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# ACADEMY OF ENTREPRENEURSHIP JOURNAL

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# LETTER FROM THE EDITOR

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

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# ARTICLES FOR VOLUME 9 NUMBER 1

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# THE BIG-FIVE PERSONALITY MODEL: COMPARING MALE AND FEMALE ENTREPRENEURS

**Brooke R. Envick, St. Mary's University**
**Margaret Langford, St. Mary's University**

## ABSTRACT

*This study differentiates female entrepreneurs from male entrepreneurs using the Big-Five Personality Model. The five factors include adjustment, sociability, conscientiousness, agreeableness, and intellectual openness. Adjustment determines confidence versus instability. Sociability measures extraversion versus introversion. Conscientiousness determines impulsiveness versus cautiousness. Agreeableness measures team-orientation versus self-interest. Intellectual openness involves practicality versus originality. Results indicate that female entrepreneurs are significantly more open than male entrepreneurs. They are also more adjusted, social and agreeable, but not to a significant degree. Male entrepreneurs are significantly more conscientious than female entrepreneurs.*

## INTRODUCTION

Today, women are starting businesses at a rate twice that of men (Allen, 1999). The Small Business Administration estimates that by the end of the year 2000, more than 40% of all businesses will be owned by women (Bygrave, 1997). Women-owned businesses employ more than 15 million workers in the United States and the sales generated amount to approximately $1.4 trillion (Nelton, 1996). With these demographic trends, interest continues to grow in the personal characteristics of female entrepreneurs, especially those factors that might explain their success. Research has predominantly focused upon the similarities and differences between male and female entrepreneurs demographically as well as psychologically.

The purpose of this paper is to continue the study of female versus male entrepreneurs. The Big-Five Personality Model (Goldberg, 1990; Goldberg, 1992; Goldberg, Sweeney, Merenda, & Hughes, 1998) that has recently emerged from the field of psychology into business applications is used to analyze both genders. The paper compares female entrepreneurs to male entrepreneurs on each of the five factors. First, we describe the Big-Five Personality Model and discuss its recent applications to business research and gender differences. Next, we review research regarding similarities among and differences between male and female entrepreneurs and suggest hypotheses regarding the Big-Five Model. Then, we describe our research methodology. Finally, we discuss results of the study and draw conclusions.

## LITERATURE REVIEW

With some controversy in the psychological community, the Big-Five Personality Model emerged in recent years as a "robust model" or "Great Theory" of personality. While a discussion of the theoretical arguments pertaining to the Big-Five is beyond the scope of this paper, its proponents believe that the model is robust in that the personality of every human being, regardless of his or her culture, can be described utilizing the five dimensions (see Costa & McCrae, 1995; Digman, 1990; Goldberg, 1990, 1992; Goldberg, Sweeney, Merenda, & Hughes, 1998; Wideger & Trull, 1997).

Disagreement exists regarding the exact vocabulary of the five factors (or superfactors); however, conceptually, the factors are these: (1) adjustment (on a continuum from stable to neurotic), (2) sociability (from extroverted to introverted), (3) intellectual openness (from imaginative and interested in many things to practical and narrowly focused), (4) agreeableness (from benevolent to belligerent), and (5) conscientiousness (from dependable and goal-oriented to undependable and impulsive). The interest of psychologists is not in describing a universal "right" personality (there is none), but rather in examining a person's "score" on each of the five factors in conjunction with other factors (e.g., education, age, gender, job). Recently, researchers have reported the Big-Five results contain implications for the workplace.

### The Big-Five in the Workplace

In jobs involving personal interactions, one study reported that the factors of conscientiousness, agreeableness, and adjustment were related to job performance. Not surprisingly, emotional stability and agreeableness were found to be especially important in jobs involving teamwork (Mount, Barrick, & Stewart, 1998).

With business franchise owners as subjects, Morrison (1997) examined the relationships between the Five-Factor Model and other psychological constructs (e.g., Self-Monitoring, Type A Behavior, Locus of Control, and Subjective Well-being). Results indicate that franchise owners tend to be Type A persons who are more sociable and conscientious than not. They are relatively more agreeable than not, slightly less open to new experiences than average. As a group, franchise owners tend to have an internal locus of control, which is also strongly associated with adjustment.

The results of a study by Collins and Gleaves (1998) regarding job applicants indicated no significant differences in the Big-Five Personality Model between African American and Caucasian applicants, although both groups tended to provide socially desirable survey responses regarding the Big-Five dimensions. Another study reported that applicants who were more sociable, open to experience, and relatively conscientious tended to employ more effective job search strategies and were more successful in obtaining second interviews than those who did not (Caldwell & Burger, 1998).

Although each factor represents a collection of traits, the link between personality and behavior becomes clearer when only one trait is the focus rather than one factor. There are several common personality traits that render a natural fit into one of the five factors. For example, locus of control is considered to be a part of the conscientiousness factor as it relates to job performance behaviors regarding dependability and responsibility (Lefcourt, 1992; Black, 1990). Another example is self-esteem. People with high self-esteem are more likely to take risks and enter difficult and unconventional occupations because they believe in their abilities. This is an important part of the adjustment factor as it relates to stability and confidence (Ellis & Taylor, 1983; Hollenbeck & Brief, 1987).

Other workplace-related studies utilized the Five-Factor Model include those involving employee absence (Judge, Martocchio, & Thoresen, 1997), expatriate success (Ones & Viswesvaran, 1997), job performance in the European Community (Salgado, 1997), and teamwork (Neuman, Wagner, & Christiansen, 1999). The Big-Five has also been applied in gender studies.

**The Big-Five and Gender**

Pertinent to the current research, Lippa (1995) found that sociability, openness, and low levels of adjustment were the factors most linked to "masculinity," while agreeableness and conscientiousness were linked to "femininity" (note: not all males in the study measured as "masculine" and not all females as "feminine"). In a similar study, Marusic and Bratko (1998) stated that sociability was highly associated with "masculinity" and agreeableness with "femininity." A low adjustment score was associated with both high "feminine" and low "masculine" subjects. Using data collected in an on-going longitudinal research study (over twenty years), Pulkkinen (1995) reported adult females who had been identified previously as "conflicted" tended to be less adjusted, more introverted and less conscientious and open to experience than females identified as "adjusted." "Conflicted" males were less adjusted and conscientious than "adjusted" males. Direct comparisons between females and males were not made. In an extensive study examining many demographic variables (e.g., age, race) including gender, Goldberg et al. (1998), reported that men tended to be less agreeable than women, but found no significant differences in the other four factors.

**Female Versus Male Entrepreneurs**

Past research reveals both similarities among and differences between male and female entrepreneurs. For example, early studies exploring why females become entrepreneurs found they gave similar responses to their male counterparts such as need to achieve and independence (Cook, 1982; Schwartz, 1976). Contemporary research also supports similarities. For instance, Smith, Smits, and Hoy (1992) report females in traditionally dominated male-industries gave similar

reasons for operating their own businesses such as the desire for independence. Another study reports that no differences exist regarding personal goals such as independence, achievement, and economic necessity (Hisrich, Brush, Good, & De Souza, 1996). Fagenson (1993) found that both males and females value self-respect, freedom, a sense of accomplishment, and an exciting life. Cooper and Artz (1995) discovered both males and females held initial optimistic expectations regarding their ventures. Sexton and Bowman-Upton (1990) found that both males and females were low in their need for conformity with others, need for "succorance" (seeking advice or sympathy), and need for avoiding harm. Male and female entrepreneurs were both high in "interpersonal affect" (they displayed compassion, were not aloof, and related well to others), and "social adroitness" (they were skillful at persuading others, diplomatic but somewhat manipulative). On the other
hand, several studies contend there are differences between male and female entrepreneurs.

Envick and Langford (1998) found that female entrepreneurs engage in controlling, internal communication, human resource management, and work-related task behaviors more often than male entrepreneurs. The National Foundation for Women Business Owners found women define success very differently from men. Women see success as having control over their own destinies, building ongoing relationships with clients, and doing something fulfilling, while males define success in terms of achieving goals (Romano, 1994). Smith et al. (1992) found that female entrepreneurs employ more females than male entrepreneurs in male-dominated industries and select females with whom they share similar attitudes. Fagenson (1993) reveals that females value equality and world peace more than males. A longitudinal study conducted by Gatewood, Shaver, and Gartner (1994) found female entrepreneurs have higher internal attributions for starting their ventures than males. However, Brandstatter (1997) found that male entrepreneurs made internal attributions regarding either failure or success of a venture and were significantly less likely than women to make external attributions (e.g., the prevailing economy) for either failure or success. One study investigated entrepreneurs and family-career conflict (Parasuraman, Purohit, Godshalk, & Beutell, 1996) and found that females reduce family-career conflict by spending less time at work, while males increase their time at work. Sexton and Bowmen-Upton (1990) found male and female entrepreneurs to differ significantly in four traits. Males had higher sustainable energy levels and were more risk-taking than females. Female entrepreneurs desired autonomy more and were more open to new experiences than males.

## HYPOTHESES

The hypotheses are generated based upon empirical findings regarding the Big Five Model and previous research regarding similarities among and differences between female and male entrepreneurs. There is one hypothesis for each of the five factors.

| | |
|---|---|
| $H_1$: | Female entrepreneurs will score higher than male entrepreneurs on the sociability factor. |

Behavioral research reveals that female entrepreneurs engage in communication activities more often than male entrepreneurs (Envick & Langford, 1998). Other findings indicate that women are more likely to encourage participation, share information and have good interpersonal skills (Rosener, 1990; Eagly, Makhijani, & Klonsky, 1992; Offermann, & Beil, 1992). Showing concern and being relationship-oriented are more characteristic of females than males (Coppolino & Seath, 1997; Porter, Geis, Cooper & Newman, 1985; Vroom & Jago, 1982). The Big-Five research suggests that while masculinity is related to extroversion, not all males are considered 'masculine', while not all females are considered 'feminine' (Lippa, 1995).

| | |
|---|---|
| $H_2$: | There will be no significant difference between male and female entrepreneurs regarding the adjustment factor. |

No previous research regarding the adjustment factor suggests a gender difference. Lippa (1995) found that a low adjustment score was related to 'masculinity', while Marusic and Bratko (1998) found low adjustment relating to 'femininity. Again however, not all male subjects are considered 'masculine', while not all female subjects are considered 'feminine'. Therefore, no rationale exists to hypothesize a significant difference in either direction.

| | |
|---|---|
| $H_3$: | Female entrepreneurs will score higher than male entrepreneurs on the openness factor. |

Sexton and Bowman (1990) found that female entrepreneurs desired more autonomy and were more open to new experiences than male entrepreneurs. Fagenson (1993) discovered that female entrepreneurs had a much broader vision involving their desires including total equality and world peace. Therefore, it is logical to assume that female entrepreneurs will be more open than male entrepreneurs.

| | |
|---|---|
| $H_4$: | There will be no significant difference between male and female entrepreneurs regarding the conscientiousness factor. |

While conscientiousness is linked to 'femininity' (Lippa, 1995), no rationale exists to hypothesize a significant difference in either direction. Femininity is used to describe both males and females. No other findings suggest a difference in gender-related or business research.

| | |
|---|---|
| $H_5$: | Female entrepreneurs will score higher than male entrepreneurs on the agreeableness factor. |

Goldberg (1998) found that, in general, females are more agreeable than males. Previous research suggests that female entrepreneurs are more supportive, encourage participation, and adopt a more democratic style than male entrepreneurs (Tannen, 1991; Offermann, & Beil, 1992; and Rosener, 1990). Smith, Smits, & Hoy (1992) found that female entrepreneurs actively seek female employees with whom they share similar attitudes. Fagenson (1993) contends that female entrepreneurs value equality more than their male counterparts.

## METHODOLOGY

The hypotheses are tested using ANOVA to determine if significant differences exist between entrepreneurs and managers on all five factors. One hundred and nineteen subjects represent the findings, 86 males and 33 females. Although these two comparisons are disproportional in number, it is representative of the entrepreneurs in this geographical area (approximately one-third females, two-thirds male). The Chamber of Commerce in a large Southwestern city generated a list of entrepreneurs, and 650 were randomly selected from this list to receive the survey. With a response rate of over 20%, 130 surveys were returned, and 119 were usable.

All subjects received a survey containing background questions regarding their job role and type of business. The Big-Five Model was tested using the questionnaire developed by Howard, Medina, and Howard (1996), which is commonly used by consultants and trainers and published in textbooks (Hellriegel, Slocum & Woodman, 1998). The survey included twenty-five sets of descriptive words on opposite ends of a continuum. Respondents were asked to circle the number on the continuum that most closely describes their personality. Each of the five factors is measured by the sum of scores received on a total of five questions. The highest score possible is a 35, while a 5 is the lowest score possible.

## RESULTS

ANOVA was used to test all five hypotheses in order to compare entrepreneurs to managers on each personality factor. The first hypothesis tests sociability. The second tests adjustment. The third hypothesis tests openness. The fourth one tests conscientiousness. And the fifth hypothesis tests agreeableness. Table 1 presents the all means, standard deviations, and p-values.

The first hypothesis, regarding sociability, is not supported. However, the general direction of the hypothesis holds true with females scoring higher (M=18.061) than males (M=16.977). The second hypothesis is supported. No significant difference exists between males and females regarding adjustment. The third hypothesis is supported. Females (M=16.333) are significantly more open [F(1,118) = 1.950; p<.01] than males (M=14.407). The fourth hypothesis is not supported. Males (M=19.093) scored significantly higher on the conscientiousness factor [F(1,118) = 3.262; p<.05] than females (M=17.455). The fifth hypothesis is not supported. However, the general direction appears to hold some merit. Females are more agreeable (M=19.667) than males (M=18.884).

**Table 1: The Five Factor Model: Means, Standard Deviations, and p-Values**

| Factor | Group | Mean | SD | p-value |
|---|---|---|---|---|
| Sociability | Males | 16.977 | 3.045 | .1173 |
| | Females | 18.061 | 3.807 | |
| Adjustment | Males | 13.384 | 2.460 | .4682 |
| | Females | 13.788 | 3.333 | |
| Openness | Males | 14.407 | 3.948 | .0099** |
| | Females | 16.333 | 3.722 | |
| Conscientiousness | Males | 19.093 | 4.126 | .0380* |
| | Females | 17.455 | 4.047 | |
| Agreeableness | Males | 18.884 | 3.756 | .2811 |
| | Females | 19.667 | 3.379 | |

*Significant @ .05
**Significant @ .01

## DISCUSSION

This paper makes a contribution by further identifying psychological traits that illustrate similarities among and differences between female and male entrepreneurs. While several psychological characteristics have been analyzed in order to identify the two groups, the Big-Five Model provides another avenue to further define and describe each group.

Two of the five hypotheses are supported. Neither male nor female entrepreneurs are more adjusted than the other. Female entrepreneurs are significantly more open than their male counterparts. While hypotheses one and five are not supported, the general direction holds true. Female entrepreneurs are more sociable and agreeable than male entrepreneurs, but not to a significant degree. The fourth hypothesis is not supported suggesting that no differences would be present on the factor of conscientiousness. However, male entrepreneurs scored significantly higher on this factor, meaning that they were more cautious and less impulsive than females. This is a mystery, since the only explanation in the literature is that both male and female groups that score high on adjustment also obtain high scores on conscientiousness (Pulkkinen, 1995). This is not the case in this study. Females actually scored slightly higher on adjustment. Perhaps, this finding is unique to entrepreneurs.

This study does provide more insight into the psychological profile of male and female entrepreneurs. While most of the findings are not surprising, an interesting research question presents itself - why did male entrepreneurs score significantly higher on the conscientious factor than female entrepreneurs, when females did obtain the higher adjustment scores? Further research is certainly needed regarding the Big-Five and entrepreneurs.

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# EX-ENTREPRENEURS: AN ELUSIVE GROUP DRIVING SAMPLING CONSIDERATIONS

**Mary K. Askim, University of North Dakota**
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## ABSTRACT

*The purpose of this paper is to highlight the difficulties in researching the ex-entrepreneur and to provide a rationale for the use of college students in theoretically-driven research in the area of entrepreneurial failure. Three areas are addressed: (1) the difficulty in locating failed entrepreneurs, (2) obtaining a high response rate from this group, and (3) shortcomings of the data. The areas of research presented that support the efficacy of using college students in this type of study include: (1) students are appropriate subjects for tests of theory in social science, (2) students have been used in entrepreneurial research in the past, (3) students are entrepreneurs, and (4) students have accumulated enough experiences to project themselves into real-life situations and can make decisions that reflect what older adult-subject populations might make.*

## INTRODUCTION

How can you research a population group when it is extremely difficult to find an adequate sample? Does that thwart research in that area? Or are there alternatives in theoretically-driven research?

The population of interest for these authors' research was the ex-entrepreneur, an often elusive group. Past research on the entrepreneur who has failed has been limited and has been generally descriptive, not empirically-based. Because of the limitation, this research intended to expand the theoretical base for understanding the relationship between entrepreneurial failure and what may happen next in the entrepreneur's life.

Despite the limitations that have occurred and the limitations that may still prevail with researching the ex-entrepreneur, the failed entrepreneurial venture and the entrepreneur provide an area that is rich for further study. The problems in finding ex-entrepreneurs for research necessitated the use of college students to extend the theory of attributional explanatory style to perceived outcomes after entrepreneurial failure. The purpose of this paper is to highlight the difficulties in researching the ex-entrepreneur and to provide a rationale for the use of college students in theoretically-driven research in the area of entrepreneurial failure.

## RESEARCHING THE EX-ENTREPRENEUR

The literature on business failure has been extensive but has been less than notable concerning the impact of failure on the individual entrepreneur. This may be attributed to (1) the difficulty in locating failed entrepreneurs, (2) obtaining a high response rate from this group, and (3) lack of data analysis and anything other than descriptive statistics concerning the minimal data obtained.

### Locating Ex-Entrepreneurs

"The epidemiology of entrepreneurship will never be complete until fatalities are studied and understood. Unfortunately, very few post-mortems have been conducted. When it comes to 'discontinued' entrepreneurial careers, the cadavers have a way of disappearing" (Ronstadt, 1985, p. 409). Wicker and Conn (1990) aptly noted the analogy of finding ex-entrepreneurs as similar to that of a detective searching for a missing person. What may precipitate the ex-entrepreneur to literally vanish without a trace?

When exiting a business has come as a result of bankruptcy or other financial problems, the ex-entrepreneur may want to be as far removed from the locale as possible in order to avoid creditors. The business individual may also see the exiting as a personal failure. The difficulty of facing business associates, friends, and others who were supporters throughout the venture may create a strain the ex-entrepreneur would sooner avoid.

Some of the first work specifically concerning ex-entrepreneurs was done by Ronstadt and Brockhaus. Ronstadt's initial research (1981) focused on development of the entrepreneurial career path model. His 1982 research concerned the timetable surrounding the selection of an entrepreneurial career, when it happened, how long was the career, and if and when the decision was made to exit. Of 191 Babson College entrepreneurs, 25 were found to have exited their entrepreneurial careers and another 16 had exited at one time but resumed it later. Ronstadt (1984) surveyed approximately 3500 Babson College alumni to find an initial sample of about 200 ex-entrepreneurs. Those actually responding were the basis for further descriptive analysis (Ronstadt, 1985).

Brockhaus (1985) attempted to contact from an earlier pool of respondents, 93 businesses that had been licensed during a two-month period the summer of 1975. Sixty of the entrepreneurs were unable to be located by using the business' original name and location and the entrepreneur's name listing in the telephone directory. Further inquiry with neighboring businesses did not result in their discovery. It was determined that these businesses had failed with no viable means with which to contact the ex-entrepreneurs. Of the 33 remaining businesses, 22 were still operating, leaving a sample of 11 ex-entrepreneurs with which to base the study.

Other than the logical aforementioned methods of investigation using the business' original name and address, telephone directories, and talking to neighboring businesses, some other strategies may be slightly more effective in locating the ex-entrepreneur such as requesting an address correction from the post office when contacting by mail.

The use of different methods for locating ex-entrepreneurs is only part of the strategy. When comparing across the studies the success of locating, the shorter the period of time from exiting a business venture to being contacted improved the chances of being found. When years have passed since the exit, the researcher may need to have the mindset of a detective to find the missing person, the ex-entrepreneur.

**Difficulty with Response Rate**

Compounding the problem of locating ex-entrepreneurs, is the difficulty with obtaining responses from those who were found. Though there have been exceptions to this, most studies have had extremely small samples (Brockhaus, 1980a, 1985; Meyer, Zacharakis, & De Castro, 1993; O'Neill & Duker, 1986).

A 1980 study by Brockhaus looked at how psychological and environmental factors may differ between the successful and unsuccessful entrepreneur. The sample was individuals who had left their places of employment and had opened their own businesses within three months prior to the study. It is only reported how many of these entrepreneurs returned completed questionnaires, that number being 31. Three years later, this group was contacted for further interviews. Of those that could be located, they were subdivided into two groups, successful and unsuccessful entrepreneurs. Again with no reporting of sample size for each of the two groups, taking into account the researcher's recognition that all were not located and then dividing that number into the two groups, sample size is extremely low.

Both Brockhaus (1985) and O'Neill and Duker (1986) based their studies on 11 respondents. Of 93 entrepreneurs identified in 1975, ten years later 60 could not be found, 22 were still in business, and 11 had left their businesses which constituted the Brockhaus' database. In assessing the strategic management of failed and successful small businesses, O'Neill and Duker had only 11 respond with usable questionnaires after mailing to 142 bankrupt firms. Location of these ex-entrepreneurs also had posed a problem since 30 percent of the questionnaires were returned as undeliverable.

A notable exception to the difficulty of obtaining a respectable response rate from ex-entrepreneurs is a descriptive study done by Ronstadt (1986). Ronstadt's study on the characteristics of entrepreneurs from Babson College who had exited their venture career started with a sample of 200 ex-entrepreneurs. Ninety-three questionnaires were usable, a 47 percent response rate.

While the majority of the limited research concerning ex-entrepreneurs has had dismal success with obtaining an adequate sample, it is evident that multiple measures and attempts can increase the chance of locating these individuals and increasing their response to a form of inquiry.

The nature of the information to be gathered may be a strong determinant as to why ex-entrepreneurs tend to not respond to inquiry. To be asked why you failed, what was your management style, and other questions that may reflect on the personal failure issue, are things they may prefer not to share. The personal and professional sacrifices entrepreneurs undertake outside of the business venture may compound the problems associated with, the reactions to, and the perceptions of the impact the business failure has had on their lives.

**Shortcomings of the Data**

The problems in researching entrepreneurs in general, and failed entrepreneurs in particular, pose very specific problems for conducting research. With extremely small sample sizes, limitations are placed on any analysis other than descriptive statistics; therefore, descriptive statistics have been the mainstay of ex-entrepreneurial research.

Several studies (Brockhaus, 1985; Meyer et al., 1993; Ronstadt, 1984, 1985, 1986) reported only frequencies, percentages, means, and/or rankings. Meyer et al. went as far as to state that the hypotheses proposed in the study would not be supported with larger samples (from frequency data based on interviews with eight ex-entrepreneurs). The inferences made from such descriptive data go beyond the limitations of the data and its interpretation capabilities.

The inferential statistics that were used in another study, along with a previously mentioned study, provided their own limitations with the small sample sizes. The power of statistical analysis has been limited with testing hypotheses by nonparametric measures and/or with small samples (Brockhaus, 1980a; O'Neill & Duker, 1986).

Since ex-entrepreneurial research is a relatively new field of study, the exploratory research that continues to be done may seem justified in order to determine the "lay of the land" in this territory. But when frequencies and percentages are reported in a manner that may imply their statistical significance, the research base does not move forward.

Another limitation in the ex post facto research of business discontinuance, is that subjects can select themselves into this group by deciding whether or not to respond creating a self-selection bias for the validity factor. They may have specific reasons for wanting to share their experiences or for not wanting to. It may have been a positive experience in that lessons were learned, more avenues were opened, and support systems were extended. On the contrary, it may have been a debilitating experience. Financial losses were great, career hopes were destroyed, relationships suffered, and self-confidence faltered.

## STUDENTS IN THEORETICALLY-DRIVEN RESEARCH

The problems in finding "real and actual" ex-entrepreneurs for research necessitated exploration of whether or not college students could be used to assess the relationship between explanatory style and the perceived outcomes of entrepreneurial failure. There are four areas of research and thinking that support the efficacy of using college students in this type of study: (1) students are appropriate subjects for tests of theory in social science, (2) students have been used in entrepreneurial research in the past, (3) students are entrepreneurs, and (4) students have accumulated enough experiences to project themselves into real-life situations and can make decisions that reflect what older adult (beyond the age of the "traditional" college student) subject populations might make.

### Use of College Students in Theoretical Research

With the use of college students in this area of research, it was not the intent to make generalizations to the ex-entrepreneur population, but rather to extend theory to a new area of application, entrepreneurial failure. There is a broad and consistent literature that supports the use of college students in theoretically-driven research.

Berkowitz & Donnerstein (1982), Calder, Phillips, and Tybout (1981, 1983), McGrath & Brinberg (1983), and Mook (1983) argue that samples need not be representative if one is testing a prediction rather than making one. When samples are not representative of the population, then the issue of external validity arises. Campbell and Stanley (1963) suggest that students be used only when they represent (in interest, experience, or frame of reference) the target population. Only then can generalizability of the results to the population be made. If the intent of this research was to generalize to the population of ex-entrepreneurs, then external validity would be an issue. But when the basis of the research is to test the application of combining theory to entrepreneurial situations in a controlled experimental setting, this relates to the generalizability of theory application that Calder et al. (1981, 1983) discuss.

Calder et al. (1981, 1983) contend there are two types of generalizability, effects application and theory application. Effects application relates to specific effects that would be replicated in subsequent studies of other populations and settings. Theory application ". . . uses only scientific theory to explain events beyond the research setting. Effects observed in the research are employed to assess the status of theory. But it is the theoretical explanation that is expected to be generalizable and not the particular effects obtained" (1981, p. 197). In order for the theoretical explanation to be generalizable, the theory must survive attempts at falsification and attempts must be made to extend or falsify theory to business context.

Calder et al. (1981) assert that the best sample for this type of study should be homogeneous on dimensions that would most likely influence the variables of interest. Homogeneous samples (such as students) provide a more viable basis to make theoretical predictions; a heterogeneous sample weakens the testing of the theory and increases the chance of making a Type II error. Calder et al. (1981) are adamant that a representative sample is not needed when testing theory. "The research sample need only allow a test of the theory. And, any sample within the theory's domain (e.g., any relevant sample), not just a representative one, can provide such a test" (p. 200). The use of college students, homogeneous on a dimension of entrepreneurial attitude (i.e., innovation), would satisfy this criterion. [Note: Students were provided the Entrepreneurial Attitude Orientation scale developed by Robinson et al. (1991). Those respondents above the median split on the innovation dimension were used for the study. The innovation dimension is the stronger dimension for U.S. entrepreneurs in comparison with entrepreneurs from other countries (Robinson, personal communication, January 15, 1999)].

**Use of College Students in Entrepreneurial Research**

Entrepreneurial research has used college students as subject populations successfully. Three areas of research noted include instrument development, determining entrepreneurial and nonentrepreneurial characteristics, and factors affecting entrepreneurial career aspirations.

Robinson et al. (1991) developed the Entrepreneurial Attitude Orientation (EAO) scale using college undergraduate students from introductory psychology classes in the instrument's development. The EAO scale was subsequently validated by known groups of entrepreneurs and nonentrepreneurs. The entrepreneur group was those "who had started at least one business within the past five years and had started other businesses at other times in their careers" (p. 21); the nonentrepreneur group was not currently or had ever in the past been engaged in starting a business. It was found that the scale developed using undergraduate students did reveal significant differences between the two groups on each of the four subscales (achievement, self-esteem, personal control, and innovation).

Along with using college students to develop an entrepreneurial attitude orientation instrument, college students have been the samples in studies assessing entrepreneurial characteristics. Koh (1996) used MBA students to assess entrepreneurial characteristics of need for achievement, locus of control, risk-taking propensity, tolerance of ambiguity, self-confidence, and innovativeness. Significant differences were found with the characteristics of risk-taking propensity, tolerance of ambiguity, and innovativeness between those students who had entrepreneurial and nonentrepreneurial intentions.

Other studies have also used college students as subjects to understand entrepreneurial and nonentrepreneurial characteristics. In particular, Sexton and Bowman have used college students extensively in their research. Sexton and Bowman (1983a, 1984) found differences in entrepreneurial characteristics among business majors, business majors that had taken an entrepreneurship course, entrepreneurship majors, and nonbusiness majors; and they looked at the comparison of personality characteristics among female entrepreneurship majors, business students, entrepreneurs, and managers (Sexton & Bowman, 1986) and between entrepreneurship and nonentrepreneurship students (Sexton & Bowman, 1983b). Differences were found that distinguished entrepreneurship students and entrepreneurs from the other groups.

Entrepreneurial career development has also been a research area where undergraduate and/or graduate students have been used as subjects. Determining work values and career intentions in relation to organizational employment versus entrepreneurship (Brenner, Pringle, & Greenhaus, 1991); examining entrepreneurial intentions, gender, education, having an entrepreneurial parent, and a proactive personality and their relationship with entrepreneurial careers (Crant, 1996); the impact of a family business on entrepreneurial intentions and attitudes (Krueger, 1993); and understanding what factors are influential in developing entrepreneurial career aspirations (Scott & Twomey, 1988) are examples of such research.

**College Students as Entrepreneurs**

While students are in the midst of their academic careers, many become entrepreneurs by initiating business ventures on the sidelines. Several student organizations, such as The Association of Collegiate Entrepreneurs (ACE), the Collegiate Entrepreneurs Organization (CEO), and Students in Free Enterprise (SIFE) promote the development and success of these young entrepreneurs.

Though it has been difficult to find research on entrepreneurs who are college students (other than the previously cited works on entrepreneurship college majors), there are numerous articles in the popular press documenting the trend of students, both college and high school, launching businesses (Aley, 1997; Gendron, 1998; Madison, 1994; Miniter, 1997; Oliver, 1995; Rozen, 1994). Probably some of the most notable have been in the computer industry (Apple and Dell), and with Yahoo, an Internet search engine, founded by two graduate students from Stanford University (Stross, 1998; Yang, 1997).

**Life Experiences of College Students**

Though there is a growing number of students who have engaged in starting their own businesses, and students have been used in previous entrepreneurial research, the question still remains whether these individuals have been exposed to enough life experiences that would enable them to make assessments about a major event such as a venture failure? Of particular relevance to this question is the work of Baum & Stewart (1990). Men and women, from the ages of 17 to 96 years, were asked questions concerning the number and types of meaningful life events they had experienced. These events reflected the personal and work areas of their lives. It was found that " . . . there were no dramatic differences in meaningful experiences whether a respondent was 25 or 85 yr. old" (p. 11).

Another argument to support the assumption that college students have experienced enough of life to project outcomes of certain major events, particularly venture failure, is that it is likely a representative number of them are in a family where the parents are, or were, owners of a business. With being a family member, the student has experienced what risks were involved in starting the business and how its daily management affected aspects of the family's well-being. Some may have even experienced the failure of the family business. From this first-hand experience, it is likely that students could project themselves into the situations presented to them in this research study.

## CONCLUSION

Because of the difficulty of locating ex-entrepreneurs, students should serve as an appropriate sample in extending theory to the research area of entrepreneurial failure. In this particular situation, the application of attributional theory to a business situation, students were an appropriate sample for this theoretical research. It is not the authors' viewpoint that college students are a perfect substitute for the real thing. Entrepreneur research cannot exclusively use college students as subjects and believe that it has adequately studied the entrepreneur. Yet, prior research supports the notion that for certain theoretically-driven research, college students can be used to develop and uncover basic relations between variables. Ultimately, the generalizability of these relationships depends on testing the relationships with the population of interest.

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# AN EMPIRICAL ANALYSIS OF THE RELATIONSHIP BETWEEN EMPLOYMENT GROWTH AND ENTREPRENEURIAL ACTIVITY

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## ABSTRACT

*This study investigates the role of entrepreneurial firms in employment creation and business expansion in several industries. Regression results validate the previous research findings that small entrepreneurial firms do have a net positive impact on new employment across all industries in the study. However, the magnitude of job creation may vary across industry types.*

## INTRODUCTION

The study of entrepreneurship has long recognized entrepreneurial activity as directly related to the creation of employment opportunities. Schumpeter viewed the source of these employment opportunities as "the gales of creative destruction" (Schumpeter, 1934). New industries are born as older ones are replaced. As an example, "In the case of retail trade the competition that matters arises not from additional shops of the same type, but from the department store, the chain store and the mail-order house and the supermarket." (Schumpeter, 1942). Schumpeter's model stood in stark contrast to the more dominant neoclassical general equilibrium model of the time in which the entrepreneur played no role. In fact, in the neoclassical model, markets are always in equilibrium and therefore, by definition, do not include the new innovations and market disrupting forces that entrepreneurs bring. More modern versions of Schumpeter's thesis assert that entrepreneurs are encouraged to undertake the effort because they see an opportunity to develop a new technology. Bill Gates is a classic example of this. Just as the minicomputers produced by firms like DEC overtook mainframes, they declined in the advent of the home computer. Moreover, current research indicates that this process is more prevalent in manufacturing as opposed to service industries (Bednarkzik, 2000, Global Entrepreneurship Monitor, 2001).

While Schumpeter's model of entrepreneurship is based on technological change, an alternative model notes that entrepreneurship is encouraged by economic downturns (Kirzner, 1979). Yusuf and Schindutte (2000) show that in economies where growth is weak, more "survivalist" entrepreneurs as opposed to innovative, growth oriented firms tend to appear. Kirzner's model asserts that entrepreneurs are motivated by profits and substitute self-employment for paid jobs. The question is, are entrepreneurs pulled into self employment by a new idea or pushed in by poor economic circumstances? Are we seeing more service or manufacturing entrepreneurs?

The difference between Schumpeter's model and Kirzner's model of entrepreneurship might be resolved in a long run and short run perspective. In the short run, Kirzner's model is perhaps more applicable. The business cycle will shape the type of employment opportunities and the direction entrepreneurial activity will take. During downturns, small outlets in the service industry will emerge. During economic upturns, larger industries will emerge. A long run perspective in the mode of Schumpeter would direct us to the outcome associated with the death of old industries and the birth of new ones. In a modern context, we might envision the death of an Internet industry or even the decline of a firm that lays skilled workers off, as giving rise to new industries. No doubt the Silicon Valley and Silicon Forest are full of these stories.

Entrepreneurs are usually represented as one of three different types. A gazelle is defined as a firm with at least twenty percent sales growth each year (Birch, 1987). According to Kuratko and Hodgets (1998), "Gazelles are leaders in innovation as shown by the following: New and smaller firms have been responsible for fifty five percent of the innovations in three hundred sixty two different industries and ninety five percent of all radical innovations; Gazelles produce twice as many product innovations per employee as do larger firms; New and smaller firms obtain more patents per sales dollar than do larger firms." Furthermore, between 1990 and 1994, jobs created by gazelles numbered five million and compared to 0.8 million jobs lost by other companies during the same period, thus accounted for a net increase of 4.2 million jobs. Job growth created by gazelles more readily fits Schumpeter's model of entrepreneurship.

A survivalist entrepreneur is defined as one motivated by adverse economic conditions and a lack of paying jobs (Yusuf and Schindebutte, 2000). A lifestyle entrepreneur is motivated largely by the desire for independence and control (Kuratko and Hodgetts, 1998). Many women entrepreneurs fit this description (Scott, 1986). Survivalist and lifestyle entrepreneurs more closely fit the Kirzner model of entrepreneurship.

Statistics support the notion that all types of entrepreneurial firms are important sources of employment and growth of employment in the US economy (Global Entrepreneurship Monitor, 1999, 2000; Kirchhoff, 1994, 1998; Birch, 1979; Baumol, 1993). A recent study showed that during the first half of the 1990s new business startups averaged six hundred thousand per year (The State of Small Business: A Report of the President; Washington, DC, Government Printing Office, 1995). Additionally, small entrepreneurial firms created the most net new jobs in the economy during the period 1977-1990, although the overall percentage share of employment for those firms with fewer than 100 employees remained below that of firms with over five hundred employees (Dennis, 1993). Bednarkzik (2000) shows this to be true as well in the U.S. throughout the 1990s. This statistic is also reflected in a study that predicted which industries will grow the fastest during 1990-2005, in terms of percentage employment. These are all industries in the service sector dominated by small firms (Dennis, 1993).

A related question is the relationship between the strength of the economy and business start-ups. Results are mixed here. One study notes that entrepreneurship in the U.S. is declining and cites the strength of the American economy. "Jobs are plentiful, particularly for those with enough skill to form their own business. Paid employment is relatively more attractive, sometimes neutralizing the 'pull' toward ownership. At the same time, the number of people who experience 'negative pushes', such as unemployment, falls. Fewer people are forced to make life-changing decision. The result is fewer starts." (ICSB, 2000). This study suggests that a strong economy reduces the level of entrepreneurial activity because workers have many alternatives in paid work.

Kirchhoff (1994, 1998) shows too that during periods of economic recessions, small firms are major sources of job creation. He notes too that when the economy expands following recessions, the share of small firms accounting for net new jobs fell. However, he notes that firms with over five hundred employees account for fifty percent of the private-sector workforce and during recessions these firms experience net declines in employment. This makes the overall share of small firms look larger. His analysis concludes that "small firms are the primary job creators in the United States."

Other work, however, shows that the level of entrepreneurial activity increases with the strength of the economy (Kauffman Center, 2001; Zacharikis, Reynolds, Bygrave, 1999). Perhaps the answer to the difference in these results lies in the type of entrepreneurial activity looked at. We certainly know that during the 1990s when the economy was experiencing the largest expansion in history, dot-com starts were up considerably and the venture capital money was plentiful. Over the past year, that money has not been as plentiful and many of those industries have failed. In fact, the average length of employment at Internet companies is eight months. (Foote, 2000). We know less about manufacturing although some research suggests that it plays a lesser role in employment than do service industries (Bednarzik, 2000). This may be due to the typically lower costs associated with starting a service as opposed to a manufacturing business.

Data clearly show a direct relationship between access to capital and the longevity of the firm (Bates, 1990; Global Entrepreneurship Monitor, 2000). This is in turn directly related to the question of whether entrepreneurial activity increases or declines with economic growth. Then we can look at the extent to which entrepreneurial activity creates employment. This paper examines these relationships both theoretically and empirically. We provide a theoretical model describing the relationship between availability of capital to the entrepreneur and employment. We then test the empirical relationship between employment and types of industries; manufacturing, service, distribution, and other productive services. We test also the relationship between employment and firm size. Our findings suggest that employment and entrepreneurial activity are positively related. We also find that employment and firm size are negatively correlated and the service industries account for the majority of employment created by small firms. These findings support our theory.

It is important to note that our findings are consistent with the previous research discussed above. What we bring to the discussion is a theoretical foundation and an econometric analysis that strengthens the conclusions of previous work.

The organization of the rest of the paper is as follows. Section II explains the economic theory of employment creation given resource constraints. Section III describes the data, their source, empirical models, and the findings of the research. A brief summary and conclusions comprise the last section of the paper.

## THE THEORETICAL FRAMEWORK

Every firm operates subject to a budget constraint. For an entrepreneurial firm, this budget constraint will include venture capital. A basic cost function can show how the availability of venture capital will affect the firm's ability to produce output with the resulting implication for employment. We can write this cost function as

$$\begin{gathered} \min\ w \bullet x \\ \text{s.t. } f(x) = y \end{gathered}$$

where x represents a vector of the factors of production, specifically capital and labor and w represents the prices of the factors of production, the cost of capital and wages; $f(x)$ is the production function that combines the factors of production to produce output y. The availability of venture capital directly affects the cost of capital for the entrepreneur. The less venture capital is available to the entrepreneur, the higher is the effective cost of capital. Thus, the entrepreneur's budget constraint becomes more binding on its ability to produce and ultimately, its survivability.

We can look at this process graphically and show the effect a decline in the availability of capital will have on employment. If availability of capital is directly linked to the health of the economy, then we can extrapolate to the relationship between the health of the economy and employment at the firm level.

When that source of capital shrinks the budget constraint becomes more binding on the small firm and shifts to the left. This means that less capital and labor are required, i.e., employment by these firms declines. This is consistent with the research discussed above illustrating the importance of capital to the longevity of entrepreneurial firms. As our empirical results following indicate, small entrepreneurial firms are the major source of net job creation in the United States. This is also consistent with the research. Together, these parts of the model clearly point to the importance of venture capital to the birth of entrepreneurial firms and employment in the economy. Flows of venture capital may also be uneven across types of industries and hence affect the birth of new firms in those industries.

We now turn to an empirical investigation of employment creation due to the birth or expansion of new firms, as well as employment loss due to the death of firms. Specifically, we are using regression analysis to estimate the effect on job creation contributed by small firms compared to medium and large firms. Our theory suggests that small firms have the largest impact on employment. We also use regression analysis to examine the impact of the type of industry that new firms enter on employment birth. Specifically, we look at employment birth as a function of whether the firm is in manufacturing, distribution, other productive industries, or service. As discussed above, initial research results are mixed on where we might expect the largest impact, but all research suggests that entrepreneurial firms will have a net positive impact on employment across all types of industries.

## DATA AND EMPIRICAL FINDINGS

The data set for this study is provided by the Databases for the Study of Entrepreneurship. This database provides information on employment creation by entrepreneurial firms classified by firm size as well as the industry type. Manufacturing, "Other Productive," Distributive, and Service industry firms with numbers of employees less than twenty, between twenty and four hundred ninety nine, and more that five hundred are considered. The data set spans 1989-1996, allowing for reliable statistical inferences. Given the nature of the pooled time series and cross sectional database, the Ordinary Least Squares method (OLS) may not be appropriate for the estimation of the models under study. Therefore, we employ an estimation method that addresses potential problems presented by our type of data. In order to avoid spurious regression estimates and inferences, all variables are initially tested for stationarity by unit root tests. The following is a brief description of the objectives and methods for these tests.

Table 1 reports the findings of the ADF (Dickey and Fuller (1979)) and PP (Phillips (1987)) tests of unit roots. Panel A and B present unit root test results for level series and their percentage changes, respectively. The ADF entails estimating $\Delta x_t = \alpha + \beta x_{t-1} + \Sigma^{L}_{j=1} \gamma_j \Delta x_{t-j} + \upsilon_t$ and testing the null hypothesis that $\beta$=0 versus the alternative of $\beta$<0, for any x. The lag length j in the ADF test regressions are determined by the Akaike Information Criterion (AIC). The PP test estimates $\Delta x_t = \alpha + \beta x_{t-1} + \upsilon_t$ and tests the null hypothesis that $\beta$=0 versus the alternative of $\beta$<0. Three variations of the ADF and PP regressions are estimated: with intercept, trend and intercept, and neither trend nor intercept. The purpose of this approach is to insure that the test results are robust in the presence of drifts and trends. The PP test may be more appropriate if autocorrelation in the series under investigation is suspected. The statistics are transformed to remove the effects of autocorrelation from the asymptotic distribution of the test statistic. The formula for the transformed test statistic is given in Perron (1988). The lag truncation of the Bartlett Kernel in the PP test is determined by Newey and West (1987). In both the ADF and PP tests the MacKinnon (1990) critical values are used. Accepting the null hypothesis means that the series under consideration is not stationary and a unit root is present.

Following stationarity tests, two sets of regression models are proposed to determine the effects of size and industry on employment birth, death, business expansion, and business contraction. In each regression equation, the dependent variable (employment birth or death, for example) is regressed on a set of dummy variables that capture the size or industry effects. The following regression models are therefore estimated:

$$Y= \alpha + \beta_2\, IP_t + \beta_3\, ID_t + \beta_4\, IS_t + u_t. \qquad (1)$$

In equation (1) the dependent variable (employment birth, for example) is a function of the type of industry. Variables IP, ID, and IS, represent productive, distribution, and service firms. The objective is to test whether the type of the industry in which an entrepreneurial firm is operating has any effect on the employment creation. For example, a positive and statistically significant $\beta_3$ would indicate that an entrepreneurial firm in the distribution industry is contributing to the employment creation. Variables IP, ID, IS assume values of one for productive, distributive, and service sector firms, respectively, and zero otherwise. The parameter $\alpha$ captures the effects of manufacturing entrepreneurial firms.

**Table 1: Summary and Stationarity Statistics**

| Level | ADF | PP | M | s | S | K |
|---|---|---|---|---|---|---|
| Birth | -2.03 | -13.19*** | 0.064 | 0.027 | 0.17 | 1.92 |
| Loss | -2.25 | -12.02*** | -0.059 | 0.023 | -0.53 | 2.39 |
| Expansion | -1.87 | -10.68*** | 0.122 | 0.046 | 0.79 | 3.07 |
| Contraction | -1.29 | -3.21** | -0.110 | 0.033 | -1.40 | 5.03 |
| First Difference | | | | | | |
| Birth | -7.63*** | -23.82*** | | | | |
| Loss | -8.29*** | -24.15*** | | | | |
| Expansion | -5.64*** | -22.72*** | | | | |
| Contraction | -4.60*** | -14.25*** | | | | |

Notes: M, s, S, and K stand for mean, standard deviation, skewness, and kurtosis. ADF and PP regressions are estimated with intercepts and no trends. The lag structure for the ADF test is determined based on the AIC criterion, while for the PP test Newey -West criterion is used.

*** indicates significance at 1 percent level.

Similarly, to examine the size effects of entrepreneurial firms on employment and business expansion, we estimate equation (2).

$$Y= \gamma + \lambda_1 M_t + \lambda_2 L_t + w_t. \quad (2)$$

In equation (2) the dependent variable (employment birth, for example) is a function of the firm size. Variables M and L represent medium and large entrepreneurial firms, while $\gamma$ captures the effects of small entrepreneurial firms on the dependent variable. For example, a positive and statistically significant $\gamma$ would indicate that a small entrepreneurial firm is contributing to the employment creation. Both equations are estimated by Newey -West heteroscedasticity and autocorrelation consistent method (NWHAC) (Newey and West (1987)). This method allows for a general covariance matrix estimator that takes into account both the possibility of serially correlated and heteroscedastic residuals in our pooled time series and cross section data.

The summary statistics indicate a slight deviation from normality. These types of deviations may stem from the nature of our pooled time series and cross sectional observations and may suggest estimation methods that adjust for non normality of underlying variable distributions. Results of the ADF and PP stationarity tests are reported in Table 1. It is shown that variables in level are stationary by the PP test. When variables are measured in first difference, then both the PP and ADF test suggest that variables are stationary. Because interpreting regressions on first differences of variables are hard to interpret, we report our regressions in levels of variables. However, the first difference regressions produced qualitatively the same results and are available from the authors upon request.

The Newey -West autocorrelation and heteroscedasticity adjusted parameter estimates of equation (1) are presented in Table 2. According to Table 2, entrepreneurial firms in all industries contribute significantly and positively to employment creation. Also, the same is true regarding employment loss. A notable difference between the first two columns is that coefficient sizes are smaller for employment loss. This indicates that entrepreneurial firms contribute more to employment generation than loss of employment. Considering business expansions and contractions, our findings in the last two columns indicate that entrepreneurial firms contribute to expansion in manufacturing and productive sectors. The coefficients of service and distributive sectors are statistically insignificant showing that entrepreneurial activities in these sectors during the study period were quite limited. This finding is plausible because the raw data indicates that entrepreneurial firms already had a sizable presence in distributive and services sectors and perhaps were running out of room to expand. Indeed, the rate of expansion in manufacturing and other productive sectors is consistently higher than distributive and service sectors for all the study years and firm sizes. In regards to business contraction, entrepreneurial firms show contraction in manufacturing and other productive activities and the coefficient sizes are comparable to those of expansion.

| Table 2: Newey-West HAC Regression Results Equation (1) | | | | |
|---|---|---|---|---|
| | Birth | Loss | Expansion | Contraction |
| Manufacturing | 0.045*** | 0.048*** | 0.108*** | 0.088*** |
| | (8.26) | (0.08) | (11.72) | (21.25) |
| Other Productive | 0.065*** | 0.020*** | 0.047*** | 0.068*** |
| | (11.81) | (2.94) | (3.58) | (11.59) |
| Distributive | 0.075*** | 0.014*** | -0.004 | 0.011 |
| | (13.22) | (2.13) | (-0.31) | (1.87) |
| Service | 0.070*** | 0.008*** | 0.011 | 0.007 |
| | (12.71) | (1.25) | (0.87) | (1.30) |
| $R^2$ | 0.168 | 0.106 | 0.190 | 0.680 |
| F | 5.418*** | 3.192*** | 6.291*** | 56.717*** |
| LL | 191.36 | 202.78 | 148.03 | 215.35 |
| Notes: *** indicates significance at 1 percent level. | | | | |

Table 3 presents overwhelming evidence that small entrepreneurial firms are largely responsible for job creation and losses with roughly equal coefficient sizes. It is notable that the coefficients of small size effect are positive and statistically significant in employment birth and expansion equations and in job loss and contraction equations. However, the coefficient sizes indicate a much larger expansion effect than contraction. Thus, it is safe to deduct that small entrepreneurial firms are active in expanding businesses and creating employment.

| Table 3: Newey-West HAC Regression Results Equation (2) | | | | |
|---|---|---|---|---|
| | Birth | Loss | Expansion | Contraction |
| Small | 0.095*** | 0.087*** | 0.175*** | 0.111*** |
| | (31.29) | (42.60) | (35.07) | (18.12) |
| Medium | -0.046*** | -0.037*** | -0.071*** | 0.009 |
| | (-10.82) | (12.89) | (-10.06) | (1.03) |
| Large | -0.047*** | -0.046*** | -0.087*** | -0.011 |
| | (-10.89) | (16.06) | (-12.42) | (1.32) |
| $R^2$ | 0.660 | 0.781 | 0.682 | 0.064 |
| F | 78.65*** | 144.81*** | 87.04*** | 2.80*** |
| LL | 228.91 | 261.90 | 187.32 | 170.28 |
| Notes: *** indicates significance at 1 percent level. The classification of firms as small, medium, and large is based on the number of employees <20, 20-499, and >500. | | | | |

The statistical results for medium and large entrepreneurial firms are mixed. The first two columns indicate that medium and large size entrepreneurial firms do not contribute to either employment birth or to employment loss, while the last two columns show that these firms were not expanding during the period under study. These findings suggest that the key to employment creation is entrepreneurial firms of small size.

## SUMMARY AND CONCLUSIONS

This paper has examined the relationship between entrepreneurial activity and job creation. We also look at employment created by entrepreneurs as a function of the type of industries they enter. Although there exist different models of entrepreneurship, notably Schumpeter's and Kirzner's, both predict that small firms are a source of net employment growth in the economy. We use regression analysis to estimate these relationships. The data set spans 1989-1996, allowing for reliable statistical inferences. Our findings validate the research prediction that small firms do have a net positive impact on job creation. We also find that this is true over all types of industries although the strength of that impact varies among types of industries. This last result may be due to the fact that flows of venture capital are uneven across types of industries and will therefore affect the birth of firms across industries. This is an interesting question for further research.

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# GLOBAL ENTREPRENEURSHIP, INCOME, AND WORK NORMS: A SEVEN COUNTRY STUDY

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## ABSTRACT

*The subjects used for this study consist of 6,307 individuals from 7 countries examining the influence that work norms have on actual income received across 4 occupational groups - Entrepreneurs, Engineers, Educators, and White Collar Employees - and the general population. Differential prediction is found across the occupational groups with entrepreneurs found to be most similar to teachers - but still having a unique structure of the relationship between work norms and income. Directions for future research are suggested.*

## INTRODUCTION

Compensation has long been a topic of interest to employees and employers alike. In fact, the use of compensation as a motivator has been traced to antiquity (Peach & Wren, 1992). The concept of an employment relationship implies that employees work in exchange for some reward, and this reward is often monetary compensation (Brockner, 2002; Janssen, 2001). Thus, pay satisfaction has emerged as a popular variable for use in organizational research (for reviews, see Heneman, 1985; Heneman & Schwab, 1979; Miceli & Lane, 1991; Rynes & Gerhart, 2000). Pay satisfaction exhibits significant relationships with organizationally important outcomes such as absenteeism (Weiner, 1980), turnover intentions (Hom & Kinicki, 2001; Steel, Griffith, & Horn, 2002), organizational citizenship behaviors (Lambert, 2000) and job performance (Werner & Mero, 1999).

As noted by Rice, Phillips, and McFarlin (1990), one of the most intriguing findings with respect to pay satisfaction is the modest strength of the relationship between how much an individual is actually paid and that individual's pay satisfaction. Although this relationship typically has been positive and statistically significant, it has generally explained well under 25% of the variance in pay satisfaction. These findings have led others to examine the prediction of pay satisfaction based upon multiple discrepancies or multiple monetary standards of comparison for the individual employee (Law & Wong, 1998) and demographic and psychological variables (Berkowitz, Fraser, Treasure, & Cochran, 1987).

Scholars have noted that comparatively little research advances models of pay and their predictors (Heneman, 1985; Miceli & Lane, 1991; Opsahl & Dunnette, 1966; Rynes & Gerhart, 2000; Williams & Brower, 1996). This could be due to the assertions of some researchers that it is clearly "too early to offer a precise theoretical model of the determinants of income satisfaction" (Berkowitz et al., 1987, p. 546), yet such model development is still needed (Rynes & Gerhart, 2000). This is especially important in the area of individual entrepreneurship as little work has been done examining the compensation practices of entrepreneurial organizations - or for entrepreneurs themselves (Buckley, Carrraher, Ferris, & Carraher, 2001; Parnell, Carraher, & Odom, 2000) - especially across cultures (Box, Beisel, & Watts, 1995; Parnell, Crandall, & Menefee, 1995).

How do people experience work, and how are these experiences linked to the economic outcomes of work? The major intellectual traditions within the study of work have been summarized by Dubin (1976). An examination of within-culture, and cross-cultural studies of why individual's work results in identifying six different central variables - or work norms - which may explain why people work. The first of these is the concept of Work Centrality (Lawler & Hall 1970; MOW international work team 1987; Zedeck,1992). Work centrality is the general belief about the importance of working within one's life. It can be thought of as the degree to which work is seen as the most important variable for developing one's self-concept or self-image (Super, 1953; 1957; Super et al., 1967).

The second work norm is the view of work as an Obligation to one's employer, society, and/or family - with the obverse of this being work as an entitlement (Erickson & Vallas, 1990; Etzioni, 1961; Kohlberg, 1963; Piaget, 1965; Zedeck, 1992). An individual with this work norm believes that he or she works because they ought to contribute to society (or the employer, or the family, etc.) through work. In essence, the obligation to work norm represents an individual's belief that he or she has a responsibility or duty to contribute to social units.

The third work norm is intrinsic satisfaction (basically being interested in the work itself) or expected intrinsic rewards from working (Hall, 1986; McGregor, 1960). It has been reported that across countries and cultures (with the sole exception of the Far East), next to providing economic support, perceived intrinsic rewards are seen as the most important reasons for working.

The fourth work norm is the interpersonal or Social work norm (Carraher, Buckley, Scott, Parnell & Carraher, 2002; Carraher, Mendoza, Ishaq, Buckley, Carraher & Kerley, 1996, Erikson & Vallas, 1990; Hall, 1986). Humans tend to be social beings and therefore many work in order to have increased opportunities to interact with others.

The fifth major work norm to be explored in this work, which may seem obvious, is that work is performed to produce income necessary for survival (Hall, 1986; Maslow, 1954; Zedeck, 1992) - which we call the Importance of Pay work norm. A study examining the levels of importance placed on the basic functions of work has found that across eight culturally diverse countries over 60% of all individuals identify this as the most important reason for working (MOW international work team, 1987).

The final major work norm is the entitlement work norm. The entitlement work norm relates to whether one feels that they are entitled to employment and a good job. Based upon equity theories, it has been found (Jaques, 1961) that some classes of employees may believe that they are entitled to a particular level of work or income due to personal characteristics such as education, family background, and/or previous work experiences.

## RESEARCH PURPOSE

The purpose of the present study is to examine the influence that work norms may have on actual income received globally comparing entrepreneurs to three other professional occupational groups and within the general population.

## METHODS

### Sample Characteristics

The research design is based upon work published by Carraher and Whitely (1998) using scales from the international Meaning of Work and the actual incomes of respondents. Specifically results from 6,307 individuals from the U.S., Japan, Germany, Israel, the Netherlands, Belgium, and Yugoslavia are used to examine differences between the influence of work norms on actual income for entrepreneurs, three professional occupational groups, and the general population. Information about each of the scales and the processes used to develop and administer the scales are provided in The Meaning of Work (Mow international research team, 1987).

## RESULTS, DISCUSSION, & CONCLUSIONS

As can be seen in Table 1, entrepreneurs tend to earn more if they work because they enjoy their work or because they have a sense of obligation to contribute to their family, their community, and/or society at large. However, we find that there is no relationship between the importance placed upon working for pay, their desire for social interaction, and their feelings of entitlement and an individual entrepreneur's actual level of pay.

Turning to Tables 2, 3, 4 and 5; we find that for engineers they earn more if they have a sense of obligation to contribute through their work while they earn less if they work because they believe that they are entitled to a good job, out of the desire for social interaction, and in order to make money. Educators, on the other hand, are most similar to entrepreneurs in that they earn more if they have a sense of obligation to contribute through their work and/or if they have intrinsic satisfaction in their work - however, they also make significantly less if their major work norm is to have social interactions through their work.

| Table 1: Entrepreneurs | | | | | |
|---|---|---|---|---|---|
| Multiple R | .31635 | | | | |
| R Square | .10008 | | | | |
| Adjusted R Square | .08861 | | | | |
| Standard Error | 1089.29577 | | | | |
| Analysis of Variance | DF | Sum of Squares | Mean Square | | |
| Regression | 6 | 62148878.60050 | 10358146.43342 | | |
| Residual | 471 | 558872243.56059 | 1186565.27295 | | |
| F | 8.72952 | Signif F | .00001 | | |
| Variable | B | SE B | Beta | T | Sig T |
| Entitlement | 81.470506 | 103.994449 | .035105 | .783 | .4338 |
| Work Central | 2.799370 | 6.014815 | .021635 | .465 | .6419 |
| Social | 9.111768 | 7.057538 | .059310 | 1.291 | .1973 |
| **Intrinsic Sat.** | **28.581235** | **9.725662** | **.137337** | **2.939** | **.0035** |
| **Obligation** | **608.612670** | **95.292801** | **.296230** | **6.387** | **.0001** |
| Pay | 10.939088 | 6.954566 | .074638 | 1.573 | .1164 |
| (Constant) | 3300.874872 | 957.466948 | | 3.448 | .0006 |

| Table 2: Engineers | | | | | |
|---|---|---|---|---|---|
| Multiple R | .33123 | | | | |
| R Square | .10972 | | | | |
| Adjusted R Square | .09808 | | | | |
| Standard Error | 1469.53241 | | | | |
| Analysis of Variance | DF | Sum of Squares | Mean Square | | |
| Regression | 6 | 122154332.68065 | 20359055.44678 | | |
| Residual | 459 | 991222202.40089 | 2159525.49543 | | |
| F | 9.42756 | Signif F | .00001 | | |
| Variable | B | SE B | Beta | T | Sig T |
| **Entitlement** | **350.036206** | **147.964315** | **.105472** | **2.366** | **.0184** |
| Work Central | 3.657807 | 10.329310 | .016443 | .354 | .7234 |
| **Social** | **48.309775** | **12.477399** | **.180454** | **3.872** | **.0001** |
| Intr. Sat | 20.470233 | 15.470690 | .061331 | 1.323 | .1864 |
| **Obligation** | **696.209536** | **161.980409** | **.197748** | **4.298** | **.0001** |
| **PAY** | **39.120082** | **10.916012** | **.172837** | **3.584** | **.0004** |
| (Constant) | 3764.239268 | 1614.704223 | | 2.331 | .0202 |

It is also possible to explain almost twice the variance in the actual incomes of educators than for the entrepreneurs based upon the work norms (18.9% vs 10%) - likely due to the fact that many more factors such as performance and industry can influence the incomes of entrepreneurs. White collar employees then seem to earn more if they feel that they have a sense of obligation to contribute through their work but earn less if they work because they want to earn more money or for social reasons. In the general population all of the work norms are related to actual income - with the exception of Work Centrality. Entitlement, Social, and Pay all have a negative influence on actual income received while Obligation and intrinsic satisfaction both had a positive influence on actual income received.

**Table 3: Teachers**

| | | | | | |
|---|---|---|---|---|---|
| Multiple R | .43429 | | | | |
| R Square | .18861 | | | | |
| Adjusted R Square | .17976 | | | | |
| Standard Error | 686.75299 | | | | |
| Analysis of Variance | DF | Sum of Squares | Mean Square | | |
| Regression | 6 | 60296974.79721 | 10049495.79954 | | |
| Residual | 550 | 259396317.66598 | 471629.66848 | | |
| F | 21.30802 | Signif F | .0000001 | | |
| Variable | B | SE B | Beta | T | Sig T |
| Entitlement | 20.156316 | 73.654468 | .010687 | .274 | .7844 |
| Work Central. | 1.867839 | 4.482575 | .016620 | .417 | .6771 |
| Pay | 1.253011 | 4.486225 | .011493 | .279 | .7801 |
| **Obligation** | **490.716044** | **58.827645** | **.333750** | **8.342** | **.0001** |
| **Intrinsic Sat.** | **16.695508** | **6.431315** | **.102937** | **2.596** | **.0097** |
| **Social** | **23.461882** | **4.760499** | **.202633** | **4.928** | **.0001** |
| (Constant) | 303.364626 | 638.283586 | | .475 | .6348 |

Based upon the results of our current study, future research should explore what other individual attributes might differentially influence actual pay levels across occupations in a differential manner with particular attention paid to what it is that differentiates entrepreneurs from nonentrepreneurs. For instance based upon research performed in the United States, we believe that it is likely that individual differences in an individual's ability to resist organizational stress as it influences their overall coping abilities - which could influence how well employees are able to adapt to highly stressful, but higher paying, employment (Shalit, 1977; Sullivan & Bhagat, 1992).

Additionally, given that it has been found that individuals with different cognitive styles also have differing preferred styles and modes of observing their environment (Myers & McCaulley, 1985; Carraher, 1993), we believe that it is possible that dominant cognitive type or preferred learned style also could potentially influence an individual's dominant work motive, their actual pay levels, and their choice of occupation. It is also likely that individual differences in cognitive complexity, cognitive differentiation, and/or general intelligence might be differentially predictive of actual salaries received across cultures (Carraher & Buckley, 1996; Lance & Scarpello, 1989). While these relationships may be valid across occupations it might be interesting to examine these variables between occupations.

**Table 4: White Collar Employees**

| | | | | | |
|---|---|---|---|---|---|
| Multiple R | .35235 | | | | |
| R Square | .12415 | | | | |
| Adjusted R Square | .11535 | | | | |
| Standard Error | 799.18807 | | | | |
| Analysis of Variance | DF | Sum of Squares | Mean Square | | |
| Regression | 6 | 54050631.49116 | 9008438.58186 | | |
| Residual | 597 | 381304841.69262 | 638701.57737 | | |
| F | 14.10430 | Signif F | .00001 | | |
| Variable | B | SE B | Beta | T | Sig T |
| Entitlement | 54.172880 | 81.712677 | .025962 | .663 | .5076 |
| **Pay** | **22.718926** | **4.562652** | **.199990** | **4.979** | **.0001** |
| Work Central | .443415 | 4.293434 | .004123 | .103 | .9178 |
| Intrinsic Sat. | 7.061407 | 6.429295 | .042636 | 1.098 | .2725 |
| **Obligation** | **391.851106** | **70.589754** | **.224546** | **5.551** | **.0001** |
| **Social** | **21.221300** | **5.101138** | **.168973** | **4.160** | **.0001** |
| (Constant) | 1623.437679 | 646.180621 | | 2.512 | .0123 |

Alternatively, it is also possible that differences in age, organizational tenure, job tenure (Goodwin, 1991), compensation systems (seniority vs merit systems; Li,1985), organizational hierarchical levels (Cotton & McKenna, 1994; Goodwin, 1991) and/or work and team structures (job rotation vs no job rotation, etc.; Cotton 1977, Hollenbeck, LePine, and Ilgen 1996, McCarthy 1989) may be capable of explaining individual differences in pay within cultures and/or occupations - but they may also differentially influence actual pay levels across cultures and occupations (Jaques, 1961). It may also be useful for future research to examining what other work-related outcomes might be influenced by individual work motives. For instance, do individuals with a strong Social work norm tend to cluster within a limited number of industries and/or occupations regardless of culture? Further, how are individual's reasons for working developed across cultures and occupations? Are there similar patterns of development across cultures and occupations or are there even similar developmental patterns based upon life experiences across cultures and occupations? Putting pay of the other side of the prediction equations, it may then be asked if higher pay tends to lead to greater job mobility (DiPrete & Nonnemaker, 1997; Wilk & Sackett, 1996) and occupational satisfaction (Carson, Carson & Phillips, 1996; Judge, Cable & Boudreau, 1995).

**Table 5: General Population**

| | | | | | |
|---|---|---|---|---|---|
| Multiple R | .30753 | | | | |
| R Square | .09458 | | | | |
| Adjusted R Square | .09334 | | | | |
| Standard Error | 962.76953 | | | | |
| Analysis of Variance | DF | Sum of Squares | Mean Square | | |
| Regression | 6 | 425538874.41492 | 70923145.73582 | | |
| Residual | 4395 | 4073836147.70867 | 926925.17582 | | |
| F | 76.51442 | Signif F | .0000001 | | |
| Variable | B | SE B | Beta | T | Sig T |
| **Entitlement** | **144.431372** | **33.317761** | **.062789** | **4.335** | **.0001** |
| Work Central | 2.461696 | 1.895356 | .019375 | 1.299 | .1941 |
| **Pay** | **10.753453** | **1.999066** | **.084491** | **5.379** | **.0001** |
| **Obligation** | **439.807354** | **29.717750** | **.220308** | **14.799** | **.0001** |
| **Int. Sat.** | **16.325154** | **2.796920** | **.088444** | **5.837** | **.0001** |
| **Social** | **21.326386** | **2.275713** | **.143647** | **9.371** | **.0001** |
| (Constant) | 528.551043 | 293.674612 | | 1.800 | .0720 |

It would be interesting to examine questions such as these using multi-trait/multi-method data and/or multi-sample confirmatory factor analysis in order to determine whether the results are sample specific and also whether the results are generalizable across samples. With multi-sample confirmatory factor analysis it is important the remember the influence that the number of samples included has on the statistical results. It is generally preferable to have 3 to 6 samples per multi-sample confirmatory factor analysis (Carraher & Buckley, 1996). Should one desire to examine more than 8 samples then it would be preferable to perform two or more separate analyses or to randomly choose samples and then run a single analysis with no more than 6 samples. Due to the potential of increasing the likelihood that results due to chance occurrences could be observed with multiple multi-sample confirmatory factor analyses, it is the second of these suggestions that would be more preferable.

Another interesting area for study suggested by Scarpello and Carraher (1997) is whether entrepreneurial orientation influences the relationship between reasons for working and actual pay received - especially within professional level employees and entrepreneurs. They have suggested that the relationship between reasons for working and the actual pay received should be strongest for self-employed individuals and weakest for those in industrialized, unionized settings where workers may have little real influence on their actual wages. We also believe that more work should be done examining the sense of obligation to make a contribution through ones work as this was found to be such a power influence on actual income received in this study.

It is hoped that this short study can help guide future researchers in the examination of the importance of how ones reasons for working can influence the outcomes received from working across cultures within occupations. With this study we have sought to help create a better understanding in the relationship between reasons for working and actual pay levels received - and hopefully assist help future researchers to develop models about the influence of work norms on actual pay received within occupations. It appears that in professional occupations that the stronger ones sense of their obligation to make a contribution through their job the more that they earn. Additionally, it appears that cross-occupationally, the stronger ones desire for social interactions from work, the less will be ones pay and that while the relationship between individual work norms and income is most similar for the entrepreneurs and the teachers that the entrepreneurs still have a unique identity among the occupational groups.

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# END OF VOLUME 9, NUMBER 1

# BEGINNING OF VOLUME 9, NUMBER 2

# WHAT IS ENTREPRENEURSHIP? A PROPOSAL FOR A DATA-BASED METHODOLOGY

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## ABSTRACT

*Despite the growing importance of entrepreneurship as a subject, researchers and practitioners still do not agree about what precisely entrepreneurship is. Instead of offering another definition or taxonomy, we propose a data based methodology, grounded in principal components analysis, which seeks to clarify the issue by thinning out the field of existing theories. We suggest that our approach may be capable of identifying the salient aspects of entrepreneurship in an objective way by discarding those aspects that are not central to the concept. We briefly illustrate the methodology using a large sample of British survey data.*


## INTRODUCTION

What is entrepreneurship? Despite the dramatic increase over the last 20 years in research dedicated to answering this important question, we appear to have made relatively little progress towards understanding the essence of the concept. The current state of the literature is characterised by a proliferation of theories, definitions and taxonomies which often conflict and overlap, resulting in confusion and disagreement among researchers and practitioners about precisely what entrepreneurship is.

The contribution of this paper is to propose a different approach to the problem of trying to understand entrepreneurship. Unlike previous contributions that have been mainly theoretical in nature, we do not seek to enlarge the set of theories about entrepreneurship. Instead, we propose a data based methodology designed to thin out the field of existing theories, by identifying (1) Whether an empirical representation of entrepreneurship exists, (2) If so, what its composition is (i.e., what theories receive empirical backing), and (3) What theories do not seem to be central to the entrepreneurship concept. We do this by using principal components analysis to identify coherent representations of entrepreneurship within a rich data set that contains proxies for many of the aspects of entrepreneurship that have been highlighted in previous research.

We argue that the new approach possesses several potential advantages over the common practice of advancing new theories or combining existing ones into new taxonomies or typologies. One advantage is that it does not presume that entrepreneurship is a coherent concept to start with. That is treated as a testable hypothesis in the present context. Second, it is useful to be able to discard as well as to support particular theories. By cutting through the chaff, a clearer representation of the entrepreneurship concept might come into view. If so, future researchers would be enabled to economise on effort by focusing on the salient aspects of entrepreneurship identified by applications of the methodology. Third, the approach can be applied irrespective of how a researcher defines the sample group. Thus, although our empirical illustration of the approach utilises a sample of self-employed business owners, this is not a necessary assumption of the approach. Indeed, we go on to apply it to a sample of employees as well. The key point is that entrepreneurship principal components are only likely to be observed in sample groups where entrepreneurship is practised. And that is precisely what we find in our empirical application.

The remainder of the paper is set out as follows. The next section provides some background about defining entrepreneurship. The one after contains the principal contribution of the paper, namely the proposed methodology. The penultimate section provides the illustrative application of the methodology using a large data set from Britain. The final section concludes.

## BACKGROUND

There are many theories of and views about what entrepreneurship entails. For example, consider the following illustrative and abbreviated set of viewpoints about what entrepreneurship involves:

| | |
|---|---|
| 1. | Exercising leadership, motivation, and the ability to resolve crises (Leibenstein, 1968). |
| 2. | Facing uncertainty and taking profits (Cantillon, 1755); and trading off risk for returns (Knight, 1921). |
| 3. | Initiating, maintaining and developing a profit-oriented business (Cole, 1968). |
| 4. | Arbitrage, exploiting opportunities and supplying resources lacking in the marketplace (Kirzner, 1985) - possibly with a geographical dimension (Reynolds, Storey & Westhead, 1994), and possibly involving exploitation of financial, social, and human capital (Parker, 2000; Gomez & Santor, 2001; Cressy, 1996). |
| 5. | Innovation (Schumpeter, 1934). |
| 6. | Creating a new enterprise (Low & MacMillan, 1988). |
| 7. | Combining factors of production, including hired labour (Say, 1828; Schumpeter, 1934). |

Unfortunately we have little guidance from the existing literature about which of these theories are likely to be the most relevant in practice, and which - in the accepted scientific tradition - can be sidelined or discarded. This makes it difficult to know which ones to emphasise when seeking to develop the field of entrepreneurship in new theoretical and empirical directions.

Some researchers have responded by proposing various taxonomies and typologies of theories of entrepreneurship, entrepreneurs and firms. Entrepreneurship classifications have been proposed, inter alia, by Wortman, 1987; Lafuente Salas, 1989; Elkjaer, 1992; Lumpkin & Dess, 1996; Kaufmann & Dant, 1998. Entrepreneurs themselves have been classified into different categories or typologies by Smith, 1967; Dunkelberg & Cooper, 1982; Smith & Miner, 1983; Tiessen, 1997. A third approach has classified firms run by entrepreneurs (e.g., Miller, 1983; Covin & Slevin, 1991).

These taxonomies and typologies have undoubtedly been useful in advancing our understanding of aspects of entrepreneurship. However, the diversity of classifications that have emerged offer little clear guidance about which (if any) represent a genuine and stable characterisation of the concept under study (Woo, Cooper & Dunkelberg, 1991). There would also appear to be inherent problems with generalising about entrepreneurial 'types' or 'entrepreneurial functions', when evidently not all entrepreneurs are risk-takers, arbitrageurs, or innovators (Ucbasaran, Westhead & Wright, 2001). For entrepreneurs who mix aspects of these functions in their enterprises, there can even be insurmountable problems of ad hoc-ery in assigning them to particular categories. This accentuates the need for a methodology that can bypass these problems, which we go on to describe next.

## THE NEW METHODOLOGY

Consider a researcher who has access to sample data containing information about a wide range of attributes of a group of individuals, where each individual potentially practises something called entrepreneurship. Clearly it is possible to frame such a sample group in a variety of different context-specific ways. For example, the researcher might be interested in trying to identify entrepreneurship among a group of managers, or among business owners, or among the population as a whole. We stress that the applicability of the methodology does not depend on the choice of group - a point we shall return to below. All that is needed is that the data on the group's members are comprehensive enough to furnish empirical counterparts to the theoretical notions of entrepreneurship under study.

With data in hand, the methodology involves applying principal components analysis to identify the existence of components that articulate a coherent representation of entrepreneurship. Principal components analysis transforms a matrix of original data into an array of new ordered variables ("principal components"), such that the first component accounts for the greatest source of variance in the data, the second the next greatest source of variance, and so forth.

How do the principal components bear on the question of entrepreneurship? The answer is as follows. The method of principal components essentially emphasises linkages between "like" variables. Some of these components might link together variables associated with entrepreneurship (such as those in the list at the start of the paper). If so, we would call these 'entrepreneurship component'. Other principal components might link non-entrepreneurship variables. It is important to stress that, in a given application, there is no guarantee that an entrepreneurship component will be found. In which case, one would have to conclude that such a concept is not well defined among the sample of individuals used in that application. However, if one or more components relating to entrepreneurship were identified, the implication would be that entrepreneurship is a non-empty (and quite possibly multi-dimensional) concept. And by examining the composition of any entrepreneurship components, we might be able to distinguish between the particular theories of entrepreneurship that capture the essential nature of entrepreneurship, and those that do not.

Three practical aspects of our methodology deserve clarification. One is a technical point about the extraction and rotation techniques used to obtain the principal components. If two or more entrepreneurship components were found, it would be helpful to be able to interpret them as distinct manifestations of the phenomenon. For example, it is possible that different principal components represent different forms of entrepreneurship similar to those classified by previous entrepreneurship researchers. But such an interpretation would only be possible if the components were genuinely independent. This requires the use of 'orthogonal' extraction and rotation methods in the principal components procedure.

A second point is the importance of using a data sample that contains a diverse array of variables, including those relating to previous theories of entrepreneurship. At the risk of stating the obvious, one cannot justly claim that a particular theory of entrepreneurship is irrelevant if it has been excluded from the analysis and so has not given a fair chance of being identified. To avoid this problem of "omitted variable bias" it is necessary to have access to data sets with information on a large number of variables. That might be demanding for researchers, and might constitute a practical (though not a logical) drawback of the proposed methodology.

How does the new methodology relate to a commonly used alternative that clusters individuals into "entrepreneurial types" (see, e.g., Smith, 1967; Dunkelberg & Cooper, 1982; Smith & Miner, 1983; Tiessen, 1997). Similar to our methodology, the clustering approach starts by considering a researcher who frames a sample of "potential entrepreneurs". It then uses the multivariate technique of cluster analysis to sort cases into sub-groups that are presumed to be relatively homogeneous, and can be labelled as particular "entrepreneurial types". In contrast, our methodology tries to identify recognisable dimensions of entrepreneurship practised by possibly heterogeneous individuals. This is an important distinction, suggesting that the two approaches are complementary rather than conflicting. However, we would add that our methodology might also enjoy several advantages. These include not having to assume entrepreneurial homogeneity within broadly defined group types; asking whether, rather than presuming that, entrepreneurship exists; and not having to decide arbitrarily the number of entrepreneurial types at the termination of a cluster analysis (Woo, Cooper & Dunkelberg, 1991). In our approach, the existence and number of entrepreneurship-related principal components are revealed freely by the data, rather than being imposed by the researcher. Of course, one must also acknowledge that any application of the method of principal components can be prone to subjective bias of the researcher, in the choice of number of components to analyse, for example. These choices are discussed explicitly in what follows below.

A third aspect of our methodology is that it can be applied irrespective of how a researcher defines the sample group. In this respect, our methodology is hardly special, since the clustering approach (for example) also shares this feature. However, there is an additional subtlety that is worth mentioning. Under the clustering/entrepreneurial type methodology, a researcher who frames a sample group as one that has little obvious entrepreneurial content (for example, factory assembly line workers) will presumably find that the cluster analysis collects types that are not distinguished by any obvious entrepreneurial traits. In a similar way, a researcher who uses a similar sample frame in conjunction with our proposed methodology is unlikely to find any entrepreneurship component in the data. In principle, this might suggest that the methodology could be used to identify broadly entrepreneurial groups - since only these groups will be observed to possess entrepreneurship components. In fact, an example of this practice appears in the next section, which provides an illustration of the methodology.

## ILLUSTRATIVE APPLICATION

Below we describe an empirical application of the methodology. Consider first the choice of sampling frame. A number of different sampling frames could be suggested, e.g., managers, business owners, or the population as a whole. We decided to focus on self-employed business owners, for three reasons. First, in many countries numerous data sets already exist for this group, which are sufficiently rich to meet the data demands set out above. Second, many of these data sets also contain data on non-business owners (e.g., employees), which enables a comparison to be made between the two groups. Third, it is sometimes argued that self-employed business ownership does not necessarily imply entrepreneurship (see, e.g., Katz, 1990; Holtz-Eakin, 2000; Davidsson & Wiklund, 2001). This can be directly tested using the new approach. For example, if no entrepreneurship components are found for this sample, then we can conclude that self-employed business owners are not really entrepreneurs. But if entrepreneurship components are found for this sample, it is of interest to see what aspects of entrepreneurship are and are not identified.

We stress that by choosing to focus on business owners we are neither presupposing the existence of a coherent entrepreneurship concept, nor its nature. One might argue, for example, that entrepreneurship is embodied more strongly in specially hand picked samples of business managers, new business starters, or leaders of certain social and public sector organisations. Naturally, we acknowledge that some observers might disagree with our choice of sampling frame, being possibly more interested in seeing the methodology applied to some other group or groups. Of course, the particular results will reflect the sample frame chosen, as explained in the previous section; but the important point is that the methodology can be applied irrespective of the choice of sampling frame.

This is proved by our additional usage of a sample of non-business owners for comparative purposes below.

## THE DATA SET

The data used in our empirical exercise are taken from the British Household Panel Survey (BHPS). This is a representative random sample of households collected by the Institute for Social and Economic Research at Essex University, UK, using face-to-face interviews. Each year, comprehensive data on a wide variety of individual and household characteristics are obtained from some 5500 British households, comprising almost 10000 individuals. Respondents have been interviewed each year since the autumn of 1991. The longitudinal nature of the data set, and the format of the information obtained, makes it broadly comparable to the US Michigan Panel Study of Income Dynamics. The BHPS data set contains information on personal characteristics; economic, work and family circumstances; socio-demographic variables; and attitudes towards a variety of life and work issues. We analyse data from the most recent available year at the time of writing, namely 1998. Individuals identified themselves as (self-employed) business owners; the data include both unincorporated and incorporated businesses. The former predominates in the sample, accounting for over half of respondents. To sidestep issues of ageing that are not of primary interest, we confine attention to male and female respondents aged between 16 and 65.

Table 1 maps the empirical counterparts to the entrepreneurship perspectives outlined at the outset of the paper. Table 2 provides more precise definitions (and summary statistics) of the complete set of variables used in the data analysis, which have been grouped for convenience into several categories: personal (general), personal (family and family background), economic (general), economic (work), and attitudes.

Table 1 shows that several empirical counterparts are available for most of the theoretical variables. For the most part they appear to capture some aspect of the theory they are linked with, though we acknowledge that the innovation variable "Innov" is not as direct as we would like it to be. Following the practice of Kirchhoff & Phillips, 1989, this variable hypothesises that businesses in highly innovative industries are innovative themselves. In the present context, innovative industries are defined to include manufacturing, printing and publishing, computer services, and R&D; none of the other 102 industries in the sample seemed to offer much scope for innovation. Because "Innov" does not contain direct evidence that given individuals actually pioneered any new innovation themselves, it is a rather crude proxy (Kirchhoff & Phillips, 1989). Taken as a whole, however, we believe that the items listed in Table 1 constitute a fairly comprehensive array, especially bearing in mind that some of the variables suggested by theory (especially innovation) are very hard to measure directly in practice. Incidentally, we note that there is no methodological difficulty in using the current business duration variable "Lspell" to bear on two theories, because it is predicted to impact differently in the two cases.

**Table 1**
Entrepreneurship perspectives and empirical counterparts

| Theories | Empirical counterparts (sample variables in bold) |
|---|---|
| Exercising leadership, motivation, and the ability to resolve crises | *Leadership and motivation:* **Jobhrs** (time the business owner devotes toworking in his or her enterprise); **Impmoney** (the importance of money); and **Impgoodj** (the importance of having a good job)<br>*Ability to resolve crises:* **Faceprobs** (how well faces problems, including unexpected ones) |
| Facing uncertainty and taking profits, and trading off risk for returns | *Uncertainty:* **Depend** (whether freelance or has a stable job); and **Permjob** (whether work is of a permanent nature or not)<br>*Total returns:* **Linctot** (total income) |
| Initiating, maintaining and developing a profit-oriented business | **Lspell** (log of the length of the current spell of business ownership) |
| Arbitrage, exploiting opportunities and supplying resources lacking in the market-place--possibly with a geographical dimension and by exploiting financial, social, and human capital | *Arbitrage and exploiting opportunities:* **Jobmult** (score of commitment to one or several businesses); and **Prof** (whether works in a non-arbitrage professional capacity)<br>*Geographical dimension:* **South** and **Midlands** (regional dummies)<br>*Exploiting financial capital:* **Ownhouse** (whether an owner-occupier (used for collateral)); and **Saves** (whether saves from current income)<br>*Exploiting social capital:* **Localgr** (how often attends local groups); and **Volwork** (amount of voluntary work)<br>*Exploiting human capital:* **Ed** (score of educational achievement) |
| Innovation | **Innov** (whether works in an industry in which innovation is relatively common - see text for a full definition) |
| Creating a new enterprise | The inverse of **Lspell** (i.e., a short spell in current business) |
| Combining factors of production, including hired labour | *Combining hired labour with other factors:* **Ownacc** (whether the business owner works alone); and **Empbig** (whether hires three or more workers)<br>*Having capital to combine labour with:* **Linvinc** (log of capital income in previous year) |

Table 2 shows that many more variables than just those listed in Table 1 were used in the analysis. The rationale was to avoid tilting the results in favour of finding entrepreneurship components where none might exist, and to minimise the risk of omitted variable bias - as explained earlier. It is also the case that lists of entrepreneurship theories can rarely ever be entirely complete (Hebert & Link, 1988) - there is invariably scope for other theories to be proposed. For example, some might argue that entrepreneurship requires individuals to have personal traits like low personal satisfaction, and a desire for autonomy (see Amit, Glosten & Muller, 1993, for a discussion). Some obvious empirical counterparts for these traits are in fact present in Table 2, e.g., "Likert", "Satwork" and "Impind".

Several other variables were also tried out initially that do not appear in Table 2. These include self-reported political views, uses of time outside work, health, gender, and additional regional dummy variables. Preliminary data analysis led to their exclusion on the basis of their low communalities and correlations with other variables (SPSS, 1998). Hence we implemented the methodology using the 536 observations and 46 variables summarised in Table 2.

**Table 2**
Variable definitions and summary statistics

| Variable name | Definition | Mean | Standard deviation |
|---|---|---|---|
| Personal (General) | | | |
| Male | Dummy = 1 if male, else 0 | 0.72 | 0.45 |
| Health | Health score over last year (1 = excellent, 3 = fair, 5 = very poor) | 1.93 | 0.95 |
| Localgr | Score of how often attends local groups (1 = at least once a week, 3 = several times a year, 5 = never or almost never | 4.29 | 1.26 |
| Volwork | Score of how often does voluntary work (same scale as Localgr) | 4.43 | 1.20 |
| Age | Age in years | 43.99 | 10.61 |
| South | Dummy = 1 if live in Southern England, else 0 | 0.43 | 0.50 |
| Midlands | Dummy = 1 if live in Midlands of England or East Anglia, else 0 | 0.24 | 0.43 |
| Ed | Score of highest educational qualification (1 = higher degree, 2 = first degree, 10 = apprenticeship, 12 = no qualification) | 6.29 | 3.25 |
| Personal (Family and Family Background) | | | |
| Single | Dummy = 1 if single, divorced or separated, else 0 | 0.18 | 0.38 |
| Pasemp | Dummy = 1 if father self-employed when respondent aged 14, else 0 | 0.06 | 0.23 |
| Masemp | Dummy = 1 if mother self-employed when respondent aged 14, else 0 | 0.02 | 0.14 |
| Lhwork | Natural log of (1 + hours of hours per week spent on housework) | 1.72 | 1.00 |
| Children | Number of children in household | 0.68 | 1.03 |
| Ownhouse | Dummy = 1 if an owner-occupier, else 0 | 0.80 | 0.40 |
| Economic (General) | | | |
| Saves | Dummy = 1 if saves from current income | 0.49 | 0.50 |
| Spendleis | Score of amount spent on leisure per month (0 = nothing, 1 = under £10, 2 = £10-£19, 4 = £30-£39, 12 = £160 or over) | 4.43 | 3.45 |
| Linvinc | Natural log of (1 + investment income last year) | 3.77 | 3.06 |
| Linctot | Natural log of (1 + total income last year) | 9.15 | 1.45 |

**Table 2**
Variable definitions and summary statistics

| Variable name | Definition | Mean | Standard deviation |
|---|---|---|---|
| | Economic (Work) | | |
| Depend | Dummy = 1 if freelance or a sub-contractor, else 0 | 0.18 | 0.39 |
| Jobmult | Inverse score of commitment to business (1 = no second job, 2 = second job ina different business, 3 = second job inpaid employment) | 1.14 | 0.46 |
| Ownacc | Dummy = 1 if an own-account worker (i.e., no employees), else 0 | 0.67 | 0.47 |
| Empbig | Dummy = 1 if employs three or more workers, else 0 | 0.16 | 0.37 |
| Permjob | Dummy = 1 if current job is permanent, = 0 if seasonal or contract | 0.85 | 0.36 |
| Jobhrs | Hours normally worked per week | 45.27 | 18.62 |
| Carvan | Dummy = 1 if has use of car or van, else 0 | 0.93 | 0.25 |
| Lspell | Natural log of length in days of current labour market spell | 7.76 | 1.16 |
| Innov | Dummy = 1 if works in an industrial sector in which innovation takes place * | 0.05 | 0.22 |
| Agric | Dummy = 1 if works in agriculture | 0.06 | 0.24 |
| Prof | Dummy = 1 if professional, else 0 | 0.10 | 0.30 |
| | Attitudes | | |
| Neighbd | Dummy = 1 if lives in and willing to improve neighbourhood, else 0 | 0.58 | 0.49 |
| Satpay | Score of job satisfaction about total pay (1 = not satisfied at all, 4 = neither satisfied nor dissatisfied, 7 = completely satisfied) | 4.93 | 1.72 |
| Satsecure | Score of job satisfaction about job security (same scale as Satpay) | 5.12 | 1.79 |
| Satwork | Score of job satisfaction about work itself (same scale as Satpay) | 5.78 | 1.10 |
| Sathours | Score of job satisfaction about hours worked (same scale as Satpay) | 4.97 | 1.57 |
| Satoverall | Score of job satisfaction overall (same scale as Satpay) | 5.49 | 1.24 |
| Imphealth | Score of importance of health (0 = does not apply to me, 1 = not important at all, 10 = very important) | 9.60 | 0.97 |
| Impmoney | Score of importance of money (same scale as Imphealth) | 6.44 | 1.89 |
| Impkids | Score of importance of having children (same scale as Imphealth) | 7.46 | 2.98 |
| Impgoodj | Score of importance of having a good job (same scale as Imphealth) | 8.40 | 1.63 |
| Impind | Score of importance of being independent (same scale as Imphealth) | 8.79 | 1.50 |
| Imphome | Score of importance of owning own home (same scale as Imphealth) | 8.04 | 2.21 |
| Imppartner | Score of importance of good partnership (same scale as Imphealth) | 9.27 | 1.63 |

**Table 2**
Variable definitions and summary statistics

| Variable name | Definition | Mean | Standard deviation |
|---|---|---|---|
| Impfriends | Score of importance of good friends (same scale as Imphealth) | 9.08 | 1.61 |
| Likert | Likert score for wellbeing (0 = least distressed, 36 = most distressed) | 10.48 | 4.81 |
| Faceprobs | Score of ability to face problems (1 = less than usual, 2 = same as usual, 3 = less so, 4 = much less) | 2.01 | 0.44 |
| Convote | Dummy = 1 if votes for Conservative party, else 0 | 0.36 | 0.48 |

Number of observations = 536 for all variables.
* Defined to include manufacturing industries, printing and publishing, computer services, and R & D (taken from the 4-digit SIC industrial classification). The total number of industries in the sample was 106.

## RESULTS

In line with our earlier discussion, orthogonal extraction and rotation methods were used to extract the principal components from the data. The first 4 principal components accounted about one quarter of the total variation in the 46 variables, while the first 11 accounted for about one half of the total variation. Inspection of the eigenvalues, and adoption of a conservative practice of not wishing to overlook possibly important entrepreneurship components, led us to focus on all of the first 11 components below. These components are presented in Table 3.

**Table 3**
Rotated principal component matrix

| Component | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Interpretation | Happiness | Commitment to Work | Co-ordination and Motivation | Commitment to Home | Risk-Taking and Returns | Importance of Things |
| Relates to entrepreneur-ship? | No | No | Yes | No | Yes | No |
| Variable | | | | | | |
| Satoverall | 0.82 | | | | | |
| Sathours | 0.73 | | | | | |
| Satwork | 0.69 | | | | | 0.23 |
| Satpay | 0.68 | | | | 0.30 | |
| Satsecure | 0.61 | | 0.36 | | | |

**Table 3**
Rotated principal component matrix

| Component | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Interpretation | Happiness | Commitment to Work | Co-ordination and Motivation | Commitment to Home | Risk-Taking and Returns | Importance of Things |
| Male | | 0.79 | | | | |
| Jobhrs | | 0.65 | 0.27 | | | |
| Lhwork | | -0.65 | | | | |
| Carvan | | 0.36 | | 0.20 | | |
| Ownacc | | | -0.79 | | | |
| Empbig | | | 0.79 | | | |
| Permjob | | 0.24 | 0.47 | | -0.21 | |
| Depend | | | -0.44 | | 0.37 | |
| Age | | | | 0.73 | | |
| Lspell | | 0.24 | | 0.58 | | |
| Neighbd | | | | 0.42 | | |
| Owner | | | | 0.36 | 0.25 | |
| Spendleis | | | | | 0.54 | |
| Lincinv | | | | 0.47 | 0.48 | |
| Ltotinc | | 0.42 | | 0.21 | 0.47 | |
| Saves | | | | | 0.44 | |
| Ed | 0.24 | | | | -0.44 | |
| Innov | | | | | 0.38 | |
| Prof | | | | | 0.36 | |
| Convote | | | 0.20 | | 0.23 | |
| Impgoodj | | | | | | 0.66 |
| Impind | | | | | | 0.56 |
| Imphealth | | | | | | 0.50 |
| Impfriends | | | | | | 0.48 |
| Impmoney | | | | -0.24 | | 0.47 |
| Imphome | | | | 0.37 | 0.22 | 0.38 |
| Single | | | | -0.24 | | |
| Children | | | | -0.35 | | -0.21 |
| Impkids | | | | | | |

**Table 3**
Rotated principal component matrix

| Component | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Interpretation | Happiness | Commitment to Work | Co-ordination and Motivation | Commitment to Home | Risk-Taking and Returns | Importance of Things |
| Imppartner | | | | | | 0.37 |
| Localgr | | | | | | |
| Volwork | | | | | | |
| Jobmult | | | | -0.24 | | |
| Faceprobs | | | | | | |
| Likert | -0.32 | | | | | |
| Health | | | -0.25 | | | |
| Masemp | | | | | | |
| Pasemp | | | | | | |
| Agric | | 0.26 | | | -0.30 | |
| South | | | | | | |
| Midlands | | | | | | |
| Cronbach's | 0.737 | 0.598 | 0.593 | 0.597 | 0.587 | 0.579 |

**Table 3 (contd.)**

| Component | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|
| Interpretation | Family Life | Local Groups & Voluntary Work | Health and Happiness | Family Background | Region |
| Relates to entrepreneurship? | No | No | No | No | No |
| Variable | | | | | |
| Satoverall | | | -0.25 | | |
| Sathours | | | | | |
| Satwork | | | | | |
| Satpay | | | | | |
| Satsecure | | | | | |
| Male | | | | | |
| Jobhrs | | | | | |
| Lhwork | | | | | |
| Carvan | | | | | |

| Table 3 (contd.) | | | | | |
|---|---|---|---|---|---|
| Component | 7 | 8 | 9 | 10 | 11 |
| Interpretation | Family Life | Local Groups & Voluntary Work | Health and Happiness | Family Background | Region |
| Ownacc | | | | | |
| Emp3big | | | | | |
| Permjob | | | | | |
| Depend | | | | | |
| Age | | | | | |
| Lspell | | | | | |
| Neighbd | | -0.24 | | | |
| Owner | 0.31 | 0.21 | | | |
| Spendleis | | | | | |
| Lincinv | | | | | |
| Ltotinc | | | | | |
| Saves | | | | | |
| Ed | | 0.39 | | | 0.23 |
| Innov | | | | | |
| Prof | | -0.35 | | | |
| Convote | | | | | |
| Impgoodj | | | | | |
| Impind | | | | -0.21 | |
| Imphealth | | | | | |
| Impfriends | | | | | |
| Impmoney | | | | | |
| Imphome | 0.21 | 0.23 | | | |
| Single | -0.72 | | | | |
| Children | 0.66 | | | | |
| Impkids | 0.63 | | | | |
| Imppartner | 0.61 | | | | |
| Localgr | | 0.74 | | | |
| Volwork | | 0.70 | | | |
| Jobmult | | -0.36 | | | |
| Faceprobs | | | 0.84 | | |

**Table 3 (contd.)**

| Component | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|
| Interpretation | Family Life | Local Groups & Voluntary Work | Health and Happiness | Family Background | Region |
| Likert | | | 0.81 | | |
| Health | | | 0.40 | | |
| Masemp | | | | 0.80 | |
| Pasemp | | | | 0.79 | |
| Agric | | | | 0.43 | |
| South | | | | | -0.83 |
| Midlands | | | | | 0.79 |
| Cronbach's | 0.594 | 0.511 | 0.660 | 0.475 | 0.437 |

Notes: Extraction method: Principal Component Analysis. Rotation method: Varimax with Kaiser Normalisation. Rotation converged in 12 iterations.

To aid interpretation, we follow the suggestion of SPSS (1998) and include only entries with absolute magnitudes of at least 0.20 in Table 3. Each column contains a component, ordered from the largest to the smallest eigenvalue. Cronbach's reliability statistic, alpha, appears at the foot of each column. At the head of each column is the interpretation given to the component on the basis of its entries: these will be discussed below. Also, each component is assessed for whether it embodies variables specifically associated with entrepreneurship, and receives either a "Yes" or a "No" verdict.

The broad-based nature of the questions asked in the BHPS is reflected in the diversity of the components identified from the data. The first two componets and component 4 are fairly unambiguously associated with levels of happiness, commitment to work, and commitment to home, respectively. These do not have any obvious link with entrepreneurship. However, a stronger case can be made for the third and fifth components relating to entrepreneurship. The main elements of component 3 are employment of three or more workers in a relatively well-established ("permanent") enterprise, with all the job security that entails. This might be indicative of a manifestation of entrepreneurship that involves combining labour with other factors of production; and there is also a suggestion that high motivation (in the form of long work hours) plays a role.

Component 5 seems to identify a different type of entrepreneurship, practised by well-educated, well-paid and wealthy professionals, who are predominantly reliant on others to supply them with work, possibly on a contract basis. In this sense, this form of entrepreneurship appears to be more about risk-taking and returns. However, it does not necessarily involve working on one's own: on the contrary, it is more likely than not to be linked to employer status (the principal components' coefficients were -0.135 for "Ownacc" and +0.142 for "Empbig"). There is also evidence that the innovation variable "Innov" loads positively on this component, but in view of the limitations of this variable acknowledged above, one has to be cautious before drawing any strong conclusions about it.

None of the other principal components obviously relate to entrepreneurship at all. This is not of course to suggest that the activities of all business owners are described by components 3 and 5. Rather, it means that any other aspects of entrepreneurship are too diffuse to comprise a coherent entity in their own right, at least in this data set.

Finally, we asked whether using employees as an alternative sample frame alters these results. To this end, we re-ran the principal components analysis for the 4012 employees in the 1998 BHPS about whom we had complete information on all the variables listed in Table 2 (apart from "Ownacc", "Empbig" and "Depend", which are clearly not relevant for employees and so had zero entries in all cases). Not surprisingly, the unavailability of these three variables immediately rules out any prospect of finding an employee counterpart to component 3. But what was notable was that, whereas many components were similar to those of business owners, none seemed to embody entrepreneurship (see Table 4). In particular, we identified no employee counterpart to the business owners' entrepreneurship component 5. This would accord with one's priors that an employee sample frame is less likely to manifest entrepreneurship than one comprising business owners.

**Table 4**
Rotated principal component matrix (employee sample)

| Component | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Interpretation | Happiness | Commitment to Work | Savings, Education and Income | Importance of Things | Companionship | Local Groups & Voluntary Work |
| Relates to entrepreneurship? | No | No | No | No | No | No |
| Variable | | | | | | |
| Satoverall | 0.88 | | | | | |
| Satwork | 0.70 | | | | | |
| Sathours | 0.78 | | | | | |
| Satpay | 0.69 | | | | | |
| Satsecure | 0.55 | | | | | |
| Male | | 0.78 | | | | |
| Jobhrs | | 0.74 | | | | |
| Lhwork | | -0.71 | 0.35 | | | |

**Table 4**
Rotated principal component matrix (employee sample)

| Component | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Interpretation | Happiness | Commitment to Work | Savings, Education and Income | Importance of Things | Companionship | Local Groups & Voluntary Work |
| Ltotinc | | 0.57 | | | | |
| Innov | | 0.38 | | | | |
| Spendleis | | 0.37 | | | -0.30 | |
| Lincinv | | | 0.69 | | | |
| Saves | | | 0.63 | | | |
| Carvan | | 0.22 | 0.35 | | 0.23 | |
| Impind | | | | 0.67 | | |
| Impgoodj | | | | 0.65 | | |
| Impfriends | | | | 0.63 | 0.26 | |
| Imphealth | | | 0.25 | 0.50 | | |
| Imppartner | | | | 0.25 | 0.80 | |
| Single | | | | | -0.74 | |
| Impkids | | | | | 0.47 | |
| Volwork | | | | | | 0.87 |
| Localgr | | | | | | 0.86 |
| Age | | | | | 0.23 | |
| Lspell | | | | | | |
| Ed | | | -0.42 | | | 0.26 |
| Neighbd | | | 0.22 | | | |
| Faceprobs | | | | | | |
| Likert | -0.24 | | | | | |
| Health | | | -0.30 | | | |
| Midlands | | | | | | |
| South | | | | | | |
| Imphome | | | | 0.31 | 0.27 | |
| Impmoney | | | -0.22 | 0.24 | | |
| Owner | | | 0.45 | | | |
| Permjob | | | | | | |

| Table 4<br>Rotated principal component matrix (employee sample) | | | | | | |
|---|---|---|---|---|---|---|
| Component | 1 | 2 | 3 | 4 | 5 | 6 |
| Interpretation | Happiness | Commitment to Work | Savings, Education and Income | Importance of Things | Companionship | Local Groups & Voluntary Work |
| Prof | | 0.28 | 0.29 | | | |
| Children | | | | | 0.25 | |
| Convote | | | | | | |
| Masemp | | | | | | |
| Pasemp | | | | | | |
| Agric | | | | | -0.30 | |
| Jobmult | | | | | | |

| Table 4 (contd.) | | | | | |
|---|---|---|---|---|---|
| Component | 7 | 8 | 9 | 10 | 11 |
| Interpretation | Age | Health and Happiness | Region | Commitment to Home | Job security |
| Relates to entrepreneurship? | No | No | No | No | No |
| Variable | | | | | |
| Satoverall | | | | | |
| Satwork | | | | | |
| Sathours | | | | | |
| Satpay | | | | | |
| Satsecure | | | | | 0.44 |
| Male | | | | | |
| Jobhrs | | | | | 0.23 |
| Lhwork | | | | | |
| Ltotinc | | | | | 0.36 |
| Innov | 0.28 | | | | -0.28 |
| Spendleis | -0.27 | | | | |
| Lincinv | | | | | |
| Saves | | | | | |
| Carvan | | | | 0.26 | |
| Impind | | | | | |

**Table 4 (contd.)**

| Component | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|
| Interpretation | Age | Health and Happiness | Region | Commitment to Home | Job security |
| Impgoodj | | | | | |
| Impfriends | | | | | |
| Imphealth | | | | | |
| Imppartner | | | | | |
| Single | -0.23 | | | | |
| Impkids | | | | | |
| Volwork | | | | | |
| Localgr | | | | | |
| Age | 0.73 | | | | |
| Lspell | 0.65 | | | | 0.33 |
| Ed | 0.50 | | | | |
| Neighbd | 0.30 | | | | |
| Faceprobs | | 0.84 | | | |
| Likert | | 0.84 | | | |
| Health | | 0.42 | | | |
| Midlands | | | -0.84 | | |
| South | | | 0.82 | | |
| Imphome | | | | 0.66 | |
| Impmoney | | | | 0.55 | |
| Owner | | | | 0.54 | |
| Permjob | | | | | 0.73 |
| Prof | | | | | -0.33 |
| Children | | | | | |
| Convote | | | | 0.36 | |
| Masemp | | | | | |
| Pasemp | | | | | |
| Agric | | | | | |
| Jobmult | | | | | |

Notes: Extraction method: Principal Component Analysis.
Rotation method: Varimax with Kaiser Normalisation. Rotation converged in 17 iterations.

## CONCLUSION

This paper has attempted to answer the question "What is entrepreneurship?" Instead of adding further definitions and taxonomies to the already overcrowded literature, we proposed a data based methodology that seeks to clarify the issue by thinning out the field of existing theories. The methodology is based on principal components analysis, and is simple to implement in practice.

Although possibly not the central contribution of the paper, we went on to illustrate the methodology using a large sample of British survey data on business owners and employees. Among business owners, entrepreneurship was found to be a multi-dimensional phenomenon, with four key aspects. One is the co-ordinating role involved in running a firm with hired labour (Schumpeter, 1934). A second is motivation (Leibenstein, 1968), measured by work effort. A third is risk-taking (Knight, 1921), in the sense of depending on uncertain employment contracts. Fourth, innovation may play a role (Schumpeter, 1934), although this effect has to be treated with caution because of measurement issues. Conversely, we could find little evidence to support the notion that entrepreneurship is about maintaining or developing a profit-oriented business, performing arbitrage, creating a new enterprise, specific geographic locations, overcoming financial or social capital constraints, or psychological factors. Taken at face value, these results suggest that policies designed to encourage entrepreneurship should focus on promoting ventures that promise employment creation, and preparing potential entrepreneurs to face the long work hours and high risk that seems to accompany the forms of entrepreneurship identified here. The first of these is of course consistent with government interest in small business start-ups as a source of employment creation.

To conclude, we believe that this paper has made a start in moving away from an uncritical accumulation of theories of entrepreneurship, towards a more discriminating assessment of its salient features. We contend that such a move is needed to assist the direction and focus of future research in the field of entrepreneurship. By removing some of the more peripheral theories to the sidelines where they belong, researchers can devote effort to exploring in greater detail the elements of entrepreneurship that occupy the centre ground. We would suggest that the four aspects listed in the previous paragraph might be worth exploring in greater detail in subsequent research.

As we stated on several occasions in the paper, our empirical exercise is preliminary. Further research is needed to refine the results and assess their robustness using other data sets. Any progressive scientific paradigm depends on the acquisition of a self-contained body of experimental evidence, in order to provide independent confirmation or refutation of the claims made by previous researchers. Given the ease of use of our proposed framework, and its promise for deepening (rather than widening) our understanding of entrepreneurship, it is to be hoped that future applications will not be long in coming.

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# MATCHING STRATEGIC RESOURCES WITH STRATEGY AND INDUSTRY STRUCTURE

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## ABSTRACT

*Although new ventures have provided many benefits to society, the failure rate for new ventures has been extremely high. Entrepreneurship theorists have suggested that strategic resources are a possible determinant of new venture success and that strategic resources should be matched to business strategy and environmental situations. However, few empirical studies have considered strategic resources. Therefore, this exploratory study empirically examined the influence of resources on new venture performance in the presence of certain strategic and industry structure conditions. This study found a significant relationship between distinctive competencies and new venture performance when matched to low-cost strategies and between intellectual resources and new venture performance for firms in industries in the shakeout stage. These results imply that entrepreneurs should match their strategic resources to the situation. New ventures adopting a low-cost approach should develop administration competencies in order to establish a competitive advantage over rivals. It is possible that adding better and more administrative personnel could pay for itself in a higher return to stockholders.*

*Furthermore, when new ventures are in industries in the shakeout stage, intellectual property such as patents and copyrights become more important. This effect may be particularly important in high-growth industries considered in this study. Possessing intellectual property may enable firms to differentiate their goods and services from their competition or may provide a means of limiting direct competition.*

## INTRODUCTION

Research on the determinants of new venture performance has focused on three possible factors: the entrepreneur, industry structure, and strategy. Of these, studies have identified strategy and industry structure, and the interaction between strategy and industry structure as important determinants of new venture success.

Other than strategy, industry structure, and the entrepreneur, resources have also been identified as a possible determinant of new venture performance. Resources are instrumental in developing new products and services in existing markets and in preparing ventures for entry into new markets (Azzone, Bertele, & Rangone, 1995; Brush, Greene, & Hart, 2001). Resources are particularly important in turbulent environments in which long-term competitiveness depends upon the venture's ability to identify, develop, and exploit critical resources (Azzone, et al., 1995). Additionally, resources such as knowledge and technical skills are directly linked to technical entrepreneurship and innovation (Klavans, 1994) that are vital to high-growth ventures.

Resource-based theory proposes that resources determine a firm's strategic advantages and firm performance (Wernerfelt, 1984; Mahoney & Pandian, 1992; Barney, 1991). In this view, the concept of resources includes attributes of firms that affect the formulation and implementation of strategy (Barney, 1991; 2001). There is a progression of value creation, starting with Generic Resources, and passing through Capabilities, Distinctive Competencies, Strategic Resources, and finally to Strategic Advantage (Brush, et al., 2001). Because resources are critical to the firm's success, the type, amount, and timing of resources accumulated are vital.

Resource-based theory rests on three major assumptions. The first major assumption is that firms seek to earn above-average returns (Wernerfelt, 1984; Conner, 1991; Robinson, 1998). Viewing firms as seekers of above-average returns is important because it suggests behaviors which might be different if firms were seeking average returns. For example, firms seeking average returns may be willing to adopt strategies that imitate an average firm while firms seeking above-average returns are forced to consider innovative strategies that may involve more risks.

The second major assumption within resource-based theory is that resources are asymmetrically distributed across competing firms (Conner, 1991; Schulze, 1994; Barney, 2001). The heterogeneity of resources may be caused or maintained by several mechanisms. For example, asymmetries may arise from resource mobility barriers due to asset specificity (Williamson, 1985); cognitive effects (Fiol, 1991); or social complexity (Barney, 1991). Also, isolating mechanisms that may develop due to time compression diseconomies of imitation or due to regulatory requirements such as patent law, copyright law, or trademark law (Conner, 1991). Resource-based theory proposes that at least one of these mechanisms acts to prevent the equal distribution of resources within and between industries.

The third major assumption is that differences in resources lead to differences in product characteristics or service characteristics that result in variation in firm performance (Conner, 1991; Schulze, 1994; Barney, 2001). Because these differences in product characteristics lead to strategic advantages, they have been classified into two categories: characteristics that allow a firm to sell a differentiated product at a higher price, and characteristics that permit a firm to make an undifferentiated product at a lower cost (Schumpeter, 1950; Porter, 1991; Peteraf, 1993).

According to resource-based theory, above-average returns occur as firms create value through the accumulation and deployment of resources (Conner, 1991). Determining new combinations of resources is an innovative activity which requires entrepreneurial vision (Schumpeter, 1950). Because the combinations of resources must be unique, some researchers have suggested it may be impossible to generalize ways to systematically create strategic advantages

(Dierickx & Cool, 1989; King & Zeithaml, 2001). However, other researchers believe that there may be general configurations of resources that influence the survival and growth of firms (Hall, 1993; Miller & Shamsie, 1995).

Strategic management theory generally proposes that the return of above-average profits comes from strategic advantages. These advantages are the result of two mechanisms: product differentiation or low cost (Schumpeter, 1950; Porter, 1980; Conner, 1991). That is, firms may either create products that are superior to others and thereby command a relatively high price while maintaining moderate costs, or they may provide common products at reasonable prices that are relatively inexpensive to make.

This research suggests a relationship between new venture performance and resources. Because previous studies have confirmed the importance of strategy and industry structure in determining new venture performance, strategy and industry structure are included in the general model used in this study. Therefore, the general model for this research include new venture performance (NVP), industry structure (IS), strategy (S), and resources (R) as given by:

$$NVP = (S, IS, R)$$

While the relationship may be simple and direct, there are also other possibilities. First, it is possible that resources explain the same variation as do industry structure and strategy. Therefore, this study examines resources in the presence of strategy and industry structure. Second, the influence of resources may be through an interaction with strategy or industry structure. Third, resources may not influence new venture performance at all.

## DEVELOPMENT OF HYPOTHESES

### Generic Strategy and Distinctive Competencies Prior Findings

Chandler and Hanks (1994) found an interaction effect on new venture performance between generic strategy and distinctive competencies. They noted that new ventures adopting differentiation strategies and possessing competencies in service areas performed better than other firms. This effect was particularly evident when the firms' capabilities allowed them to provide customer service training and to implement process technologies.

In addition, the results in Chandler and Hanks (1994) indicate that low-cost strategies were more successful when matched with the appropriate resource-based capabilities. This was most apparent in new ventures for which there were few customers. The authors suggested that firms with dedicated products going to few customers were able to lower marketing costs and product development costs to create low-cost advantages. In keeping with prior findings, this research expected to find that low-cost strategies will be more successful when matched with product competencies or administration competencies. Furthermore, this study expected to find firms with strategies dealing with differentiation to be superior when new ventures have competencies in research and development or in marketing.

### Generic Strategy and Distinctive Competencies Hypotheses

| | |
|---|---|
| 1a: | Ventures adopting low-cost strategies and possessing production competencies will perform better than other ventures. |
| 1b: | Ventures adopting low-cost strategies and possessing administration competencies will perform better than other ventures. |
| 1c: | Ventures adopting differentiation strategies and possessing R&D competencies will perform better than other ventures. |
| 1d: | Ventures adopting differentiation strategies and possessing marketing competencies will perform better than other ventures. |

### Stage of the Industry Life Cycle and Intellectual Resources Prior Findings

In their study of Hollywood film studios from 1936 to 1965, Miller and Shamsie (1996) found a relationship between industry structure and strategic resources. The research showed that ventures with knowledge-based resources performed better than other firms in the late stages of the industry life cycle. According to Miller and Shamsie (1996), firms in late stages of the industry life cycle face uncertainties that knowledge-based resources handle best due to their inherent flexibility. This research expected to confirm Miller and Shamsie's (1996) findings. It was expected that ventures entering late stages of the industry life cycle will perform better than other firms when they possess intellectual resources.

### Stage of the Industry Life Cycle and Intellectual Resources Hypotheses

| | |
|---|---|
| 2a: | Ventures entering late stages of the industry life cycle and owning patents will perform better than other ventures. |
| 2b: | Ventures entering late stages of the industry life cycle and owning trademarks will perform better than other ventures. |
| 2c: | Ventures entering late stages of the industry life cycle and owning copyrights will perform better than other ventures. |

## OPERATIONALIZING THE VARIABLES

### Strategic Resources

This investigation concentrated on two types of intangible resources: intellectual resources and distinctive competencies. Intellectual resources include number of copyrights, number of patents, and number of trademarks. Distinctive competencies include: research and development, production/operations, marketing/sales/distribution, and administration. Strategic resources were operationalized from previous studies of intangible resources. In specific, patent count and patent citation count categories were from studies by Wright (1994), and Finkle (1996). Cooperative agreement categories were adapted from McGee (1994), Eisenhardt and Schoonhoven (1996), Miller and Shamsie (1995; 1996), and Mosakowski (1991). Trademarks and copyrights as predictors of performance were not found in the strategic resources literature. This research extended prior studies by including these measures of intangible resources. Competencies were adapted from Rangone (1999).

### Intellectual Resources

Indicators of patents and patent applications were found in the S-1 documents. The self-disclosed IPO data were considered to be the best data for measuring patents. Trademarks were operationalized as registered or unregistered trademarks self-disclosed in the initial public offering statement. The prospectus documents were chosen as the best source of data because companies have a high level of responsibility in reporting the information. Copyrights were operationalized from the Library of Congress database. In comparing the results of the database search with the initial public offering statements, it was noticed that some companies do not choose to report copyright information in the prospectus statements. Apparently the writers of the documents did not see copyrights as information that is material to the prospective investor. Therefore, this research used the Library of Congress information.

### Distinctive Competencies

Distinctive competence was operationalized by evaluating the relative strength of the functional areas of the firm. Four functional areas were assessed: research and development; production/operations; marketing/sales/distribution; and administration. Each functional area was assigned a value of strong, average, or weak, based on the company's ability compared to the competition (referred to as strategic competence on the classification grid).

When firms had more than one strong functional area, the internal capabilities rankings were used to determine the firm's distinctive competence. Therefore, when the firm has more than one strong functional area relative to the competition, the distinctive competence was defined as the strong functional area which has the highest internal capabilities ranking.

### Generic Strategy

Generic strategy was adopted from the model proposed by Porter (1987). There are two possible generic competitive advantages: low cost and differentiation. Companies were classified as low cost if their prospectus said the company was "price competitive." It was inferred that low prices were associated with low cost. Companies were classified as differentiation if the prospectus indicated that the firm provided unique products or services.

### Stage of the Industry Life Cycle

This study used a seven-stage model of the industry life cycle (Robinson, 1998; Robinson & McDougall, 1998). The seven stages were: startup, growth, shakeout, maturity, saturation, decline, and rejuvenation. Each stage in the industry life cycle was operationalized with certain indicators: industry growth rate, long-term trend in the industry growth rate, and gross national product.

### New Venture Performance

Shareholder value created was a ratio based on changes in common stock prices and dividends of ventures. It was calculated by the following equation (Robinson & McDougall, 1998):

$$SVC= \quad (SP4 - SP1) + D2\text{-}4 )/ SP1$$

where SVC represents shareholder value created, SP4 was the stock price at the end of year four, SP1 was the stock price at the end of year one, and D2-4 was the cumulative dividends for years two through four. Stock prices were adjusted for stock dividends and stock splits.

## METHOD

### The Selection of the Industries to be Studied

In addition to the three criteria listed above, one additional criterion was used to select the sample for this study. The sample had to account for the degree to which the industries involved had contributed to job growth. This criterion was added because one of the major contributions of new ventures to society is job growth. And, since job growth is closely associated with rapid growth in total demand, the first step in the selection process was to identify high-growth industries in the U.S. economy.

An analysis of the 100 fastest-growing firms in the U.S. (Fortune, 1996) helped to identify the highest-growth industries. Of the 100 fastest-growing firms, 38 were in the High-Technology Sector, 12 were in the Health Care Sector, and 7 were in the Energy Sector. This suggested that many high-growth industries would be in these sectors of the economy.

A list of industries with at least 10 new ventures conducting initial public offerings during 1987 through 1993 is presented in Table 1 (Inc. Magazine, 1987-1993). The list shows that the most frequently occurring industrial codes were 7372 (prepackaged software), 2834 (pharmaceutical preparations), and 6712 (bank holding companies). Furthermore, an analysis of the types of new ventures that went public indicates that 12 of the 17 most frequently occurring new venture industry codes were in the high-technology or health care sectors. This evidence supported the idea that high-technology and health care sectors were growing rapidly.

**Table 1: Frequency of New Venture Industry Codes of Initial Public Offerings for 1987 through 1993**

| Industry Code Name | SIC Code | Frequency |
|---|---|---|
| Pharmaceutical Preparations | 2834 | 57 |
| Prepackaged Software | 7372 | 57 |
| Bank Holding Companies | 6712 | 44 |
| Surgical & Medical Instruments | 3841 | 35 |
| Biological Products Except Diagnostic | 2836 | 34 |
| Semiconductor & Related Products | 3674 | 34 |
| Computer Peripheral Equipment | 3577 | 25 |
| Electromedical Equipment | 3845 | 24 |
| Eating Places | 5812 | 24 |
| Fire, Marine, & Casualty Insurance | 6331 | 24 |
| Telephone & Telegraph Apparatus | 6331 | 24 |
| Surgical Appliances & Supplies | 3661 | 20 |
| Diagnostic Substances | 2835 | 16 |
| Electronic Computers | 3571 | 16 |
| Radiotelephone Communications | 4812 | 14 |
| Electronic Components | 3679 | 13 |
| Health & Allied Services Nec | 8099 | 13 |

To further investigate which industries should be included in this study, the Standard Industrial Classification Codes were classified as Health Care Sector and High-Technology Sector for the initial public offerings between 1987 and 1993 as given in Table 2. The Pharmaceutical, Biotechnology, and Medical Equipment industries comprised almost 6 percent of the 2,371 initial public offerings during that period. The Computer, Semiconductor, and Software industries contributed another 6 percent.

High-technology and health care sectors each had more initial public offerings than any other sector in the U.S. from 1987 to 1993 and the industries within the high-technology and health care sectors had more initial public offerings than any other industry except for banking. Due to the high rates of reorganization and because no banking firm was listed on the top 100 fastest-growing firms, the banking industry was not included in the sample for this study.

**Table 2: Initial Public Offerings Between 1987 and 1993 by Sector**

| Sector | Industry | SIC Name | SIC | Count |
|---|---|---|---|---|
| Health Care | Pharmaceutical | Pharmaceutical Preparation | 2834 | 60 |
| Health Care | Biotechnology | Biological Products | 2836 | 34 |
| Health Care | Medical Eqmt. | Surgical & Medical Instr. | 3841 | 35 |
| Health Care | Medical Eqmt. | Electromedical Equipment | 3845 | 24 |
| Total Health Care | | | | 153 |
| High Technology | Computers | Electronic Computers | 3571 | 34 |
| High Technology | Computers | Computer Storage Devices | 3572 | 7 |
| High Technology | Computers | Computer Terminals | 3575 | 4 |
| High Technology | Computer | Computer Peripheral Eqmt. | 3577 | 29 |
| High Technology | Semiconductor | Semiconductors | 3674 | 36 |
| High Technology | Software | Computer Programming | 7371 | 9 |
| High Technology | Software | Prepackaged Software | 7372 | 63 |
| High Technology | Software | Computer Integrated Syst | 7373 | 11 |
| Total High Technology | | | | 193 |
| Total New Ventures | | | | 346 |

## Venture Selection

Because this research dealt with the performance of new ventures, three criteria were required. First, the age of the venture was eight years or less (Biggadike, 1979; Weiss, 1981). Second, ventures were independent startups rather than corporate ventures (Hofer & Sandberg, 1987). Third, the ventures were involved in the creation of goods and services rather than serving as types of financial instruments.

An initial search found 303 firms qualified for this study. Twenty five firms were randomly selected from each of the six industries in the study. The three industries of the health care sector each contribute 25 firms for a total of 75 firms from health care and the three industries of the high-technology sector each contribute 25 firms for a total of 75 firms from high-technology. The six industries combine for a total sample of 150 firms. The ventures in the sample were blocked to ensure equal representation in all 6 industries.

**Data Collection**

There were four major reasons for selecting Securities and Exchange Commission initial public offering prospectus filings as a source of new venture data. First, these filings must meet Securities and Exchange Commission content standards, and therefore they offer a reliable source of new venture data (Marino, Castaldi, & Dollinger, 1990). Second, the standardized form used in initial public offering filings facilitated the use of content analysis. Third, Securities and Exchange Commission filings were considered more comprehensive than proposals submitted to venture capitalists. Finally, because of Securities and Exchange Commission oversight, the filings were thought to provide more objective information than questionnaires that may be subject to rationalization of actions by self-reporting entrepreneurs (McGee, 1994).

High-growth new ventures for this study were taken from the list of all initial public offerings between 1987 and 1993 as given by Investment Dealer's Digest (1987-1994). This time period was selected for three reasons. First, 1987 through 1993 was a time of high levels of activity for high-growth ventures. Therefore, there was a relatively large number of new ventures with public information available. Second, one of the industries in the study, software, was first identified as a separate industry by the standard industrial classification system in 1987. Consequently, it was decided that all data should begin in 1987 to facilitate intra-industry comparisons. Third, due to need to operationale new venture performance over a three year period, 1993 was the latest initial public offering date in which performance data were available. New venture performance data included stock prices, dividends, stock splits, and number of employees. Stock prices were gathered from the Daily Stock Report (1987-1996). Dividends, stock splits, and number of employees were gathered from Moody's Investment Services (1995-1997a, b, c). Copyright data were gathered from the Library of Congress Information System.

Because data came from initial public offering registration statements, the researcher had performed content analysis to code the data collection forms. To check coding accuracy, the study included an inter-rater reliability procedure. In all, the researcher included 29 data points on 150 observations for a total of 4,350 individual pieces of data. Due to the magnitude of the data collection effort, it was deemed impractical to conduct an inter-rater reliability check on the full sample. Instead, this study adopted the procedure discussed in Kachigan (1986) whereby a sub-sample of 18 ventures were used to infer the reliability for the full sample. A chi-square test was used on the 18 observations to check the reliability. Every measure except stage of industry life cycle indicate positive inter-rater reliability (p<.0001 in all cases).

**Sample Description**

The average performance of ventures included in this study as measured by shareholder value created was -0.42751. In other words, on the average, shareholders lost 42.7 percent of their investment (adjusted for the NASDAQ average return during the period of the study). The range of shareholder value created was from -1.6255 to 3.7296. So some shareholders lost over 100 percent of their investment (after adjusting for the market return) while some shareholders almost quadrupled their money in three years. The average age was 5.3 years, the range was from 1 to 8 years, and the mode was 6 years. Ventures in this sample had about 5 to 6 years of history before going public.

**Statistical Methods**

Data in this study were extremely non-normal (SAS Institute, 1988). A normal probability plot of the residuals using the final sample clearly indicated non-normality, and the W statistic for normality in the SAS procedure was 0.944576 with a corresponding p-value of 0.001. So, it was extremely unlikely that the residuals were normally distributed. Because the data were very non-normal, it was decided that the analysis should proceed with SAS nonparametric statistics. Specifically, the research used the Kruskall-Wallis analysis of variance procedure for testing the equality of medians from three or more samples. This non-parametric procedure was used because non-parametric statistics were more robust than parametric statistics when parametric assumptions are violated (Gibbons, 1985; Daniel, 1990).

**Results**

The results for the possible interaction between generic strategy and strategic resources are given in Table 3. These results generally support the research hypothesis that new venture performance varies based on the possible interaction between generic strategy and distinctive competencies. In particular, new ventures adopting low-cost generic strategies perform better when they possess administration distinctive competencies.

The results for the possible interaction between intellectual resources and stage of the industry life cycle are presented in Table 3. These results support the research hypothesis that new venture performance varies based on a possible interaction between stage of the industry life cycle and intellectual resources. Specifically, this study shows that new ventures owning patents or owning copyrights perform better than other new ventures when they are entering late stages of the industry life cycle.

| Table 3: Summary of Results | | |
|---|---|---|
| H | Measures | p |
| 1a | Production Competencies, Low Cost > Others, Low Cost | 0.4102 |
| 1b | Administration Competencies, Low Cost > Others, Low Cost | 0.0222 |
| 1c | R&D Competencies, Differentiation > Others, Differentiation | 0.7493 |
| 1d | Marketing Competencies, Differentiation > Others, Differentiation | 0.1043 |
| 2a | Patents, Shakeout > No Patents, Shakeout | 0.0364 |
| 2b | Trademarks, Shakeout > No Trademarks, Shakeout | 0.7287 |
| 2c | Copyrights, Shakeout > No Copyrights, Shakeout | 0.0078 |

## Discussion

Findings from this study have implications for entrepreneurship practice. For example, these results may be helpful in the decision-making process for venture capitalists, investment bankers, angel investors, or other new venture investors. In addition, these findings may be instructive to entrepreneurs in their understanding of elements necessary in the enterprise-creation process.

Theorists have long speculated that performance is related to strategic resources, but few empirical studies have been conducted to confirm or disconfirm the relationship. This research provides much-needed evidence to add to the discussion of resource-based theory as well as to the study of entrepreneurship. Furthermore, this study identifies multiple measures of strategic resources that may be used in future studies of new venture performance. In particular, this work indicates the importance of intangible resources which may provide a link between resource-based theory and knowledge-based theory in future research.

This study has shown that the current model of new venture performance should be revised to include strategic resources in certain situations. Prior studies have shown the importance of intellectual resources (Chatterjee & Wernerfelt, 1991) and distinctive competencies (Chandler & Hanks, 1994; Markides & Williamson, 1996). However, none of the previous studies considered strategic resources and the other variables in the research model, namely strategy and industry structure, in the same study.

It is suggested that future research help overcome the limitations of this study and extend the scope of this research based on the findings here. One suggestion for future research design is to incorporate methods of normalizing data, so parametric statistics may be utilized. As entrepreneurship research advances, studies should begin testing causal models. In addition, this research could be extended through development of a broader, more representative sample to make the conclusions more generalizable. Further, extending the research sample by additional time periods may provide for longitudinal testing, and future entrepreneurship research may benefit from using alternative forms of data-gathering techniques such a direct observation, interviews, or surveys.

There are several theoretical extensions of this study which may help to explain the overall effect of new venture performance. The most pressing is probably the testing of strategy, industry structure, strategic resources, and entrepreneurial team in the same model. Other theoretical extensions might include the influence, if any, of organizational learning, of employee knowledge, skills, and abilities, or of rates of technology development on new venture performance.

## CONCLUSIONS

These results imply that entrepreneurs should match their strategic resources to the situation. New ventures adopting a low-cost approach should develop administration competencies in order to establish a competitive advantage over rivals. It is possible that adding better and more administrative personnel could pay for itself by a higher return to stockholders.

Furthermore, when new ventures are in industries in the shakeout stage, intellectual property such as patents and copyrights become more important. They may be particularly important in high-growth industries such as explored in this study. Possessing intellectual property may enable firms to differentiate their goods and services from their competition or may provide a means of limiting direct competition.

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# UNDERSTANDING THE FINANCIAL EDUCATIONAL NEEDS OF ENTREPRENEURS: A SURVEY OF ENTREPRENEURS AND FINANCIAL ADVISORS

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## ABSTRACT

*Finance is a crucial topic for nascent entrepreneurs to study, as appropriate financial planning and management are essential for survival and success. The current study addresses 30 finance topics commonly taught in university courses. Both practicing entrepreneurs and various types of financial advisors evaluated each topic regarding its level of importance for inclusion in entrepreneurial finance courses. All 30 topics were considered at least "fairly important" for inclusion by both groups. However, some important differences did emerge between the two groups. Entrepreneurs felt six of the topics are significantly more important than did the financial advisors. Financial advisors felt only one topic, forecasting and financial statements, to be significantly more important than did entrepreneurs.*

## INTRODUCTION

There has been a striking increase in the level of interest in entrepreneurship. A strong indicator of such interest is the unprecedented rise in the rate of new business formation. According to Stevenson (1999), the number of annual new business incorporations doubled from about 300,000 to over 600,000. This is mirrored by an explosive growth in the amount of capital committed to venture capital firms in the United States. Due to this dramatic upsurge in entrepreneurial activity, business schools across the nation are devoting more and more attention to the discipline of entrepreneurship. The Top 50 Entrepreneur-Oriented Universities, according to Success Magazine (2001), includes such names as Babson, DePaul, Cornell, MIT, Stanford, and Columbia to name a few.

As the number of entrepreneurship education programs has increased, so too has the number of business schools offering specialized courses in entrepreneurial finance. In recent years, a small number of new entrepreneurial finance texts have been published to support this nascent market. The increased attention paid to entrepreneurial finance appears justified, given the academic evidence that strong finance skills increase an entrepreneur's chances of business success (see, e.g., Ball & Shank, 1995; Envick, 1999; Gresham & Franklin, 1996; Hood & Young, 1993). However, there is significant diversity in the topics covered by the existing entrepreneurial finance texts and no studies have investigated exactly which finance skills are most important for entrepreneurial success. The purpose of this study is to gather evidence on which finance topics should be taught to entrepreneurship students, according to entrepreneurs and their financial advisors.

## LITERATURE REVIEW

A large number of academic studies have investigated ways to improve introductory corporate finance courses and finance curriculum in general. Mindful of the limited amount of material that can be covered in one course or in one academic major, some earlier researchers focused on identifying the most important finance topics. For example, Cooley and Heck (1996) surveyed finance professors to identify which topics were viewed as most important to teach in introductory (corporate) finance courses. McWilliams and Pantalone (1994) surveyed financial executives of large corporations to identify important courses to offer to finance majors.

Related studies emphasized the differing perspectives of academics, practitioners, and students. DeMong, Pettit and Campsey (1979) surveyed financial executives and academicians to learn the differing perceptions of what skills finance majors most need. Graham and Krueger (1996) compared the opinions of chief financial officers and finance students regarding the importance of various skills to finance majors. Hall and Williams (2001) compared the views of chief financial officers and finance students regarding the importance of financial and non-financial objectives. Perhaps one of the more interesting studies was Gup (1994), who asked finance professors and chief executive officers (at mostly larger corporations) to identify the most important topics to teach in an introductory finance course. The responses from finance professors indicated that the following topics, listed from most to least important, are the seven most important: (1) present value, (2) capital budgeting, (3) the capital asset pricing model, (4) capital structure, (5) valuation, (6) accounting topics, and (7) cost of capital. The responses from CEOs indicated that the most important topics, in order, are: (1) present value, (2) accounting topics, (3) capital structure, (4) capital budgeting, (5) cost of capital, and (6) the capital asset pricing model. (Valuation did not make the CEOs' top seven list and only six topics were reported for CEOs.) Gup's results suggest that CEOs placed a higher value than did finance professors on accounting topics and cost of capital. CEOs placed a lower value on valuation and the capital asset pricing model.

While some research has identified important topics to teach finance students in specialized areas (e.g., Phillips, 1997, surveyed corporate treasurers to see what skills are most needed in this specific profession), no published studies (to our knowledge) have identified the most important finance topics for entrepreneurs. Because entrepreneurial finance is an emerging "sub-discipline," empirical evidence on entrepreneurs' special needs could be helpful to those structuring courses or writing texts for this area of finance.

The current study furthers the process of identifying appropriate content for entrepreneurship curriculum by focusing specifically on the topic of finance. Thirty topics are included and can be seen in Tables 1 and 2. The authors recognize that all 30 topics are important, however we believe it is essential to uncover which topics are most important to include in entrepreneurial finance courses.

## METHODOLOGY

A nonprofit business organization, which primarily focuses upon promoting entrepreneurial activities, was utilized as the target pool for participants. This organization consists of entrepreneurs and financial advisors to entrepreneurs, among other types of members. Nine hundred and thirty five participants were targeted, which is the entire listing of members the authors believed to own and operate their own businesses or are financial advisors. Two hundred and fifty-six surveys were returned, resulting in a 27.4% return rate. Of the returned surveys, 195 were usable (76%). Of the 195, 103 were entrepreneurs and 92 were financial advisors. The most common reason a survey was not usable was because the respondent did not fit into either category, entrepreneur or financial advisor (79%). Other reasons include the survey being done incorrectly (only 3%) and the survey being returned because of an incorrect contact person or address (18%).

The survey asked participants to rate the importance of each finance topic on a 7-point Likert scale (1 = not important at all; 2 = slightly important; 3 = fairly important; 4 = moderately important; 5 = very important; 6 = extremely important; 7 = absolutely essential). The opinions of entrepreneurs were used because of their experience in dealing with the finance function of operating a business. Financial advisors were used because finance is their area of specialization and because these particular advisors provide services to entrepreneurs. The subcategories of financial advisors include venture capitalists (10), bankers-lenders (26), investment bankers (7), angels (8), accountants/CPAs (24), personal financial advisors (9), and other (8).

Mean scores were used to rank the finance topics from most important to least important according to each group. The data was also analyzed using ANOVAs to determine if significant differences exist between the opinions of entrepreneurs and financial advisors for each of the topics.

## RESULTS

Table 1 reports the mean score rankings of all 30 finance topics according to entrepreneurs. All topics received mean scores higher than 3, which implies all topics are considered at least fairly important. The highest ranked topic is "cash management and projecting cash flows", with a mean of 6.505. The lowest ranked topic is "portfolio theory", with a mean of 3.549.

| Table 1: Entrepreneurs' Mean Score Ranking of Finance Topics | | |
|---|---|---|
| Finance Topic | Mean | SD |
| Top One-Third | | |
| Cash management and projecting cash flows | 6.505 | .839 |
| Forecasting and financial statements | 6.194 | 1.076 |
| Financial statement and financial ratio analysis | 6.049 | 1.175 |
| The relationship between outside investors and the entrepreneur | 6.020 | 1.081 |
| Overview of the major business financing sources and methods | 5.745 | 1.096 |
| Receivables management | 5.563 | 1.288 |
| Time value of money | 5.505 | 1.385 |
| Personal finance and the entrepreneur | 5.461 | 1.539 |
| Project evaluation approaches | 5.456 | 1.219 |
| Selecting the form of business | 5.301 | 1.335 |
| Middle One-Third | | |
| Capital structure theory and liability management | 5.294 | 1.240 |
| Inventory management | 5.097 | 1.411 |
| Placing a value on a closely held or private firm | 5.069 | 1.154 |
| Harvesting the investment | 5.050 | 1.366 |
| Small business profiles | 4.912 | 1.387 |
| Hybrid business financing methods | 4.863 | 1.428 |
| Financial markets and institutions | 4.825 | 1.438 |
| Popular finance and accounting software | 4.784 | 1.520 |
| Lease versus buy decisions | 4.534 | 1.305 |
| Mergers and acquisitions | 4.485 | 1.236 |
| Agency theory | 4.485 | 1.376 |
| Bottom One-Third | | |
| Debt contracts | 4.382 | 1.422 |
| Options and option pricing theory | 4.107 | 1.614 |
| Valuing stocks and bonds | 3.835 | 1.245 |
| Efficient capital markets hypothesis | 3.762 | 1.365 |
| Detailed analysis of debt contracts | 3.706 | 1.519 |
| International finance | 3.621 | 1.299 |
| Dividend policy | 3.598 | 1.402 |
| Bankruptcy, liquidation, and reorganization | 3.573 | 1.325 |
| Portfolio theory | 3.549 | 1.533 |

| Table 2: Financial Advisors' Mean Score Ranking of Finance Topics | | |
|---|---|---|
| Finance Topic | Mean | SD |
| Top One-Third | | |
| Forecasting and financial statements | 6.500 | .763 |
| Cash management and projecting cash flows | 6.489 | .734 |
| Financial statement and financial ratio analysis | 6.261 | .875 |
| Overview of the major business financing sources and methods | 5.598 | 1.156 |
| Receivables management | 5.598 | 1.130 |
| The relationship between outside investors and the entrepreneur | 5.575 | 1.235 |
| Time value of money | 5.457 | 1.362 |
| Inventory management | 5.396 | 1.273 |
| Project evaluation approaches | 5.374 | 1.235 |
| Capital structure theory and liability management | 5.356 | 1.285 |
| Middle One-Third | | |
| Personal finance and the entrepreneur | 5.102 | 1.494 |
| Placing a value on a closely held or private firm | 4.977 | 1.446 |
| Financial markets and institutions | 4.879 | 1.444 |
| Selecting the form of business | 4.826 | 1.419 |
| Harvesting the investment | 4.804 | 1.549 |
| Hybrid business financing methods | 4.651 | 1.317 |
| Popular finance and accounting software | 4.568 | 1.560 |
| Small business profiles | 4.391 | 1.466 |
| Debt contracts | 4.379 | 1.383 |
| Mergers and acquisitions | 4.367 | 1.043 |
| Bottom One-Third | | |
| Lease versus buy decisions | 4.382 | 1.222 |
| Valuing stocks and bonds | 4.089 | 1.435 |
| Agency theory | 3.879 | 1.476 |
| International finance | 3.769 | 1.257 |
| Options and option pricing theory | 3.659 | 1.424 |
| Bankruptcy, liquidation, and reorganization | 3.626 | 1.217 |
| Portfolio theory | 3.500 | 1.537 |
| Efficient capital markets hypothesis | 3.483 | 1.470 |
| Dividend policy | 3.391 | 1.333 |
| Detailed analysis of debt contracts | 3.230 | 1.178 |

Table 2 reports the mean score rankings according to the financial advisors. Like the scores given by entrepreneurs, all topics received mean scores higher than 3, implying all are at least fairly important to consider. The highest ranked topic, according to financial advisors, is "forecasting and financial statements", with a mean score of 6.500. The lowest ranked topic is "detailed analysis of debt contracts", with a mean score of 3.230.

As one can see by comparing Tables 1 and 2, the opinions of entrepreneurs and financial advisors are similar, however, there are some significant differences that must be addressed. Table 3 summarizes significant statistical differences found between the mean scores of entrepreneurs when compared with the mean scores of financial advisors. Only those topics where significant differences were found are reported. There are seven, six of which entrepreneurs found significantly more important and one that financial advisors found significantly more important.

**Table 3: Significant Differences Between Entrepreneur and Financial Advisor Rankings**

| Finance Topic | Ent. Mean | FA Mean | F value | p value |
|---|---|---|---|---|
| Forecasting and financial statements | 6.194 | 6.500 | 2.009 | .0035** |
| The relationship between outside investors and the entrepreneur | 6.020 | 5.575 | 6.973 | .0090** |
| Selecting the form of business | 5.301 | 4.826 | 5.796 | .0170* |
| Small business profiles | 4.912 | 4.291 | 6.289 | .0130* |
| Agency theory | 4.485 | 3.879 | 8.724 | .0035** |
| Options and option pricing theory | 4.107 | 3.659 | 4.143 | .0423* |
| Detailed analysis of debt contracts | 3.706 | 3.230 | 5.642 | .0185* |

* = significant @ .05 ** = significant @ .01

## CONCLUSIONS

The evidence from this study suggests that most of the thirty finance topics identified are important for entrepreneurs. Entrepreneurs rated twenty-three of the thirty topics as at least "moderately important" for entrepreneurial success. Financial advisors to entrepreneurs rated twenty-two topics as at least moderately important. Although entrepreneurs and financial advisors rated certain finance topics significantly differently, these two groups also showed remarkable agreement regarding the most important finance topics. Financial advisors valued "forecasting and financial statements" more highly than did entrepreneurs, but both groups viewed this topic as important. For many of the financial advisors surveyed, such as accountants, producing financial statements is their primary service. Perhaps it is not surprising that they ranked this skill highly.

A common theme from other significant differences revolves around the "behavioral" topics in finance. In general, entrepreneurs rated behavioral topics more highly than did financial advisors. For example, "the relation between outside investors and the entrepreneur" was deemed to be a more important topic by entrepreneurs. This finding may suggest that many entrepreneurs have had important conflicts with outside investors regarding the management and control of a new venture. Naturally, such conflicts would lead entrepreneurs to value this topic highly. Similarly, "agency theory," which focuses on the conflicts between owners and managers, was valued more highly by entrepreneurs. Entrepreneurs also valued "selecting the form of business" more highly than did financial advisors. Because the form of the business (i.e., sole proprietorship, partnership, limited partnership, corporation, etc.) drastically affects how power is shared and decisions are made in a new venture, the first-hand experience of entrepreneurs seems to lead them to value this topic more highly. Finally, entrepreneurs gave higher ratings to "small business profiles," "options and option pricing theory," and "detailed analysis of debt contracts."

Notwithstanding these statistically significant differences, entrepreneurs and financial advisors displayed a surprising consensus regarding the seven most important finance topics. Although the exact rankings within the top seven topics differed for entrepreneurs and financial advisors, these two groups agreed that the seven most important entrepreneurial finance topics are: (1) cash management and projecting cash flows; (2) forecasting and financial statements; (3) financial statement and financial ratio analysis; (4) the relationship between outside investors and the entrepreneur; (5) overview of major business financing sources and methods; (6) receivables management; and (7) time value of money.

As noted, Gup (1994) reports on the most important introductory finance course topics, according to CEOs and finance professors. His respondents and the respondents from this study agree that present value (time value of money) is important and that accounting topics (which include topics (2) and (3) above) are important. However, respondents from the two studies do not agree on the importance of the other four most important topics. In particular, cash management and projecting cash flows appears to be much more important to entrepreneurs than to CEOs of larger corporations. Entrepreneurs likely value this skill because forecasting cash shortfalls is particularly difficult for new ventures and because new ventures have a more difficult time raising cash quickly to meet unexpected shortfalls. Overall, the evidence suggests that the topics previously identified as most important for introductory finance courses are not the most important topics for entrepreneurial finance courses. The evidence from this study should prove helpful to those prioritizing finance topics for entrepreneurship students.

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# EFFECTS OF THE HISPANIC POPULATION ON ARKANSAS SMALL BUSINESS

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## ABSTRACT

*The growth in population of Hispanics in Arkansas is a trend that business simply cannot ignore. Many businessmen are afraid to respond to the new market because they do not understand it or the people within it. Some Arkansans do not welcome these new guests. But, like it or not, Hispanics are here, and they are planning to stay. Not only are they working in our factories and production plants, they are starting their own businesses, buying our products, viewing real estate, and looking to start a new life in this land of opportunity. Instead of being uneasy, business should be excited at the influx of new customers. However, entrepreneurs should also be aware that while these people from Latin American may learn our language, live in our country, go to our schools, salute our flag and trade with U.S. dollars, they are different from us, and the differences affect how they will do business in Arkansas.*

## INTRODUCTION

The importance of the Hispanic population in Arkansas has recently increased as more immigrants from Latin America have come to the state seeking jobs. There are a myriad of aspects associated with the increased importance. In regard to the economic impact, the significance can be attributed to two considerations.

First, many of the Hispanic immigrants are willing to do work that many nonHispanic American citizens are not willing to do. To the Hispanic laborers, this "undesirable" work is a better opportunity than they could have attained in their native countries. The second consideration is related to the growing Hispanic population and their purchasing power. Sales to Latinos contribute economically because members of the Hispanic population are likely to have a high Marginal Propensity to Consume (MPC).

The following study will focus on the Hispanic population in the state of Arkansas. This includes focus on the growth of this group of immigrants, public perception, the Hispanic labor force, and opportunities for small business.

## GROWING HISPANIC POPULATION IN ARKANSAS

The Hispanic population in Arkansas is increasing dramatically. This fact has been studied, but perhaps the most definitive recent work is Jeralynn S. Cossman and Edward L. Powers' Winter 2000 article, "Dynamics of Hispanic Population Growth in Arkansas." According to the article, the 2000 Census showed there are approximately 86,866 Hispanics living in Arkansas, and this statistic is a dramatic increase over the 19,876 Hispanics counted during the 1990 Census (Cossman & Powers, 2000). The most recent numbers reveal a population that is almost four and a half times larger than counted in 1990 (Cossman & Powers, 2000). Therefore, a departure from the rest of recent history exists because the 19,876 Hispanics counted in 1990 represented a population only 1.1 times as large as the 17,904 counted in 1980 (Cossman & Powers, 2000). Nationally, Arkansas' 337 percent increase in total Hispanic population was second only to North Carolina's increase (Greico, 2003). The total U.S. Hispanic population increased from 22 million in 1990 to 35.2 million in 2000 (Grieco, 2003). Immigrants were 47 percent of the 13.3 million increase (Grieco, 2003).

The best way to assess the Hispanic population in Arkansas is to look regionally within the state. As of 2000, the largest Hispanic concentrations were located in the Northwest, Central, and Western regions (Cossman & Powers, 2000). The following Table 1 lists the populations in these regions. As indicated by the Table, more than 50% of Arkansas' Hispanics live in these three regions (Cossman & Powers, 2000).

**Table 1: Hispanic Population in Three Arkansas Regions**

| Region | Population |
|---|---|
| Northwest | 30,354 |
| Central | 12,546 |
| Western | 11,372 |
| Total | 54,272 |

Source: US. Census Bureau; Cossman & Powers, 2000

The next step is to analyze the Hispanic population in regard to Arkansas counties. Cossman and Powers (2000) state, "From a policy orientation, a better indicator of Hispanic impact might be found by considering the `saturation rate' or the proportion of the population who claim Hispanic ethnicity. In general, saturation rates tell a more moderate tale about Hispanics in Arkansas" (Cossman & Powers, 2000). Table 2 displays the counties with the highest saturation rates, and Table 3 lists the counties with the least saturation rates.

| Table 2: Arkansas Counties With Highest Hispanic Saturation Rates | |
|---|---|
| Counties | Saturation Rate |
| Sevier | 19.7% |
| Yell | 12.7% |
| Carroll | 9.7% |
| Benton | 8.8% |
| Bradley | 8.3% |
| Source: U.S. Census Bureau; Cossman & Powers, 2000 | |

| Table 3: Arkansas Counties With Lowest Hispanic Saturation Rates | |
|---|---|
| Counties | Saturation Rate |
| Arkansas | 0.8% |
| Marion | 0.8% |
| Ouachita | 0.7% |
| Lawrence | 0.7% |
| Fulton | 0.5% |
| Source: U.S. Census Bureau; Cossman & Powers, 2000 | |

Another method used to look at Hispanic growth in Arkansas counties is to analyze the impact of the Hispanic population on the population changes over the decade (1990-2000). For the decade, 55 of Arkansas' 75 counties experienced a net growth in population (Cossman & Powers, 2000). "Hispanic growth accounted for 100% of the net growth for four of these 55 counties (Bradley, Prairie, Sevier, and St. Francis)" (Cossman & Powers, 2000). For the remaining 51 counties, the average of new population growth in these counties that is attributed to new Hispanic residents is 18.7% (Cossman & Powers, 2000). The following Table 4 displays the results for the 51 counties.

Sixteen Arkansas counties showed population growth at over twenty percent, while four counties had over seventy percent. Counties with the greatest growth were not necessarily the counties with the highest Hispanic populations. This seems to suggest that the growth is expanding into new areas of the state.

| Table 4: Hispanic Growth as a Percentage of Total Growth, 2000 | | |
|---|---|---|
| Less than 10% of total growth | Between 10% &, 20% | 20% or greater |
| Marion (1.8%) | Garland (10.1%) | Conway (20.3%) |
| Fulton (2.1%) | Craighead (10.3%) | Clark (20.7%) |
| Baxter (3.0%) | Independence (11.5%) | Benton (21.7%) |
| Perry (3.3%) | Cleveland (11.6%) | Cross (23.9%) |
| Izard (3.3%) | Crawford (11.9%) | Poinsett (25.5%) |
| Boone (3.3%) | Madison (12.4%) | Washington (25.7%) |
| Sharp (3.7%) | Montgomery (12.7%) | Pike (28.5%) |
| Saline (3.7%) | Searcy (12.9%) | Johnson (28.6%) |
| Cleburne (3.8%) | Lincoln (13.8%) | Carroll (34.0%) |
| Grant (4.3%) | Polk (14.1%) | Sebastian (41.0%) |
| Faulkner (4.5%) | Miller (16.8%) | Crittenden (41.4%) |
| Randolph (4.5%) | Drew (17.5%) | Pulaski (47.2%) |
| Franklin (4.6%) | Lawrence (19.1%) | Scott (74.1%) |
| Stone (4.8%) | | Yell (74.4%) |
| Greene (4.8%) | | Hempstead (84.2%) |
| Lonoke (5.0%) | | Howard (86.6%) |
| Newton (5.3%) | | |
| Van Buren (5.4%) | | |
| Hot Spring (6.3%) | | |
| Logan (6.7%) | | |
| White (7.1 %) | | |
| Pope (8.2%) | | |
| Source: U.S. Census Bureau; Cossman & Powers, 2000 | | |

The distribution of Hispanic nationalities in Arkansas needs to be addressed. "While \`Hispanic' may be a solid distinction for a small group it begins to lose its explanatory usefulness as the group increases in size" (Cossman & Powers, 2000). The 2000 Census determined Hispanic status nationwide, and by states. Table 5 lists results for Arkansas.

**Table 5: Self-Reported Ancestry of Hispanics in the U.S. and Arkansas**

| Hispanic Ancestry | U.S. % | Arkansas % |
|---|---|---|
| Mexican | 58.4 | 70.5 |
| Puerto Rican | 9.6 | 2.8 |
| Cuban | 3.5 | 1.1 |
| Other | 28.4 | 25.6 |
| Source: U.S. Census Bureau; Cossman & Powers, 2000 | | |

As indicated by the Table, the predominant Hispanic ancestry in Arkansas is Mexican. However, many of those of Mexican heritage did not come to Arkansas directly from their respective countries. Gazi Shbikat and Steve Striffler (2000), in their article "Arkansas migration and population," state "However, the vast majority came to Arkansas after having spent considerable time in other states, particularly California". This held true for the case study conducted on a Hispanic owned business.

## PUBLIC PERCEPTION

No matter where you go throughout the state, and in some areas in :particular, you can hear Spanish spoken and see "tiendas" catering to Hispanic tastes. Hispanics are a growing part of Arkansas' human landscape. But are they a welcome one?

Arkansas has many distinctions as a state in the U.S.A. We have been home to a former U.S. President, we are the birthplace of the world's largest retailer Wal-Mart, and have established ourselves in agriculture by being one of the top rice producers globally. But along with our good points are few bad ones. We have a heritage that could include a strong tradition of prejudice against people of other races. The 1957 Little Rock Central High School lockout is an example. The governor kept out black students at the time in an effort to prevent desegregation of public schools (http://www. centralhigh57.org/ 1). Racism and prejudice continued from that time through the 60s and 70s with public mobs protesting integration, and many cases of discrimination against African-Americans. Even today some underlying prejudice may exist, particularly toward Hispanics. On Nov. 3, 1998, Rogers gave the boot to 17-year incumbent Mayor John Sampier, a backer of innovative efforts to harmoniously integrate thousands of immigrant Mexican and Central American poultry workers into a previously all-white community. Challenger Steve Womack, a veteran of two terms on the city council, took 56 per cent of the vote after campaigning on a

platform of "zero tolerance" toward illegal immigrants and insistence that legal newcomers "speak the language" and conform to community norms (http://www.steinreport.com/sampierl.htm 1). Womack's campaign strategy, while not necessarily racist, was a disturbing one for Hispanics, especially because it occurred in northwest Arkansas where Hispanic population growth has been the highest. Maria Hinojosa, a CNN correspondent who specializes in urban affairs highlighted some of the difficulties faced by Hispanics after her visit to Rogers, Arkansas in 2001. Hinojosa reported that the growth of the Hispanic population in Rogers has been so rapid that it has given the native population very little time to adjust to the new demographics of their town. On the one hand, this means that they have not had time to organize against it, but on the other hand neither has there been time to adjust (http://www.cnn.com/COMMUNITY/transcripts/2001/04/12/hinojosa/1). Surveys conducted by the University of Arkansas of families living in Northwest Arkansas show that the growth of Hispanics in their area is not necessarily appreciated. When asked about whether the growth in Hispanics in their area had been good for the area, not good for the area, or had not made a difference, 35.2% said bad while another 20.5% say both good and bad (http://www.uark.edu/misc/family/survey/survey.
html 1).

Communications has been one of the primary areas of difficulty for Hispanics in Arkansas. "Well if their going to live in our country, they should learn to speak our language," is a common phrase heard among Arkansans across the state. And, although most Hispanics who move to Arkansas say that they want to learn English, they do not have very many resources available to do so. To their credit, some towns in Arkansas have stepped up the plate to help by offering English as a Second Language (ESL) courses at local community centers and within large businesses.

## BUSINESS EFFECTS/ASPECTS

With the increasing Hispanic population, there are a multitude of effects on business. These effects are generally categorized as human resource, legal, ethical, and marketing concerns. Both small businesses and large corporate businesses are impacted in these areas. Therefore, business leaders need to be knowledgeable and proactive with their business practices as they relate to significant Hispanic demographics.

### Human Resources

In regard to human resource concerns, the outreach, employment, and retention of Hispanics in corporate business needs to be addressed. Failure in this effort early on means that corporate businesses are "playing catch-up" at all levels of their organizations. There have been studies conducted that have focused on Corporate America and their Hispanic human resource practices.

An organization that has researched the aspect is the Hispanic Association on Corporate Responsibility (HACR).

A corporate culture that fosters Hispanic representation is developed at the top levels of corporate organizations. Therefore, it is useful to focus on the highest levels of corporate organizations. If Hispanic representation is not a top priority at those levels, then Hispanic representation will more than likely not be a top priority at other corporate levels. "Since 1993, the Hispanic Association on Corporate Responsibility has examined Hispanic representation at the highest levels of Corporate America" (Cabral, 2001). On October 18, 2001, the HACR released a study titled "2001 HACR Corporate Governance Study" (Cabral, 2001).

The HACR study revealed that there are more of the largest companies in the nation (Fortune 1,000 companies) are recognizing the need for Hispanic inclusion (Cabral, 2001). The study showed that 146 of the Fortune 1,000 companies have Hispanics on their boards (Cabral, 2001). This was an increase from 120 companies the previous year (Cabral, 2001). In terms of percentage, the study showed that Hispanics hold only 1.7 percent of all board seats in the Fortune 1,000 companies, up by one percent since 1993 (Cabral, 2001). The President of the HACR states:

> "In addition, 85 percent of all Fortune 1,000 companies have no Hispanic representation in their governing bodies - 854 of the largest companies in America doing business in our communities on a daily basis. And if we look at entire industries, 20 key industries have no Hispanic board members. Some of them include health care, sporting goods, food and grocery wholesalers, and securities firms. These industries represent 5 million employees and $1 trillion dollars in annual revenues" (Cabral, 2001).

An additional and interesting aspect indicated in the HACR study pertains to Hispanic women. According to the study, there has not been any real progress in the improvement of Hispanic women representation (Cabral, 2001). The rate of Hispanic women board members decreased from the previous year (Cabral, 2001). The percentage rate for the previous year was 15 percent, whereas the decreased rate was 14.5 percent (Cabral, 2001). There are large corporate businesses that are at the forefront in regard to Hispanic human resource practices. In 2002, the HACR released another study titled. "HACR Corporate Best Practices: 2002 Hispanic Workforce." This study identified successful models to improve Hispanic representation that have been implemented by some of the largest companies in the nation (Hispanic Heritage,2002). Three of the thirteen companies included in this best practices study were McDonald's Corporation, Bank of America, and General Mills (Hispanic Heritage, 2002). There are numerous McDonald's restaurants in Arkansas, and additionally Bank of America has business operations in the state. "According to the study, McDonald's strategic approach to hiring, retaining, and promoting Hispanics has resulted in greater representation at all levels of the company" (Hispanic Heritage, 2002). McDonald's has developed groups that support Hispanic employees (Hispanic Heritage, 2002). These groups are the Hispanic Employee Networks, Hispanic Leadership Council, Hispanic Summits, and Hispanic Steering

Committee (Hispanic Heritage, 2002). "All of these groups in one way or another support Hispanic employees with career development, and provide the company with valuable information on Hispanic issues" (Hispanic Heritage, 2002).

At the time the study was released, McDonald's efforts had outstanding results. Hispanics represented 29.3 percent of its workforce and 18 percent of its restaurant managers (Hispanic Heritage, 2002). "In addition, two of the three McDonald's USA presidents, and three of six McDonald's global presidents, are Hispanic" (Hispanic Heritage, 2002). The company also boasts representation in its governance (Hispanic Heritage, 2002). "Enrique Hernandez, Jr., chairman and chief executive officer of Inter-Con Security Systems, is a member of the board of directors" (Hispanic Heritage, 2002).

At Bank of America, corporate executives are increasing the Hispanic representation in their workforce pipelines through a job training and scholarship program (Hispanic Heritage, 2002). "The program has succeeded in bringing Hispanic talent as permanent employees and in encouraging low-income students to pursue a college degree" (Hispanic Heritage, 2002). Additionally, Bank of America's Youth Job Program brings together students with company executives and assigns them to a banking center where they receive job training. (Hispanic Heritage, 2002). "Upon completion of the program and graduation from high school, they receive a four-year $10,000 scholarship" (Hispanic Heritage, 2002). At the time of the HACR study, the program had served 315 students, of which 77 were currently enrolled, and among the program graduates, 26 percent were Hispanics (Hispanic Heritage, 2002).

Lastly, the number one cereal maker in the United States, General Mills, believes Hispanic representation in its workforce is imperative to ensure the continued success of the company (Hispanic Heritage, 2002). General Mills' successful recruitment strategy results from Chairman and CEO Steve Sanger's active and vocal support, the participation of Hispanic senior level employees, and the Hispanic employee network (Hispanic Heritage, 2002). General Mills emphasizes clear accountability on each human resource function in order to ensure the development of the Hispanic employee pipeline to higher-level positions, and the accurate measurement of results (Hispanic Heritage, 2002).

General Mills also has co-mentoring programs, and their Hispanic revisit weekend program encourages potential new hires to join the General Mills family of employees (Hispanic Heritage,2002). According to the HACR best practices study, a sound strategy for Hispanic inclusion in Corporate America's workforce should include the following aspects:

| | |
|---|---|
| 1. | Company CEO and senior management's commitment to Hispanic inclusion |
| 2. | An articulated and well communicated rationale linking Hispanic inclusion to the company's vision |
| 3. | Accountability measures for managers in meeting Hispanic inclusion goals |
| 4. | Use of a measurement system to determine gaps and monitor progress in Hispanic inclusion |

| | |
|---|---|
| 5. | Career development programs for high-potential Hispanic candidates to address pipeline issues |
| 6. | Support of mentoring and Hispanic employee networks to boost recruitment and career development efforts |
| 7. | A communication plan that explains Hispanic inclusion goals at all levels of the company |
| 8. | Strong partnerships with Hispanic community organizations to further employment efforts |
| Source: Hispanic Heritage, 2002 | |

Hispanic representation in governance and at all levels of the workforce is an essential business practice (Cabral, 2001). Companies that have diverse executive teams are more inclined to find business opportunities that are not obvious (Cabral, 2001). "Additionally, Hispanic consumers are more likely to purchase goods and services from companies that have embraced Hispanic inclusion" (Cabral, 2001).

**Legal**

Another feature associated business and Hispanics legal aspect. One such issue pertains to illegal Hispanic immigrants. Determining an actual number of illegal immigrants in a given locale is an extremely difficult undertaking. This is due to the fact that no documentation exits in regard to individuals who are illegal immigrants. According to the Immigration and Naturalization Service (INS) estimates, there were 27,000 illegal immigrants residing in Arkansas as of 2000 (FAIR, 2003). This was also shown in the year 2000 census. Many of these illegal immigrants are Hispanic, and are arriving to work in the poultry industry and construction jobs (FAIR, 2003). Arkansas' poultry industry is the largest industry in the state.

Organizations in Arkansas' poultry industry and construction businesses have to be very cognizant of the legal ramifications of hiring illegal immigrants. The Immigration Reform & Control Act of 1986 (IRCA) made it illegal for employers to "knowingly" hire undocumented workers (National Immigration Law Center, 2003). Tyson Foods, Inc., the world's largest poultry producer based in Springdale, Arkansas, has learned that the lack of due diligence in its hiring practices with Hispanics is a costly mistake. On December 19, 2001, Tyson Foods, Inc., and six of its managerial personnel were indicted by a Chattanooga, Tennessee Federal Grand Jury. The charge was conspiring to smuggle illegal immigrants across the Mexican border to work in Tyson's processing plants (Barboza, 2001). On March 26, 2003, a federal jury acquitted Tyson Foods and three of the managers of the charges in spite of the fact that two of the other three managers reached a plea agreement and testified that they were doing what the company demanded by hiring illegal immigrants (Poovey, 2003). Even though Tyson Foods was acquitted, there was a cost associated with the ordeal. Tyson Foods incurred significant legal bills and negative publicity.

There are several reasons for the growing number of Hispanic immigrants (both legal and illegal). Growth of the poultry industry in Arkansas may be one. The consumer demand for poultry products is high, leading to an intense rivalry for market share among producers in the industry. The fight for profits means that poultry producers are focused on distinctive competitive advantages. One key advantage is being the organization with the lowest operation costs. Since poultry processing is relatively labor-intensive, there is a propensity to "slash" labor costs. One way to do this is to hire immigrant workers. "Today, the processing and packing plants are largely staffed by low-paid non-union workers from places like Mexico and Guatemala. Many of them start at $6 an hour" (Barboza, 2001).

Another reason for the Hispanic immigrant (legal and illegal) growth in the poultry industry is associated with the fact that poultry producers have a difficult (if not impossible) time finding workers to work at certain "undesirable" jobs that are a part of the poultry production process. One such job is "live hanging." Non-Hispanic citizens simply do not want to do this type of work. Hispanic immigrants are willing to work at "undesirable jobs" because Hispanic immigrants are seeking "opportunity," and even though certain poultry jobs are "undesirable," the job attractiveness aspect is more than likely outweighed by the "opportunity" aspect. Hispanic immigrants usually have migrated from zero to very little opportunity, so the burgeoning Arkansas poultry industry consisting of producers desperate for workers, provides a level of opportunity for Hispanic immigrants. Enrique G. Murillo, Jr., in his essay, "Only the Labor is Welcome Not the Entire Human Being: The Racialized Experiences of the New Latino Diaspora," covers the poultry producers/Hispanic immigrants aspect. Murillo, Jr., states:

> "Latino immigrant laborers have filled the gap in needed unskilled labor due primarily to the local large-scale poultry-processing industry's responses to the processes of national and global restructuring that have transformed occupational structures. As previously noted, it is these economic processes, fostered by a changing configuration of immigration legislation that encourage and sustain immigration, rather than the influx of immigrants themselves, that has created the concentration of immigrant workers in certain industries and jobs" (Murillo, 2001).

The large meatpacking organizations stated on December 21, 2001 that they would work to ensure that they were not hiring illegal immigrants (Barboza, 2003). The organizations have always maintained that it is a difficult task to accomplish (Barboza, 2003). Industry experts though, have asserted that it has long been believed that American food companies recruit in Mexico and knowingly hire illegal workers (Barboza, 2003). "But industry and government officials say that, for better or worse, foreign-born workers are now one of the most vital elements in the American food and agriculture system" (Barboza, 2003).

**Ethical**

There are ethical considerations when dealing with Hispanic immigrants. One ethical concern involves the working conditions that Hispanic immigrants encounter. The poultry industry in Arkansas and other states is notorious for having sub-par working conditions in terms of safety and cleanliness. "The poultry industry's illness and injury rate is more than twice the national average" (Poultry.org, 2003). "According to the United Food and Commercial Workers (UFCW), one in five poultry workers is seriously injured on the job" (George, 2000). Many Hispanic immigrants take some of the nation's most dangerous jobs because those jobs were the only jobs they could get (Hopkins, 2003).

Besides the poultry industry, another industry in Arkansas that Hispanic immigrants (legal and illegal) are increasingly working in is the construction industry. With the economic "boom" in Northwest Arkansas and Central Arkansas, construction of highways and buildings has exponentially increased. Nationally, by 2001, Hispanics11% of all workers-held 17.4% of construction jobs (Hopkins, 2003). According to the Pew Hispanic Center, about 57% of the USA's estimated 1.1 million Hispanic construction workers are illegal immigrants (Hopkins, 2003). This industry needs to be scrutinized because of the alarming Hispanic immigrant fatality rate. According to the Occupational Safety and Health Administration (OSHA), nationwide construction-related accidents accounted for 31.5% of Hispanic fatalities in 2001, up from 20.3% in 1992 (Hopkins, 2003).

There are reasons for the high Hispanic fatalities in the construction industry that need to be addressed. First, inadequate training of Hispanic immigrants occurs because of language barriers. Many construction business owners and supervisors do not know how to effectively communicate with Hispanic workers. Another reason is the fact that Hispanic immigrants are often too scared of losing jobs to press for safer working conditions (Hopkins, 2003). "They also worry about employers making threats, such as `be quiet or we'll turn you in' for deportation" says Peg Seminario, director of safety and health at the AFL-CIO (Hopkins, 2003).

The construction industry and governmental agencies are starting to take notice of the alarming fatality rate, but it is very unfortunate that action had not occurred earlier. Utility Contractors, a construction business in Wichita, Kansas, has seen the need, and taken action. (Mazzullo, 2001). The President, Chuck Grier, has made a point to learn Spanish, and since he is not fluent, he has hired an assistant who speaks Spanish (Mazzullo, 2001). Patti Sullivan, director of human resources for the company, says "it's gone beyond speaking the language. Newsletters and birthday cards are sent to native speakers in Spanish; insurance and 401 (k) paperwork is translated; and all safety meetings are held with Spanish available" (Mazzullo, 2001). In February of 2003, Labor Secretary Elaine Chao announced that her department will seek $13 million to promote and facilitate better training of workers who are faced with language barriers (Wist, 2003). Most of these efforts will initially focus on the construction industry (Wist, 2003). OSHA's web site contains a

Spanish-language page with information about OSHA's mission, how to electronically file work-related complaints, worker and employer rights and responsibilities, and a list of resources (Pittman,2003). Another ethical aspect concerning Hispanic immigrants regards wages. Since many Hispanic immigrants are working in the poultry industry in Arkansas (and other states), the Hispanic immigrants encounter unethical pay practices. In Abosede George's article, "UFCW Joins Alliance Seeking Justice for Poultry Workers," George states:

> "Workers throughout the poultry industry, mostly African American, Latinos, and increasingly immigrants, are routinely cheated out of already meager wages (usually less than $7 an hour) by supervisors who fail to pay for the time it takes to put on, take-off and clean required safety and sanitary gear. This time amounts to about one hour per day, per worker, and totals about $100 million a year in lost pay" (Geroge, 2000).

In 2000, the U.S. Department of Labor's Wage and Hour Division (WHD) conducted an investigation-based survey of 51 randomly selected poultry processing plants located throughout the U.S., which led to the finding that there was across-the-industry non-compliance under the Fair Labor Standards Act (FLSA) (National Interfaith Committee, 2003, 1-2). The following were the results of the survey:

| Type of Violations | Percentage of Plants in Violation |
|---|---|
| 1. Unpaid hours of work | 100% |
| 2. Mis-classified exemptions | 65% |
| 3. Impermissible deductions from pay | 35% |
| 4. Bonus payments not included in OT | 8% |
| 5. Child labor violations | 4% |
| 6. FMLA violations | 4% |
| Source: National Interfaith Committee, 2003 | |

Poultry producers have made denials in the past, but the above results show that the denials were more than likely incorrect. The court system has been involved with this matter. The U.S. Supreme Court decided the *Hoffman Plastic Compounds, Inc. v. National Labor Relations Board* case (March 27, 2002) (National Immigration Law Center, 2003). As a result of the decision, undocumented immigrants have limited remedies available (National Immigration Law Center, 2003). One year since the decision, the following is the status of undocumented immigrants' rights:

| |
|---|
| *Right to Unionize* - Undocumented workers/immigrants continue to be employees under the NLRA and thus enjoy protections from unfair labor practices, but they are not entitled to back pay, regardless of whether the employer knew the worker/immigrant was undocumented at the hiring stage. |
| *Right to Minimum Wage and Overtime* - Undocumented workers/immigrants continue to be protected by the Fair Labor Standards Act (FLSA) and state wage and hour laws for "work already performed." |
| *Right to Be Free From Workplace Discrimination* - Undocumented workers/immigrants continue to be protected by the American with Disabilities Act (ADA), Age Discrimination in Employment Act (ADEA), Equal Pay Act, and Title VII of the Civil Rights Act prohibiting employment discrimination based on race, national origin, gender, and religion. |
| *Right to a Healthy and Safe Working Environment* - Undocumented workers/immigrants continue to be protected by the Occupational Safety and Health Act (OSHA) and the Mine Safety and Health Act. |
| Source: National Immigration Law Center, 2003 |

## Marketing

Marketing to Hispanics is also a very important business activity. As of 2001, the annual purchasing power of Hispanics was $560 billion (Cabral, 2001). "The Santiago Solutions Group reports that Hispanic purchasing power is expected to hit the $675 billion mark in 2003, $928 billion by 2007, and $1.2 trillion by 2010" (Association of Hispanic Advertising Agencies, 2003). According to the Selig Center, the top ten states as ranked by the rate of growth of Hispanic buying power over 1990-2002 are as follows:

| | | |
|---|---|---|
| 1. | North Carolina | 912% |
| 2. | Arkansas | 778% |
| 3. | Georgia | 711% |
| 4. | Tennessee | 655% |
| 5. | Alabama | 466% |
| 6. | South Carolina | 463% |
| 7. | Nevada | 443% |
| 8. | Minnesota | 418% |
| 9. | Kentucky | 415% |
| 10. | Iowa | 370% |
| Source: Association of Hispanic Advertising Agencies, 2003 | | |

As shown by the table, Arkansas is second nationwide in rate of growth and buying power of Latinos. Additionally, according to a study conducted by the Selig Center, the top areas where Hispanics spend more than non-Hispanics are: groceries, telephone services, furniture, men's and boys' apparel, children's clothing, and footwear (Association of Hispanic Advertising Agencies, 2003).

Although the Hispanic advertising industry has grown at a healthy rate since the late 1990s, there is room for significant growth (Valdes, 2003). "A 2002 study released by the Association of Hispanic Advertising Agencies (AHAA) reveals that the majority of America's top advertisers are significantly under-investing in their efforts to reach Hispanic consumers" (Valdes, 2003). The study indicates that in the past three years, nearly two-thirds of top companies targeting the Hispanic market invested on average less than 3.2 percent of their overall advertising budgets on reaching the Hispanic market (Valdes, 2003). The organizations in the study that received the top scores approached or exceeded the recommended level of eight percent of their total advertising budget (Valdes, 2003).

There are organizations in Arkansas that have realized the significant and growing Hispanic market provides a tremendous marketing opportunity. One organization that has implemented a proactive strategy is the world's largest retailer, Bentonville, Arkansas based Wal-Mart Stores, Inc. Recently, Wal-Mart Stores, Inc., reached an agreement with Alliance Group Services Inc., a wholesale network provider (Long & Seals, 2003). The agreement is to market co-branded prepaid cards to Hispanics who want to call Mexico (Long & Seals,2003). Sales of the prepaid cards have taken off at Wal-Mart since they were introduced in south Texas on June 28, 2003 (Long & Seals, 2003). "The cards cost $10 for 103 minutes, and there are no additional fees or connection charges" (Long & Seals, 2003, 1). The cards are tailored specifically to Hispanics with Spanish instructions on the card and voice prompts "en Espanol" (Long & Seals,2003, 1). "The card is being sold at WalMart checkout counters and in the clothing, auto and food sections, with the latter being particularly significant" (Long & Seals, 2003, 2).

Wal-Mart has taken other steps to build brand equity among Hispanics. "WalMart began printing bilingual circulars and providing in-store translators" (Phillips, 2003, 2). Additionally, Wal-Mart analyzes the cultural breakdown of the communities it serves, and wisely tailors its merchandise selection (Phillips, 2003). For instance, Wal-Mart opened a Neighborhood Market on West New Hope Road in Rogers, Arkansas (WSL Strategic Retail, 2003). The Spanish influence is very evident, and can been by the selection of canned goods, sauces and flavorings, and even the decorations in the store (WSL Strategic Retail, 2003). The store speaks to the local community, which is heavily Hispanic; an example of Wal-Mart's Store of the Community strategy (WSL Strategic Retail, 2003).

There are other businesses in Arkansas that are focusing on the Hispanic market. One group of businesses are Arkansas grocers (businesses that totally sell grocery items). Arkansas grocers are carrying authentic Mexican products, cutting prices to rates significantly lower than the competition, and hiring bilingual clerks (O'Reilly, 2003). Meriam Turner, Affiliated Foods' manager of Hispanic marketing, states that 130 of Affiliated Foods' 400-plus stores target the Hispanic population (O'Reilly, 2003). Randy Weiss, director of marketing for Affiliated Foods Southwest Inc., states that Hispanic customers don't want the Americanized Mexican-food brands like Old El Paso (O'Reilly, 2003, 1-2). Weiss states, "The Hispanic customers we have are looking for the authentic brands they grew up with in Mexico" (O'Reilly, 2003, 2). "Large grocery operations, such as Affiliated Foods' Harvest Foods outfit, stock more than 25,000 items, including up to 500 authentic Mexican items" (O'Reilly, 2003, 2). Lastly, smaller Arkansas discount grocers focus on the Hispanic market. Shane Vance, assistant manager at Save-A-Lot on Pike Avenue in North Little Rock, states, "If you look at all Save-A-Lot stores, they are basically in lower income areas; they are designed to appeal to that lower income market..." (O'Reilly, 2003, 2).

Lastly, Arkansas' banks focus on Hispanic consumers. Art Morris, President and CEO of Arkansas State Bank, hosted a cultural diversity workshop for the financial professionals at his Siloam Springs, Arkansas bank (Bemis, 2002). Morris states,

> "Cultural diversity training is important to our bank in order to give the proper service to all people, regardless of race. We are here to serve and that means service to everyone. People from other countries need assistance, many times more than those that are familiar with our customs" (Bemis, 2002, 1).

Bill Bowden's 2000 article, "Businesses Benefit from Hispanic Integration," addresses how First National Bank and Trust in Rogers, Arkansas, is targeting Hispanics. Roland Goicoechea, then vice president for mortgage lending, set up a system to give Hispanics credit (Bowden, 2000). "He establishes a $560 certificate of deposit in the name of the bank and the customer. The money stays in the bank, and the customer makes payments on it for six months. After that time, the loan is paid off, and the CD is available for the customer to use as a down payment on a house or for other purposes" (Bowden, 2000, 3). Goicoechea states, "They created their first credit history, and they have a CD that's worth $500" (Bowden, 2000, 3). The system has been lauded by the American Bankers Association and the Fannie Mae Foundation (Bowden, 2000, 3). "It's now being imitated by banks in other parts of the country" (Bowden, 2000, 3). Goicoechea further stated that First National Bank of Rogers makes a priority to see that 15 percent of its employees are bilingual (Bowden, 2000, 4).

The next section in this work will place a major focus on small businesses. Particularly, there will be coverage of the opportunities for small businesses in regard to the significant Hispanic population.

## OPPORTUNITIES FOR SMALL BUSINESS

### Case Study

On July 29, an impromptu interview was conducted by Stephen Fryar (co-author), of a Latino storeowner in Russellville, AR. The purpose of the interview was to obtain general information about small business for Hispanic oriented businesses, markets, and clientele. The owner of the Latino Market, Humberto Portillo, moved from El Salvador to California, and then to Arkansas several years ago. He first started as a worker on a chicken farm in Arkansas. He has built his business over the past year. Mr. Portillo's store is like many "tiendas" in Mexico or other parts of Central America. It is also reminiscent of the neighbor grocer in Middle America in the 1950s and earlier. The variety of goods included produce like Mangos and sliced prickly pear cactus (which are eaten in Mexico), spices used in typical Mexican dishes (e.g. azafran), Mexican candies, a wide selection of Hispanic music, cheeses, home baked breads, phone cards, and, Mexican laundry products (e.g. detergent). Based upon the conversation that ensued, and the inventory on hand, some general market characteristics were noted. His clientele, according to the storeowner, were all Spanish-speaking working class immigrants from many different countries in Latin America and other states within the U.S. The Hispanics come to the store because the products are familiar to them, says Humberto, "these are the things that they ate and used in their native countries"(as translated). Most of the products are shipped to the market from Texas, having arrived there from several different countries in Latin America. The shipping costs associated have raised prices considerably above the prices that Hispanics are used to paying for the same items at home. Still many are loyal to brand, and willing to pay a bit more for things that are familiar to them. The Latino Market does not only sell goods to remind Hispanics of home though, it connects them to home. Along with a menagerie of calling cards with special international rates, the owner of the store also does money wire transfers for his customers, a very important issue for the Hispanic community. Of interest as well are the numerous brochures and flyers for companies that offer products like international cell phones, or services such as bilingual assistance and English classes. Despite this wide array of potential profit making items, Mr. Portillo admitted that business for the most part was not very good. "Most of the Hispanics are in Dardanelle and Danville, not in Russellville," said Portillo, "there are two markets there that are doing well."(as translated) (Portillo, 2003). When asked about what kind of marketing the store used to attract customers, the owner explained that he was very limited in what he could do because of finances and availability of a broadcast medium specifically aimed at Hispanics. "There is no newspaper written in Spanish for this area, with the exception of some classifieds," explained Portillo, "and radio is too expensive."(Portillo, 2003). There is only one radio station that broadcasts in Spanish for the Russellville area. Mr. Portillo further commented that he felt it was hard for a Hispanic in Arkansas to start his/her own business and make a profit at it. When he started his store, explained the owner, he could not get financing from the bank because, like many working class Hispanics, he didn't have any stable collateral. He didn't own a house or property at the time. In the end he hail to borrow the money from relatives. But, with the continued growth of Hispanics in and around Russellville, Mr. Portillo was hopeful that he could continue and grow his business.

**General Impressions of Case Study**

While limited in scope, this case study provides insight into what a typical type of small, Hispanic business faces in rural Arkansas. While the growth of population in Arkansas would seem to indicate a strong potential market, small business entrance into the market is fraught with difficulties. The study also showed many problem areas that could be opportunities for the right kind of business. To demonstrate this, it might be helpful to look at some of the small businesses already in existence that cater to Hispanics.

**Newspapers**

One of the difficulties faced by any businessperson wanting to tap into the Hispanic market is getting the word out about his/her company. Newspapers published in Spanish, and targeted at Hispanic interests give companies a medium to advertise, and are an open opportunity for entrepreneurs. One such newspaper is "El Latino" which is published by the National Association of Hispanic Publications (NAHP). This paper is circulated free of charge in Benton, Conway, Jacksonville, and Maumelle, Arkansas. Contents of the wo4Nay newspaper include news articles from Mexico, stories that relate to Hispanics in Arkansas, and numerous advertisements. The Small Business notes homepage recently reported that the NAHP and the Small Business Administration have signed a strategic alliance memorandum stating their commitment to work together to provide information and resources to Hispanic publishers and small business owners across the nation (Small Business Notes, 2003). This will help businessmen in Arkansas advertise their product or service at a lower cost.

**Other Media**

Radio stations, while not widespread in rural areas, are very popular in larger communities where there is a strong Hispanic influence. The stations not only offer advertising for businesses, but also play hit songs from Latin America, and report on sports, especially Soccer, in Arkansas and in Latin America.

Cable companies in Arkansas have recently started providing access to a selection of channels broadcasted in Spanish. Comcast cable has one such selection advertised in "El Latino" newspaper. AETN has begun to air programs in Spanish on a monthly basis and plans to move to a weekly schedule if there is sufficient support from public and private sources. The programs will appear on television stations in Little Rock, Mountain View, Arkadelphia, Fayetteville, and Jonesboro (Leiderman, 2003). Today's THV, a news station which covers most of Arkansas, has also started broadcasting its news in Spanish through the Secondary Audio Program (SAP) function available on most TVs.

### Thrift Stores

One category of small businesses that have done very well in Hispanic communities is thrift stores such as Goodwill and Salvation Army. The low price clothing sold at these stores appeals to many Latinos as an alternative to the higher cost department store brands. The overwhelming influx of Spanish speakers has prompted Goodwill, and many other thrift stores to employ bilingual workers to assist customers. Though many of these second-hand stores are non-profit, the market response of Hispanics to them indicates an opportunity for entrepreneurs. Dollar stores like Dollar General and Dollar Tree have also been popular in Hispanic circles, though big stores like Wal-Mart have made it difficult to compete in the retail industry.

## SWOT ANALYSIS OF HISPANIC ORIENTED SMALL BUSINESS

A general look at a small business oriented toward Hispanics by analyzing strengths, weaknesses, opportunities, and threats reveals some important considerations for potential entrepreneurs.

### Strengths

The strengths of a Latino focused business include a large and growing market base, Hispanic brand loyalty, and a market need for goods and services among Spanish speaking workers. Where there are jobs and low cost living for Hispanic workers, they will be there, and in many cases will congregate to form close knit communities. A business located in an area like this has a good chance of getting market share.

Furthermore, as shown in the first case study, consumers in this market like to buy the brands that they know from their native country. They are very loyal to certain brands. This tendency can help small businesses create a niche market and help them better plan their inventory. Market research on which brands are preferred is crucial in this area. Another related preference that can be an asset is the cultural and familial ties between Spanish speakers. They will go out of their way to visit a business where a friend or relative works.

**Weaknesses**

Though weaknesses will vary by the type of business or service industry, some general points about potential setbacks can be made based on the research done.

One of the first potential weaknesses in forming a small business in this market is the elasticity of demand. While it is true that brand loyalty plays a major part in Hispanic purchasing behavior, price is arguably the most significant factor. Many goods that newcomers to the state find are completely unknown to them, as are brands. Some brands that they are accustomed to are not even carried at stores. As many Hispanic workers are living on a limited budget, and/or are sending money back to their home country, they can be very frugal in their shopping. This creates a problem for businesses like Humberto Portillo's "Latino Market." Shipping costs from Mexico -to the U.S. force businesses like his to raise prices. The small number of businesses carrying these products also raises costs as deliveries are often made on a custom basis.

For many Hispanic businessmen, lack of capital is a major limitation since financing is hard to obtain without stable collateral, and since there might be an underlying prejudice against them because of their ethnic. background. Anglo businessmen, on the hand, while they could have access to financing more readily, face the difficulty of dealing with another language and culture. Furthermore, Hispanics often prefer to deal with people from their own culture rather than an outsider. This problem may easily be avoided by employing Hispanics as "front men" to deal with customers.

Limited location is another weakness of this market. Though more Hispanics are coming into Arkansas, the number of cities or regions with a high saturation rate of Latinos is still relatively small. As observed by the businessman in the case study, stores located among higher density Hispanic populations are more likely to prosper. Selecting the right city and region is therefore extremely important.

**Opportunities**

Some of the most lucrative opportunities for small businesses lie in simply making their product or service available to the Hispanic market. Hiring people with Spanish language skills or cultural experience, advertising in Spanish, making store signage bilingual, acting upon current market research, and developing rapport with Hispanic customers and other Hispanic run businesses are all actions that can go a long way in opening up the Latino market for a business. Hispanics are relationship oriented. They are family focused. Many small Latino stores never advertise their presence in the community because they understand the effectiveness of "word of mouth" advertising in their culture.

There are numerous services and societal practices that are completely foreign to them or are closed to them because of language barriers. For the most part, Hispanics are very open to the

American culture and want to learn and participate in it; they just don't know how. Business has an opportunity to help them learn, and by doing so gain a loyal customer.

**Threats**

Threats from big business are probably the most significant concern for entrepreneurs. You don't have to go any further than Wal-Mart to find a large corporation that can out compete about any retail store in the world. And Wal-Mart is responding to the growth of the Hispanic population, as mentioned earlier in this study. Leveraging their economies of scale, they can often sell the same or similar products at a lower price.

Another potential threat is the changing culture within the Hispanic community. Many second and third generation Latinos are forsaking their native language and culture to conform to American ideals. A business may still access the market, but they must be aware of the changing culture and needs of their clientele.

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# ETHICS IN SMALL BUSINESS: ATTITUDES AND PERCEPTIONS OF OWNERS/MANAGERS

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## ABSTRACT

*Research concerning ethics in small business is limited. This study focuses exclusively on the current state of ethics in this segment of businesses. The study was designed to investigate differences in ethical attitudes and perceptions among and between small business owners/managers within select background categories. Results indicated that respondents express attitudes that are more ethical than unethical. Also, owners/managers tended to be more alike than different regarding ethical attitudes and perceptions. However, specific ethical vignettes did result in a number of significant differences in ethical attitudes among owners/managers within various background groups.*

## INTRODUCTION

Research concerning the importance of managerial ethics in decision-making has increased greatly in the past two decades. Research in the area of small business ethics has, however, lagged dramatically behind--despite the fact that 99 percent of American businesses are classified as small by the Small Business Administration. It is also despite the fact that there is clear evidence that, due to a number of reasons including intense competitive pressures and resources that are often quite limited, small businesses can be particularly vulnerable to unethical practices (Allen 1988; Keuhl and Lambing 1990). And while the majority of small business owners/managers do not feel compelled to act unethically, there remains a significant percentage that do feel pressure to act in a less than ethical manner (Longenecker, McKinney, and Moore 1995). Clearly, there remains a need to better understand the perceptions, beliefs, and attitudes that impact the decision making of small business people. The majority of studies that have addressed small business ethics have considered small business as a homogeneous category used for comparison purposes with large organizations (Longenecker, McKinney, and Moore 1989; and Brown and King 1982). Few have directly addressed ethics within small companies.

This study was designed to investigate the state of ethics within the small business arena. The Small Business Administration's definition of a small business, depending on the industry, can include firms with a relatively large number of employees. The purpose of the study was to determine differences and similarities between and among small business owners/managers in firms with less than 100 employees (according to the 1998 Census Bureau, there were over 100,000 firms employing less than 100 people) to ensure that the company actually does operate as small. The study was developed to explore ethics within this area as opposed to treating small business as a general category for overall comparison purposes. Specifically, it was intended to examine ethical attitudes and perceptions of small business owners/managers. The results should provide greater focus and thus improved knowledge and understanding of the dynamics of small business ethics-an arena that many practitioners feel is particularly vulnerable to unethical practices.

## THE LITERATURE

### Ethics in Small Business

Research focused directly on ethics in small business has been somewhat limited; however, there have been studies specifically designed for this area. Longenecker, McKinney, and Moore (1988; 1989) conducted a nationwide survey to determine attitudes about ethical issues in both large and small firms. Using 16 separate ethical vignettes, the authors determined that differences did exist between managers of small versus large firms for 12 of the 16 scenarios. Small firm managers were rated more ethical on 6 of the 12, less ethical on the others. The authors concluded that small business managers were more demanding than permissive in ethical attitudes, and that the uniqueness of small business extended to ethical issues.

Brown and King (1982) also explored the state of ethics in small business. Using small business managers, an "other" group of area residents not in business, plus a group of big business managers, the authors investigated differences in ethical attitudes and perceptions between small business managers and the other two groups. Few differences existed between small business and the "other" category; however, greater differences did exist when comparing small firms to large ones. Small business managers tended to be more in agreement with the idea that "the responsibility of business is to make a profit" and less in agreement with the idea that "society, not business, has the chief responsibility for bringing ethical standards into business decision making." Small business managers had even stronger disagreement with the ideas that "ethical standards are higher today than when I started to work," and "price collusion in business is no longer a problem." Also, small business managers rated themselves to be most ethical of the groups ranked and more ethical as a group than big businesses. According to the authors, "This points to the traditional American belief of the virtues of small business."

Two other studies contained portions that indirectly pertained to ethics in small business. Wilson (1980) used protocol analysis to collect subjects' descriptions and extracted so-called "significant statements" (statements that pertain to the phenomenon under investigation) and then tried to arrive at the meaning of each significant statement and to arrange the meaning into clusters of themes that described the fundamental structure of the phenomenon. Ethics was one of five basic clusters of meaning into which statements responding to "How do you see your responsibility to society?" were classified. Ethics were referred to in only 13 percent of the significant statements. Of these, 85 percent spoke about being honest in business dealings, and 15 percent spoke about being fair. The great majority of statements implied that being ethical and having only ethical employees did pay off in the long-run. Chrisman and Fry (1982) pointed out the gap that existed in the area of social responsibility and ethics in small business.

Hornsby and Kuratko (1994), using the scenarios used by Lonenecker, McKinney, and Moore, concluded that there are underlying dimensions of the concepts of small business ethics that are broader than mere adherence to the law. There are "considerations beyond legal actions that small business owners rely on." Smith and Oakley (1994) compared ethical values of metropolitan versus non-metropolitan small business owners. They concluded that environment does impact value-based decisions.

Vitell, Dickerson, and Festervand (2000) studied the beliefs and perceptions of small business people concerning ethics within their company and ethics in general. They concluded that the majority of small business people think that ethical standards are lower today than 10-20 years ago. Also, most feel that top management sets the tone for ethical behavior within the firm, and most feel that he/she is more ethical than his/her peers.

**Ethical Perceptions, Beliefs, and Attitudes**

Ethical perceptions and beliefs affect attitudes about the degree of acceptance of ethical versus unethical practices (Lantos 1987). Therefore, research in this area was applicable to the present study. Schutte (1965) offered an early attempt to provide insight in the area of executives' perceptions of ethics. Using both personal interviews and questionnaires to gather information, he concluded that business executives are naturally susceptible to unethical behavior. Moreover, it was the responsibility of business to change the negative image the general public has about the ethics of business. Carroll (1978) supported Schutte by finding that managers felt that organizations tended to cause moral compromises.

Ferrell and Weaver (1978) found that respondents believed that behavior was more ethical in some behavioral situations than in others. Behaviors involving overt deceptive acts that clearly might hurt another person or damage the organization were believed to be most unethical. Behaviors that were much simpler to rationalize than the behaviors listed as most unethical were viewed as only slightly unethical and were listed as activities in which respondents occasionally engage themselves. Lincoln, Pressley, and Little (1982) found that high-level executives perceived that questionable or undesirable ethical beliefs and personal values were held by business managers. Specifically, executives reported "frequently the case" for a number of activities including: dirty tactics being required to progress, all personal values must be sacrificed to advance, and aggressive path clearing is required to climb the corporate ladder.

Vitell and Festervand (1987) presented ethical dilemmas to managers to gain information concerning ethical beliefs. First, their findings suggested that external relations with such groups as customers, suppliers, and competitors produced more ethical conflict than internal relations with such groups as employees and supervisors. Also, managers in small businesses were more likely than managers in large firms to believe that a lack of ethics was common in their industries.

A number of studies have examined differences in ethical beliefs between males and females. Kidwell, Stevens, and Bethke (1987) examined the differences in ethical perceptions between male and female managers. They presented a number of ethical situations ranging from padding an expense account to doing personal business on company time to accepting gifts. The results, for the most part, indicated there were no significant differences between the perceptions of male and female managers concerning what was and was not ethical. The one exception came in the area of concealing one's errors. Female managers were less likely to conceal errors than male managers. Both sexes perceived that their own sex was significantly more ethical than the other. Other studies (Fritzche 1988; Singhapakdi and Vitell 1990) have basically supported Kidwell's findings that there are no differences in ethical behaviors between females and males; however, authors of a number of other studies (Akaah 1989; Betz, O'Connor, and Shepard 1989; Harris 1989; Dawson 1997) have concluded that females tend to express attitudes that are more ethical than males.

Ferrell and Fraedrich (1991) indicated that values and morals were directly related to ethical attitudes. Several studies examined the role of values and morals in the area of ethics in business. Waters, Bird, and Chant (1986) found that moral issues were quite wide-ranging. They involved dealings with employees, peers, superiors, customers, suppliers, outside stakeholders, and the public at large. The authors suggested that a feeling of power to affect the well being of others was a possible explanation for why some issues were considered in a moral sense and others were not. Bird and Waters (1987) continued their work in the area of morals of managers by attempting to identify and analyze specific moral standards held by managers. The moral standards mentioned most were honesty in communications, fair treatment, special consideration, fair competition, organizational responsibility, social responsibility, and respect for law. The authors suggested that imprecision and haphazard adherence tended to characterize the moral standards held by managers.

Bucar and Hisrich (2001) studied differences in ethical attitudes between entrepreneurs and business managers. They concluded that the attitudes of each group were very similar, but when differences did occur, entrepreneurs tended to express attitudes that were more ethical than those of business managers. This lead the authors to conclude that ownership may result in more ethical dealings with stakeholders.

**Ethics and Decision Behavior**

Ferrell, Gresham, and Fraedrich (1989) concluded that ethical decision-making is dependent on attitudes. A number of studies prior to and since have attempted to investigate the role of attitudes concerning ethics and their impact on doing business. Brenner, Valtz, Shallenberger, and Stanton (1961) asked the question: "How ethical are businessmen?" Brennan and Molander (1977) followed up on that same question 15 years later. The elapsed time resulted in no drastic changes. The early study indicated that managers were aware of wrongdoing in the business community and that improvement could only be made if managers committed to ethical means as a way of doing business. The latter study again revealed that managers felt that upholding ethical standards was good business, but that they would be unethical in business activity if need be.

Boling (1978) concluded that business has relied too heavily upon traditional "Sunday school" ethics to filter down into organizations. He suggested that it was critical for organizations to develop mechanisms that will result in ethical behavior in firms. Carroll (1978) offered general areas ranging from setting realistic objectives to ethics training where management should actively seek changes that would lead to the enhancement of ethical decision behavior within organizations.

Hegarty and Sims (1978), attempting to measure ethical decision behavior under different contingencies of reinforcement, found that unethical behavior was likely to occur if unethical decision making was rewarded. In addition, the findings indicated that punishment or threat of punishment could serve as a counterbalance influence toward unethical behavior occurring. Hegarty and Sims (1979) conducted another study dealing with informal corporate policy's influence on unethical behavior. The findings agreed with the idea that both formal and informal policies that supported ethical behavior resulted in increased ethical behavior. The authors stated that the most useful result was the indication that unethical decision behavior was reduced by a clear organizational policy.

Fritzsche and Becker (1984) offered a series of vignettes within five categories (coercion and control, conflict of interest, physical environment, paternalism, and personal integrity) each representing a potential ethical dilemma. Respondents were asked to indicate how they would resolve the dilemma. Results indicated that the majority of respondents used a utilitarian rationale for their decisions, seeking the greatest good for the greatest number. Bommer, Gratto, Gravander, and Tuttle (1987) developed a model of ethical and unethical behavior in organizations. The model was not designed to be prescriptive for what constitutes ethical or unethical behavior, nor did it attempt to discern what was morally correct. It was an attempt to identify the factors that influence behavior, ethical or unethical, in certain situations. Along with individual attributes, other factors included professional environment, personal environment, work environment, legal environment, and social environment.

Barnett and Karson (1987) studied business decisions versus individual values. Whether due to history or aging, ethics appeared to become a greater concern as managers became older. Also, qualitative managers placed ethics ahead of economics while the opposite was true for quantitative managers. Smith (1990) distinguished between utilitarianism, rights approach, and justice perspective as ethical principles. Though the author emphasized that guidance for involving ethics in decision making was limited, he stressed the value of incorporating ethics into the overall analysis for decision making in organizations.

Carroll (1990) presented business students and middle managers with 11 ethical principles to determine each principle's use in making an ethical decision. The top three ranking principles in order were the golden rule, the disclosure rule, and the intuition ethic. Petrick, Wagley, and Von der Embse (1991) developed a structured ethical decision making format designed to take into account both personal as well as organizational levels of moral development, each of which were crucial in determining the ultimate quality of ethical decision making in organizations. Components of the format included ethical content, ethical problem analysis, evaluation of alternative ethical solutions, recommended ethical decision with justification, and implementation and control of the ethical decision.

## RESEARCH HYPOTHESES

Existing studies of small business ethics have primarily compared small business to big business. Some have included small business as a broad category for comparison purposes but have failed to investigate the dynamics within that category. Studies that investigated ethical differences among demographic categories have tended to be conducted within large organizations.

The present study was designed to extend the research concerning ethics in small business. Demographic data plus data concerning attitudes about ethical practices were gathered. Respondents were asked to evaluate the degree of acceptance of specific ethical decisions. The data were evaluated among and between the specific personal and business demographic groups. The results should provide a contribution to the current literature on small business ethics.

The five research hypotheses of the study are:

| | |
|---|---|
| 1. | There will be no significant differences in the ethical attitudes of female small business owners/managers versus male small business owners/managers. |
| 2. | There will be no significant differences in the ethical attitudes among small business owners/managers with varying years of experience. |
| 3. | There will be no significant differences in ethical attitudes between small business managers with college degrees versus those without college degrees. |
| 4. | There will be no significant differences in ethical attitudes between small business owners/managers who place high importance on religious interests versus those who do not. |
| 5. | There will be no significant differences in ethical attitudes among small business owners/managers of varying ages. |

## METHODOLOGY

This study was designed to investigate the ethical attitudes of small business owners/managers in firms with less than 100 employees. Questionnaires designed to gather information concerning ethical attitudes of small business owners/managers were mailed to 410 heads of randomly selected small businesses in a southern state. The two-part survey instrument was designed to gather background information about the owner/manager and his/her firm and information concerning ethical attitudes of each respondent.

Part II of the questionnaire presented 16 short business scenarios involving ethics (Longenecker, 1989, used with permission). Practices described by each scenario are listed in Table 1. Similar vignettes have been used by other authors, as well (Barnett and Karston 1987; Harris 1990; Hornsby and Kuratko 1994). Each vignette described a situation with ethical ramifications. A five-point Likert-type scale with one being "Never Acceptable" and five being "Always Acceptable" was provided for each scenario. Respondents were asked to indicate the degree to which he/she found each practice acceptable by circling the appropriate number.

T-tests or ANOVAs were conducted to determine if significant differences in ethical attitudes existed among or between categories of respondents for particular practices. Specific categories of emphasis were gender, education, experience, and importance of religious interests.

**Table 1: Ethical Issues**

| | | | |
|---|---|---|---|
| A. | Padding expense accounts | I. | Insider trading |
| B. | Environmental Pollution | J. | Favoritism in promotion |
| C. | Faulty investment advice | K. | Acquiescing in dangerous designflaws |
| D. | Tax evasion | L. | Misleading financial reporting |
| E. | Foreign business payoffs | M. | Discrimination against women |
| F. | Hiring key employee of competitor | N. | Misleading advertising |
| G. | Collusion in bidding | O. | Defending healthfulness of cigarettes |
| H. | Gifts to purchasing agents | P. | Copying computer software |

## RESULTS AND ANALYSIS

### The Sample

Ninety-eight usable surveys were returned yielding a 23.9 percent response rate. Table 2 provides complete results regarding personal backgrounds of the respondents as well as business demographics.

| Table 2: Description of the Sample | | |
|---|---|---|
| Question and Categories | Frequency | Percentage |
| What is your position with the company? | | |
| Owners | 81 | 82.7 |
| Managers | 17 | 17.3 |
| In which industry do you work? | | |
| Professional Services | 27 | 27.6 |
| Retail | 22 | 22.4 |
| Manufacturing | 10 | 10.2 |
| Personal Services | 10 | 10.2 |
| Finance and Insurance | 9 | 9.2 |
| Construction | 8 | 8.2 |
| Other | 6 | 6.1 |
| Wholesale | 4 | 4.1 |
| Business Services | 2 | 2.0 |
| How many employees in your company? | | |
| Less than 10 | 84 | 85.7 |
| 11-20 | 8 | 8.2 |
| 21-30 | 1 | 1.0 |
| 31-40 | 1 | 1.0 |
| Over 40 | 4 | 4.1 |
| How many years has your company been in business? | | |
| 0-5 | 29 | 29.6 |
| 6-10 | 16 | 16.3 |
| 11-15 | 11 | 11.2 |
| 16-20 | 9 | 9.2 |
| Over 20 | 33 | 33.7 |
| What is the approximate annual sales for your company? | | |
| Less than $500,000 | 61 | 65.6 |
| $500,000-$999,999 | 8 | 8.6 |
| $1,000,000-$1,499,999 | 4 | 4.3 |
| $1,500,000-$1,999,999 | 4 | 4.3 |
| $2,000,000-$2,499,999 | 2 | 2.2 |
| $2,500,000-$3,000,000 | 3 | 3.2 |

| Table 2: Description of the Sample | | |
|---|---|---|
| Question and Categories | Frequency | Percentage |
| Over $3,000,000 | 11 | 11.8 |
| What is your gender? | | |
| Male | 72 | 74.2 |
| Female | 25 | 25.8 |
| What is your age? | | |
| 20 or less | 0 | 0.0 |
| 21-30 | 10 | 10.2 |
| 31-40 | 33 | 33.7 |
| 41-50 | 23 | 23.5 |
| 51-60 | 22 | 22.4 |
| 61-70 | 7 | 7.1 |
| Over 70 | 3 | 3.1 |
| Which is your race? | | |
| Afro-American | 3 | 3.1 |
| White | 93 | 94.9 |
| Hispanic | 0 | 0.0 |
| Oriental | 1 | 1.0 |
| Other | 1 | 1.0 |
| Which best represents your education level? | | |
| High school degree | 13 | 13.3 |
| Vocational/technical | 1 | 1.0 |
| Some college | 28 | 28.6 |
| College degree | 31 | 31.6 |
| Graduate/doctoral degree | 23 | 23.5 |
| Other | 2 | 2.0 |
| How many years business experience do you have? | | |
| 0-5 | 5 | 5.1 |
| 6-10 | 17 | 17.3 |
| 11-15 | 13 | 13.3 |
| 16-20 | 16 | 16.3 |
| Over 20 | 47 | 48.0 |

Approximately 83 percent of respondents identified themselves as business owners. The remaining 17 percent identified themselves as business managers. Approximately 74 percent of the respondents identified themselves as males with the remaining 24 percent classified as females. The grouped data mean for age was estimated as 44.68 years with an estimated range of 50 years and an estimated standard deviation of 12.41. Ninety-five percent of the respondents classified themselves as white. Educationally, 98 percent of the respondents indicated achievement of at least a high school diploma. Twenty-nine percent had some college, and 32 percent had undergraduate degrees. Twenty-four percent held graduate degrees. The grouped data mean for years of business experience was computed to be 18.41 years.

Respondents represent at least 9 different industries with professional services (28%), retail (22%), manufacturing (10%), and personal services (10%) being selected most often. Eighty-six percent of the respondents represented firms with less than 10 employees. The grouped data mean for number of employees was estimated to be 8.46 employees with a range of 40 employees. Because the age distribution is highly skewed, no standard deviation is reported. The grouped data mean for number of years the company had been in business was estimated as 13.05 years with an estimated range of 20 years. The standard deviation is not reported because the years in business distribution is bimodal. The grouped data mean for annual company sales was estimated to be $560,975 with an estimated range of $3,000,000. No standard deviation is reported because the sales distribution is highly skewed.

To assess non-response bias, respondents were ranked according to order of response. The first 49 were categorized as early respondents and the second 49 as late respondents. A comparison of the means of all variables for the two groups was conducted using one-way ANOVA. All comparisons returned insignificant differences. Because non-respondents have been found to descriptively resemble late respondents (Armstrong and Overton 1977), this finding of equality between early and late respondents indicates that non-response bias has not negatively impacted the assembled data set.

Table 3 presents the overall means and standard deviations of all respondents for each practice. Mean responses ranged from 1.22 to 2.67. [Recall that 1 indicated "Never Acceptable" while 5 indicated "Always Acceptable"]. No overall mean score was above the midpoint of the scale. Seven of the 16 scenarios resulted in overall means of less than two. The overall least acceptable practice involved environmental pollution; the overall most acceptable practice involved collusion in bidding. These results indicate that small business owners/managers profess attitudes that are more ethical than unethical.

**Gender**

For 13 of the 16 described actions, there were no significant differences in ethical attitudes between male and female owners/managers (at the 0.05 alpha level). However, significant differences did exist for practices involving favoritism in promotion, acquiescing in dangerous design flaws, and discrimination against women. Table 4 provides complete mean scores for male and female respondents.

**Table 3: Ethical Issue Means of All Respondents**

| Ethical Issue | | Mean | Standard Deviation |
|---|---|---|---|
| A. | Padding expense accounts | 1.38 | .81 |
| B. | Environmental Pollution | 1.22 | .62 |
| C. | Faulty investment advice | 1.24 | .64 |
| D. | Tax evasion | 1.50 | .88 |
| E. | Foreign business payoffs | 2.33 | 1.41 |
| F. | Hiring key employee of competitor | 2.61 | 1.49 |
| G. | Collusion in bidding | 2.67 | 1.61 |
| H. | Gifts to purchasing agents | 2.45 | 1.23 |
| I. | Insider trading | 1.94 | 1.38 |
| J. | Favoritism in promotion | 2.14 | 1.20 |
| K. | Acquiescing in dangerous design flaws | 1.49 | .91 |
| L. | Misleading financial reporting | 2.63 | 1.50 |
| M. | Discrimination against women | 2.16 | 1.22 |
| N. | Misleading advertising | 1.85 | 1.07 |
| O. | Defending healthfulness of cigarettes | 2.20 | 1.46 |
| P. | Copying computer software | 2.45 | 1.40 |

A number of studies (Kidwell, Stevens, and Bethke, 1987; Fraedrich, 1993, Cole and Smith, 1996) have found that ethics of men and women were essentially the same; therefore, findings of the present study basically agree with these earlier results. The limited areas in which differences between genders did occur were not surprising. Women have regularly been the victims of past discriminatory hiring and promotional practices. As such, female owners/managers are more acutely aware and intolerant of such actions.

| Table 4: Ethical Issue Means by Gender | | | |
|---|---|---|---|
| Ethical Issues | | Male | Female |
| A. | Padding expense accounts | 1.41 | 1.29 |
| B. | Environmental Pollution | 1.24 | 1.17 |
| C. | Faulty investment advice | 1.28 | 1.13 |
| D. | Tax evasion | 1.53 | 1.42 |
| E. | Foreign business payoffs | 2.47 | 1.92 |
| F. | Hiring key employee of competitor | 2.70 | 2.33 |
| G. | Collusion in bidding | 2.54 | 3.08 |
| H. | Gifts to purchasing agents | 2.46 | 2.42 |
| I. | Insider trading | 1.99 | 1.79 |
| J. | Favoritism in promotion* | 2.37 | 1.46 |
| K. | Acquiescing in dangerous design flaws* | 1.59 | 1.21 |
| L. | Misleading financial reporting | 2.64 | 2.63 |
| M. | Discrimination against women* | 2.38 | 1.50 |
| N. | Misleading advertising | 1.84 | 1.88 |
| O. | Defending healthfulness of cigarette | 2.28 | 1.91 |
| P. | Copying computer software | 2.39 | 2.63 |
| *T-test statistically significant @ 0.05 alpha level | | | |

**Experience**

For 12 of the 16 described actions, there were no significant differences in ethical attitudes of owners/managers with varying experience levels (at the 0.05 alpha level). However, for the following practices, significant differences did occur:

| |
|---|
| Providing gifts to purchasing agents |
| Favoritism in promotion |
| Acquiescing in dangerous design flaws |
| Misleading financial information |

Table 5 lists complete mean scores for owners/managers within experience categories. The pattern of differences is practice dependent. For the practice of giving gifts to purchasing agents, least experienced respondents were significantly more tolerant than their counterparts with more experience. Conversely, favoritism in promotion and acquiescing in dangerous flaws resulted in least experienced owners/managers being significantly less tolerant than there more experienced colleagues. For the practice of providing misleading financial information, the most experienced respondents had higher ethical attitudes than the two lesser-experienced groups. These results point out the accepted premise that ethical attitudes are indeed dependent upon specific practices. Acceptance or rejection of particular actions may be enhanced or diminished through experience.

**Table 5: Ethical Issue Means by Experience**

| Ethical Issue | | Years experience | | |
|---|---|---|---|---|
| | | 0-10 | 11-20 | 20+ |
| A. | Padding expense accounts | 1.61 | 1.34 | 1.28 |
| B. | Environmental Pollution | 1.22 | 1.34 | 1.15 |
| C. | Faulty investment advice | 1.35 | 1.28 | 1.17 |
| D. | Tax evasion | 1.61 | 1.62 | 1.37 |
| E. | Foreign business payoffs | 2.70 | 2.24 | 2.20 |
| F. | Hiring key employee of competitor | 2.57 | 2.79 | 2.52 |
| G. | Collusion in bidding | 2.70 | 2.24 | 2.20 |
| H. | Gifts to purchasing agents* | 2.96 | 2.38 | 2.24 |
| I. | Insider trading | 2.13 | 1.97 | 1.83 |
| J. | Favoritism in promotion* | 1.74 | 2.59 | 2.07 |
| K. | Acquiescing in dangerous design flaws* | 1.13 | 1.76 | 1.51 |
| L. | Misleading financial reporting* | 3.04 | 3.03 | 2.17 |
| M. | Discrimination against women | 1.96 | 2.28 | 2.20 |
| N. | Misleading advertising | 1.83 | 2.00 | 1.76 |
| O. | Defending healthfulness of cigarette | 1.87 | 2.21 | 2.36 |
| P. | Copying computer software | 2.65 | 2.34 | 2.41 |

*ANOVA statistically significant @ 0.05 alpha level

**Education**

For 10 of the 16 described actions, no significant differences in ethical attitudes existed between owners/managers with and those without college degrees (at the 0.05 alpha level). However, for the following practices, significant differences did indeed occur:

| |
|---|
| Hiring key employee of competitor |
| Gifts to purchasing agents |
| Favoritism in promotion |
| Misleading financial reporting |
| Discrimination against women |
| Defending the healthfulness of cigarettes |

Table 6 lists complete means scores for respondents with and those without college degrees. Interestingly, for each of the above practices, owners/managers without college degrees professed significantly higher ethical attitudes than those with college degrees. This may well reflect the emphasis placed upon goal attainment, particularly profits, that occurs in most traditional business curriculums. These findings may serve as support for enhanced teaching of ethics in undergraduate business schools. Results of this study do not agree with the findings of a recent study (Ede, Panigrahi, Stuart, and Calcich, 2000) who concluded that education did not impact ethical values in minority-owned small businesses.

**Importance of Religious Interests**

For 13 of the 16 described actions, no significant differences existed between owners/managers that placed high importance on religious interests as opposed to those that placed less than high importance on such interests (at the 0.05 alpha level). However, significant differences did exist for the practices of faulty investment advice, favoritism in promotion, and acquiescing in dangerous design flaws. Table 7 provides complete mean scores for both categories of respondents. For each of these actions, ethical attitudes were significantly higher for respondents that placed high importance on religious interests.

All of the above practices involve activities that could lead to direct personal harm to individuals. These findings are not surprising due to the nature of traditional American religions which espouse personal, "love thy neighbor," values. Unethical practices that tend to adversely affect the organization as opposed to the individual resulted in no significant differences between the two groups of owners/managers.

**Table 6: Ethical Issue Means by Education**

| Ethical Issue | | No college degree | College degree |
|---|---|---|---|
| A. | Padding expense accounts | 1.32 | 1.42 |
| B. | Environmental Pollution | 1.26 | 1.20 |
| C. | Faulty investment advice | 1.14 | 1.32 |
| D. | Tax evasion | 1.51 | 1.49 |
| E. | Foreign business payoffs | 2.16 | 2.46 |
| F. | Hiring key employee of competitor* | 2.21 | 2.93 |
| G. | Collusion in bidding | 2.67 | 2.67 |
| H. | Gifts to purchasing agents* | 2.07 | 2.75 |
| I. | Insider trading | 2.07 | 1.84 |
| J. | Favoritism in promotion* | 1.79 | 2.43 |
| K. | Acquiescing in dangerous design flaws | 1.35 | 1.61 |
| L. | Misleading financial reporting* | 2.28 | 2.91 |
| M. | Discrimination against women* | 1.85 | 2.42 |
| N. | Misleading advertising | 1.71 | 1.95 |
| O. | Defending healthfulness of cigarettes* | 1.76 | 2.53 |
| P. | Copying computer software | 2.60 | 2.33 |

*T-test statistically significant @ 0.05 alpha level

## Age

Studies (Dawson, 1997; Peterson, Rhoads, and Vaught, 2001) have indicated that ethical beliefs increase with age. Results of this study support these findings. For 15 of the 16 scenarios, no significant differences existed (at the 0.05 alpha level). Table 8 presents the results of the comparisons based on respondent age. Significant differences did exist among age groups for the practice of misleading financial information reporting. The 21-30 age category reported significantly higher means, and thus lower ethical attitudes, than age categories 41-50, 51-60, and over 60 for the practice. This result is less than surprising due to the survival pressures faced by young small business owners.

| Table 7: Ethical Issue Means by Importance of Religious Interests | | | |
|---|---|---|---|
| | | Importance of Religious Interests | |
| Ethical Issue | | High | Less than high |
| A. | Padding expense accounts | 1.35 | 1.43 |
| B. | Environmental Pollution | 1.14 | 1.35 |
| C. | Faulty investment advice* | 1.12 | 1.43 |
| D. | Tax evasion | 1.53 | 1.48 |
| E. | Foreign business payoffs | 2.44 | 2.15 |
| F. | Hiring key employee of competitor | 2.63 | 2.63 |
| G. | Collusion in bidding | 2.70 | 2.68 |
| H. | Gifts to purchasing agents | 2.40 | 2.55 |
| I. | Insider trading | 1.81 | 2.10 |
| J. | Favoritism in promotion* | 1.91 | 2.46 |
| K. | Acquiescing in dangerous design flaws* | 1.33 | 1.74 |
| L. | Misleading financial reporting | 2.72 | 2.55 |
| M. | Discrimination against women | 2.00 | 2.38 |
| N. | Misleading advertising | 1.68 | 2.08 |
| O. | Defending healthfulness of cigarettes | 1.96 | 2.51 |
| P. | Copying computer software | 2.35 | 2.60 |
| *T-test statistically significant @ 0.05 alpha level | | | |

## DISCUSSION AND CONCLUSIONS

The area of ethics in small business has been called "uncharted territory" (Longenecker et al. 1989). This study provides an investigation into that territory. Studies have indicated that ethics is an area in which differences generally exist between small and large businesses; however, few studies have examined differences among and between managers within the small business arena. Ethical attitudes of small business owners/managers are much more alike than different. Significant differences among and between respondents were limited. However, differences within categories provided some interesting findings. Issues perceived as traditionally "women's issues" resulted in divergences in attitudes between men and women owners/managers. Obviously, women who head small firms perceive less than ethical practices in terms of discrimination and favoritism against women still exist. Another curious finding points toward the conclusion that college degrees do not necessarily tend to enhance the ethical attitudes of small business owners/managers. For each practice in which significant differences did occur, respondents without college degrees reported higher ethical attitudes than their more educated counterparts.

**Table 8: Ethical Issue Means by Age**

| Ethical Issue | | Age | | | | |
|---|---|---|---|---|---|---|
| | | 20-30 | 31-40 | 41-50 | 51-60 | Over 60 |
| A. | Padding expense accounts | 1.60 | 1.40 | 1.30 | 1.41 | 1.20 |
| B. | Environmental Pollution | 1.50 | 1.21 | 1.13 | 1.18 | 1.30 |
| C. | Faulty investment advice | 1.30 | 1.30 | 1.26 | 1.23 | 1.00 |
| D. | Tax evasion | 2.00 | 1.55 | 1.48 | 1.45 | 1.00 |
| E. | Foreign business payoffs | 3.10 | 2.21 | 2.13 | 2.48 | 2.10 |
| F. | Hiring key employee of competitor | 2.20 | 2.70 | 2.48 | 2.91 | 2.40 |
| G. | Collusion in bidding | 3.40 | 2.67 | 2.61 | 2.77 | 1.90 |
| H. | Gifts to purchasing agents | 3.10 | 2.72 | 2.17 | 2.27 | 1.90 |
| I. | Insider trading | 2.40 | 1.82 | 1.78 | 1.91 | 2.30 |
| J. | Favoritism in promotion | 1.70 | 2.06 | 20.9 | 2.33 | 2.60 |
| K. | Acquiescing in dangerous design flaws | 1.20 | 1.67 | 1.13 | 1.57 | 1.90 |
| L. | Misleading financial reporting* | 3.70 | 2.88 | 2.57 | 20.5 | 2.20 |
| M. | Discrimination against women | 1.80 | 2.21 | 2.13 | 2.23 | 2.30 |
| N. | Misleading advertising | 1.70 | 1.97 | 1.61 | 2.00 | 1.80 |
| O. | Defending healthfulness of cigarettes | 1.90 | 2.00 | 2.59 | 2.14 | 2.40 |
| P. | Copying computer software | 3.00 | 2.67 | 2.35 | 2.32 | 1.70 |

*ANOVA statistically significant @ 0.05 alpha level

"Sunday school" ethics have been questioned as being sufficient to result in ethical behavior in the work place (Boling 1978). Nevertheless, small business owners/managers that place high importance on religious interests do indeed score higher in ethical attitudes for a number of practices than their colleagues that do not consider religion high on their list of interests. The reverse action did not occur for any practice. All differences were found within practices in which traditional "Sunday school" beliefs would be expected to have an influence.

The results of this study support the findings of Longenecker, McKinney, and Moore (1989) that small business managers are more demanding than permissive in their ethical attitudes. Ethical mean scores were all below the median point of the response scale. The conclusion, therefore, may be drawn that small business is a relatively ethical arena in which leaders tend to be ethical decision makers.

## LIMITATIONS AND SUMMARY

The finding discussed above have a number of limitations. These results represent expressed attitudes of acceptance as opposed to actual behavior. Additionally, a substantial portion of the owners and managers have undoubtedly never faced and perhaps will never face the dilemmas presented in each scenario. Responses may indeed have been altered if the situation described had a dramatic potential to affect the success of the organizations headed by these individuals. Also, though the practices were described in a manner that revealed ethical questions as opposed to legal ones, some respondents may have injected legal ramifications (correctly or incorrectly) into their answers. Also, the study findings represent only the smallest segment of "small business," and caution should be used when applying to the entire small business community.

Small businesses must constantly attempt to create cultures and environments in which ethical decision-making is consistently and uniformly practiced. While the results of this study are encouraging, additional research is required to further enhance the understanding of the dynamics of ethics in small business.

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