 we employ the two dimensions of entrepreneurial exit, active management and ownership rights, to form a matrix that identifies the different types of entrepreneurial exit. The ownership of a new venture is a dichotomous variable that measures whether the entrepreneur continues to retain an ownership stake in the new venture. To determine whether an entrepreneur is actively involved in the management of the new venture, we use the criterion of whether the entrepreneur is able to influence the venture's corporate strategy. Hence, active management is not only restricted to being a member of the top management team, it also applies to membership on the board of directors where the service roles of directors include initiating and formulating corporate strategies (Johnson *et al.*, 1996).

In Cell A, where the entrepreneur retains ownership rights and continues to be actively involved in the management of the new venture, the entrepreneur has not exited from the entrepreneurial process and is still exploiting the opportunity. In Cell B, where the entrepreneur retains ownership rights but has ceased active management of the new venture, the entrepreneur has exited from the entrepreneurial process and is considered an investor in the new venture. In Cell C, where the entrepreneur does not retain any ownership rights but continues to be actively involved in the management of the new venture, the entrepreneur has exited from the entrepreneurial process and is considered a manager of the new venture. Finally, in Cell D, where the entrepreneur does not retain any ownership rights and has ceased active management of the new venture, the entrepreneur has exited from the entrepreneurial process through a complete divestment of ownership rights in the new venture, or has liquidated an unsuccessful new venture.

The salient activities in the exit phase are derived from the definition of exit represented in Figure 2, that is, investing, managing, as well as divesting and liquidating. Our classification of managing in Cell C as an act of entrepreneurial exit is consistent with earlier distinctions between managers and entrepreneurs (Aldrich & Zimmer, 1986). Whereas the act of managing in the exit phase is similar to the acts during the exploitation phase, the critical difference between these activities during exploitation and during exit is that the entrepreneur still retains ownership rights to the new venture—and associated risk—in the exploitation phase, but not in the exit phase. Also, Cell A distinguishes a manager who owns equity in a firm from an entrepreneur because the entrepreneur in Cell A is the founder of the new venture, which was set up to exploit a specific opportunity perceived at the exploration phase. Hence, an entrepreneur is not simply any manager who has equity stakes in a firm. However, a manager who was once an ex-entrepreneur may continue to explore or exploit new opportunities to create future goods and services within the new venture. Research on corporate entrepreneurship specifically examines this activity (Zahra, 1991), which is beyond the scope of this paper.

Divestment of ownership rights in a new venture may occur through various modes. Examples include initial public offerings (Prasad *et al.*, 1995), mergers and acquisitions (Petty, 1997), private sale for cash, debt and/or equity such as employee and management leverage buy-outs and buy-ins (Wright *et al.*, 1993). There is some evidence, although inconclusive, that the initial

public offering (IPO) route is the preferred option (Holmburg, 1991). Current research on exit strategy tends to focus on firm-level or higher-level variables (Lerner, 1994; Wright *et al.*, 1992). As a result, the choice of entrepreneurs regarding appropriate exit strategies has received lesser attention (Birley & Westhead, 1993).

ENTREPRENEURIAL PROCESS: TRANSITIONS

As in any process model, transitions are critical. Transitions within the entrepreneurial process refer to an entrepreneur's decision to transit from one phase to another. Internal and external factors shape the decision on whether to transit and the sequence of transit. As a result, not all entrepreneurs will transit between phases and some may transit in a non-sequential manner.

We use dialectic decision-making to enhance our knowledge of entrepreneurial decision-making regarding transit between the entrepreneurial phases. Although various notions of dialectic process theory have been proposed (Nielsen, 1996), they all have a common starting point: a contradiction (Mason, 1996). Dialectics emphasize contradiction and change, where changes occur as a result of tensions and conflicts generated by contradictions (Van de Ven & Poole, 1995). For instance, Bazerman, Tenbrunsel, and Wade-Benzoni (1998) discuss conflicts occurring within individuals as a result of the tension between what people want to do versus what they think they should do. Dialectic process theory suggests that internal opposing tendencies within an entity is exacerbated or made apparent by external events (Ford & Ford, 1994). In other words, one may view an entity as existing in a pluralistic context where internal and external events, forces or values contradict and compete for dominance. This tension provides the impetus for change by stimulating activities aimed at striking a balance among opposites (Bresser & Bishop, 1983).

The concept of dialectics has been applied to various fields of study (see Kahle, Liu, Rose, and Kim (2000) as well as Seo & Creed (2002) for examples). The most common application in management research is Churchman's (1971) thesis-antithesis-synthesis interpretation of the Hegelian dialectic change process. Although the concept of dialectics has been used extensively in many fields of study, it has not been applied to the field of entrepreneurship. However, Farjoun (2002) recently demonstrated the utility of dialectics to explain path-dependent process evolution, hence lending credence to the application of dialectics to explain transitions in the path-dependent entrepreneurial process.

Dialectic process theory may be relevant in explaining the transition between entrepreneurial phases because research shows that an entrepreneur (the entity) experiences various internal and external forces such as age, education, need for achievement, risk-taking propensity, protestant ethic, unemployment rates, tax rates, per capital income, business failure rates and changes in government policies (Bygrave, 1989; Gnyawali & Fogel, 1994; Shane, 1996). We argue that some of these forces not only contradict one another, but also compete for dominance during the decision-making process. The likelihood of transition between entrepreneurial phases increases as contradictions

develop, deepen, and permeate the entrepreneur's decision-making process. For the remainder of this section, we shall highlight the internal and external sources of contradiction as well as the relative power of the entrepreneur vis-à-vis other stakeholders that drive the transitions between phases.

Sources of Contradiction

Contradictions may be modeled according to the decision outcome at each phase of the entrepreneurial process. For instance, at the exploration phase, resolution of contradictions may mean a transition to the exit phase, a transition to the exploitation phase, or continued exploration. Similarly, resolution of contradictions at the exploitation phase may mean a transition to the exit phase, a transition back to the exploration phase, or continued exploitation. Finally, resolution of contradictions at the exit phase may mean a transition to the exploration phase or continued exit from the entrepreneurial process. Although there are various sources of contradiction that influence transitions in the entrepreneurial process, brevity constrains our exposition of all sources. Instead, we shall focus on a few examples to illustrate how these varied sources may influence transitions in the entrepreneurial process.

At the exploration phase, the event triggering an imbalance in contradictory forces is the discovery of the entrepreneurial opportunity. The resulting imbalance pushes the entrepreneur to search for more information, further exposing the entrepreneur to competing external forces and values. Furthermore, the entrepreneur will have to grapple with internal forces and values that change as a result of the sensemaking process. Finally, the tension created by the imbalance provides the impetus for change. Contradictory forces generating opposing tensions between not exploiting versus exploiting the opportunity may be internal, such as the entrepreneur's need for financial security (hence, transition to exit) versus the entrepreneur's need for achievement (hence, transition to exploitation). However, such opposing tensions may also be both external, such as the lack of government advice and counsel to entrepreneurs (hence, transition to exit) versus normative admiration for entrepreneurial activity that values creativity and innovative thinking (hence, transition to exploitation). In addition, such opposing tensions may have an internal and external source, such as the entrepreneur having a low risk-taking propensity (hence, transition to exit) versus the entrepreneur as a victim of downsizing (hence, transition to exploitation). Although the preceding examples provided dual examples of contradictory forces, in reality, entrepreneurs are likely to experience a myriad of such forces. Furthermore, the impact of these forces also varies according to the existing exigencies. For instance, when one expects a prolonged economic downturn, the external threat of corporate downsizing may weigh heavily on one's mind. These external forces, plus the perceived anxiety of family and one's internal value of having to provide for family members may drive the individual to exploit an opportunity for the sake of financial

security. On the other hand, when times are well and financial security is provided, internal forces may drive the individual to exploit an opportunity simply to prove oneself.

At the exploitation phase, one driving force behind transition is the discrepancy between what the entrepreneur wants (the desired end state) and what the entrepreneur has. Depending on the circumstances, the desired end-state could be economic such as having sufficient financial capital to provide for the entrepreneur's family, or it could be non-economic such as the personal satisfaction the entrepreneur derives from self-employment, or the psychic income from entrepreneurship (Gimeno et al., 1997). Transition to exit may occur when the entrepreneurs encounter opposing forces that widen the discrepancy between what they want and what they have beyond a threshold level. For instance, Ronstadt (1986) found that other than financial reasons, entrepreneurs also exit the entrepreneurial process because of personal and family related reasons such as family problems, personality conflicts, divorce, and illness, as well as environmental and venture related reasons such as legal problems, competition, etc. Therefore, contradictory forces generating opposing tensions in the exploitation phase include the entrepreneur's satisfaction from self-employment (hence, continued exploitation) versus family problems resulting from increased priority of business success over the family (hence, transition to exit), or the entrepreneur's desire to earn more money (hence, continued exploitation) versus increasingly intensive competition in the market (hence, transition to exit).

After exiting the entrepreneurial process, the ex-entrepreneur may seek regular employment, permanently retire, and/or become an angel investor by bringing both capital and entrepreneurial experience to help other entrepreneurs (Osnabrugge, 1998). Alternatively, the ex-entrepreneur may re-enter the entrepreneurial process. Similar to the other transitions, the potential contradictory forces that may create opposing tensions between the desire to re-enter and to permanently exit the entrepreneurial process are likely to include economic and social reasons, such as the entrepreneur's wealth, the reasons for the previous exit, the entrepreneur's age and health, as well as family conditions.

Path-dependency of the entrepreneurial process suggests that re-entry decisions are likely to be linked to the experience gained from previous entrepreneurial engagements. For instance, Krueger (1993) found that the perceived feasibility and desirability of starting a new business was positively associated with the breadth and success of prior exposure. Also, the failure of prior new ventures may be viewed as limiting the entrepreneur's exposure to downside risks and preserving access to attractive opportunities and maximizing gains (McGrath, 1999). In addition, learning from prior entrepreneurial activities may increase the entrepreneur's confidence in certain actions and add to the entrepreneur's knowledge stock (Minniti & Bygrave, 2001). The conditions surrounding any previous exits are thus likely to affect re-entry decisions, for example by influencing entrepreneurial self-efficacy, a useful construct to explain the development of both entrepreneurial intentions and actions or behaviors (Chen *et al.*, 1998). However, re-entry decisions based on an overconfidence

of one's entrepreneurial ability in light of a prior successful exit could also result in a high rate of new venture failure (Camerer & Lovallo, 1999).

The Relevance of Power

Other than contradiction, another principle of dialectical analysis is praxis, or simply put, human agency. According to Seo and Creed (2002), one component of the concept of praxis is the actors' action to reconstruct the existing social arrangements. Hence, the power to act has to be taken into account when applying a dialectical perspective. Specifically, the entrepreneur's power vis-à-vis other stakeholders is an important consideration in the transitions between entrepreneurial phases because the resolution of internal and external contradictions may require addressing competing interests between the entrepreneur and other stakeholders.

According to cognitive dissonance theory, since entrepreneurial decisions to transit or not to transit involve mutually exclusive alternatives, such important decisions are likely to be accompanied by cognitive dissonance that entrepreneurs seek to reduce (Festinger, 1957). The magnitude of such dissonance is likely to vary according to the social context in which entrepreneurial decisions are made, such as immediate family members influencing the decision on whether to exploit an opportunity, continued exploitation of the opportunity, or exit from the entrepreneurial process (Ronstadt, 1986). For instance, if entrepreneurs decide to exploit an opportunity despite repeated objections from their spouses, the resulting dissonance creates pressure on these entrepreneurs to reduce or eliminate the dissonance through the use of influence tactics. Such tactics may include the imposition and enforcement of the entrepreneurs' conceptions of reality (such as the attractiveness of the opportunity) unto their spouses. However, successful tactics is likely to be dependent on the relative power between the entrepreneurs and their spouses.

To understand power, one has to understand the sources of power that accrues to an individual. Researchers have sought to create classification schemes that captured the multiple dimensions of power (Lippitt *et al.*, 1952). The most widely used classification has five sources of power, namely reward, coercive, expert, legitimate and referent power (French & Raven, 1959). Simply put, reward power depends on the ability to administer positive outcomes and to remove or decrease negative outcomes; coercive power stems from the ability to punish deviations; expert power depends on the possession of relevant knowledge-base; legitimate power stems from internalized values which dictate that one has a legitimate right to influence others and that others have an obligation to accept this influence; referent power stems from others' identification with one.

In the above example where the objection of spouses create cognitive dissonance after the entrepreneurs' decision to exploit an opportunity, successful influence tactics to assure their spouses may be derived from the entrepreneurs' expert power, such as familiarity with the nature of the opportunity or having experienced prior successful entrepreneurial ventures. The relevance of power

extends beyond reducing cognitive dissonance and the social context of an entrepreneur's family members. For instance, the decision on whether to continue exploiting the opportunity or transit to exit may be a function of the relative power between the entrepreneur and suppliers of critical resources. Or, entrepreneurs with coercive power (perhaps from enforcement of patent rights) may be more successful at fending off competition from other new ventures and hence facilitate continued exploitation of opportunities, while those with referent power (perhaps prestige from successful ventures) may be able to command a higher premium in IPOs hence facilitating the transition to exit.

In summary, the application of dialectics in analyzing transitions between entrepreneurial phases has to take into consideration the presence of contradictory forces that provide the impetus for transition and the entrepreneur's relative power that explain the presence/absence and sequence of transition. Unfortunately, extant research has largely ignored both factors in explaining the entrepreneurial process.

IMPLICATIONS FOR RESEARCH

The utility of any framework must be assessed by its contribution to the advancement of theory. Hence, this section seeks to highlight the implications of our proposed framework by offering specific suggestions about future research areas.

Exploration and Exploitation

Few studies have applied the concept of sensemaking to better understand the entrepreneurial process. To spur research in this area, we discuss the utility of social-information-processing and network theories in providing useful insights into the act of sensemaking and how an individual responds to uncertainty. Sensemaking is a social process influenced by external actors (Gioia *et al.*, 1994). Festinger (1954) suggests that social information processing is important under conditions of uncertainty because individuals are motivated to communicate with others to arrive at socially derived interpretation of events and their meaning. Social-information-processing theory posits that attitudes, behaviors and beliefs are adapted to the social context and to the reality of one's own past and present behavior and situation (Salancik & Pfeffer, 1978). When applied to entrepreneurship research, the theory suggests that economic and social actors influence an entrepreneur's perception of and attitude towards the entrepreneurial opportunity when searching for information. Here, social network theory enriches the analysis by providing the structural context in which information within the network influences one's perception and attitude. One property of social networks that links social-information-processing and social network theories is network proximity. Although network proximity is a multi-dimensional concept, relational proximity is of interest here (Rice & Aydin, 1991). The influence mechanism for relational proximity is the extent to which individuals interact

directly and indirectly (Rogers & Kincaid, 1981). An example of network ties with high relational proximity is friendship ties. These ties tend to be symmetrical and cluster in dense interconnected cliques (Krackhardt, 1992), are more credible and influential (Brass, 1992), and more suited for social support than for access to information and resources (Ibarra & Andrews, 1993). Since social-information-processing theory suggests that credibility of the information source affects the influence of socially constructed meanings (Shaw, 1980), one may posit that network ties with high relational proximity are likely to have the greatest influence in an entrepreneur's sensemaking process. By extension one may suggest that weak ties with access to nonredundant information are more appropriate for discovering entrepreneurial opportunities and information search, while strong ties are more appropriate for entrepreneurial sensemaking (Granovetter, 1973).

We suggest above that transaction cost theory may explain an entrepreneur's chosen mode of exploitation. For instance, we assert that entrepreneurs exploiting knowledge-based innovations are more likely to adopt the hierarchical mode by creating a new venture. Market failure explains why entrepreneurs set up a new venture to exploit the opportunity rather than sell the knowledge to existing firms because entrepreneurs might overvalue their knowledge-base while the external market's pricing mechanism undervalues the entrepreneurs' knowledge-base. Hence, entrepreneurs maximize rent appropriation by internalizing transactions within a new venture due to market failure. Furthermore, we expect that the propensity of entrepreneurs to set up a new venture remains despite insufficient private funds as long as there is a formal investor market, such as a well-developed venture capital market. This is because venture capitalists have a lower potential to act opportunistically due to the importance of reputation capital (Norton, 1995). The strength of the existing property rights regime is also a relevant consideration since opportunistic behavior is more likely to occur under conditions of a weak property rights regime (Shane & Venkataraman, 2000).

We further suggest that resource-dependence theory may predict the distribution of entrepreneurial rents among various stakeholders. Although an entrepreneur's dependencies on the environment for human and financial capital are likely to dominate the negotiation process (especially for de novo start-ups), there exist mitigating factors that might tip the power imbalance between the entrepreneur and other stakeholders in the entrepreneur's favor. For instance, if the external capital market is highly competitive, and there is high uncertainty about whose preferences in the capital market should dominate, an entrepreneur may gain bargaining power by brokering tension between capital providers and playing their demands against one another (Burt, 1992). Internal mitigating factors include the entrepreneur's experience in new venture business, highly developed persuasive and leadership skills, the ability to correctly perceive and respond to the interdependencies in the environment, and the entrepreneur's tacit knowledge regarding the nature of the entrepreneurial opportunity. Internal factors tend to increase the entrepreneur's legitimacy and hence of the new venture, allowing easier access to resources.

Entrepreneurial Exit: A Neglected but Promising Area of Study

An important contribution of this paper is to highlight an area of entrepreneurship research that has been neglected in the past, the entrepreneur's exit. Petty (1997) raised several research questions that have yet to be adequately studied, such as how does an entrepreneur's personal preferences and situation influence the choice of the exit strategy, and how important is the timing of the exit. However, the importance of understanding entrepreneurial exit appears to be increasing (Ucbasaran *et al.*, 2001). One reason why exit options are important is that it provides an informal source of capital to the novice entrepreneur in the form of angels. These offer an alternative to venture capital funds, hence reducing the entrepreneur's dependency. Also entrepreneurs who have successfully exited the entrepreneurial process may act as role models for future generations and increase their propensity towards and attachment to entrepreneurial activities (Bruderl *et al.*, 1992).

The process perspective facilitates the study of entrepreneurial exit. The dominant approach to study stocks and flows of entrepreneurship has been to identify the individual and environmental factors that facilitate the rise of entrepreneurship. These studies typically neglect the entrepreneurial process. By focusing on content models, scholars may overlook an important factor in the study of entrepreneurship. By viewing entrepreneurship as a process, we hypothesize that an important factor in determining the stock of entrepreneurship at any point in time is the number of and quality of exit options for an entrepreneur. In other words, the decision to exploit an opportunity may be dependent on whether entrepreneurs are able to voluntarily exit the venture and realize returns from the initial investments. For instance, when studying the conditions conducive for entrepreneurship, research may need to include factors pertaining to the entrepreneur's exit, such as a well-developed IPO market or an active mergers and acquisitions market that provide incentives to engage in opportunity exploitation. Other than examining how exit influences re-entry decisions, future research might also examine how entry decisions influence exit options. Thus there likely is a two-way interdependence between exit and entry (Love, 1996).

Future research may also examine the impact of external and internal factors on an entrepreneur's choice of exit strategy. Potential factors include the preference of venture capitalists, the new venture's performance, or the relative attractiveness of the IPO market and the mergers and acquisition market. For instance, one may speculate that entrepreneurs pushed to exploit an entrepreneurial opportunity due to downsizing at the entrepreneurs' previous employment are more likely to select the IPO route than a merger with an existing firm.

Transitions between Entrepreneurial Phases

In this paper, we advocate the use of dialectic process theory to explain the transition between entrepreneurial phases. Dialectics emphasize the impact of various external and internal factors that provide the impetus for entrepreneurs to transit between phases. Clearly, given the

variety of external and internal factors, the transition process is complicated, not easily modeled, and suggests a need for multiple levels of analysis.

For instance, an individual level of analysis for transitions should take into account an entrepreneur's proclivity to process and accept the duality inherent in contradictions. Proclivity to accept duality has been shown to vary with psychological characteristics (such as motivation), demographics (such as age and education), cultural background, and the characteristics of the decision problem (Kahle *et al.*, 2000; Williams & Aaker, 2002). We expect an increase in the likelihood of transition when an entrepreneur has a low, rather than high, propensity to accept duality, because the felt tension caused by contradictory factors would be more intense, hence creating a greater need for a change. At an individual level of analysis for transitions from exploration to exploitation, one should take into account that existing entrepreneurs are likely to possess relevant stocks of knowledge and experience that are generic across entrepreneurial opportunities. This knowledge and experience, such as the experience of having started a new venture or a failed attempt to successfully exploit a previous opportunity, would influence the perceived level of uncertainty associated with a new opportunity and thus affect the likelihood of exploitation (Palich & Bagby, 1995). At the group level of analysis, social-information-processing and social network theories may be used to posit that family role models (Dyer & Handler, 1994) are important in the decision to exploit opportunities given that family ties are likely to have high relational proximity (Rice & Aydin, 1991). At the market level of analysis, essential factors include the availability of funding and human capital, while at the societal level one may examine the impact of culture or national policies that facilitate or impede entrepreneurial activities (Shane, 1996).

Another potential area of research on entrepreneurial transitions between phases is to link re-entry decisions with the exit of entrepreneurs. For instance, it is plausible that entrepreneurs may be more likely to enter the entrepreneurial process if exit options are attractive, such as having highly liquid capital markets, an active market for mergers and acquisitions, or favorable bankruptcy regulations. Another reason why exit options are important for entrepreneurship is that a successful exit converts the value of the new venture into financial capital that reduces an entrepreneur's dependency on external capital markets when exploiting a subsequent opportunity. This in turn may encourage the proliferation of serial entrepreneurs that will continue the entrepreneurial process by constantly identifying and evaluating new opportunities and creatively accessing resources to put ideas into practice and make them succeed.

Finally, research may also explore the transition from exploration to exit. For instance, although individuals may discover an opportunity, it is important to explain why some individuals decide to continue exploration of the opportunity (such as engaging in information search and sensemaking) while others exit the process. Furthermore, the antecedents for continued exploration may be different for experienced entrepreneurs when compared with individuals with no entrepreneurial experience.

CONCLUSION

The main contribution of this research is to present a theoretically driven process framework that focuses on the entrepreneur's salient activities and to offer a broad perspective of the entrepreneurial process. The proposed process framework can provide a platform demonstrating the cumulative nature of widely segmented studies on entrepreneurship and serve as a useful road map by alerting researchers to the salient activities at each phase of the entrepreneurial process as well as the transitions between phases. Our model also contributes to the advancement of theory to the extent that it successfully integrates the disparate body of research in entrepreneurship and thus offers insights into areas of potential research.

One important contribution of process models such as the one introduced here is that content models can be informed by theorizing at the process level, with the following advantages. First, entrepreneurial activities are path-dependent, that is, the nature and outcome of current activities are necessarily influenced not only by current circumstances, but also by the entrepreneur's past. For instance, the quality of information search and sensemaking at the exploration phase may be a function of whether the entrepreneur is a novice or a habitual entrepreneur re-entering the entrepreneurial process. Similarly, negotiations at the exploitation phase to secure critical resources are necessarily constrained by the entrepreneur's comprehension of the opportunity at the exploration phase. To the extent that environments are enacted, the ability of an entrepreneur to secure resources is a function of the entrepreneur's ability to persuade resource providers towards greater overlap in representations, in favor of the entrepreneur's enactment (Weick, 1979), thus influencing rents appropriated by the entrepreneur.

Second, as the entrepreneur progresses through the phases of the process, the nature of the entrepreneurial activities suggests that group, organizational, and environmental levels of analysis gradually increase in importance. For instance, an important implication of using dialectic process theory is that researchers not only have to consider the various external and internal forces and values, but also their directions and relative magnitudes. Given the myriad of forces that exert themselves on the potential entrepreneur, application of multi-level models has been encouraged in entrepreneurship research. More comprehensive frameworks such as ours might provide venues to overcome such limitations.

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SMALL BUSINESS GROWTH: DEVELOPMENT OF INDICATORS

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ABSTRACT

While small businesses continue to flourish in the private sector, there still continue to be small businesses that either do not experience the success that the owners desire or that ultimately fail. In order to better understand the conditions that indicate when a small business is growing or ready to grow, not only do indicators of growth need to be developed, additional indicators concerning the organization's plans, communication, and human resource management issues of trust and challenges need to be examined, since these issues might influence organizational growth. This article attempts to develop instruments that can be used to assess small businesses and the conditions that need to be present in the business in order to enhance the likelihood of successful growth of the business.

INTRODUCTION

A large component of the U.S. economy is the result of successful small businesses. To illustrate the role that small businesses play in the U.S. economy, statistics found in small business textbooks (e.g., Scarborough & Zimmerer, 2003) indicate that small businesses account for the following:

◆	98.5 percent of all businesses;
◆	75.8 percent of the nation's new jobs;
◆	52 percent of the private sector workforce;
◆	51 percent of private sector GDP; and
◆	47 percent of business sales.

These facts provide evidence that small businesses are important to the health of the U.S. economy.

While the role that small business plays is impressive, it is also important to recognize that big business and corporate America is not employing as many people as it has in the past, as evidenced by continuing downsizing and layoffs (Howard, 2001). In addition to representing such a significant portion of the U.S. economy, when young adults move into the workforce, 67 percent obtain their first employment in small businesses (Scarborough & Zimmerer, 2003). Even though

the evidence demonstrates that small business accounts for a majority of the U.S. workforce and new job creation, much of the research on small business growth focuses on profits, sales, and market share, largely ignoring growth of the workforce. Most of the research on the growth of the workforce has been either exploratory or descriptive in nature, but has not effectively addressed the issue that growth in the workforce can lead to increased profits, sales and market share (Howard, 2001).

The present study attempts to extend preliminary research conducted by Howard (2001), where the focus was to begin to determine when a small business owner might consider expanding his or her workforce. Planning, communication, trust and additional human resource management concerns that might influence organizational growth in areas such as profits, sales and market share will also be considered. Planning in small business has not only been found to exist, but has been found to influence the success of the small business, and that to successfully expand the workforce, planning must be completed (Barringer & Greening, 1998; Howard, 2001; Morrison, Breen & Ali, 2003). Communication has been identified as an area to address when expanding the workforce in small businesses, and that effective communication can assist the organization in its operations, thus having a potential influence on organizational growth (Greening, Barringer & Macy, 1996; Nichols-Nixon, 2005). Trusting employees has been found to have a positive influence on organizational profits, while human resource problems have not only been found to exist as small businesses grow, but that organizations do make efforts to address these problems (Howard, 2001; Kotey & Slade, 2005). First, this study will discuss the literature to date, focusing on growth, planning, communication, trust and human resource problems. Second, the research method will be described. Third, the measures being examined for inclusion in the various scales will be presented. Fourth, the results of the scale development will be presented. Finally, a discussion of the implications of the scales will be presented.

LITERATURE REVIEW OF SMALL BUSINESS GROWTH

When examining the literature on small business, it quickly becomes apparent that there are many different definitions of what constitutes a small business. In addition to a variety of definitions, there are also many different conditions that influence whether a business is considered small. Given these definitions and conditions, a small business is “one that is independently owned and operated and not dominant in its field of operation” (Hodgetts & Kuratko, 1995, p. 6). Additionally, as the definition pertains to the present study, the following conditions apply:

◆	fewer than 250 employees in the manufacturing sector;
◆	less than \$22 million in annual sales in the wholesale sector;
◆	less than \$7.5 million in annual sales in the retail sector; and
◆	less than \$10 million in annual sales in the service sector (Hodgetts & Kuratko, 1995).

Given that the present study focuses on the development of instruments that are designed to measure conditions within a small business that may be related to profits, sales and market share, all functions of firm growth, the literature review will also focus on firm growth. Additionally, references will be made to human resource management issues, such as the expansion of the workforce, planning, trust, communication in organizations and human resource problems that small businesses face, given that these issues can influence the growth of small businesses.

Firm Growth

In the late 1990s, the U.S. economy was very good, resulting in an increase in the number of small businesses. Even though the economy in the early 21st century was not as good as the years leading up to this century, small businesses continue to blossom, as evidenced by the role they play in the U.S. economy (Scarborough & Zimmerer, 2003). Flamholtz (1990) has laid out a framework describing how businesses grow. While Flamholtz (1990) identifies seven stages of organizational growth, the first 3 stages are of particular importance and interest to small business (Howard, 2001). The first stage is that of new venture, which is when a small business is just beginning. Markets and products are being defined and developed in this stage. The second stage is expansion, and can focus on increased sales, revenues, market share, and ultimately the number of employees (Flamholtz, 1990). The third stage is professionalization, and focuses on formalizing the goals, processes and functions of the organization, and is considered to be closely related to expansion (Howard, 2001). Stage four is consolidation, and focuses on issues faced by firms once they have made the transition to professionally managed organizations with working systems in place, focusing more on managing its corporate culture (Flamholtz, 1990). Diversification is the fifth phase, focusing on developing new products for the markets to which the organization is already providing goods and services (Flamholtz, 1990). The sixth stage is integration, focusing on developing an infrastructure to support multiple business units (Flamholtz, 1990). The final stage is that of decline and revitalization, and focuses on rebuilding the organization at all levels, to ensure continued survival (Flamholtz, 1990). Stages four through seven of firm growth are of concern for older and larger organizations, and are not pertinent issues for small business.

Examining stages two and three more closely, human resource management concerns begin to enter the picture in these stages. During expansion there may be a need for an increase in the number of employees. This can be a result of trying to increase sales and market share, as well as organizations having to battle turnover of employees (Flamholtz, 1990). Additional problems result because of the increased growth, resulting in situations where employees believe that they know what the status of the inventory of the product, only to find out later that the product they believed to be in the inventory is gone (Flamholtz, 1990). This situation is indicative of a number of possible problems, but communication may be the underlying factor in this situation. Finally, it might be the case during this stage that business owners are directly involved in many facets of the organization's

operations, retaining considerable control over decisions. This could be out of necessity, but it might also be out of a lack of trust that employees can do the job precisely as the business owner desires.

Planning

During professionalization, management systems focusing on planning, organization, management development and control are developed (Flamholtz, 1990). The formalization places an emphasis on organizational planning, which may include the number of employees in the organization. Additionally, control measures could also include enhancing communication in the organization, as well as addressing human resource management problems.

Over the past decade, small business research has begun to incorporate human resource management concerns into the research issues. While initial research was largely descriptive, more recent research has begun to examine the issue of the conditions that exist when a small business owner should expand his or her workforce (Hodgetts & Kuratko, 1995; Howard, 2001; Tucci, Wyld & Cappel, 1997). This begins to move research on small business into the realm of understanding what activities a small business owner should undertake so that his or her business is in a position of effectively expand its workforce. Even though there has been only a small amount of research conducted to date examining when a small business owner should expand his or her workforce, one must remember that in many instances, small businesses fail to develop a formal business plan. Bhide (2000) found that only 21 percent of successful businesses had formal business plans in place, leading to the possibility that human resource planning may not occur (Howard, 2001). Furthermore, it has been acknowledged that formal policies and procedures have not existed in many growing small businesses, and that a reliance on shared business logic is not unusual (Nicholls-Nixon, 2005). This might indicate that many businesses move forward without a sound business plan, let alone a developed plan of when to increase the size of their workforce.

While formal planning may not be prevalent in small business, there is evidence that planning is related to the success of small businesses. In two different qualitative studies (Barringer & Greening, 1998; Greening et al., 1996) evidence was found that in order to successfully expand the workforce of a small business, planning for growth must be carefully done, considering a wide variety of human resource management issues, such as revision of compensation plans and providing realistic expectations to new employees. Research also has demonstrated that using business plans has a positive relationship with growth that is greater than industry norms (Morrison et al., 2003). Furthermore, a recent study found that as small businesses grow, they formalize their human resource policies and recordkeeping (Kotey & Slade, 2005). If employment policies are being formalized as a firm grows, it also might be expected that planning will become more formalized, as well as increase. Finally, small businesses employing strategies that were forward-looking were found to have a positive, direct effect on employment (Gray, 1999). All of this evidence indicates

that planning in small business may be an indicator of when a small business should expand its workforce (Howard, 2001).

Studies examining the relationship between increases in revenue and increases in employees have indicated that increases in the number of employees were tied to increases in revenue (Box, Crouch & Clow, 1998; Gray, 1999). The key finding of these studies is that they begin to reveal that some businesses clearly understand that increasing the number of employees leads to increased profitability. These businesses know that sometimes the key to increasing revenues is to invest in expanding the workforce (Howard, 2001).

Communication

A second area of interest as small businesses expand their workforce is the importance of communication. Communication with employees should be focused at ensuring that employees understand the direction of the organization, leading to a sharing of the organization's vision and objectives (Dyer, 1996). When organizations expand, communication difficulties have developed, and it is important to attempt to proactively address potential communication issues before and during the time when expanding the workforce (Greening et al., 1996). The communication ensures that all employees understand the shared business logic of the organization, assisting the organization in its operations (Nicholls-Nixon, 2005). Consistent with these findings, Howard (2001) found that communication of the organization's plans through meetings demonstrated a positive, significant correlation with growth of organizational profits. These studies all indicate that increased communication not only facilitates growth of small businesses, but that communication can be used to reduce the number of problems and difficulties faced when expanding the workforce.

Trust

Trust is an issue that has not been widely studied in relation to growth in small business. However, trust has been found to have a significant, positive correlation with organizational profits (Howard, 2001). Small business owners and managers in small business need to be able to trust their employees. If they do not develop some level of trust in their employees, they may find themselves attempting to complete tasks and jobs themselves rather than delegating tasks to employees. This can lead to an underutilization of employees, as well as contributing to the burnout of small business owners and managers. While not widely studied, since trust has demonstrated a significant relationship with organizational profits, it should be more closely examined to determine if it has any relationship on the growth of small business.

Human Resource Problems

As a small business expands its workforce, it is reasonable to expect that the organization will experience some problems of a human resource management nature. This could be the reason that small businesses formalize their human resource policies and recordkeeping as they grow, since many small businesses do not have an employee dedicated to human resource management issues, as the small business owner or managers may be addressing human resource management issues on their own as needed (Kotey & Slade, 2005). Regardless of the cause, it is important to understand that these problems can develop. In an exploratory study by Howard (2001), a wide variety of human resource problems were identified by owners, managers and employees of small business. Most notably, staffing problems and appropriate salaries were noted as contributing to problems in the organization. While many other more specific problems were identified, staffing and compensation are functional areas of human resource management that might influence successful growth of small business. Effective human resource management ensures that the right number of employees with the right skills are in the right place at the right time. Given this, human resource problems might significantly influence small business growth, and should be examined more systematically.

The discussion of the literature indicates that preliminary investigations indicate that firm growth, communication, organizational trust in employees and human resource management problems appear to be consistent concerns for small businesses as they expand their workforce. In order to better determine the influences of these issues, the present study attempts to develop scales of firm growth, communication, trust and human resource management problems. These scales are being developed specifically for small business for potential use as indicators as the effects of firm growth, planning, communication, trust and human resource management problems on organizational profits, sales and market share, among other potential uses. Ultimately, it is believed that these scales might be used to indicate when a small business might expand its workforce.

METHOD

This section describes the research techniques used to develop that scales that measure firm growth, planning, communication, trust and human resource problems. The sample, procedure and analyses conducted will be described in the following subsections of this paper.

Sample

To establish the reliabilities of the scales, a systematic, random sample was drawn from a 10 county area in the Midwestern section of the United States. A list of 4000 small businesses was obtained from the State of Illinois Department of Commerce and Community Affairs. Selection of

organizations was based on a rule of selecting every other organization, resulting in a sampling of 2000 small businesses. Responding organizations ranged in size from 2 to 600 full time equivalent (FTE) employees, with a mean of 48.6 FTEs. Organizational sales ranged from \$60,000 to \$175 million, with a mean of \$9,373,840. When comparing these numbers to those of the definitions provided by Hodgetts and Kuratko (1995), all of the numbers met the criteria laid out in the definitions. In other words, the four organizations with more than 250 employees were not manufacturing firms, and the two organizations that had very high profits were not in the retail, wholesale or service sectors. These organizations were specialized manufacturing firms, selling components to other manufacturers.

Procedure

Surveys were sent to the owners of small businesses. If the owner could not be identified, the surveys were mailed to the president of the small business. A cover letter describing the study accompanied the surveys. The cover letter indicated that participation was voluntary and that responses would be kept confidential. Of the 2000 surveys mailed to small businesses, 154 usable surveys were returned, resulting in a 7.7 percent response rate. While the response rate is low, enough data was collected to allow for the effective analysis and development of scales to measure organizational growth, planning, communication, trust and human resource problems.

Measures

As part of a comprehensive survey, participants evaluated several statements associated with their small business concerning firm growth, planning, communication, trust and human resource problems. The complete list of items being considered for each scale is presented in Appendix 1. The participants rated these items on 5-point scales, ranging from 1 (strongly disagree) to 5 (strongly agree).

Analyses

Data were analyzed using SPSS 12.0 for Windows. First, correlation coefficients were calculated to determine if any preliminary relationships existed among the variables associated with each scale. Second, factor analyses were conducted to determine if the items loaded on the proposed scales. Factor analyses were conducted with growth and planning, growth and communication, growth and trust, and growth and human resource problems. This was done to ensure that none of the items in the growth scale loaded with items in the scales proposed to influence growth. Finally, reliability analysis was conducted for each proposed scale based on the results of the factor analyses, in an attempt to determine the reliability of the scales.

RESULTS

Table 1 presents the correlation coefficients for the scale items associated with planning in small businesses. As the data indicate, all of the items were significantly correlated with the other items proposed to be in the planning scale.

Table 1: Correlation Matrix of the Planning Scale Items								
Variable	PL1	PL2	PL3	PL4	PL5	PL6	PL7	PL8
PL1								
PL2	.53**							
PL3	.64**	.63**						
PL4	.38**	.48**	.53**					
PL5	.43**	.40**	.43**	.43**				
PL6	.46**	.51**	.62**	.50**	.48**			
PL7	.39**	.30**	.42**	.46**	.51**	.57**		
PL8	.37**	.37**	.42**	.43**	.40**	.43**	.41**	
PL9	.36**	.36**	.31**	.41**	.41**	.35**	.35**	.49**

Note: Diagonals are omitted. ** $p < .01$

Factor analyses were conducted on the growth scale items four times, once each with the planning scales items, communication scale items, trust scale items, and human resource problems items. In the factor analysis with the planning items, two components were identified when varimax rotation was used. The first component consisted of the nine items proposed to comprise the planning scale, while the second component consisted of the 6 items proposed to comprise the growth scale. The factor loadings for each item within each scale were greater than 0.40.

Given that the items on the planning scale were identified as separate and distinct from the growth scale, a second factor analysis was conducted with only the planning scale items to ensure that these items loaded on one factor. The resulting analysis confirmed that only one component existed for planning, with all factor loadings greater than 0.60. Planning conducted had a factor loading of 0.72, formal planning had a factor loading of 0.73, monitoring the progress of plans had a factor loading of 0.80, and resources provided to ensure achievement of plans had a factor loading of 0.72. Various types of plans also were identified as components of the scale, with having operational plans resulting in a factor loading of 0.70, and having strategic plans and contingency plans having factor loadings of 0.79 and 0.69, respectively. Finally, ensuring that the parties involved in achieving the plans resulted in a factor loading of 0.67 and linking rewards to the plans

had a factor loading of 0.61. When the reliability analysis was conducted on this scale, the resulting Cronbach's Alpha reliability coefficient was 0.88, indicating that the scale is reliable.

The correlation coefficients for the items associated with the communication scale items are presented in Table 2. The data indicate that each of the items was significantly correlated with the other items proposed to be in the communication scale.

Variable	CM1	CM2	CM3	CM4	CM5
CM1					
CM2	.47**				
CM3	.19*	.40**			
CM4	.20**	.40**	.52**		
CM5	.26**	.39**	.44**	.54**	
CM6	.28**	.42**	.34**	.47**	.62**

Note: Diagonals are omitted. * $p < .05$. ** $p < .01$

A factor analysis was conducted which paired the growth scale items with the communication scale items. Utilizing varimax rotation in the factor analysis resulted in the identification of three components. The first component was made up of five of the six growth scale items. Specifically, growth over five years, growth in the number of employees over five years, growth in sales over five years, growth in profits over five years, and growth in market share over five years loaded on the growth component, each with a factor loading greater than 0.70. Managers communicating verbally with employees on a regular basis, meetings held regularly, meeting being orderly, meeting being effective and meeting being efficient each loaded on the communication component, and all factor loadings were greater than 0.50. Finally, informing employees of changes verbally and growth leveling off loaded on a third factor. This indicates that these items are not components of the proposed communication and growth scales, and were then removed from the scales.

Given that the communication items resulted in a reduction to five items on the scale, an additional factor analysis was conducted to ensure that only one component existed for the scale. The factor analysis confirmed a single factor, with the resulting factor loadings for each items greater than 0.60. Managers communicating with employees verbally resulted in a factor loading of 0.67, while meeting being held regularly had a factor loading of 0.71. Meeting being orderly, effective and efficient resulted in factor loadings of 0.79, 0.81, and 0.77, respectively. The subsequent reliability analysis indicated a Cronbach's Alpha reliability coefficient of 0.79, indicating that the scale is reliable.

The items proposed to comprise the scale on trust in small businesses resulted in significant correlations. As the data in Table 3 indicate, all of the items were significantly correlated with the other items proposed to be in the trust scale.

Variable	TR1	TR2
TR1		
TR2	.65**	
TR3	.52**	.68**

Note: Diagonals are omitted. ** p < .01

When the resulting five growth scale items were factor analyzed with the trust scale items, two components were identified using varimax rotation. The first factor consisted of the five growth scale items, while the second factor consisted of the three trust scale items. All factor loadings for the items associated with each scale was greater than 0.70.

A second factor analysis was conducted on only the trust items to ensure that these items loaded on just one component. One component resulted, with businesses supporting managers and employees in the decisions they make having a factor loading of 0.83. Businesses trusting their employees and businesses trusting that their employees can step in as needed resulted in factor loadings of 0.91 and 0.85, respectively. The subsequent reliability analysis resulted in a Cronbach's Alpha reliability coefficient of 0.83, indicating a scale that is reliable.

Table 4 presents the correlation coefficients for the scale items associated with human resource problems in small businesses. As the data indicate, all of the items were significantly correlated with the other items proposed to be in the human resource problems scale.

Variable	PR1	PR2	PR3
PR1			
PR2	.52**		
PR3	.44**	.54**	
PR4	.38**	.65**	.55**

Note: Diagonals are omitted. ** p < .01

A factor analysis was conducted analyzing the growth scale items and the human resource problems scale items. Utilizing varimax rotation, two components were identified. The first

component consisted of the growth scale items, while the second factor consisted of the human resource problems scale items. All factor loadings were greater than 0.70.

To ensure that the human resource problems resulted in one component, a subsequent factor analysis was conducted. A single component was identified, with problems hiring the right person resulting in a factor loading of 0.71, while problems hiring the right number of employees having a factor loading of 0.86. Providing appropriate salaries to employees and having enough people for the job each resulted in factor loadings of 0.79 and 0.82, respectively. The reliability analysis resulted in a Cronbach's Alpha reliability coefficient of 0.81, indicating that the scale is reliable.

Table 5 presents the correlation coefficients for the scale items associated with firm growth in small businesses. Only the remaining five scale items were included in the analysis, as the sixth firm growth scale item did not load on the proposed scale when the data was factor analyzed with the communication scale items. As the data indicate, all of the items were significantly correlated with the other items proposed to be in the firm growth scale.

Variable	GR1	GR2	GR3	GR4
GR1				
GR2	.57**			
GR3	.86**	.65**		
GR4	.57**	.41**	.62**	
GR5	.58**	.52**	.64**	.43**

Note: Diagonals are omitted. ** $p < .01$

Finally, a factor analysis was conducted on only the remaining five items proposed to comprise the growth scale. One component was identified with growth over five years having a factor loading of 0.89 and growth in the number of employees over five years resulting in a factor loading of 0.76. Growth in sales, profits and market share over five years each resulted in factor loadings of 0.93, 0.73, and 0.77, respectively. The reliability analysis indicated a reliable scale, with a resulting Cronbach's Alpha of 0.87.

DISCUSSION

The results associated with the present study begin to reveal some of the underlying concepts that comprise indicators of issues facing small business. The study establishes scales that are intended to be used to study small businesses as they grow, extending the research of Howard (2001). These scales can be used to further the examination of what the major issues are as a small

business grows, as well as potentially identifying when a small business should expand its workforce.

The firm growth scale was found to be reliable, and focuses on growth over a five year period, an increased number of employees, increased sales, increased profits, increased market share, and continued growth. Each of these items was included as growth in small business, just like any business, can be measured in multiple ways. In order to gain a full understanding of the total firm growth in a business, taking into account market share, profits, sales and the number of employees provides a more complete picture of the current state of the small business, and is consistent with various models and theories associated with firm growth (Flamholtz, 1990). The scale developed not only incorporates each of these dimensions, but also demonstrated a reliability of 0.87, which is a strong reliability.

Historically, only a small portion of small businesses have a formal business plan (Bhide, 2000). However, this does not mean that small businesses lack plans, just that the plans have not been formalized. Evidence does indicate that small businesses rely on shared business logic, ensuring that the small businesses can effectively move forward without a formal, written business plan (Nicholls-Nixon, 2005). Planning has been found to have an influence on the successful growth of small businesses, focusing on looking toward the future (Barringer & Greening, 1998; Greening et al., 1996; Gray, 1999). The planning scale developed in the present study incorporates both formal and informal planning, recognizing that not all plans in small businesses will be formalized in a written format. Additionally, a variety of plans can exist in organizations, such as strategic, operational and contingency plans, which have also been incorporated into the scale in an attempt to understand the extent of planning in small businesses. Monitoring progress, resources to support a plan, employee understanding of the plan and rewards associated with plan achievement have also been included as items in the planning scale. By incorporating these items, not only is the extent of planning in a small business examined, but the also the actions and resources that can be used to ensure a plan's success are considered, since these actions and resources can influence the success of the plan. The inclusion of each of these items provides a more complete view of not only the plans, but the organization's intent to support the plans. The resulting reliability was strong, with an alpha coefficient of 0.88.

Effective communication in a small business is of critical importance, given that many small businesses do not have formalized plans (Nicholls-Nixon, 2005). Most communication in small businesses is verbal, and the communication scale incorporates items that focus on verbal communication, as well as the effectiveness, efficiency and orderliness of meetings where information is communicated to employees. These items were specifically incorporated into the scale since communication of organizational plans in meetings has been found to have a positive, significant correlation with growth of organizational profits (Howard, 2001). The communication scale resulted in a strong reliability of 0.79.

Small business owners cannot always address all of the issues that their small business faces themselves. Relying on employees to execute their tasks and assignments is something that small business owners may have to do at some point. This means that small business owners need to trust their employees to do their assigned tasks, make solid decisions that support organizational success, and that an employee can step in where needed. Trust has not been studied often in small business research, but has been found to have a significant, positive relationship with organizational profits (Howard, 2001). The trust scale incorporates supporting employees to do their job, trusting employees to make decision, and trusting employees to step in and assist managers when needed, achieving a strong reliability of 0.83.

Human resource problems are encountered by all types and sizes of businesses, including small businesses. The predominant human resource problems identified by Howard (2001), focused on hiring employees, obtaining the right number of employees, having enough employees to complete the jobs necessary to the organization, and having effective compensation for employees. Each of these items was incorporated into the human resource problems scale, resulting in a reliability coefficient of 0.81, which is a strong reliability coefficient.

The present study focused on the development of scales that can be used to examine small businesses to determine if the small business is growing, as well as the status of planning, communication, trust and human resource problems. In each instance, scales resulted that produced strong reliabilities. These scales can begin to provide small business researchers the opportunity to examine the status of small businesses from an objective perspective, examining trends across small businesses to determine how planning, communication, trust and human resource problems might influence firm growth in small businesses. This can assist in further understanding which factors lead to success and which factors create challenges for small business.

Finally, continued refinement and examination of the scales might provide researchers the opportunity to determine when a small business should expand its workforce. While the items in the firm growth scale indicate significant, positive correlations with each other, further examination among these items might begin to unravel the mystery of when it is the appropriate time to expand the workforce in the small business. Is it after sales increase, or is it necessary to expand the number of employees in order to increase sales? Perhaps it is a little of both, and may be conditioned by the type of business one is in. Regardless, the items can be further examined, knowing that there is a relationship among them, to determine if causation can be determined in addition to the correlation.

CONCLUSION

The present study extends prior research by establishing scales that can be used to examine small businesses (Howard, 2001). Future research should utilize these scales and focus on determining how planning, communication, trust and human resource problems might influence firm growth. Future research should also begin to attempt to determine when a small business should

increase the size of its workforce, attempting to determine if a causal relationship exists between the various items within the firm growth scale. By focusing research on these two areas, valuable information will be gained, further assisting the growth of a major engine in the U.S economy.

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AUTHOR NOTES

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APPENDIX 1

Scale Items for Firm Growth, Planning, Communication, Trust and Human Resource Problems

The following is the response scale that was presented to participants. Following the response scale are the scales, with each item listed.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Firm Growth

- GR1 – The business has experienced considerable growth over the past 5 years.
- GR2 – The business has experienced considerable growth in the number of employees over the past 5 years.
- GR3 – The business has experienced considerable growth in sales over the past 5 years.
- GR4 – The business has experienced considerable growth in profits over the past 5 years.
- GR5 – The business has experienced considerable growth in market share over the past 5 years.
- GR6 – The business's growth has leveled off. (reverse coded for analysis)

Planning

- PL1 – Planning is conducted in the business.
- PL2 – Planning in the business is formal (written).
- PL3 – Progress toward the plan's objectives are monitored by the business.
- PL4 – Appropriate resources are provided to allow for the plans to be accomplished.
- PL5 – Operational planning, meaning that planning on how the day-to-day activities are to be conducted, is done in the business.
- PL6 – Strategic planning, meaning that overall plans for the organization for the next 3 – 5 years, is done in the business.
- PL7 – Contingency planning, meaning that plans are laid out addressing situations as they arise, is conducted in the business.
- PL8 – The business ensures that all appropriate parties understand the business's plans.
- PL9 – The business links rewards to the achievement of the business's plans.

Communication

- CM1 – Employees are informed of changes in the organization verbally.
- CM2 – Managers communicate verbally with employees on a regular basis.
- CM3 – Meetings with managers and/or employees are held in the business on a regular basis.
- CM4 – Meetings with managers and/or employees are orderly.
- CM5 – Meetings with managers and/or employees are effective.
- CM6 – Meetings with managers and/or employees are efficient.

Trust

- TR1 – The business supports managers and/or employees in the decisions they make.
- TR2 – The business trusts employees to make decisions.
- TR3 – The business trusts that employees can step in and assist managers when needed.

Human Resource Problems

- PR1 – Some problems in the business are associated with hiring the right person.
- PR2 – Some problems in the business are associated with having the right number of employees.
- PR3 – Some problems in the business are associated with appropriate salaries for employees.
- PR4 – Some problems in the business are associated with having enough people for the job.

SUPPLY CHAIN MANAGEMENT: A PROFILE OF MICRO ENTERPRISES

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ABSTRACT

Micro enterprises (firms with less than nine employees) represent an increasingly important component of the economy. The United States literature typically defines small businesses as having less than 500 employees, incorporating micro firms into this broader definition. Although there has been a diversity of studies focusing on small and medium sized enterprise supply chain management, there has been insufficient research on micro entities. Thus, little is known about supply chain management in micro ventures. This study develops a profile of micro enterprise supply chain management practices, the factors that encourage or discourage the implementation of supply chain management activities, and the impact of these supply chain activities on firm performance. The findings of this study indicate that micro enterprises tend to implement supply chain management methods and supply chain management appears to increase micro firm performance.

INTRODUCTION

For the last decade many large enterprises (LEs), and to a lesser extent small to medium sized enterprises (SMEs), have placed increasing emphasis on the implementation of supply chain management (Chopra & Meindle, 2001; Mentzer, 2000). Supply chain management (SCM) is a philosophy and a set of business practices that allow firms to more closely coordinate their activities with suppliers, distributors, retailers and consumers (Laudon & Laudon, 2001; Simchi-Levi, Kaminsky & Simchi-Levi, 2003). The SCM literature is somewhat inconsistent in its definition of SMEs, but tends to utilize size as the focal point, with LEs characterized as 500 or more employees and SMEs as less than 500 employees, although in some cases no definition is offered at all (Barringer, 1997; Brush, 2001; Committee on Supply Chain Integration, 2000; Larson, 2005). In addition to the number of employees, small firms are also delineated by such factors as finances, sector and ownership, effectuating a universal definition problematic (Curran & Blackburn, 2001; Storey, 1994). Micro enterprises, the focus of this study, are a subset of SMEs, with micro entities defined as those having nine or fewer employees (European Commission, 1996; Fulantelli, Allegra & Vitrano, A.Z.P., 2002). SMEs by definition include micro firms, SMEs can also be referred to as micro, small and medium sized enterprises or MSMEs. Although the literature includes studies

of supply chain management in SME's, it does not to date appear to address SCM implementation by micro organizations in particular.

The growth of small business and its impact on the economy and employment has been recognized by both the public and private sectors as well as by academics (Chapman, Ettkin & Helms, 2000; Committee on Supply Chain Integration, 2000; Curran & Blackburn, 2001; Park & Krishnan, 2001; Schwenk & Shrader, 1993; Watkins, 1993). Furthermore, SMEs have become increasingly more important to the United States economy in the 1990's as more employees at LEs have been downsized and the growing attention to core competencies among many companies has evolved to increased outsourcing by LEs to smaller suppliers (Park & Krishnan, 2001). SMEs not only comprise the majority of the United States manufacturing facilities and employees, but account for much of the innovation (Committee on Supply Chain Integration, 2000).

SCM has taken on critical importance within the context of small business due to its impact on long-term performance, competitive advantage, strategic competence and competitiveness (Cavinato, 1992; Park & Krishnan, 2001). Small businesses are already involved in SCM, whether the owner-managers of those small businesses recognize it or not (Chapman et al. 2000). Successful implementation of SCM can reduce costs, increase revenues, enhance productivity and quality, advance technological innovation and in general allow an organization to be more competitive (Chase, Aquilano & Jacobs, 2000; Christopher, 2000; Fisher, 1997; Gryna, 2001; Hult, Thomas, Nichols & Giunipero 2000; Mainardi, Salva & Sanderson, 1999; Spekman, Kamauff, & Salmond, 1994). MSMEs cannot dismiss SCM and hope to remain competitive in the future (Committee on Supply Chain Integration, 2000; Lummus & Vakurka, 1999).

The goal of this research is to develop information that will assist in answering the inquiry, is SCM implementation related to firm size and performance (Kaufman, Wood & Theyel, 2000; Magretta, 1998; Notman, 1998; Quayle, 2002; Tulip, 2000). The previous literature has converged on LE supply chain management and somewhat less on SME's. The research agenda of this study will provide a first glimpse of the impact that small size (micro enterprises) might have on both the implementation of supply chain activities and the benefits that result from these activities. The study employs a self reporting survey that addresses the following five issues: the extent to which micro enterprises have implemented SCM, the determinants that encourage SCM implementation among micro firms, the factors that discourage SCM implementation, the impact of SCM on micro firm performance, and the methods of SCM that micro organizations would like to receive additional training.

LITERATURE REVIEW

Supply chain management has evolved from two main perspectives, the upstream-focused procurement orientation of the manufacturer and supplier and the downstream-focused transportation and logistics orientation of the distributor and retailer (Mentzer et al., 2001; Tan,

2001). SCM is a fairly recent concept and although numerous models have been proposed no standardized definition has emerged to date (Gibson, Mentzer & Cook, 2005; Quayle, 2002; Tan, 2001). The various supply chain paradigms can encompass elements that range from the comparatively narrow to the very broad. Gibson, Mentzer and Cook (2005) develop a confined definition of SCM that emphasizes the importance of collaboration as well as alignment with the organization's strategy. In contrast, the Supply Chain Operations Reference Model (SCOR) takes a more extensive approach which spans the entire supply chain from the supplier's supplier to the customer's customer, but does omit certain activities such as product design, quality, information technology and elements of service after the sale (Schultz, 2003; Supply Chain Council, 2005). The Council of Supply Chain Management Professionals defines SCM more expansively in its Supply Chain Management Process Standards (2004 abcdef), including all of the activities involved in planning for SCM, sourcing the required inputs, manufacturing the product, delivering the product and processing returns, as well as incorporating supply chain facilitators such as quality, information technology and security.

Although there are examples of supply chain failures, many LEs have achieved significant success through the implementation of SCM (Chapman et al., 2000). Kopezak and Johnson (2003) observed that supply chain management's ability to leverage the skills and resources of partner entities allows for increased differentiation that can develop customer loyalty. Furthermore, SCM is being encouraged by such issues as global competition, outsourcing, cost reduction requirements, e-commerce, and decreased product life cycles (Ericksen, Suri, El-Jawhari & Armstrong, 2005). These factors mature to extended supply lines, new members in the supply chain and longer as well as more complex distribution channels that must be coordinated. The knowledge of the abilities of each partner in the chain joined with an increased comprehension of the end users' needs allows businesses to add services and features which create value beyond the cost to the chain members (Brewer & Speh, 2000). The chain's sharing of both demand and supply related information enables more effective planning which results in better utilization of assets, lower inventory, reduced costs and improved customer service.

In theory, smaller firms may have some characteristics that prove advantageous when implementing supply chain management. MSMEs tend to be less bureaucratic, more agile and more entrepreneurially oriented. Despite these potential advantages MSME's have some limitations due to their small size that may inhibit their implementation of SCM, notably a lack of resources (Hvolby, Trienekens & Carrie, 2001). Moreover, controversy concerning how SCM affects SMEs exists, especially with respect to findings that suggest SCM is negatively related to SME performance. A study conducted by Arend and Wisner (2005) was particularly discouraging. Arend and Wisner (2005) demonstrated that successful SMEs were more likely to employ SCM methods than less successful organizations but that, surprisingly, supply chain utilization tended to harm these more successful firms. Several alternative explanations are proposed by the authors for this finding including the proposition that SMEs did not select partners based on strategic alignment but

rather on ease of integration. For example, partners might be selected on the criteria of compatible computer systems.

SMEs implement SCM differently than LEs and may not be qualified to utilize SCM as effectively (Gammelguard & Larson, 2001). SMEs could have been bullied into SCM by a larger and more powerful supply chain partner (Maloni & Benton, 2000), with this tendency toward bullying increasing as competitive pressures on LE's intensify (Maloni & Benton, 2000). Simatupang and Sridharan (2004) noted the importance of having an incentive system designed to encourage SMEs to perform in an effective and efficient manner in the roles assigned to them by the supply chain. Arend and Wismer (2005) suggest that SMEs might have difficulty executing SCM as an important component of their strategy, the choice of supply chain partners could impede or propel SCM and some firms may employ SCM only when it is easy to do so.

Songini (2001) reported that numerous LEs were frustrated by the lack of information technology expertise demonstrated by many of their smaller suppliers. Quayle (2002) noted that many LEs were developing strategies to leverage their skills in order to align this skill set with the suppliers, but these strategies were undermined by the smaller suppliers' inability or unwillingness to fully integrate with the LEs. Quayle's (2002) research discovered that SMEs resisted SCM for numerous reasons: the inability to overcome traditional practices, a lack of knowledge concerning SCM, insufficient management time, inadequate capital, deficient resources and the incapacity to proceed without external support. Larson, Carr and Dhariwai (2005) discovered manufacturers communicate less frequently with small suppliers compared to large suppliers and manufacturers believe small companies obstruct supply chain implementation more than large suppliers. Therefore, the internet may not be the great leveling agent it has been professed to be (Larson, 2005). Additionally, small firms tend to be more risk-averse and more concerned with survival (Pollard & Hayne, 1998). SCM reluctance might also be attributable to the role that managers play in smaller entities. Typically managers in smaller businesses are required to be involved in the day-to-day and hour-to-hour operations of the organization and have less time to develop the strategy necessary to guide supply chain implementation. Smaller companies with limited resources and skills may simply elect not to implement closer ties with suppliers and customers for numerous reasons, including a loss of freedom and sense of individuality, the required cooperation with other supply chain members, and difficulty integrating information technology (Gales & Blackburn, 1990; Fulantelli et al., 2002; Hvolby et al., 2001; Lyons & Bailey, 1993; Spekman, 1988). Although the concerns raised are not unreasonable, SCM's potential ability to provide more benefits than the traditional model of arms-length supplier relationships demands that SMEs form closer and more collaborative relationships with a reduced set of channel members to achieve this goal (Anderson & Narus, 1990; Dwyer, Schurr & Oh, 1987; Helper, 1991).

The conclusion proposed after evaluating the literature is the growing need for supply chain management practices among SMEs in this customer-driven marketplace. Failure to implement SCM could ultimately result in the loss of customers, something that should be of great concern to

SMEs. However, the cost and complexity of implementation, as well as concerns about ROI and closer-than-usual collaboration with other firms still impedes the progress among SMEs. The experience of large enterprises has demonstrated the benefits that can be obtained through SCM and has revealed some of the difficulties of implementation as well.

The reality of the supply chain management literature is that it does not address micro enterprises. Although research studies of SMEs would likely include some micro firms among the sample, these studies do not segregate micros as a separate category and thus provide no conclusions pertaining specifically to micro entities. This research study attempts to develop a supply chain management profile of micro enterprises. The authors hypothesize that many micro firms are indeed utilizing supply chain methods, although they may be doing so primarily due to pressure from larger customers and suppliers.

METHODOLOGY

The Survey Questionnaire

The intent of this study is to answer five major research questions.

- Which supply chain activities, if any, have been implemented by micro firms?*
- What benefits, if any, have micro firms gained from their supply chain activities?*
- What factors have encouraged micro firms to implement supply chain activities?*
- What factors have discouraged greater implementation of supply chain activities?*
- About which supply chain methods would micro enterprises most like to learn more?*

A survey questionnaire was designed to capture the data necessary to answer these five questions. The survey includes questions as well as a series of statements to which respondents can reply with “Agree Strongly,” “Agree,” “Neutral,” “Disagree” and “Disagree Strongly.” These questions and statements were carefully developed based on a rigorous review of both the entrepreneurial and supply chain management literature. The questionnaire was reviewed by colleagues with the relevant expertise and revised repeatedly prior to being utilized.

The questionnaire contains eight sections. After the initial section which solicits basic background information about each responding firm, including the number of employees, the remaining sections provide the SCM information that is central to this research.

Section 2 focuses on the environment in which the firm operates. The purpose of this section is to estimate the extent to which a firm’s environment might encourage the implementation of SCM practices. For example, a firm with particularly demanding customers might be more motivated than the average firm to pursue various SCM activities in order to improve its ability to meet those stringent customer demands. Similarly, a firm competing in a commodity market may have greater

incentive to implement supply chain methods, either for the cost-reduction benefits that would allow it to compete more effectively on the basis of price or for the potential service-related benefits that might allow its product to avoid commodity status. The section contains seven statements, each of which calls for a response of “Agree Strongly,” “Agree,” “Neutral,” “Disagree,” or “Disagree Strongly” (as do the statements in Sections 3, 4 and 5 of the questionnaire). The seven environment-related statements capture the degree to which:

Inputs and outputs are tangible goods rather than services
Demand varies dramatically and unpredictably
Customers are demanding and difficult to serve
Sub-par supplier performance would seriously hurt the firm’s performance
The firm’s products or services qualify as commodities
Global sourcing and/or distribution is utilized
Sales are made to end users rather than to other organizations

Section 3 concentrates on the nature of the entity’s leaders, with the underlying assumption that the decision to implement SCM is partially driven by the characteristics of the decision maker and not just by the position and strategy of the organization, as suggested by Park and Krishnan (2001). For instance, a leader with more formal education would be more likely to be familiar with SCM and therefore more inclined to seriously consider its use. A leader possessing significant computer expertise would generally be less likely to resist SCM solely because of its call for an increased utilization of information technology. The four leadership-related statements in this section develop the scope to which the firm’s leadership:

Has received a significant amount of formal education
Is proactive rather than reactive
Embraces rather than resists change
Is proficient with information technology and can recognize its benefits

Section 4, the centerpiece of the survey, converges on the firm’s implementation of various supply chain management activities. The fourteen statements in this section are organized into three categories – the firm’s readiness or preparation for SCM (three statements), the enterprise’s implementation of various supplier-oriented supply chain activities (seven statements) and the entity’s execution of diverse customer-oriented supply chain activities (four statements). The fourteen questions in this section attempt to discover the extent to which the firm:

Has a well-defined strategy and knows what its suppliers must do to support that strategy
Possesses the necessary information and telecommunication technology

Has rationalized its internal processes
Works regularly with key suppliers to jointly solve problems
Works with key suppliers to jointly plan future activities
Shares demand-related information with suppliers
Reduces its supply base, retaining the best suppliers
Places serious effort into building trust and commitment with key suppliers
Utilizes the internet to place most supplier orders
Has improved its processes and technology to enhance coordination
Works regularly with key customers to jointly solve problems
Works regularly with key customers to jointly plan future activities
Has customers willing to share demand-related information with the firm
Has customers that utilize the internet to place orders with the firm

Section 5 solicits opinions concerning the degree to which supply chain activities have allowed the firm to achieve each of the five benefits of reduced costs, improved service, impressive growth, increased profits and enhanced trust and collaboration with suppliers and/or customers. Although many of the benefits referenced in this section would seem to call for the use of quantitative measures, the authors chose to rely on opinions rather than more objective results due to the fact that it is often extremely difficult to quantify the impact of specific supply chain activities. LEs with complex accounting systems may have difficulty in accurately determining the precise benefits of individual SCM initiatives. This determination of benefits could be expected to be even more problematic for smaller less formally managed firms. As with sections 2 through 4, this section employees statements calling for responses of “Agree Strongly,” “Agree,” and so on.

Section 6 requests the respondents to specify the factor or factors that encouraged the firm to initiate SMC. A list of potential factors was provided, with the list including “Other” as an option. It is expected that a large percentage of the micro enterprises that have implemented SCM will have accomplished this task due to pressure from other firms, particularly pressure from important customers. Similarly, Section 7 requests the respondents to specify the determinant or determinants that discouraged the entity from executing supply chain management to a greater extent than it has already accomplished. Assorted weaknesses tied to the micro businesses’ small size, such as a lack of capital or technical expertise, are expected to be reported as common impediments to the utilization of supply chain management.

The final section, Section 8, inquires the sample to provide information concerning the supply chain methods about which the firms would like to learn more. This survey is being conducted with the assistance of the local Small Business Development Center and therefore one of its goals is to determine the education and counseling needs of area micro enterprises. Many studies (Committee on Supply Chain Integration, 2000; Gammelgaard & Larson, 2001; Quayle, 2002; Songini, 2001) have noted the need for increased supply chain knowledge among smaller

firms, knowledge that can be used to the advantage of the small firms themselves as well as for the benefit of their supply chain partners. This need for increased supply chain expertise is expected to be particularly critical for micro entities.

THE SAMPLE

The data for this study was collected utilizing a survey conducted in the Texas Panhandle with the assistance of the Small Business Development Center (SBDC). Although the study concentrates its primary attention on micro enterprise supply chain practices it was decided to include small firms (10-49 employees) in the sample in order to enable comparisons between the two sizes of organizations. The survey mailing list was developed systematically from an SBDC roster of over 9000 small and micro firms in the region, a region that is largely rural with one SMA of approximately 180,000 people. A mailing list of 480 firms was selected, with micro firms making up approximately two thirds of the list. In an attempt to increase the response rate, graduate students contacted many of the selected firms prior to the mailing in order to determine the appropriate employees at each business to whom the survey should be forwarded. Generally an employee was selected based on involvement with functions such as procurement, inventory management or distribution. A total of 88 responses were received. After removing the surveys with excessive missing data and those that were submitted by organizations employing more than 49 employees, the usable sample contained 43 micro firms and 30 small firms, an overall response rate of approximately 14%. Roughly 75% of the micro firms in the sample classified themselves as either service firms or retailers, with the remainder of the sample categorized as raw material producers, manufacturers or wholesalers/distributors. Service firms comprised the greatest percentage of the small firm sample.

RESULTS

Micro Firm Utilization of Supply Chain Methods

The primary goal of this study is to determine the extent to which micro enterprises are utilizing supply chain methods. As discussed earlier in the paper, the authors hypothesize that micro firms are performing supply chain activities, despite the lack of evidence provided in the literature. The statements concerning micro firm utilization of supply chain activities were presented in Section 4 of the questionnaire and, as discussed earlier, allowed respondents to select from “Agree Strongly,” “Agree,” “Neutral,” “Disagree” and “Disagree Strongly.” These five possible responses were coded using the integer values one through five, with one being assigned to “Agree Strongly.” Therefore, values of one or two signify a respondent’s agreement with a statement that a firm is

employing a particular supply chain method while values of three or larger signify a lack of agreement.

The hypothesis test to evaluate if micro enterprises are performing a particular supply chain activity takes the form of $H_0: \mu \geq 3$ versus $H_a: \mu < 3$, with a lower tail test being appropriate because of the coding scheme using smaller values to signify agreement. A series of fourteen identical hypothesis tests were performed for the statements in Section 4. The results are illustrated in Table 1. All three of the supply chain readiness statements achieved significance, as did three of the supplier-related statements and one of the customer-related statements. Two more of the supplier-related statements and one of the customer-related statements achieved sample means of less than 3.0, but not sufficiently less to achieve statistical significance. Only four statements resulted in sample means of 3.0 or larger. These results provide convincing evidence that supply chain methods are widely employed among even the smallest firms. The activity of building relationships with suppliers received the strongest support, with a sample mean of less than 2.0. This is not surprising given the emphasis on closer supplier relationships depicted not only throughout the supply chain literature but also in the earlier literature concerning just-in-time manufacturing.

Statements Topics	Sample Mean	Significance
Has a well-defined strategy	2.24	.000
Has info and communications technology	2.30	.000
Has rationalized its internal processes	2.67	.000
Performs joint problem-solving with suppliers	2.40	.000
Performs joint planning with suppliers	2.79	.081
Shares information with suppliers	3.12	.751
Reduces supply base	2.12	.000
Builds relationships with suppliers	1.91	.000
Uses web to order from suppliers	3.70	.999
Rationalizes linkages with suppliers	2.84	.151
Performs joint problem-solving with customers	2.37	.001
Performs joint planning with customers	2.86	.192
Shares information with customers	3.33	.970
Have customers use the web to place orders	4.28	.999

Pearson Correlation Coefficients were developed for the environment-related characteristics from Section 2 and the leadership-related attributes from Section 3 with the fourteen supply chain activities listed above. Although a few significant correlations were discovered between pairs of environment-related statements and supply chain statements, there was no one environmental characteristic that demonstrated a consistent pattern of relationships with the supply chain methods. The leadership attributes demonstrated only a few significant correlations. However, having a leader who is proficient with technology was significantly correlated with three supply chain activities: employing the internet to place supplier purchase orders, rationalizing linkages with suppliers and sharing information with customers.

Benefits of Supply Chain Methods

Based on the research findings that micro firms are utilizing supply chain methods, the obvious next step is to determine whether or not these methods are providing tangible benefits. This analysis applies the same lower-tailed testing format discussed above to the five benefit-related statements in Section 5. Significant results were achieved for three of the benefits, improved service, increased profits and enhanced trust and collaboration with suppliers and/or customers. These three benefits achieved sample means of 2.51, 2.71 and 2.40, respectively. The remaining two benefits, reduced costs and impressive growth, achieved sample means of less than 3.0, but the means were not sufficiently less to be statistically significant.

Although it is not the purpose of this paper to discuss at length the potential cause-and-effect relationships between individual supply chain methods and firm performance, Pearson Correlation Coefficients calculated for each pair of statements can provide some cursory insights. The correlations suggest the importance of a firm preparing to take advantage of supply chain practices and methods. All three of the preparation-related statements were significantly correlated with most if not all of the five benefits. Having a well-defined strategy was significantly correlated with all five benefits, with values ranging from .327 to .505. Rationalizing internal processes was highly correlated with all five benefits, with coefficients varying from .459 to .531. Possessing the necessary information and telecommunications technology was significantly correlated with all of the benefits except for collaboration with suppliers.

Of the supplier-related supply chain activities, rationalizing links with suppliers was the most highly correlated and significantly related to all five benefits with coefficients ranging from .425 to .536. Using the internet to purchase from suppliers was significantly correlated with reduced costs, impressive growth and increased profits. Interestingly, the sample mean of 3.70 for employing the internet suggests that most firms do not use the internet to place purchase orders with suppliers. The correlations discussed here, however, suggest that micro organizations that do exploit the internet may be deriving substantial benefits from this activity. Various other supplier-related activities achieved significance with one and sometimes two of the five benefits.

Significant correlations were also identified among the customer-related activities. Joint problem-solving with customers and joint planning with customers were significantly related to all five benefits, with correlations varying from .306 to .573. Sharing information with customers was significantly related to four of the benefits and using the internet to obtain a customer order was significantly correlated to three of the benefits.

Factors Encouraging or Discouraging Supply Chain Implementation

Sections 6 and 7 of the questionnaire inquired respondents to specify the issues that encouraged the use of supply chain management and the factors that had discouraged them from implementing supply chain management to a greater extent than they had so far accomplished. The most commonly cited responses for supporting factors were the firm's recognition of the potential benefits of supply chain management (cited by 15 firms), pressure from suppliers and/or customers (8), the necessary technology becoming available at a reasonable cost (8), the need to match a competitor's supply chain competitive advantage (6) and the necessary skills becoming available (4). These results are quite hopeful for the future of supply chain utilization among micro firms, suggesting that any micro hesitancy to adopt supply chain management may be due more to a lack of resources and skills than to an ignorance of supply chain management and its potential benefits.

The most commonly cited element discouraging greater execution of supply chain methods was the belief that the firm was small enough to operate effectively without formal processes and procedures (cited by 25 firms). While this claim may indeed be valid for some micro enterprises given that inter-functional integration is not as problematic for an organization with fewer employees and employees wear "many hats," it is nevertheless a somewhat disappointing result in that it conjures up a vision of the stereotypical entrepreneurial discomfort with formal command and control structures. This mindset may prevent the leadership at some micro businesses from recognizing the need for supply chain management until that need has become critical. The other most commonly cited determinants discouraging greater implementation were the requirements of time and money (10), the belief that supply chain activities would provide little benefit (8), and the unwillingness to share sensitive information with other organizations (8).

Supply Chain Learning Requirements

In the final section of the questionnaire the respondents were requested to specify the supply chain skills that they wished to further develop. The results (from a sample size of 43) can be seen in Table 2.

Given the earlier findings of low levels of internet usage for accepting customer orders and for placing orders with suppliers, it would seem logical that many firms would be interested in learning more about how to develop the internet to its fullest potential. It is somewhat surprising

to the authors that some of the more technology-oriented options such as integrating the firm's computer system with the customers' and suppliers' computer systems, utilizing supply chain software, and technical issues such as RFID and bar coding were not selected by more firms. It might be the case that micro businesses are simply not sufficiently sophisticated yet to even consider the need for these types of skills.

Skills	Frequency
Measuring customer satisfaction	16
Utilizing the internet to its full potential	15
Developing improved services to increase customer loyalty	13
Managing inventory	12
Developing better trust and cooperation with customers and suppliers	11
Evaluating improving and integrating processes	7
Integrating our computer system with customers and suppliers	6
Applying for governmental grants to support supply chain implementation	6
Obtaining supply chain implementation assistance from suppliers or customers	4
Utilizing third-party logistics providers	4
Utilizing supply chain software e.g. ERP, CRM, etc	4
Technical issues e.g. RFID bar coding etc.	4

Micro Enterprises Versus Small Firms

The supply chain literature strongly suggests that large firms are more likely to adopt supply chain methods. In this research study the authors determined that micro firms had substantially progressed towards supply chain management implementation. With data available from the research study for both micro businesses (0 to 9 employees) and small firms (10 to 49 employees), it makes sense to contrast the two types in terms of their utilization of supply chain activities.

The appropriate hypothesis test to evaluate whether small firms are making greater application of a particular supply chain method is a two-independent-sample t test utilizing the hypotheses $H_0: \mu_{\text{micro}} - \mu_{\text{small}} \leq 0$ versus $H_a: \mu_{\text{micro}} - \mu_{\text{small}} > 0$. An upper tail test is appropriate because small firms should consistently receive lower scores (noting that "Strongly Agree" was coded as 1) if they are making greater use of the supply chain methods. A series of fourteen identical hypothesis tests were performed for the statements in Section 4. The results demonstrated little statistical significance, with the null hypothesis being rejected for only one activity, rationalizing internal processes. However, the sample mean for the small firms was less than that of the micro enterprises

for all but two of the activities. Thus, a consistent pattern that suggests increased use of supply chain methods by small firms despite the fact that the observed differences were too small to achieve statistical significance.

This research study demonstrates, rather surprisingly given the lack of evidence in the literature, that micro organizations are adopting supply chain methods extensively. The contrast of micro enterprises with small firms, however, implies that micro organizations are, as expected, performing supply chain activities somewhat less extensively than small firms.

DISCUSSION

When beginning this study the authors fully expected to discover that micro enterprises were utilizing various supply chain methods despite the lack of evidence in the literature. It was surprising, however, to discover the extent to which micro firms claim to be employing supply chain methods. This higher-than-expected level of supply chain achievement is a hopeful sign, not only for the future success of the micro organizations applying these practices and methods, but for the future success of their suppliers and customers.

Hopeful is also the feeling engendered by the micro firm responses to the question concerning factors encouraging supply chain implementation. It was expected that most of the micro entities that had accomplished supply chain methods would have incorporated these methods primarily due to pressure from important customers or suppliers. The results, however, suggest that many micro businesses are fully aware of the potential benefits of supply chain activities and will implement these activities as soon as the necessary technology becomes cost-effective and the required skills are available. Rather than having to be pressured into adopting these new methods, firms are voluntarily moving forward with supply chain projects to enable themselves to be more competitive in the marketplace.

Another factor that should greatly encourage increased use of supply chain management are the benefits that micro organizations report achieving as a result of SCM. This study depicts that supply chain management is believed to have provided superior customer service, increased profits and higher levels of collaboration and trust with suppliers and customers. Although the remaining two benefits included in the questionnaire, reduced costs and impressive growth, were not statistically significant, both received moderate support in the data. These results indicate increased micro firm success via supply chain management should spur other micro organizations to give more serious consideration to the implementation of supply chain management methods.

However, the research reveals that in their efforts to move toward greater use of supply chain methods it is crucial that micro entities not get ahead of themselves. The findings demonstrate the importance of providing the foundation for successful SCM by developing a formal business strategy to guide supply chain decision-making, installing the necessary information and

telecommunication technology, and rationalizing internal processes. It was encouraging to discover the extent to which micro organizations have already achieved this supply chain foundation.

The most discouraging finding of the research was the large number of micro enterprises that believe their small size implies that they would not benefit from formal procedures and policies. Although this claim may indeed be valid on occasion, one cannot help but suspect that some entrepreneurs are resisting supply chain methods not as a result of a rational business decision, but instead due to the stereotypical entrepreneurial distaste for formal structures. If this is the case, these firms may ultimately be harmed by their unwillingness to give supply chain methods the careful analysis that the methods deserve.

A micro organization's lack of technical expertise appears, as expected, to be a roadblock to the implementation of SCM. The research suggests that internet utilization, either for placing purchase orders with suppliers or for accepting purchase orders from customers, is one of the least fully implemented supply chain methods among micro enterprises. This may be a serious omission considering the potential of the technology to increase both efficiency and effectiveness. It is encouraging, however, to observe that many firms recognize the need to learn more about the internet. Universities and Small Business Development Centers obviously have a major role to play in this acquisition of knowledge. Faculty need to continue to increase the coverage given to supply chain management in their courses, particularly in courses oriented toward entrepreneurship.

IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

The research study adds to the knowledge base in the fields of entrepreneurship and supply chain management by developing a profile of micro enterprise utilization of supply chain management. The research findings provide evidence that micro firms employ SCM practices and methods quite extensively, although possibly not at the same level as that demonstrated by larger firms.

Micro organizations are enjoying the benefits of SCM through increased profits, improved customer service and enhanced collaboration and trust with suppliers and customers. Additionally, micro enterprises appear to have recognized and developed an understanding of these methods and the benefits that they can provide. However some SCM adoption is driven simply by pressure from suppliers and customers, much of it appears to be a result of factors suggesting foresight and awareness on the part of micro enterprises. The benefits achieved and the higher than expected awareness suggest that micro organizations can be expected to implement SCM more rapidly in the future, especially if the necessary skills become more widely available and the technology decreases in cost. Obviously universities can play a major role in preparing students who will have the necessary supply chain expertise to aid these micro entities in their execution efforts. As noted in the survey, web-related training in particular would seem to be very valuable to micro enterprises.

This research contains some limitations. First, the survey requested respondent opinions rather than objective measures of supply chain implementation or performance improvements. Moreover, many of the firms in the sample may have quantitative evidence on which to base their opinions, however, some of the input may have been subjective. It would be helpful in future inquiries to obtain data that is more objective. A second weakness is the small size of the sample. Although there were a number of hypotheses for which statistical significance was achieved, there were a few for which the data supported the alternative hypothesis but too weakly to allow a legitimate rejection of the null.

It is recommended that this study be replicated in other geographical areas to determine if the findings are consistent. Detailed case studies of individual firms could prove useful as well, allowing an investigation of some of the subtleties that can not be captured in a mailed questionnaire. Finally, it is recommended that the definition of micro enterprises be expanded beyond employee size to include industry sector as well as various financial constructs.

CONCLUSION

Micro enterprises perform supply chain management practices and methods, albeit to a lesser extent than larger organizations. Moreover, micro organizations understand the value of supply chain management and its benefits, however, micro firms tend to accept that their size allows them to operate very effectively and the need for formalization is minimal which may impact the implementation of supply chain management negatively. Micros are still concerned about the time and capital required to implement supply chain management as well as providing sensitive information to supply chain members. The more technologically proficient a leader of a micro organization appears, the more a leader is favorably proposed to supply chain management activities. In summation, micro enterprises have employed supply chain management practices and methods despite the paucity of evidence in the literature.

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IS IT AS RISKY AS IT SEEMS? A SHORT NOTE ON HOW TAX POLICY IMPACTS INFORMAL VENTURE CAPITAL INVESTING

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ABSTRACT

The purpose of this study is to answer the question, “are informal venture capital investors rational?” If angel investing is rational, then it should have a competitive rate of return (adjusted for risk, liquidity, and investment efforts) compared to more passive market-based investments such as index fund investing. If these adjusted rates of return are not competitive and do not compensate for the additional costs of informal venture investing, then the nonfinancial motives must be the most important criteria driving informal venture capital investments. The following analysis illustrates how tax policy can be used to make seemingly economically irrational informal venture investments an economically rational decision.

Capitalism expands wealth primarily through creative destruction- the process by which the cash flow from obsolescent, low-return capital is invested in high-return, cutting-edge technologies (Greenspan, 2002).

INTRODUCTION

Informal venture investment has recently become a topic of great interest for entrepreneurial finance. Research by Wetzel (1983), Duxbury, Haines, and Riding (1996), Van Osnabrugge and Robinson (2000), and Mason and Harrison (2002, 1993), among many others, suggests that informal venture capital (or angel investing) is becoming an increasingly important financing mechanism for small and medium-sized enterprises (SMEs). The reasons that informal venture investing has become more important are many, including the recent decline in formal venture investing, lower returns in traditional equity markets, lower returns in the traditional debt markets, and the ability in some instances for informal venture capital to overcome the capital constraints that SMEs often face (Mason & Harrison, 1995).

Currently, many investors invest through intermediaries, such as mutual funds, and feel that they have almost no control over the outcomes of their investment decisions. Needless to say, some of these investors with extensive management experience prefer an alternative investment mechanism that allow them to take a more active role. Heard and Siebert (2000) succinctly characterize the process of angel investing:

A typical angel investor is a high-net worth individual with an interest and knowledge in a particular business sector, often because that is where he or she gained personal wealth. Angels can help a start-up company with their considerable experience. This can also cause considerable harm if they are naive about the needs of the business. An angel will frequently become an active advisor to the company and often take a seat on its board of directors.

Investors considering investing in the informal equity market then must answer this question: Is informal venture investing an economically rational decision, given tax effects, risk, liquidity, cost of capital, etc.? In other words, could informal venture investors do as well by simply investing in an S&P 500 index mutual fund, which would have higher liquidity and lower transactions costs?

Governments have also become keenly interested in the economic development benefits of encouraging entrepreneurship. For example, many states use tax dollars to support entrepreneurship as a tool of competitiveness, economic development, and job creation. (See the Directory of State Business Development Incentives, 2002 and Kayne, 1999.) These tax expenditures are sometimes politically justified because the benefits to the state may include: (1) enhanced tax bases; (2) income growth; and (3) growth in employment; however, one constraint to entrepreneurship is the availability of risk capital to develop, assess, and exploit entrepreneurial opportunities during the earliest stages of business creation.

INFORMAL VENTURE INVESTING: PROS AND CONS

During the bull market of the 1990's, informal venture investment did not appear to be as an attractive investment on a risk-adjusted basis as equity market alternatives, such as low-cost mutual funds indexed to the market. Publicly-traded equity market rates of returns exceeded 12.5% from 1992 to 2002 (Vanguard, 2005). With this high return available from more traditional investments, it seems difficult to justify the added risk, costs, and effort associated with the informal venture alternative. However, investing by business angels continued during the 1990's and in the post dot-com era of the 2000's, informal venture capital investing continues to be a popular alternative for investors. Are business angels seeking ever higher rates of financial returns for their time, talent, and treasure or some other type of compensation (Amit, Glosten, & Muller 1990)?

From the individual investor's perspective, passive investments in an indexed mutual fund have several distinct advantages over the active investment of informal venture capital: (1) much lower due diligence costs; (2) lower transactions costs; (3) inherently much greater diversification

when investing in a market-fund similar to Vanguard's Index 500, which tracks the S&P 500 Index; and (4) much more liquidity (Wright & Robbie, 1998). The lower levels of liquidity and diversification and higher due diligence and transaction costs should require investors to demand higher rates of return for informal venture capital investments than for the alternative index mutual fund investments. Table 1 is a comparison of recent returns to the S&P 500 and a venture capital investments. The expected risk premium for venture investing does not seem to be apparent from this data.

Table 1: A Comparison of the Returns of the S&P 500 Index and Business Angel Investing

YEAR	S&P 500 INDEX ¹	BUSINESS ANGEL RETURNS ²
1997	33.36%	14.0%
1998	28.68%	14.9%
1999	21.04%	15.9%
2000	-9.10%	16.4%
2001	-11.89%	16.2%
2002	-22.10%	14.6%
2003	28.68%	13.6%

1) Vanguard (2005)
2) Mason and Harrison (2004)

For many investors, however, informal venture investments are still attractive. Van Osnabrugge and Robinson (2000) suggest that business angels seek both financial and nonfinancial rewards. For example, some business angels are retired, and they enjoy creating employment opportunities for themselves. They feel that they are contributing to society by sharing their experience and working with new start-ups. Duxbury et al. (1996: 44) suggest that business angels tend to have an internal locus of control, very high needs for achievement and dominance, and moderately high needs for affiliation and autonomy. These personality characteristics suggest that business angels prefer investments in which they can participate and contribute; however, typically, the most important reward remains obtaining a superior financial return. Van Osnabrugge and Robinson (2000) note that "most angels hope to quintuple their money in five years, although few actually do." Table 2 offers a comparison of the rewards that investors may receive by angel investing and index mutual fund investing.

Miles, Isley, and Munilla (2001) and Duxbury et al. (1996) in separate studies found that informal venture capital investors tended to invest in start-ups that were somehow related to their current or previous business interests, which reduces the costs associated with due diligence. This suggests that venture capitalists have an opportunity to legally exploit insider knowledge (analogous

to insider information in the publicly-traded equity market). In some situations, the start-up may be strategically related to the investor's ongoing business and the new venture might contribute to the existing firm's product or marketing efforts. In other instances, the possibility, albeit slight, to make an extremely high return was the incentive to invest at least some portion of the investor's portfolio in the informal venture capital market. As Miles et al. (2001) found, typically informal venture capital investors were also active investors in an array of more passive market-based investments such as mutual funds. The capital allocation between investing in a highly liquid, highly diversified index fund or a much less liquid start-up is the heart of the question pertaining to the economic rationality of informal venture investing.

Table 2: A Comparison of the Rewards of Informal Venture Investing and Index Mutual Funds

INVESTMENT REWARDS	INFORMAL VENTURE CAPITAL	INDEX FUNDS
FINANCIAL	Expectation to out-perform the market	Expectation to perform like the market
CONTRIBUTING TO AN ENTREPRENEURIAL ACTIVITY	Source of reward for venture capitalist	N.A.
POTENTIAL TO CREATE JOB & INCOME FOR INVESTOR	Could be a significant motive	N.A.
SENSE OF SOCIAL RESPONSIBILITY	Feeling of Agiving back@	Typically N.A., but would be similar to Asocial screening@ index funds
TAX EFFECT ON LOSSES	Capital loss and investment tax credits (in some states)	Capital loss

Adapted from van Osnabrugge & Robinson (2000)

PURPOSE

The purpose of this study is to answer the question, "are informal venture capital investors rational?" If angel investing is rational, then it should have a competitive rate of return (adjusted for risk, liquidity, and investment efforts) compared to more passive market-based investments such as index fund investing. If these adjusted rates of return are not competitive and do not compensate for the additional costs of informal venture investing, then the nonfinancial motives must be the most important criteria driving informal venture capital investments. The following analysis illustrates how tax policy can be used to make seemingly economically irrational informal venture investments an economically rational decision.

RATES OF RETURN TO INFORMAL VENTURE INVESTMENTS

Consider a project that requires an angel investor to commit \$1 million dollars with a 10 percent probability of a maximum upside return of \$20 million in five years. The expected value of the investment is \$2 million. In the absence of any special tax treatment for angel investments, the investment has an expected return of 14.8 percent. This investment is shown in Timeline 1.

Timeline 1					
0	1	2	3	4	5
<\$1,000,000>					\$2,000,000
IRR = 14.8%					

Although the preceding analysis assumes no special tax treatment on the initial investment, many states use investment tax credits to encourage the job creation that results from angel investing. For illustration purposes, assume a 10 percent investment tax credit. This would produce an immediate tax credit of \$100,000, which lowers the investment at risk to \$900,000. The new timeline is shown in Timeline 2.

Timeline 2					
0	1	2	3	4	5
<\$1,000,000>					\$2,000,000
\$100,000		10% ITC			
<\$900,000>					
IRR = 17.3%					

The 10 percent investment tax credit caused the expected internal rate of return on the investment to rise 2.5 percentage points, an increase of 16.9 percent. An investment tax credit greater than 10 percent would cause the IRR to increase even more.

TAX VALUE OF LOSSES

The previous analysis is the standard treatment of investment cash flows, which centers on the cash flows from earnings, but for angel investors, the venture investment is only a portion of their investment portfolio. Therefore, losses in one portion of the portfolio have value in that losses can offset gains from taxes. Long-term capital gains are generally taxed at 20 percent. Losses can be used to offset gains, essentially making those gains tax-free. Long-term losses are first applied against long-term gains, with remaining losses then applied to short-term gains. If losses are greater than total gains, then \$3,000 of the remaining loss may be deducted from income. If more than \$3,000 of loss remains, then this loss may be carried forward against future income. (See www.irs.gov/taxtopics for further information.)

This suggests that the expected cash flows from angel investing come not only from successful projects that produce positive returns but also from those projects that yield no return or even lose the principle invested. Consider, for example, the previous investment situation in which the investment is a total loss: \$1 million dollars invested with a 10 percent chance of a \$20 million payoff in five years. Also, assume that the angel investor has other investments in his portfolio and has realized \$400,000 in long-term gains and \$300,000 in short-term gains this year. By offsetting the long-term gains with the long-term loss (from the informal venture investment), \$80,000 (from 20% x \$400,000 gain) is saved in taxes. An additional \$118,800 is saved by offsetting the short-term gain. (Short-term capital gains are taxed as ordinary income. Assuming the angel investor is in the maximum tax bracket of 39.6 percent, the tax on an additional \$300,000 of income is \$118,800.) Finally, an additional \$3,000 may be deducted from income, since \$200,000 of the \$900,000 loss has not been used. This will reduce the angel's tax liability an additional \$1,188 for this year. The \$197,000 loss that remains can be used to offset future long-term or short-term gains. The loss may also be used to deduct the \$3,000 per year from income to save \$1,188 per year in taxes for the next 65 years, with the final \$2,000 loss yielding a \$792 tax savings in year 66. While carrying a loss this far into the future is unlikely, it does illustrate how the tax effect minimizes the value of the loss. The investment in the case described above corresponds to the Timeline 3.

							Timeline 3	
0	1	2	3	4	5	6-69	70	
<\$1,000,000>							\$2,000,000	
<u>\$100,000</u>	10% ITC						\$80,000	
<\$900,000>							\$118,800	
							<u>\$1,188</u>	
						Total	\$2,199,988	\$1,188Y.\$792
IRR = 19.6%								

This 2.3 percentage point increase in the internal rate of return shown in Timeline 3 represents an additional 13.3 percent increase over the return when the tax value of the losses are ignored in Timeline 2. As Timeline 3 clearly shows, the tax value to those losses is significant and the astute investor will certainly include that value in the investment decision.

The results shown in Timeline 3 were driven by the manner in which the losses were distributed. As more of the losses are used to offset gains taxable at the higher tax rates, the higher the expected IRR will be. For instance, if the angel investor had \$500,000 in long-term gains and \$400,000 in short-term gains, the entire loss would be exhausted in a single year. Tax gains would be \$100,000 in long-term capital gains and \$158,400 in short-term capital gains. A \$900,000 investment with expected cash flows in five years totaling \$2,258,400 produces an internal rate of return of 20.2 percent. This is slightly higher than the previous example in which the tax value of \$197,000 of the loss was deferred. These cash flows are shown in Timeline 4.

						Timeline 4
0	1	2	3	4	5	
<\$1,000,000>						\$ 2,000,000
<u>\$ 100,000</u>	10% ITC					\$ 100,000
<\$ 900,000>						<u>\$ 158,400</u>
					Total	\$2,258,400

IRR = 20.2%

State income tax liability will produce additional cash flows to the business angel from savings on any state and local income taxes, depending on the state of residence. For instance, Rhode Island income tax liability is 25 percent of the federal tax liability. This would increase the cash flows from tax savings \$64,600 (25% x (\$100,000 + \$158,400)). This increases the IRR from 20.2 percent to 20.9 percent. If any city or county income taxes are in the angel's taxable address, then these tax savings would represent additional cash flows, raising the project's IRR even further. State income taxes vary with each state, making it impossible to specify the tax savings generated by this source. At the present time, only nine states do not tax the income of their residents. With the exception of these states, however, it is safe to say that the existence of state income taxes will make the returns from a project that loses the entire investment even higher than the examples have shown.

CONCLUSION

This study illustrates that the economic attractiveness of informal venture investing is increased considerably by the inclusion of the tax effects on gains and losses. Therefore, it should come as no surprise that investing by business angels continued through the bull market. Angel investing is even more attractive today with alternative returns in equity and credit markets so low. The implications for government policy makers interested in encouraging entrepreneurial activity are obvious. The investment tax credit enhances the project's return by reducing the initial net cash invested and increases the expected return. In addition, the economic activity stimulated by the business angel's response to the investment tax credit will enhance employment, income and tax revenue, resulting in positive social outcomes by helping reduce the capital gap that small businesses and start-ups often face (Mason & Harrison, 1995).

A 2005 study by Preston found that 19 states offered some type of tax credit to angel investors. These tax credits can be placed into three categories: direct tax credits at any investment stage; tax credits for seed capital; and contingent tax credits if actual returns fell short of expected returns. While the possibility of over-subscription in any tax credit plan always exists, Preston (2005) maintains that "developing tax credit programs is an iterative process." The tax credit program can be adjusted as it achieves its goal of creating jobs by directing capital to specific industries and/or geographic areas of the state.

Is informal venture capital investing as risky as it seems? No, appropriate tax policy can create positive incentives to enhance participation in informal venture investing. Because of the federal tax savings generated by losses, state tax credits need not be as high as federal investment tax credits to encourage venture investing.

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STAYING PUT: SELF-EMPLOYMENT RATES AMONG NON-MOVERS

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ABSTRACT

Non-metropolitan areas have traditionally been at a disadvantage in terms of economic development. The community characteristics that are conducive to the birth and survival of small businesses are often found lacking in rural areas. Some studies, however, have found the rate of self-employment to be higher in rural than in urban areas. While economic decline has led many workers to migrate to more developed areas, others have chosen to create their own jobs rather than to relocate and give up their way of life. This study seeks to provide further insight into this issue by examining the self-employment rates of movers and non-movers in urban, suburban and rural areas. The results show that although people in non-metropolitan areas generally have higher rates of self-employment than those in more urban locations, natives of non-metropolitan areas have even higher rates than those who moved to the rural area.

INTRODUCTION

Self-employment provides a work opportunity not only for those who seek independence and job flexibility, but also for those who cannot easily find suitable work due to their location or other limitations. Lichter (1989, p. 199, 200) points out that rural women in particular “have been an economically disadvantaged group historically” and face restricted employment opportunities. Both the quantity and quality of jobs in rural areas have been seriously affected by decreases in rural industries, including farming, and increased foreign competition (Lichter, 1989). This economic decline has led many workers to migrate to more developed areas, further decreasing the population and purchasing power in non-metropolitan areas.

Some rural residents may choose to create their own jobs rather than relocate. Previous research (e.g Clark & James, 1992; Robinson, 2003, 2002) has shown that non-metropolitan (non-metro) residents often have higher rates of self-employments than their metropolitan (metro) counterparts. In their study of business owners in South Dakota, Tosterud and Habbershon (1992) found that many of those people had started businesses in order remain in their chosen location, which, in most cases, was very close to where they were born and raised. This study examines this phenomenon by comparing the 2005 self-employment rates of those who have and have not moved

from their original locations, concluding that non-movers, especially in rural areas, consistently have higher self-employment rates.

PROBLEMS AND OPPORTUNITIES FOR RURAL BUSINESS OWNERS

Numerous factors put rural areas at a disadvantage in terms of economic development and encouragement of entrepreneurship. Because of the lower levels of economic development, and perhaps because of the different lifestyle led by rural residents, “rural areas are seen by many as being on the fringe rather than a part of the mainstream of both the economy and society” (MacKensie, 1992, p. 92).

Naturally, rural areas have lower populations, but these residents also have less aggregate and individual buying power (Barkley, 1993; Kean, Gaskill, Letstritz, & Jasper, 1998). Metro and non-metro areas often have very different business environments due to such elements as geography, demographics and social networks (Beggs, Haines & Hurlbert, 1996; Frazier & Niehm, 2004). Lower levels of economic development, scarcity of affordable professional services, and smaller markets can present significant challenges to rural business owners (Chrisman, Gatewood, & Donlevy, 2002; Fendley & Christenson, 1989; Kale, 1989; Lin, Buss, & Popovich, 1990; Small Business Administration [SBA], 2001; Tigges & Green, 1994; Trucker and Lockhart, 1989).

Location may influence business starts and success in that geographic region is one determinant of resource availability (Chrisman et al., 1992). Rural areas often offer fewer support services and less-developed transportation and electronic infrastructures which could hinder non-metro businesses attempting internet-based businesses as well as brick and mortar operations as the cost and quality of telecommunications becomes increasingly important to businesses (Corman, Lussier, & Nolan, 1996; Freshwater, 1998; Robinson, 2004; SBA, 2001). Essential business services such as accounting, banking, advertising, and legal services may be both difficult to find and more expensive in rural areas (Corman et al., 1996; Fendley & Christenson, 1989; Frazier & Niehm, 2004; Freshwater, 1998; SBA, 2001; Trucker & Lockhart, 1989). In addition, the trend toward the merger of small banks with larger ones less willing to makes loans to small businesses combined with biases against non-urban areas, make it more difficult for small rural businesses to gain financing (Chrisman et al., 2002; Green & McNamara, 1987; SBA, 2001). These negative factors could logically lead to lower rates of self-employment in non-metro areas.

Despite these problems, some studies (Jack & Anderson, 2002; Robinson, 2001; Sullivan, Scannell, Wang, & Halbrendt, 2000; Tosterod & Habbershon, 1992) state that small business owners have found benefits to being located in a rural area. Taking population into consideration, Clark and James (1992) found the rate of business ownership to be higher in non-metro areas of the midwest. Furthermore, no significant rurality-based differences were found between the rates at which new firms and jobs were created (Lin et al., 1990). Self-employment rates have been found to be higher in Pennsylvania's non-metro counties (Robinson, 2003). In addition, Hout and Rosen (2000) found

that the sons of farmers, who are usually rural residents, had higher rates of self-employment than did sons of clerical, retail, and manual workers. In Mississippi and Ohio, business birth rates were lower in non-metro counties, but business termination rates were the same or lower, suggesting that rural residents were less likely to start businesses, but were more likely to continue with them (Robinson, 2002; Robinson & Janoski, 2005).

Even in areas where the environment would seem to work against entrepreneurs, business ownership provides an additional work alternative when job opportunities are unavailable or do not fulfill all of a person's needs (Tigges & Green, 1994). Many people in rural areas are limited by location, physical difficulty in commuting to a work site, or personal and family situations (Coates et al., 1991; Tigges & Green, 1994). Studying new business owners in South Dakota, Tosterud and Habbershon (1992) found that the majority of those people had started their businesses in order remain in their chosen location, which, in most cases, was less than 30 miles from where they had spent their entire lives. Two reasons for this may be family connections and low perceived risk of failure, as described by rural women in Pennsylvania (Robinson, 2001; Robinson & Watson, 2001). Given these findings, it seems logical that non-movers could have higher rates of self-employment, especially in rural areas.

To gain a better grasp on rural self-employment trends, this study further examines the self-employment rates of people who have not relocated from their original areas (non-movers), especially those who live in non-metro areas. In the following section, the methodology of this study is presented, along with the analysis of the results.

METHODOLOGY, RESULTS AND ANALYSIS

Data regarding the number of men and women who are self-employed, their location and migration status were gathered via Data Ferrett from the 2005 Current Population Survey's Annual Social and Economic (March) Supplement. People who moved were categorized by the location and direction of their move--MSA to MSA, non-MSA to MSA, MSA to non-MSA, etc. For the purposes of this study, everyone who had moved was grouped into one category for comparison with non-movers. The population for this study was taken from the variable "class of worker," which includes people employed by the government and private enterprises, as well as the self-employed (incorporated and unincorporated), unpaid workers and those who have never worked. People under age 18 were not included. The geographic categories in this study are based on the Census Bureau's classifications of principal city, balance metro and non-metro. Although technical definitions vary, in this study the terms "rural" and "non-metro" are used synonymously.

Chi-square analyses were performed on these data to determine if there were significant associations between the number of movers and non-movers who were self-employed and the geographical variable principal city/balance metro/non-metro. Totals were compared, as were the

sexes, such that men were compared to men, and women to women. In every case, the resulting chi-square statistics were very high and $p < .000$.

As shown in Tables 1, 2 and 3, non-metro residents had higher percentages of unincorporated self-employed workers. However, these proportions, which were determined by dividing the number of self-employed by the total number of people in that category (for example, non-movers in non-metro areas), were even higher among non-movers. In fact, non-metro non-movers were almost 70% more likely than non-metro movers to be self-employed (non-incorporated). Among men, non-metro non-movers were 53% more likely to be self-employed (non-incorporated), but among women, non-metro non-movers were twice as likely to be self-employed (non-incorporated). In fact, non-metro women's 7.93% is second only to both categories of non-metro men, topping all other women and men.

Total	Total	Principal City	Balance Metro	Non-metro
Movers	18,436,215	6,884,967	8,457,011	3,094,236
-Self-emp'd (incorporated)	407,240	104,930	257,057	45,254
	2.21%	1.52%	3.04%	1.46%
-Self-emp'd (unincorporated)	973,799	336,076	441,157	196,566
	5.28%	4.88%	5.22%	6.35%
Non-movers	106,799,162	30,090,706	56,159,254	20,549,202
-Self-emp'd (incorporated)	4,205,474	923,294	2,588,264	693,916
	3.94%	3.07%	4.61%	3.38%
-Self-emp'd (unincorporated)	8,104,046	2,041,096	3,863,518	2,199,431
	7.59%	6.78%	6.88%	10.70%

Among the incorporated self-employed, a slightly different story emerged. Those in the balance metro category had the highest rates, but once again, non-movers had higher proportions than movers. In this case, the numbers and corresponding percentages were smaller, but the non-movers of the balance metro category were 51% (total), 63% (men) and 32% (women) more likely to be (incorporated) self-employed than their counterparts who were movers. Therefore, in all direct comparisons, non-movers had significantly higher rates of self-employment.

	Total	Principal City	Balance Metro	Non-metro
Men movers	10, 137,447	3,788, 213	4,750,830	1,598,403
-Self-emp'd (incorporated)	289,553	74,321	183,642	31,590
	2.86%	1.96%	3.87%	1.98%
-Self-emp'd (unincorporated)	937,799	336,076	441,157	196,566
	6.55%	6.11%	6.20%	8.62%
Men Non-movers	56,947,896	15,970,804	30,101,047	10,876,045
-Self-emp'd (incorporated)	3,081,170	678,717	1, 904,346	498,106
	5.41%	4.25%	6.33%	4.58%
-Self-emp'd (unincorporated)	5,038,245	1,255,769	2,350,769	1,432,081
	8.85%	7.86%	7.81%	13.17%

	Total	Principal City	Balance Metro	Non-metro
Women Movers	8,298,768	3,096,754	3,706,181	1,495,833
-Self-emp'd (incorporated)	117,687	30,609	73,415	13,663
	1.42%	0.99%	1.98%	0.91%
-Self-emp'd (unincorporated)	309,608	104,454	146,431	58,722
	3.73%	3.37%	3.95%	3.93%
Women Non-movers	49,851,266	14,119,902	26,058,208	9,673,157
-Self-emp'd (incorporated)	1,124,305	244,577	683,918	195,810
	2.26%	1.73%	2.62%	2.02%
-Self-emp'd (unincorporated)	3,065,801	785,327	1,513,124	767,350
	6.15%	5.56%	5.81%	7.93%

Because many people with private sector jobs also have their own businesses as second jobs, the "private" component of the "class of worker" variable was isolated. From this group, the subset of people with second jobs (other work) was selected in order to determine the proportions of these private workers who declared self-employment as their other work (SEOTR). Tables 4, 5 and 6 show the numbers and proportions of all movers and non-movers who primarily work for a private employer, but also have another type of work and the proportions of these people whose other job is self-employment. These self-employment rates were determined by dividing SEOTR by the total

number of people in that category with other jobs. Chi-square analyses with geography and migration status again resulted in very high chi-square statistics and $p < .000$ for all comparisons.

Table 4. SEOTR Rates Among Movers and Non-movers By Geography

	Total	Principal City	Balance Metro	Non-metro
Total movers	18,436,215	6,884,967	8,457,011	3,094,236
Movers with other jobs	2,644,824	905,567	1,195,484	543,774
	14.35%	13.15%	14.14%	17.57%
-SEOTR	327,599	125,641	147,002	54,955
	12.39%	13.87%	12.30%	10.11%
Total non-movers	106,799,162	30,090,706	56,159,254	20,549,202
Non-movers /other jobs	8,294,315	2,135,697	4,359,562	1,799,056
	7.77%	7.10%	7.76%	8.75%
-SEOTR	1,458,967	368,851	744,608	345,507
	17.59%	17.27%	17.08%	19.20%

Table 5. SEOTR Rates Among Men Movers and Non-movers By Geography

	Total	Principal City	Balance Metro	Non-metro
Total men movers	10,137,447	3,788,213	4,750,830	1,598,403
Men movers with other jobs	1,413,713	471,071	661,275	281,266
	13.95%	12.44%	13.92%	17.60%
-SEOTR	188,546	72,510	86,981	29,055
	13.34%	15.39%	13.15%	10.33%
Total men non-movers	56,947,896	15,970,804	30,101,047	10,876,045
Men non-movers/other jobs	4,427,177	1,103,590	2,303,000	1,020,587
	7.77%	6.91%	7.65%	9.38%
-SEOTR	871,757	201,996	455,836	213,925
	19.69%	18.30%	19.79%	20.96%

Again, with the total workers, men and women, non-movers had higher rates of self-employment, this time in regard to other work. Among non-movers, non-metro areas showed the highest rates, consistent with pattern of primary job (unincorporated) self-employment rates.

However, this trend was reversed among movers, with the highest rates shown in principal cities and the lowest in non-metro areas.

	Total	Principal City	Balance Metro	Non-metro
Total women movers	8,298,768	3,096,754	3,706,181	1,495,833
Women movers/other jobs	1,231,112	434,496	534,209	262,407
	14.83%	14.03%	14.41%	17.54%
-SEOTR	139,052	53,131	60,021	25,900
	11.29%	12.23%	11.24%	9.87%
Total women non-movers	49,851,266	14,119,902	26,058,208	9,673,157
Women non-movers/other	3,867,138	1,032,107	2,056,562	778,469
	7.76%	7.31%	7.89%	8.05%
-SEOTR	587,210	166,855	288,773	131,582
	15.18%	16.17%	14.04%	16.90%

It is also interesting to note that although non-movers had significantly higher proportions of people whose other work involved self-employment, movers were about twice as likely to have secondary work of any type. For example, 14.35% of all movers engaged in other work, while only 7.77% of non-movers had second jobs. However, of these people with other work, 17.59% of non-movers' other work was self-employment, but that proportion dropped to 12.39% for movers.

Taken together, the results of this study show that non-movers were more likely to be self-employed regardless of location, sex or incorporation status. Among those who work primarily for a private employer but have a second job, non-movers again had higher rates. Non-metro residents regardless of migration status had the highest rates for unincorporated self-employment with the exception of non-metro women movers whose 3.93% was second to balance metro's 3.95%. The same pattern was found with SEOTR non-movers. Interestingly, this trend was reversed among SEOTR movers as non-metro residents consistently had the lowest self-employment-as-other-work rates, despite the fact that non-metro residents were also the most likely to have second jobs.

DISCUSSION AND CONCLUSION

Entrepreneurship provides rural residents an avenue for financial improvement and independence without giving up their unique way of life (Tosterud & Habbershon, 1992.) Established social networks can make it easier for residents in tightly-knit rural communities to start

and maintain businesses (Cooke & Morgan, 1998; Frazier & Niehm, 2004; Jenssen & Keonig, 2002; McQuaid, 1997; Robinson, 2001; Sullivan et al., 2000). These social bonds are likely to be influenced by migration status and the number of other people who were born and raised there (i.e. non-movers). This would be consistent with qualitative data from Robinson and Watson (2001, p. 52-3) in which respondents are quoted as saying, "If I lived in a more populated area...I might not have done it as quickly," and "I don't know that I would have been as brave in a larger city...to open my own office." However, even in principal cities, non-movers had higher rates of self-employment, which could suggest that people who are natives to a given location are more willing to open businesses there.

Considering past research relating rural small business owners' desire to live in their home locations, and the high rates of self-employment among non-movers in non-metro areas, this study supports the notion that rural residents in particular may prefer to create their own jobs than to move away. This may be especially true among women, who are likely to have fewer job opportunities that meet their needs. Future research should be conducted to analyze this relationship in greater detail. If the people most willing to create their own employment are non-movers, it is important for local authorities and agencies to provide necessary education and training within the area, and to assist local residents in their efforts to create businesses, and possibly jobs.

According to Henderson (2002), rural companies tend to be smaller and have less income than those in metro areas. Although size was not a variable in this study, it seems likely that incorporated businesses would be larger than unincorporated ones. Glancey (1998) adds that small business owners in urban areas may be more interested in growth whereas rural business owners may be primarily motivated by lifestyle, which could lead to more small, unincorporated businesses in rural areas, and would be consistent with the findings of this study. The higher rates of incorporated self-employment in balance metro areas may be associated with larger businesses in more populated or wealthier areas. Future research should explore the relative size of businesses not only by location, but according to mover/non-mover status.

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