INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

ProQuest Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

ORGANIZATION ECOLOGY OR CONTINGENCY THEORY: AN ANALYSIS OF NEW VENTURE PERFORMANCE ACROSS REGIONAL ENVIRONMENTS AND GENDER

By
Mellani J. Day

A DISSERTATION

Submitted to the
Wayne Huizenga Graduate School of
Business and Entrepreneurship
Nova Southeastern University

In partial fulfillment of the requirements
for the degree of

Doctor of Business Administration

2002

A Dissertation
entitled

ORGANIZATION ECOLOGY OR CONTINGENCY THEORY: AN ANALYSIS OF NEW VENTURE PERFORMANCE ACROSS REGIONAL ENVIRONMENTS AND GENDER

By

Mellani J. Day

We hereby certify that this Dissertation submitted by Mellani J. Day conforms to acceptable standards, and as such is fully adequate in scope and quality. It is therefore approved as the fulfillment of the Dissertation requirements for the degree of Doctor of Business Administration.

Approved:

Lars Kolvereid, Ph.D. — Date
Chairperson

Thomas Powers, Ph.D. — Date
Committee Member

F. Barry Barnes, Ph.D. — Date
Committee Member

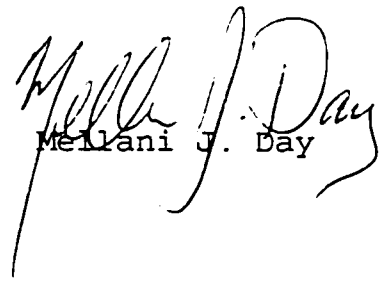
Joseph L. Balloun, Ph.D. — Date
Director of Doctoral Research

J. Preston Jones, J.D., M.B.A. — Date
Associate Dean, Wayne Huizenga
Graduate School of Business and Entrepreneurship

Nova Southeastern University
2002

CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used language, ideas, expressions or writings of another.

Signed 
Mellani J. Day

ABSTRACT

ORGANIZATION ECOLOGY OR CONTINGENCY THEORY:
AN ANALYSIS OF NEW VENTURE PERFORMANCE
ACROSS REGIONAL ENVIRONMENTS AND GENDER

By

Mellani J. Day

This research contributes to the on-going investigation in organization theory and entrepreneurship of the processes: environmental selection versus strategic adaptation. Two regional environments within the United States, Mississippi and Colorado, served as the context for a cross-industry and cross-gender analysis of new venture performance. The study was designed in two parts: 1) to compare a composite set of performance measures across environment and gender, and 2) to determine whether environment or strategy better explained reported performance.

Data were gathered on 126 new ventures using a stratified random sample method to ensure equal representation of each sub-group. Businesses between three and five years old with at least one employee were included. The entrepreneur/business owners were sent a modified version of the SARIE II questionnaire.

Key results in the first category of hypotheses were, 1) both Colorado and Mississippi men-owned businesses (MOBs) had significantly higher levels for the measure, employee growth, than did women-owned businesses (WOBs) from either state; however 2) no significant difference was found for the other three performance measures used. For the second set of hypotheses, results showed that the highest performers in this study, used a first-to-market, wide domain approach also known as prospector/r-generalist strategy. Further tests indicated that for certain conditions, a munificent environment may have a negative effect on pretax profits, and strategic posture can have a significant effect on the four-factor performance index. The results also indicated that strategy may have a slightly higher explanatory effect on performance.

The findings of this study have shown that both regional and gender variations do exist, but such variations are not easily delineated. However, this research has contributed some understanding of the dual role that environmental and strategic factors play in their influence on new venture performance of both MOBs and WOBs.

ACKNOWLEDGEMENTS

With this short paragraph I thank the many people who have assisted and supported me during the past few years in undertaking the marathon represented in these pages. First to my committee, Lars Kolvereid for his valuable guidance and patience, always taking time to be there when I needed direction. Tom Powers and Barry Barnes for their encouraging comments and contributions. I thank my colleagues and friends who cheered me on when the mountain seemed too high to climb. I thank my family for always believing in me. And finally, I thank my husband who in spite of illness, a liver transplant, several moves, and untold mishaps through the years, kept up his support for me in my doctoral endeavors. Life is better because of you all.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Academics, public policy makers and founders of new ventures, are interested in understanding and establishing an environment within which the entrepreneurial process can take root and flourish in the form of new ventures. It has been found that promoting entrepreneurial activities has resulted in economic and other benefits, particularly job creation, for those regions in which such promotion is successfully undertaken (See Birch, 1987, Mokry, 1988, Kohli and Sood, 1987 and Sage, 1993). As a behavior and a process, entrepreneurial activity can either be encouraged or discouraged by environmental factors e.g. social and cultural acceptance or legitimation, legislation, rate of technological change, competition and resource availability (Aldrich, 1990).

Background

This research contributes to the on-going investigation in organization theory and entrepreneurship of the processes: environmental selection versus strategic adaptation, and the explanatory power of each position as regards to new

firm performance. Contingency theory (Drazin and Van de Ven, 1985) places great weight on the assessment and strategy-making abilities of a firm's founder or entrepreneurial team to adapt as required to environmental pressures. This perspective allows that the strategy of the entrepreneur can be adapted to the particular environment in an iterative, learning process to affect survival and performance. However, any viable concept of strategic behavior must be explicit in its acknowledgement of the inseparability of organizations and their environments (Lenz, 1980).

As an alternative to contingency theory, organization ecology (Aldrich, 1979) holds that the environment selects which firms will survive or fail, leaving little to no room for the efficacy of management's strategic efforts. At its most basic level the ecological perspective argues that it is the elements that make up a given environment that influence the survival and performance of organizations in that environment, regardless of the strategy of the founder or entrepreneur, a strikingly Darwinian position.

A current example of this body of research can be found in Shane and Kolvereid (1995). Building on a rich body of theory and applied research in this field, they compared organization ecology (OE) and contingency

theory within a national environmental context to examine which perspective better explained new venture performance. This study as well as recent works by Winn (1997), Bantel (1998) and Styles (1991), serve as a basis for the research concept and methodologies presented here. Winn notes that the differences in performance across regions and gender has to date not adequately been addressed. Bantel (1998) develops a strategy measure that incorporates OE elements of generalist-specialist and product leader dimensions that can be applied to new firms. Styles (1991) has developed a methodology to measure a firm's innovation strategy that will add more definition to Bantel's product leader scale. The research focus for this dissertation seeks to extend and synthesize this line of study using regional environments within the United States as the context for a cross-industry and cross-gender analysis of new venture performance.

The Problem Situation

The research question for this dissertation is driven by dynamic entrepreneurial events in two regional environments in the United States (Winn, 1997). Specifically, a ranking of the 1987 and 1992 U.S. Economic Census data on Women-owned Businesses (WOB) has shown that the State of Colorado was first

and second in women-owned businesses respectively per population, than in any other state in the U.S. Indeed in 1987, there were more than twice as many women-owned businesses in Colorado than in any other state. This occurrence could have many explanations, women are more entrepreneurial in Colorado, resources are more readily available, some believe that the glass ceiling is thicker driving motivated women into entrepreneurship to advance (Moore and Buttner, 1997; Winn, 1997).

Since there are marked differences in the progress of WOBs from state to state, researchers have advocated an analysis of these differences by state or locality (Winn, 1997). For example, does a given state environment seem to favor either men or women-owned businesses? How might the environment of the State of Colorado compare with the State of Mississippi, which had the lowest proportion of women-owned businesses per population of all the states on the 1987 and 1992 Economic Census derived scale?

Ultimately, what matters is the successful performance of these entrepreneurial ventures within these regions that can provide the economic health and diversity that is vital for a strong and prosperous society. Academics and policy makers are interested in creating and fostering environments where entrepreneurship can flourish. Since there are documented differences across regions in entrepreneurial

activity as represented by new venture performance, then a closer look at the nature of these differences is warranted. Thus the basic research question in this study is: the performance of new ventures varies across regions and gender, and is explained by regional environmental factors.

The states of Colorado and Mississippi represent two markedly different environments and entrepreneurial activity levels within the U.S., and thus present an opportunity to examine the research question via the following hypotheses, which have been broken down into two categories. The first, establishes comparative performance results across gender and region.

H1a Male business owners in Colorado have higher performance rates than their female counterparts

H1b Female business owners in Colorado have higher performance rates than female owners in Mississippi

H1c Male business owners in Mississippi have higher performance rates than their female counterparts

H1d Entrepreneurs across gender in Colorado have higher performance rates than entrepreneurs in Mississippi

The second category of hypotheses looks at the OE versus contingency theory perspectives, and seeks to uncover whether environmental rather than strategic influences

better explain differences in performance results across region and gender:

H2a Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures of female entrepreneurs regardless of the strategies followed by the founders of those firms.

H2b Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures of male entrepreneurs regardless of the strategies followed by the founders of those firms.

H2c Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures across gender regardless of the strategies followed by the founders of those firms.

Definition of Terms

The following terms are used throughout this paper. For many of the terms, e.g. entrepreneurship or strategy, there can be found a variety of definitions in the literature. Here we have attempted to provide a listing of terms and their meanings as plainly as possible, as used in this paper.

Attitudinal climate -- one of the elements of a given environment; the norms and belief structure that exist in society that contribute to and influence an individual's independent choices (Acs, Tarpley and Phillips, 1998); here pertaining to the choice to participate in entrepreneurial activities.

Contingency theory -- allows that strategic choices of founding entrepreneurs, which are based on their perception of the environment, do have an influence on organization performance and survival (Drazin and Van de Ven, 1985).

Carrying capacity -- a component of density theory; as a population of organizations grows, the environment will eventually reach a saturation point (Specht, 1993).

Complexity -- a measure of the number of different factors existing in a given environment, e.g. heterogeneity or homogeneity of the market (Mullins and Cardozo, 1992).

Density theory -- holds that an environment in equilibrium can only support a specific number of populations of organizations; measures the strength, size and number of competitors in a given environment; see also carrying capacity.

Entrepreneur -- the instigator and motivating force driving the process of entrepreneurship.

Entrepreneurship -- the bringing of goods and services into existence when no actual current market exists for them (Venkatraman, 1997); operationalized and measured here by new venture performance.

Environment -- a given resource configuration (Péli and

Masuch, 1997); also the aggregate uncontrollable factors that have an influence on the effectiveness of a system (Athey, 1982).

Hostility -- a measure of the degree (presence and strength) of competition in a given environment (Tsai, MacMillan and Low, 1991).

K-strategies -- strategies that are successful in a niche that is densely populated. Cost-leadership, efficiency, product followership (Covin and Slevin, 1989a) are identifiers for this group of organizations. K-specialism operates efficiently within a narrow domain, K-generalism uses efficiency to compete in a wide range of domains. K-strategies are thought to be more successful in stable environments (Brittain and Freeman, 1980; Zammuto, 1988).

Legitimation -- the social process of acceptance of a group, procedure or entity as an excepted norm (Etzioni, 1987).

Munificence -- a measure of richness of environmental resources, e.g. potential market demand, size of opportunity (Mullins and Cardozo, 1992; Tsai, MacMillan and Low, 1991).

Niche width -- observed in the organization population domain, is concerned with a given population's robustness in the face of hostility and differing

levels of munificence over time; broad niche populations, considered to be generalists, are thought to be highly robust (Freeman and Hannan, 1983).

Organizational ecology -- formerly known as the population ecology theory of organizations; tries to understand the process underlying change (Aldrich, 1979); posits that there is an organizational form that is appropriate for each environment in equilibrium and that organizations not fitting the environment will be selected against (Hannan and Freeman, 1977); concerned with the evolution of populations of organizations.

Performance -- a measure of the success or failure of an organization; can be defined as survival (Romanelli, 1989), increases in market share, profitability, or growth; here it is the dependant variable and is a composite of four measures (Tsai, MacMillan and Low, 1991) to compensate for weaknesses in traditional measures when applied to new ventures.

r-strategies -- first-mover, innovation, novelty, and product-leadership are identifiers for this strategy type. Strategies used by these type organizations move quickly to take advantage of new opportunities discovered in a niche. r-specialism and r-generalism indicate the width

and/or variety of niches that the organization pursues, e.g. r-specialism indicates a narrow niche. r-strategies are thought to be more successful in quickly changing environments (Brittain and Freeman, 1980; Zammuto, 1988).

Social capital -- reflects the influence that a community has on individuals regardless of their independent choice, (Acs, Tarpley and Phillips, 1998) as opposed to physical or human capital; the interplay between economic performance over time and social dynamics in the community is the focus of importance.

Strategic adaptation -- refers to the iterative management process of successfully scanning and assessing the environment and developing and implementing strategic changes (Covin and Slevin, 1991; Naman, 1994).

Strategy -- a deliberate conscious set of guidelines that determine decisions into the future (Mintzberg, 1979).

Structural inertia -- system inherent blocks to change and innovation, e.g. legitimation or institutionalism (Hannan and Freeman, 1984; Baum and Powell, 1995); can be internal to an organization or can be a structural component in a given environment.

Volatility -- a measure of the rate of change in a given environment (Mullins and Cardozo, 1992); contributes to the measure of uncertainty that may exist; also known as environmental turbulence or velocity.

Scope of the Study

In entrepreneurship research to date, there has been a paucity of studies that directly compare the performances of WOBs and men-owned businesses (MOBs) especially with regards to environmental influences or strategy choices (Winn, 1997). Further, the classic debate between OE and contingency theory still remains. This study makes an attempt to fill in the gap and to provide policy-makers with additional insights into the promotion and support of entrepreneurial activity within their regions. The dynamic forces in the regional environments of the U.S. will allow a fresh look at this dimension of entrepreneurship.

CHAPTER II

LITERATURE REVIEW

In this chapter, we explore the six major concepts that are relative to the research question presented in this study. These are: organization ecology, contingency theory, entrepreneurship, performance as dependent variable, regional or environmental variations of firm performance, and the issue of gender and entrepreneurship.

The population ecology theory of organizations also known as organizational ecology (OE) considers the life cycle of populations of organizations from birth to death within a specified environment. One definition of environment is simply resource configuration (Péli and Masuch, 1997). Systems theory defines environment as the aggregate uncontrollable factors that have an influence on the effectiveness of a system (Athey, 1982). The relative openness of a given system is defined by how much influence the environment has over that system's performance outcomes (Russell, 1997). It can be argued that OE theory considers a new venture to be an open system since it takes the position that ultimately, the environment will determine whether the new entry will survive or perish (Aldrich, 1979, Hannan and Freeman, 1977).

OE researchers want to know why there are so many kinds of organizations (Hannan and Freeman, 1977). Early theories

assumed that organizations would continue to grow and expand until there were a few large organizations in any given industry. That has happened only for a few select segments, e.g. automotive, and hundreds of thousands of smaller organizations continue to thrive across industries. Sociologists have compared populations of organizations with the cycle of living organisms: industries as species. While this analogy eventually breaks down (Boone & van Witteloostuijn, 1995) the attempt to group organizations that have a common form is useful for analysis and understanding of the evolutionary dynamics of organizations (Hannan and Freeman, 1977).

Density theory and the idea of carrying capacity of the environment (for example see Specht, 1993) holds that as a population of organizations grows, the environment will eventually reach a saturation point. Thus, the environment exists before the organization appears, enter the organization and the environment is changed. However incrementally, an organization both changes and is changed by its environment (Péli and Masuch, 1997). The state of the environment as perceived by the organization founders will determine their actions. If a potential environment is perceived as hostile (Daniels, 1998; Naresh and D'Netto, 1997), organization founders may choose to locate elsewhere or defend against the hostility in some way, e.g. buy an existing business, refine or redesign marketing efforts, or

seek additional investors. They believe that their understanding of and skill level in reacting to perceived hostilities in the environment, implementation of strategies chosen, and personalities that will not give up versus those that will, can to some degree dictate the survival of their organization (Boeker, 1991). If conditions in the environment are too harsh and unfavorable, the organization may cease to exist.

In another environment, a second organization faces "favorable" conditions, ready resources, with easy access to capital and expertise. These founders' actions will be different from the first group, because of their environment. Is it more likely that this organization will survive and prosper? Perhaps the hostile environment will sharpen the skills and the resolve of our first group of founders, perhaps their organization will be a survivor, all the stronger because of its difficult surroundings. In the comfortable environment, the second group of founders could become complacent. Used to a munificent environment, their organization is destroyed when conditions change (See West and Meyer, 1998; Naresh and D'Netto, 1997).

Entrepreneurship

In the study of entrepreneurship there have been many tries at definition. The term entrepreneur was first used by J.B. Say, the French economist, around 1800 (Drucker,

1985). The entrepreneur was one who shifted economic resources out of an area of lower productivity and yield into a higher one. Venkatraman (1997) argues that rather than trying to define the term entrepreneur itself, it is more appropriate to define the central issues important to researchers in this area. He notes that other fields use this approach. Economists do not try to define resource allocator but rather the process of resource allocation, and sociologists do not define their subject matter by defining society. Thus, entrepreneurship as a scholarly field seeks to understand how markets for future goods and services are discovered, created, and exploited, by whom, and with what consequences (Venkatraman, 1997; Shane and Venkatraman, 2000).

Dollinger (1995) compiled a short sample of definitions of entrepreneurship that have been proffered through the years, which is reproduced here in Table 1. Notice that each definition of entrepreneurship entails some aspect of dealing with change and innovation (Styles, 1991; Drucker, 1998). The industrial and technological revolutions of this century have embodied the spirit of entrepreneurship. Arguably, without this phenomenon of entrepreneurship, there would be no change or innovation. It is precisely because this spirit or process seems to pervade every new thing or event, that its study has fascinated researchers who would

like to classify and model it and most important, be able to predict its occurrence. As esoteric as the concept may be,

Table 1. Historical Definitions of Entrepreneurship adapted from Dollinger, 1995.

Source	Definition
Knight (1921)	Profits from bearing uncertainty and risk
Schumpeter (1934)	Carrying out of new combinations of firm organization: new products, new services, new sources of raw material, new methods of production, new markets, new forms or organization
Hoselitz (1952)	Uncertainty bearing, coordination of productive resources, introduction of innovations and the provision of capital
Cole (1959)	Purposeful activity to initiate and develop a profit-oriented business
McClelland (1961)	Moderate risk taking
Casson (1982)	Decisions and judgments about the coordination of scarce resources
Gartner (1985)	Creation of new organizations
Stevenson, Roberts & Grousbeck (1989)	The pursuit of opportunity without regard to resources currently controlled

its benefits are tangible and felt by virtually every society in the world. Wealth creation at many levels, economic development, and new technology, are just a few examples and all are driven by this spirit of entrepreneurship (Gnyawali and Fogel,1994; Kohli and Sood, 1987; Sage, 1993; Ticknor, 1988; Styles, 1991).

For entrepreneurship to happen however, there must be an entrepreneur as well as a potential for entrepreneurship (See Reitan, 1997 for a discussion of entrepreneurial potential). Virtanen (1997) and Hebért & Link (1989) go so far as to argue that entrepreneur means a person, not a team, committee or organization. This study uses the more inclusive entrepreneur or entrepreneurial team as the driving force behind entrepreneurship (Boeker, 1989; Naman, 1994). The study of entrepreneurship seeks to answer the rhetorical question as to how goods and services can come into existence when no actual current market exists for them (Venkatraman, 1997). We are trying to understand the environmental influences on this phenomenon in its initial stages as operationalized by new venture performance (Shane and Kolvereid, 1995).

Since Birch's (1979) study on the contribution to job growth in the U.S. by firms with less than 100 employees, researchers have taken note of the importance of small and entrepreneurial firms for a region's economic health. (See Bruno and Tyebjee, 1982, Grinyer, Yasai-Ardekani and Al-Bazzaz, 1980, and Reynolds, 1986 for a few examples.) Building on this discovery, Kirchhoff and Phillips (1988) established that new businesses with less than 500 employees across industries dominate job creation in the U.S. Further, they found that net firm formation, positively correlates to overall economic activity for both the U.S.

and the United Kingdom for the periods studied. Finally, in a confirmation of Schumpeter's hypothesis, they demonstrate that new business formation is a significant determinant of economic growth. Entrepreneurial efforts have also been shown to correct inefficiencies (Kirzner, 1985), and solve an incentive problem that plagues employees of large organizations (Shane, 1995). As Reynolds (1986) cautions however, all firms do not start with the same potential for development. Only a few new ventures will eventually create a large number of jobs, the remainder will start and remain small. These findings create a significant backdrop for policy makers to take into consideration in their own regions, and in their efforts in encouraging economic development via entrepreneurship. (See Gnyawali and Fogel, 1994, Lincoln, 1977, Reynolds, 1986, Sage, 1993, and Ticknor, 1988.)

Entrepreneurship is also a social and community phenomenon (Eisenstadt, 1984, Mokry, 1988); there exists an attitudinal climate in every society that makes up part of the environment (Jackson and Rodkey, 1994). Acs, Tarpley and Phillips (1998) discuss the idea of social capital in this light. Recently recognized by economists, social capital as opposed to physical or human capital, reflects the influence that a community has on individuals regardless of their independent choice. The interplay between economic performance over time and social dynamics in the community

is the focus of importance. Russell (1997) argues that new ventures emerge from "initial conditions" that include social values, beliefs and norms (See also Staber, 1997). If the net impact of entrepreneurship on a society is a positive one and is a driving force in quality of life (Morris and Lewis, 1991) then new business formation is desirable and healthy for the economy and efforts must be made to encourage such activity (Kohli and Sood, 1987). This might mean that a fundamental alteration of the characteristics of a particular society is required. Is entrepreneurship perceived, accepted, encouraged (Mokry, 1988; Reitan, 1997)?

If a society views entrepreneurship with suspicion, such behavior may not be able to prosper, despite the benefits it can bring (Gnyawali and Fogel, 1994). Social factors such as groups, institutions, laws, population characteristics, and sets of social relations (Stinchcombe, 1965) may even be as important as the availability of capital, labor and technical expertise. (See also McClelland, 1961, Takyi-Asiedu, 1993, Weber, 1930, Yarzebinski, 1992.) Etzioni (1987) argues that legitimation of entrepreneurial behavior is an important factor that will determine the level found in one society as compared to another. One way to determine whether social acceptance and policy differences produce the desired effects of new venture creation and economic health, is to compare

environments across regions with varying entrepreneurial activity.

Resource dependence (Froelich, 1999, Pfeffer and Salancik, 1978) and dynamic capabilities (Teece, Pisano and Shuen, 1997) theories also recognize that the organization is dependent upon the environment in an open-systems framework. Resource dependence thinking argues that the degree to which an organization relies upon vital inputs from key resources, determines the level of dependency upon those resources. Correspondingly, that degree is an indicator of the power those resources hold over the organization. As a result, organizations will attempt to acquire resources that can minimize this dependency (Dill, 1990; Galaskiewicz, 1985). Dynamic capabilities research strives to understand how firms continuously organize their strategic competitive advantage to fit a niche that may be constantly changing as the age of technology advances (Galunic and Eisenhardt, 2001; Rindova and Kotha, 2001).

There are three commonalities among organizations that are of interest for this study. First, they all have a beginning point; second, they have a founder or founding team with a uniting purpose who decides that conditions are right based on their perceptions; and third, these founders are able to corral the resources they believe they need to begin their organization in a given environment. The

operating force is the behavior, entrepreneurship, which ignites the whole dynamic.

The Population Ecology Theory of Organizations (OE)

According to Aldrich (1979), the population ecology model tries to explain the process underlying change. It takes the position that it is the environment that selects for or against the survival of a given organization. There are two sources for change (Hannan and Freeman, 1977), selection and adaptive learning. The first is optimization by environmental dynamics, and the second by perceptions and strategies of the entrepreneur and his team.

Extending Hawley's (1968) work on human ecology, Hannan and Freeman (1977) take the assumption that for each environment, in equilibrium, there is an organization form that is appropriate. With this explanation, the variance in kinds of environments should explain why there are so many kinds of organizations. When the rational behavior of the entrepreneur who is trying to optimize is in conflict with the optimization forces of the environment, it will be a case of the environment selecting against that individual organization. It is at this point that researchers have attempted to examine the environment and its optimizing factors. They include strength, size and number of competitors (density) for the same resources, or nutrients, the capacity of the environment to carry populations of

organizations, the structural inertia that exists, the rate of change in the increase or decrease of organizations and their growth or demise in the environment. It is argued by some OE researchers, that no two populations can occupy the same niche in a particular environment and that the more closely are two populations alike, the greater is the danger that one will cease to exist (Carroll, 1985, Freeman and Hannan, 1983).

Further, when growth in the population of organizations is constrained only because of a lack of resources, potential diversity of organizations in the environment is capped (Hannan and Freeman, 1977). Included in this is the effect that government actions have by way of regulations and restrictions in altering the dynamics in an environment, thus the organizations that exist there. Selection pressures can even eliminate entire populations (Aldrich, 1979) when new constraints are added or existing ones are changed by way of technology improvements, e.g. the typesetting industry gave way to automated processes and became obsolete.

Aldrich (1979) describes the environmental selection process as being in three stages: variation, which can be planned or random and provides the raw material for the new phenomenon, selection which can include elimination, diffusion of the phenomenon or a change in behavior in relation to the environment, and retention, which allows the

successful adaptation to exist. He cautions however that any predictions about the effect of environmental characteristics will not be possible without information about the organizational population in question. Conversely, predictions about how a particular organization should respond to its environment cannot be made without knowing its environmental contexts. Thus the many variations of environmental scanning tools available to organization strategists today. Etzioni (1987) and Shapero (1985) argue that entrepreneurship is more a statistical assault of thousands of endeavors than a rational, orderly search process; few attempts actually succeed.

Related dimensions of OE that have been explored by researchers include studies of niche width (Freeman and Hannan, 1983, Carroll, 1985) and the concept of structural inertia (Hannan and Freeman, 1977, 1984. Niche width, as defined by Freeman and Hannan (1983, p. 1118),

> ...refers to a population's tolerance for changing levels of resources, its ability to resist competitors, and its response to other factors that inhibit growth. A population which has wide tolerance, meaning that it can reproduce in diverse circumstances, is said to have a broad niche.

Organizational members of broad niche populations can be considered generalists, as versus specialists who exist in a narrow niche and focus all their resources into a small range of possible tactical responses to their environment (See Bantel, 1998). When studying niche width, researchers

also consider temporal and spatial features in distributions of environmental variations.

> The first is the *level of environmental variability*, the variance of the series about its mean. The second is one characteristic of the pattern of variation, *grain*. Grain refers to the degree of mixing of different types of outcomes in the temporal or spatial distribution. Think of a spatial distribution composed of small squares of several types. When the squares are well mixed, one will seldom encounter large patches of a single kind of square. Such a distribution is said to be *fine grained*. If, instead, there are large clumps of homogeneous squares, the distribution is said to be *coarse grained*. When one considers change over time, grain refers to the length of typical periodicities. When fluctuations occur frequently, so that tenure in any one environmental condition is short, the environment is said to be fine grained. Fluctuating environments in which tenure is long are coarse grained. Except for the extreme case of complete stability, variability and grain can vary independently (Freeman and Hannan, 1983, p. 1119).

Thus, when researchers seek to estimate the survival rates of organizations using OE they should consider a temporal/spatial analysis of the environment as well as some identification of where the population exists on the pole of generalist-specialist.

The concept of structural inertia explains why or how entire populations of organizations come to be overrun by their environments. Some structural inertia factors are internal to organizations such as poor management, sunk costs, and some are external such as changes in legislation and technology. Organizations are susceptible to strong

inertial forces and in the face of environmental threats they seldom succeed in implementing the radical changes in strategy and structure that are required (Hannan and Freeman, 1984).

> When the connections between means and ends are obscure or uncertain, carefully designed adaptations may have completely unexpected consequences. Moreover, short-run consequences may often differ greatly from long-run consequences. In such cases, it does not seem realistic to assume a high degree of congruence between designs and outcomes (Hannan and Freeman, 1984, p. 151).

Boeker (1989) demonstrated that an organization's founding sets the course of its initial strategic approach based on the entrepreneurial team's consensus. He argues that structural inertia is built in from the beginning, and this organizational history shapes future strategic action (See also Stinchcombe, 1965; West and Meyer, 1998). Even should the entrepreneurial team recognize the need to implement change and to do so quickly, structural inertia blocks their efforts. One example of how this happens is the concept of institutionalism (Baum and Powell, 1995). Organizations set up routines to automate functions and keep costs down. These routines allow organizations to replicate themselves fairly easily, and they are legitimized. However, the very existence of these routines, sub-routines and their legitimization and support systems, make their organizations resistant to change (Hannan and Freeman, 1984, 1977). Stinchcombe (1965) notes that some disrespect for

traditional standards is required for a new organization to grow (West and Meyer, 1998). Thus, temporal and spatial environmental variations, the generalist-specialist orientation of the population of organizations, and the degree of structural inertia that is built into organizational systems, combine with other OE variables to paint a complex picture of organizational population dynamics.

Empirical Application of OE Theory

Classic application of OE theory examines the complete life cycle of a population of organizations. Nielsen and Hannan, (1977) studied the expansion of national education systems during the period of 1950-1970. Using a simplified dynamic model based on various techniques for pooling time series of cross-sectional data, the growth of a population of educational organizations was estimated. A combination of factors (structural inertia, and the effects and availability of resources) were found to depend in a systematic way on both structural properties of the educational organizations and characteristics of the national environments.

Other researchers examined foundings and failures in the newspaper industries of Argentina (1800-1900) and Ireland (1800-1925), and in the United States (1860-1972). Delacroix and Carroll (1983) explored the viability of an

environmental model that would account for newspaper foundings. They found that both internal population dynamics (inter-organizational), and external events including prior demises and foundings of like organizations did account for these "quasi-cyclical" foundings; however political turbulence at the national level accounts for most new press foundings in these countries and this industry. Carroll and Huo (1986) found similar results in the United States, but added the dependent variable performance. They found that institutional environmental variables, especially political turmoil, only weakly affected performance.

In a 1986 overview of OE, Wholey and Brittain sought to integrate the theoretical and conceptual debates on the subject with emerging empirical research. They found that the 27 empirical studies used implicitly capture the most fundamental aspect of organizational performance in their models, survival. The table of Primary Ecological Models used by these researchers is reproduced in Table 2. They conclude that the major problem in ecological research is data acquisition, but that the possibility of explaining differences found in the variables affecting performance and other outcomes such as failure is where the OE contribution is most fully realized.

Hannan and Freeman (1987) focused on the organizational foundings of American Labor Unions (1836-1985). This study investigated the effect of competitive processes and

environmental effects on the founding rate, and considered labor unions as a constraint in the environment. They found that the growth of industrial unions inhibited the founding rate of craft unions, but that the founding rate of industrial unions was not affected by the number of craft unions in the niche.

Organizational founding rates at the population level were studied using the OE perspective by Aldrich (1990), who argues that the rates approach to studying organizational births is complementary with the personal traits approach of traditional entrepreneurship researchers. He found that the foundings of new organizations are highly dependent on the history of existing organizations, both at the population and larger community of populations levels. He emphasizes that future research needs to focus on studies of the formative years of quickly growing firms, since most of the research to date has concentrated on large, successful firms.

Boeker (1991) studied the U.S. brewing industry over an 18-year period. Both competitive and symbiotic relationships were found to exist between strategic groups. Further, environmental characteristics have a significant influence on strategic viability. This research was expanded upon by Carroll, Preisendoerfer, Swaminathan, and Wiedenmayer (1993) by the addition of the German brewing industry (1861-1988), which is highly fragmented. The OE

concept of density-dependent legitimation and competition was applied. The findings suggest that the evolution of the brewing populations in both countries was density dependent for the periods studied.

In a paradoxical study applying OE using the case of China, however, Shenkar and von Glinow (1994), find that it is clearly inapplicable and one that is more suited for western cultures and thus not universal in nature. This argument is based in part, on the extreme structural inertia prevailing in China as a result of the absolute barriers placed on the environment and organizations by the state and its own organizations, discouraging change or natural evolution. In addition, organizations are actually assigned a niche in which they will operate. By central control, organizational populations in China seem to more closely fit the classic expectation that the industrial giant organizations will displace smaller representations (Hannan and Freeman, 1977). Since there is no official competition, selection cannot take place. Further, artificial support will not allow inefficient organizations to die, thus the survival of the fittest tenant does not hold.

However, the Shenkar and von Glinow arguments actually can be shown to support the OE theory, even in the case of China. Included in the definition of national environment are government regulation and control, as well as cultural acceptance and norms. They agree that OE allows for

organizational inertia, only that it is not strong enough to cover the extreme form of inertia found in organizations in China. Within an environment where absolute barriers to entry and exit exist, adjustment equals zero, and becomes unnecessary. That does not mean that the theory is invalid in that environment. Should a change in policy occur, and an entry or exit barrier be lifted or softened, adjustment may just as quickly become apparent (Sensenbrenner, 1987).

Shenkar and von Glinow (1994) argue that the Chinese organization over the passage of time is static, assigned a niche or domain by authorities, rather than finding its own area of expertise. Further, regardless of Western ideas about organizational structure following strategy, Chinese organizations all fit the same structure regardless of purpose or mission. Thus they conclude that varieties of organizational form that are predicted by the OE model have not developed in China.

Table 2. Primary Ecological Models (Wholey and Brittain, 1986).

Unit of Analysis	Dependent Variable	Theoretical Constructs
Organization	Dynamic Models	Demographic blocked mobility Internal political activity Economic opportunity Technical opportunity Competitive intensity Environmental frequency and amplitude of change Structure-environment congruence Munificence Opportunity structure Organizational size
Environment/ population	Static Models Number of entries Number of exits Number of reorganizations Dynamic Models Population entry rate Population exit rate Reorganization rate	Resource availability/ munificence Environmental uncertainty Frequency of environmental change Magnitude of environmental change Competition Institutional instability
Multiple populations/ community	Static Models Population sizes Dynamic Models Population growth rates	Environmental carrying capacity Competitive relationships Proliferation rates

However, Sensenbrenner (1987) argues that there are different types of enterprises to be found in China, and that the boundaries between China's rigid organizational structures are being blurred. She identified seven

varieties of organizational form, including private or entrepreneurial enterprises that lie outside the State planning system. While evolutional constraints are indeed great, China's government formed an organization to support these smaller firms in 1986, the All China Self-Employed Laborer's Association. Freeman's (1982, p. 6) comment on longer time frames might apply here. "Long-living organizations, like long-living organisms, can be studied with a natural selection logic to good effect if the number of organizations or the time span of the study is expanded." (See also Carroll, 1984 and Freeman and Hannan, 1983.) Perhaps a much longer time span is needed to study the evolution of populations of organizations in the case of extreme structural inertia such as in China, and the important research questions here relate not to founding rates but to organizational transformation (Swaminathan, 1996).

In a three-country study Shane and Kolvereid (1995) examined both the OE and contingency perspectives for their effects on the performance of new ventures. They found that the national environment faced by the entrepreneur explained most of the new venture performance, favoring an ecological perspective. Further, it was shown that in unfavorable national environments, new venture performance was higher. Instability, political turmoil, and rapid technological change among other things, all seem to free up resources and

allow room for start-ups (Etzioni, 1987, Mokry, 1988). As Kirzner (1985) states, entrepreneurship is fundamentally a disequilibrium phenomenon.

As discussed above at its most basic level, the ecological perspective holds that it is the environment that influences the survival and performance of organizations regardless of the strategy of the founder or entrepreneur. The contingency perspective allows that the strategy of the entrepreneur can be adapted to the particular environment in an iterative, learning process to affect survival and performance. A viable concept of strategic behavior must be explicit in its acknowledgement of the inseparability of organizations and their environments (Lenz, 1980).

Contingency Theory and Strategy

Contingency theory allows that strategic choices of founding entrepreneurs, which are based on their perception of the environment, do have an influence on organization performance and survival (Shane and Kolvereid, 1995). Child (1972) states that the exercise of choice by organization decision-makers gives them some ability to determine the limits to their environments and whether or not to enter into a new form of business. He agrees that the perceived environment may be different from the actual environment.

It is possible to manage the environment by means of long-term contracts, joint ventures and mergers, and using

third party organizations such as trade associations or government agencies. However, the price of too much emphasis on adjustment to environmental constraints is inefficiency. On the other hand, the price of insufficient coping capacity is ineffectiveness (Miles, Snow and Pfeffer, 1974). Decision-makers must find the right balance.

Drazin and Van de Ven (1985) argue that every theory is in reality a contingency theory, since assumptions must be made about starting premises, boundaries and system states in order for any proposition of relationships to hold. What is generally thought of as contingency theory is, however, more complex in structure than other theories.

> A contingent proposition is more complex, because a conditional association of two or more independent variables with a dependent outcome is hypothesized and directly subjected to an empirical test; for example, task uncertainty interacts with structural complexity to affect performance. Central to a structural contingency theory is the proposition that the structure and process of an organization must fit its context (characteristics of the organization's culture, environment, technology, size, or task), if it is to survive or be effective (Drazin and Van de Ven, 1985, p. 514).

Table 3 gives a summary of the different conceptual approaches to fit in contingency theory.

Mintzberg (1979) defined strategy as a deliberate conscious set of guidelines that determines decisions into the future, and this definition will be used for this study. He found that most research on strategy formulation could be

Table 3. Interpretation of Fit in the Selection, Interaction, and Systems Approaches to Structural Contingency Theory (Drazin and Van de Ven, 1985).

Views, definitions, and test methods	Selection	Interaction	Systems
Initial Views			
Definition	Assumption: Fit is assumed premise underlying a congruence between context and structure.	Bivariate Interaction: Fit is the interaction of pairs of organizational context-structure factors; it affects performance.	Consistency analysis: Fit is the internal consistency of multiple contingencies and multiple structural characteristics; it affects performance characteristics.
Test methods	Correlation or regression coefficients of context (e.g., environment, technology, or size) on structure (e.g., configuration, formalization, centralization) should be significant.	Context-structure interaction terms in MANOVA or regression equations on performance should be significant.	Deviations from ideal-type designs should result in lower performance. The source of the deviation (in consistency) originates in conflicting contingencies.
Current-Future Views			
Definition	Macro selection: Fit at micro-level is by natural or managerial selection at macro-level of organizations.	Residual analysis: Fit is conformance to a linear relationship of context and design. Low performance is the result of	Equifinality: Fit is a feasible set of equally effective, internally consistent patterns of organiza-

		deviations from this relationship.	tional context and structure.
Test Methods	Variables subject to universal switching rules should be highly correlated with context. Particularistic variables should show lower correlations.	Residuals of context-structure relations regressed on performance should be significant.	Relationship among latent context, structure, and performance constructs should be significant, while observed manifest characterist ics need not be.

categorized into three types: planning mode -- a structured and organized process, adaptive mode -- where conflicting agendas between divisions cause the need to bargain and compromise, and entrepreneurial mode -- where a charismatic leader creates a vision for others to follow. He concludes that:

> A strategy is not a fixed plan, nor does it change systematically at pre-arranged times solely at the will of management. The dichotomy between strategy formulation and strategy implementation is a false one under certain common conditions, because it ignores the learning that must often follow the conception of an intended strategy (Mintzberg, 1979, p. 947).

Thus the effects of structural inertia are recognized and must be accounted for in contingency theories just as they are in OE.

The process of strategy formulation must fit the environment in order to devise the proper strategy for that

environment. In addition to focusing on achieving a match between environment and structure, and strategy and structure, decision-makers must also incorporate a third link into the analysis, one between strategy-making and environment (Miller and Friesen, 1983). This is the contingency perspective. Hambrick (1983a) takes a similar position. In a study using a sample from the Profit Impact of Marketing Strategy (PIMS) database he sought to examine the effectiveness and functionality of the Miles and Snow (1978) strategy typology: prospector, analyzer, reactor, defender. He concludes that choice of strategy is dependent upon both the type of performance desired and the requirements of the environment. Bantel (1998) argues that the adoption of any strategy that does not fit a specific niche in the market environment can lead to a rapid end.

In another study also using PIMS to identify strategy typologies, Galbraith and Schendel (1983) developed two separate sets one for consumer products and one for industry. They argue that there is evidence that an organization's competitive position in its market environment may affect the relationship between type of strategy used and business performance, and that trade-offs exist. Further, they found that given the same strategy and environment, more dominant organizations will have better performance results than ones in less dominant market positions. In a similar study of 2500 new ventures, Carter,

Stearns, Reynolds, and Miller (1994) found six generic archetypes distinguishable along two dimensions: scope of segmentation, and product vs. marketing emphasis. They found that a firm's relative dominant position depended upon its industry's position in the industry supply chain. Generalist strategies tended to predominate in industries in the beginning or middle of the supply chain, and specialist strategies were dominant in industries near the end of the supply chain.

Galbraith and Schendel (1983) have provided a table of typologies of business-level strategies, which is reproduced in Table 4. Typologies that incorporate a range of relationships between strategies (e.g. Miles and Snow, 1978, strategy, structure, process) have been left off of their table since the focus was on patterns of strategy alone.

Table 4. Typologies of Business Strategies (Galbraith and Schendel, 1983)

Author and Strategy Label	Characteristics of Strategy Type
Buzzell *et al.* (1975)	
(1) Building	High investment to increase market share position
(2) Holding	Investment at market norms to maintain market share
(3) Harvesting	Low investment allowing market share to decrease; cost controls to generate cashflow and profitability
Utterback and Abernathy (1975)	
(1) Performance maximizing	Emphasis in product and/or service performance; technology, and product R&D emphasized
(2) Sales maximizing	Marketing emphasis to increase

	total sales and market share of firm
(3) Cost minimizing	Emphasis placed on process technology/R&D to decrease total cost of production
Hofer and Schendel (1978)	
(1) Share increasing	High investment to increase share of market
(2) Growth	Maintain position in expanding markets, investment at industry norms
(3) Profit	Investment at industry norms, cost controls to 'throw off cash'
(4) Market concentration and asset reduction	Realignment of resources to focused, smaller segments
(5) Turnaround	Improve strategic posture, may require investment
(6) Liquidation	Generate cash while withdrawing from market
Vesper (1979)	
(1) Multiplication	Expansion of market share by multiplying present market structures
(2) Monopolizing	Eliminate competition, establish barriers to entry, and control resources
(3) Specialization	Specialize in products and/or production process
(4) Liquidation	Give up business and market Position
Wissema *et al.* (1980)	
(1) Explosion	Improve competitive position in short term
(2) Expansion	Improve competitive position in long term
(3) Continuous growth	Maintain position in expanding markets, normal investment
(4) Slip	Give up market share to generate cash in growing market
(5) Consolidation	Give up market share to generate cash in stable market
(6) Contraction	Liquidate assets and terminate market position
Porter (1980)	
(1) Cost leadership	Efficiency, experience curve policies, overhead control, and other cost reductions

(2) Differentiation	Creating uniqueness in product and/or service
(3) Focus	Focusing on specific buyer group, or market
Miles (1982)	
(1) Domain defense	Preservation of traditional product-market
(2) Domain offense	Attacking strategies based on (a) Product innovation (b) Market segmentation

Performance, whether it is defined as survival (Romanelli, 1989), increases in market share, profitability, or growth, is the dependent variable of interest. Using Porter's (1980) strategy typology and an analysis of "intended" strategies of firms, Dess and Davis (1984) found that variations in profitability and growth across industries were related to strategic group membership. Slevin and Covin (1997) found that the context in which strategy is formed, specifically a firm's organizational structure and the hostility level of the external environment, moderates the level of performance associated with particular strategy formation patterns. But that a contingency perspective is necessary, since the better strategy formation approach will not always be apparent, and arguments as to which approach is inherently superior cannot hold. Even within a single industry there may be multi-environments that cause decision-makers to make idiosyncratic allocations of resources based on their perceptions. These decision-flow patterns, are strategic

attempts to match the organization to its environment (Kim and Lim, 1988; Reitan, 1997; Bantel, 1998).

Applications of Contingency Theory

In a study on the effects of strategy and the environment on early survival, Romanelli (1989) argues that it is possible to tailor organizational strategies to the environment, by understanding the industry and competitive concentration in the environment within which the firm operates. An examination of the minicomputer industry showed that a specialist or aggressive strategy increased likelihood of early survival. When industry sales were on the decline, efficient organizations had a better chance for survival than those with aggressive strategies.

Using the Covin-Slevin (1991) conceptual model of entrepreneurship, Naman (1994) focused on strategic actions initiated by entrepreneurial teams in 114 medium-sized manufacturing SBUs in attempting to adapt their organizations to changes in environmental conditions. He sought to 1) empirically identify degree of strategic adaptation, 2) assess levels of effectiveness, and 3) determine key factors that would explain differences in adaptive effectiveness among organizations. He found that the synergy between environmental opportunity and entrepreneurial posture allows a powerful explanation of the degree of strategic adaptation, and that misfit between

strategy domain (products, markets and technology) and administrative systems (reward systems and organization structure) can be used to explain differences in adaptation effectiveness among organizations.

Performance as Dependent Variable

OE and contingency researchers have examined a number of variables for their separate and combined effects on performance of the new venture. Sandberg and Hofer (1987) found that the interaction of industry structure, strategy and the entrepreneur, had a greater effect on performance, measured as return on equity, than any of the variables by themselves. However, the environment (industry structure), had a greater impact on performance than did either strategy or personal traits of the entrepreneur.

Chaganti, Chaganti and Mahajan (1989) examined the competitive environment and strategy on profit performance of 192 small manufacturing firms in one of the Canadian provinces. These researchers used a typology consisting of four different types of competition: 1) low-intensity price and promotion competition, 2) price competition, 3) promotion competition, and 4) high-intensity price and promotion competition. Then they categorized the firms by their apparent generic strategy which fell into four types: 1) Cost leadership, 2) innovativeness, 3) quality-image orientation, and 4) product scope. Similar to the findings

of Romanelli (1989), they found that firms should match strategy to the type of competition in the market. Further, that effective strategies will vary with the type of competitive environment in which the firm operates. However, due to the limited size of these firms and a general lack of options available to them, strategies employed tend to be homogeneous.

In a study on the likelihood, direction and performance implications of firms within an industry changing their generic strategies, Zajac and Shortell (1989) found that changes in generic strategy are not rare. Using survey results from 570 hospitals from 45 states in the U.S., 84% of which were privately owned, 55% had changed their generic strategies as categorized by the Miles and Snow (1978) typology (defender, reactor, analyzer, prospector) in response to perceived changes in their environment. Changing strategies did not necessarily guarantee higher performance outcomes (as measured by profit-margin) though, and an organization's historical strategic choices significantly effect whether a strategic change will be implemented.

Venkatraman and Prescott (1990) also empirically tested the contingency strategy-context construct for its effect on performance. In an effort to better clarify the idea of fit between strategy and its context, they sought to answer the question as to whether a closer environment-strategy

coalignment would significantly affect performance. For this study, a two-phased approach was chosen across two time periods from 1976-79 and 1980-83 with 1638 and 821 strategic business units (SBUs), respectively from the PIMS database. Performance was measured as return on investment of the business unit. In the first phase the environments measured seemed to be stable or declining and cost minimization was significantly related to performance. In the second phase, the environment consisted of a difficult economic period. Employee productivity was positively related to performance, but the measure was not significant; enhancing market share while maintaining low prices seemed critical to performance outcomes. What becomes apparent is the time-sensitivity of recognizing environmental changes as represented here by an economic downturn, and formulating and implementing strategy to match the new conditions.

The importance of strategy and environment in the success of corporate ventures, was examined in a study by Tsai, MacMillan and Low (1991). Again the PIMS database was used, however with the subset of 161 start-up corporate ventures (PIMS STR4). Performance was measured with two variables: gain in market share and profitability (relative return on investment). They found that both environment and strategy variables had highly significant effects on performance, but that context (hostility and munificence of

the environment) must be seriously considered by new ventures desiring to enter existing markets.

McCarthy (1992) broadened the scope of this research stream adding resources of the firm (i.e. initial size, initial capital, education level of the entrepreneur, prior management or start-up experience level of the entrepreneur, and prior market segment experience of the entrepreneur) and strategic change as perceived as necessary by the entrepreneur (tracked over a three year period). To overcome problems in accurately measuring the performance of new ventures, she used a multiple measure which included: survival, growth in employees, growth in sales, and money taken out of the business in the form of salary, dividends, perquisites, etc. She found that the ability to predict new venture performance differed depending on the measure used, but that by the third year, the ability to predict performance was much greater. Strategic change did not appear to affect performance, but interaction effects significantly improved the predictive capabilities of the model.

Shane and Kolvereid (1995) widened the scope of this research stream again by using a three-country study to expand the definition of environment outside the traditional definition of industry and to consider the relationship between strategy and national environment and its affect on performance. Further, these researchers sought to ascertain

whether the OE or contingency perspectives could better explain firm performance. Again noting the difficulty of accurately measuring performance of new ventures Shane and Kolvereid (1995) used a multiple measure which included: 1) average annual growth in number of full-time employees since the firm was founded, 2) growth in sales revenue during the last financial year, 3) growth in profits over the last fiscal year, and 4) profitability relative to competitors. Contrary to the findings of Sandberg and Hofer (1987) and McCarthy (1992) an analysis of the interaction of firm strategy and national environment did not indicate any significant influence on the performance of entrepreneurial firms. In this study, the main effect of national environment explained most of the variance in firm performance, supporting the OE hypothesis. Further, it was demonstrated that the definition of environment can be expanded beyond industry to include national environment. They state, however that support for the contingency perspective might have been found if domain, objectives or resource availability had been examined.

Bantel (1997, 1998) studied the performance of high-technology adolescent firms (5-12 years old) within the context of rapidly changing environments. She identified six non-mutually exclusive strategy dimensions that corresponded with one of the following four strategy quadrants: (1) defenders/K-specialists, (2)

entrepreneurs/r-specialists, (3) analyzers/K-generalists, (4) prospectors/r-generalists. These strategy quadrants follow Zammuto's (1988) analysis which harmonizes Mile's and Snow's ideal strategy types with the organization ecology theory of density-dependence (Brittain and Freeman, 1980). K-strategies compete on the basis of their efficient use of resources, and r-strategies compete by quick reproduction and early capture of the market. Add to each type the element of generalist and specialist strategy, and researchers find (1) the K-specialist who seeks to operate very efficiently in a specific and narrow domain, (2) the K-generalist who also seeks efficiency, however within a broad domain, (3) the r-specialist who finds the new opportunity and new resources within a narrow niche, and (4) the r-generalist who pursues a broader niche and new opportunities and resources (Zammuto, 1988).

Regional Variation: The Environment Effect

If the environment has such an effect on entrepreneurial activity, then the study of entrepreneurship should logically start with analysis of the external environment (Luthans, Stajkovic and Ibrayeva, 2000). Further, variation in regional environments should produce variations in incidents of entrepreneurship as might be measured by organizational births. Kirchhoff and Acs (1997) note the wide variation in the rates of firm formation

across countries as well as within countries. Researchers realize that if these regional variations could be accounted for, then policy makers would be greatly assisted in their efforts to induce economic development via entrepreneurship (Dubini, 1988, Mokry, 1988).

In 1986, an international consortium of researchers, the Society of Associated Researchers in Entrepreneurship (SARIE), developed a questionnaire to examine regional variations and other characteristics of entrepreneurial activity (Scheinberg and MacMillan, 1988, Shane and Kolvereid, 1995). Based on the information gleaned from their initial sample of 2,278 entrepreneurs and 1,733 non-entrepreneurs across 14 countries, in 1989 the group revised their original questionnaire and developed the SARIE II and

Table 5. Environmental Factors that Influence New Venture Performance.

Construct	Authors
Capital availability	Cooper, 1970; Hofer & Schendel, 1978; Hannan & Freeman, 1984; Chandler & Hanks, 1994
Competition	Grinyer, Yasai-Ardekani & Al-Bazzaz, 1980; Hofer & Sandberg, 1987; Nwachukwu & Tsalikis, 1989; Calantine, Schmidt & DeBenedetto, 1997; Becherer & Maurer, 1997
Customers	Cooper, 1978; Nwachukwu & Tsalikis, 1989
External pressure	Chandler, 1962; Grinyer, Yasai-Ardekani & Al-Bazzaz, 1980; Snyder &

	Gluck, 1982; Hofer & Sandberg, 1987; Miller, 1988; Covin & Slevin, 1989; Arbaugh & Sexton, 1997; Becherer & Maurer, 1997; Calantine, Schmidt & DiBenedetto, 1997; Bantel, 1998
Government incentives for business formation	Cooper, 1978; Calantine, Schmidt & DiBenedetto, 1997
Industry	Bracker & Pearson, 1986; Hofer & Sandberg, 1987
Location	Bracker & Pearson, 1986; Stearns, Carter, Reynolds & Williams, 1995
Network ties	Staber, 1993; Katz & Williams, 1997
Other entrepreneurs	Cooper, 1970, 1978 Brittain and Freeman, 1980
Quality of life	Mahar and Coddington, 1965; Cooper, 1970; Shapero, 1972; Cliff, 1998
Support services	Naumes, 1978
Supportive societal culture	Mahar and Coddington, 1965; Cooper, 1970; Reynolds, 1991; Morris, Jones & Nel, 1997; Reitan, 1997; Russell, 1997; Virtanen, 1997; Winn, 1997; Chell & Baines, 1998
Suppliers	Cooper, 1970; Shapero, 1972
Technically skilled labor	Draheim, 1972; Hofer & Schendel, 1978; Chandler & Hanks, 1994; Calantine, Schmidt & DiBenedetto, 1997

Technology (plant & equipment)	Mahar and Coddington, 1965; Hofer & Schendel, 1978; Tushman & Anderson, 1986; Chandler & Hanks, 1994; Arbaugh & Sexton, 1997; Bantel, 1998
Universities	Shapero, 1972; Cooper, 1978

a new international database. The SARIE II database was used by Shane and Kolvereid (1995) to study national environment effects on performance of entrepreneurs in Great Britain, Norway and New Zealand.

Bruno and Tybjee (1982) also note the existence of "major entrepreneurial areas" and listed 26 environmental factors stressed in entrepreneurial research. In descending order of frequency appearing in the literature they reviewed are: venture capital availability, technically skilled labor force, presence of experienced entrepreneurs, proximity to universities, favorable tax and licensing policies, availability of land (facilities), accessibility of transportation, accessibility of customers, favorable loan and financial policies, availability of supporting services, cultural and living conditions, government financial assistance and contracts, availability of raw materials, accessibility of supplies, receptive population, community size, environmental regulations, economic conditions, pushes and pulls, structure of R&D function, pollution, interim consulting, capital intensiveness, degree

of change in state-of-the-art technology, proximity to corporate headquarters, and finally competition. Many researchers have referred to various factors in the business environment that have been shown to influence new venture performance. An non-exhaustive list of these have been presented here in table form (see Table 5).

Pennings (1982) concurred that entrepreneurial activity levels differ regionally but noted that conduciveness of environments to entrepreneurship seems to hinge on the socioeconomic infrastructure as well. He cautioned that empirical investigation of the environmental factors such as those listed previously has been limited.

In a study examining northern, central and southern regions of Italy which included both expanding and declining local economies, Dubini (1988) found three classes of entrepreneurs and three very different types of perceived environments. The three classes of entrepreneurs were differentiated by their motivating influences: self-actualizers, who sought autonomy and were driven by a thirst for achievement; the discontented, who were unhappy with present working conditions; and followers of family tradition. The three environments were: the munificent, with efficient infrastructures, established capital markets, and other incentives to start a business; supportive environments, where potential to establish direct entrepreneurial support existed; and sparse environments,

which lacked both infrastructure and capital availability. Further, she found that the proportions of entrepreneurial types differ significantly for each environment.

Lomi (1995) also studied various geographical areas in Italy. Using an OE approach, he examined rural cooperative banks in 13 regions using a pooled cross-sectional time series analysis from 1964 to 1988 to investigate the effects of location dependence and unobserved heterogeneity on founding rates. He found that the various segments of the organizational population respond in different ways to general processes of legitimation and competition. He demonstrated how an ecological approach incorporating information on the spatial structure of a population can provide valuable insights into understanding the evolutionary dynamics of organizations within a given regional environment.

Reynolds, Storey and Westhead (1994) compared a series of international studies on spatial patterns, regional development and firm formation covering France, Germany (West), Italy, Ireland, United Kingdom, Sweden and the United States. They found similar regional variations within all countries, with the most fertile regions producing two to four times higher birth rates of new firms as the least fertile regions. In addition, they found that average new firm birth rates were roughly similar across countries studied. Most significantly, the underlying

processes affecting new firm births at the regional level appeared to be uniform across countries, suggesting that their findings are likely applicable to populations of new firms in other advanced market economies as well. However, Ryans and Shanklin (1997) caution against making the direct conclusion that historical antecedents of entrepreneurial economic development in one geographical area are directly comparable to everywhere else. They recommend a careful study of a particular region before adopting or implementing policies to cultivate entrepreneurial activity.

Kirchhoff and Acs (1997, p. 178ff) surveyed cross-national studies on spatial and temporal variations in new firm formation, noting that gender and culture are often overlooked issues. They reported the following trends in the research:

1. prior population growth in an area is a significant and consistent positive inducement to new firm formation rates,
2. unemployment and changes in the unemployment rate appear to have a broad positive impact on new firm formation (except in Sweden where the impact is negative),
3. geographical areas with a high proportion of employment in small firms are likely to have a higher rate of new firm formation,

4. the shift from manufacturing to services should have a positive impact on new firm formation,
5. overall level of economic activity might effect firm formation, e.g. when real interest rates are low, new firm formation will be higher,
6. the small firm innovation rate which measures the extent of knowledge outside the firm, promotes the start-up of new firms,
7. female labor force participation rate has a negative impact on new firm births
8. firm formation rates vary from sector to sector, region to region, country to country and time to time.

Research to date confirms that regional variation occurs across spatial and temporal boundaries. However, empirically driven explanations as to the effect that such variation has on entrepreneurial activity are still limited. It is hoped that this study will strengthen our understanding of these environmental effects on entrepreneurship.

Gender Issues in Entrepreneurship

Because the 1987 and 1992 Economic Census data, which spawned this investigation, revealed the extremely high entrepreneurial activity of women entrepreneurs in Colorado,

the issue of gender and entrepreneurship must also be explored. The U.S. Small Business Administration, Office of Advocacy (1998a) reports that the number of women-owned businesses (WOB) increased 89 percent over the last decade to an estimated 8.5 million. Percent revenue increased 209 percent and WOBs with employees increased 46 percent over the same period. Many small business growth indicators show that WOBs are increasing at a faster pace than their men-owned business (MOB) counterparts. Only eight percent of WOBs are organized as C corporations, other forms being described as S corporations, partnerships or sole proprietorships. More than 70 percent of these firms are in the services and retail trade sectors. Since WOBs account for more than one-third of all businesses, and since gender in business has been a topic of interest for many entrepreneurship researchers since the 1960s (See Smith, McCain and Warren, 1982), women entrepreneurs will make up half of the target population for this study.

Inequalities in entrepreneurial skill and limited access to resources whether real or perceived have consistently been reported as barriers to female business founders (Hisrich and O'Brien, 1981; Stevenson, 1986; Hisrich and Brush, 1987; Buttner and Rosen, 1988; President's Interagency Task Force, 1978; U.S. Small Business Administration, 1998a, Winn, 1997). Arguments can be found all along the pole. On the one side women

entrepreneurs behave differently than do their male counterparts (Smith, McCain and Warren, 1982) to the other side where there is no difference between behaviors of men and women entrepreneurs (Birley, 1989; Chrisman, Carsrud, DeCastro and Herron, 1990). Indeed, Chell and Baines (1998) find that there is just as much variation within gender category as between, but no significant difference between the performance of MOBs and WOBs.

Hisrich and Brush (1987) performed a longitudinal study of 136 women entrepreneurs in the United States to evaluate the entrepreneurial process over time. They found that these businesses had a lower failure rate (30-40%) than did the national average (75%), however the typical size of the women-owned business remained small with less than 10 employees and with gross annual revenues under $500,000, with average annual increases of 7%. Differences found between male and female entrepreneurs were noted to be attributable to the type of venture and its length of time in operation rather than to the gender of the business founder. Preference for quality of work life over "bigness", desire to maintain equity control, lack of market potential, contentedness with present growth patterns, were all stated as possible reasons that women-owned businesses were kept small instead of growing into multi-million dollar ventures.

Buttner and Rosen (1988) focused on the perceptions of bank loan officers of nine characteristics of men, women and successful entrepreneurs. These characteristics were: leadership, autonomy, propensity to take risks, readiness for change, endurance, lack of emotionalism, low need for support, low conformity, and persuasiveness. They found that characteristics most commonly attributed to successful entrepreneurs were also more commonly attributed to men by the 106 bank loan officers questioned. Their results raised questions regarding the degree that loan officers are influenced by sex stereotypes when considering loan applications.

Masters and Meier (1988) found no difference between the risk-taking propensity of male and female entrepreneurs, nor between managers and entrepreneurs, validating an earlier study by Brockhaus (1980). They conclude that the women's movement over the previous twenty years had possibly changed societal perceptions about females in judgement situations and accepting risk.

Birley (1989) approached the subject of differences of women entrepreneurs with the premise that the nature of any business is set at the start. There are antecedent influences, certain incubator influences on the entrepreneur, and environmental factors (Cooper, 1981) that influence the initial entrepreneurial decision. There do not appear to be differences between the sexes regarding

motivation or skills, but that different cultural conditioning and experiences do exist in the background of male and female entrepreneurs. This may lead to a situation where the supply of entrepreneurs, specifically female in this case, but in general any minority, in any given area may be restricted by situational and cultural conditions. However, she also notes that the role of men and women is rapidly changing in Western economies. As the profile of environmental factors, antecedent and incubator influences changes, the profile of the woman entrepreneur will also continue to change towards a closer match with their male counterparts (See also Sherer, Brodzinski and Weibe, 1990).

A study of 94 male and 64 female clients of a state-level Small Business Development Center (SBDC) seeking assistance in planning a new venture (Chrisman, Carsrud, DeCastro and Herron, 1990), found that they were virtually identical in terms of their assistance needs. The researchers concluded that no special treatment or programs are warranted for women entrepreneurs in pre-venture status. They argued that resources and attention are better applied to the study of behaviors and strategic factors affecting performance of the new ventures, regardless of whether they are male or female owned.

Kallenberg and Leicht (1991) studied gender and organizational performance over a three-year period. They sought to find a balance between the OE approach at the

macro level that focuses on survival and the contingency approach that takes a micro level view of the adaptive strategies of men and women entrepreneurs, using a two-dimensional model. They found that businesses formed by women were not less successful, nor more likely to go out of business than those founded by men. Neither were there more business innovations reported by men than women. Further, there were no overall differences among industries in the probability of business survival, however within industries, women in highly competitive markets were more likely to have gone out of business. They stress that these findings run counter to conventional wisdom regarding women entrepreneurs, and that determinants of survival and success operate in the same way for men as for women in business ventures. In line with the OE view, they conclude that a founder's gender may have nothing to do with the survival of an organization because competitive market processes accomplish that task.

The impacts of gender on business performance and management patterns of 1800 MOBs and 1800 WOBs were studied by Chaganti and Parasuraman (1996). They found that WOBs had significantly smaller sales, but reported similar growth and return on assets. However, women's ratings for both achievement and financial goals were significantly higher than for men.

Winn (1997) analyzed statistics on women-owned businesses in the United States and concluded that variations in incidences of WOBs across states or regions were contributed to regional attitudes towards women's achievement in general. Further, the value placed upon education differentiated between regions with higher numbers of WOBs, employment in WOBs and sales, and those with lower reports of these statistics.

In a study of 229 small business owners in Vancouver, Cliff (1998) examined gender differences in attitudes towards growth. Contrary to expectations, she found that male and female entrepreneurs were equally likely to desire growth for their firm. However, female entrepreneurs were more likely to have clear growth limits past which they felt they would not be able to maintain control.

Chell and Baines (1998) also studied the affect of gender on business performance. They found that there was no difference between the performance of sole male and sole female owned businesses, but that the performance of businesses owned by a team of non-related males was significantly greater. Unfortunately, a similar comparison of teams of non-related female owners was not possible due to a lack of availability. However they determined that there was as much variation within gender category as between.

In an empirical study on obstacles to business launch, Van Auken (1999) found that female respondents were less likely to believe that they could overcome perceived obstacles than their male counterparts. All other variables examined, including time constraints, availability of capital, and risk tolerance, and lack of past business experience, were equally seen as obstacles by both genders.

Despite the growth in WOBs, and an increase in understanding of the differences and similarities of male and female entrepreneurial performance, there persists in gender research the tenant that women are leaving the corporate world because executive positions and the most fulfilling assignments are closed to them (Daily, Certo and Dalton, 1999; Anonymous, 1998; Moore and Buttner, 1997; Winn, 1997). Thus the quickest way to top positions in business can be found through entrepreneurship.

In summary, over time gender issues in entrepreneurship research have changed, and are now understood to be rather an issue of cultural attitude and acceptance of women's achievement in the business world in general than one of ability or personality characteristics (Winn, 1997). Studies show that any differences that exist or may have existed, whether related to personality traits, societal acceptance, or motivational factors, seem to be converging as experience and confidence levels increase (Sexton and

Bowman-Upton, 1990; Winn, 1997; Chaganti and Parasuraman, 1996; Cliff, 1998; Chell and Baines, 1998).

SUMMARY

In this literature review we have presented the conceptual constructs and debate that underlies the research questions in this study. The six major concepts are: organization ecology, contingency theory, entrepreneurship, performance as dependent variable, regional or environmental variations of firm performance, and the issue of gender and entrepreneurship.

CHAPTER III

METHODOLOGY

This chapter covers the research design and concept constructs, which form the background for the research questions and the hypotheses. The issues surrounding sample size, the reliability and validity of the survey instrument and data collection are covered, as are the research variables themselves. Finally the methodologies for the analysis of the survey database and the testing of the hypotheses, and the limitations of the study are presented.

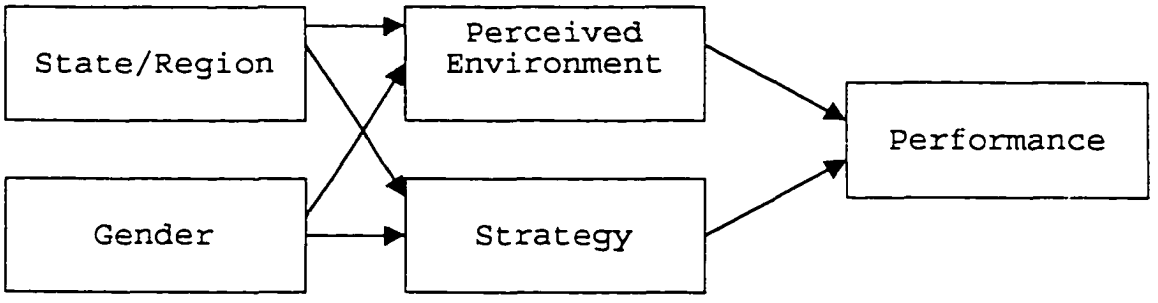
Research Design

The design of this study was an ex post facto stratified random survey method, extending the work of various researchers in the OE versus contingency theory debate (Bantel, 1998; Shane and Kolvereid, 1995; Styles, 1991; Winn, 1997). The regional environment served as the context for a cross-industry and cross-gender analysis of new venture performance.

The independent variables were separated into two categories: strategy and environment. The dependent variable was performance. To classify reported strategies for the new ventures in the sample, Bantel's (1998) approach was used. To measure the objective and perceived environments as reported by the participating new venture

founding team, the SARIE II scales were used. For more detail on the SARIE and SARIE II and how it was developed, please refer Scheinberg and MacMillan (1988). The research model is represented in Figure 1.

Figure 1. The research model.



Contingency Theory Position

Performance = f (strategy: specialist/generalist, innovation/efficiency)

Or:

Organizational Ecology Theory Position

Performance = f (environmental influences: munificence, hostility, complexity, volatility)

Bantel's (1998) model is based on Zammuto's (1988) synthesis of the Miles and Snow (1978) strategy typology with Brittain and Freeman's (1980) OE strategies, and is presented as the strategy quadrant (shown in Table 7).

The regions of interest to this study were the states of Colorado and Mississippi. See Table 6 for a comparison of the two states. In a ranking derived from the U.S. economic census data on WOBs, these states had the highest and lowest numbers respectively in 1987 (with only slight changes for 1992), of WOBs per population of all the states in the U.S. Refer to Appendix A for the 1987 and 1992 state rankings. The equal treatment of MOBs and WOBs in this research with respect to their perceptions of the environment and strategies implemented work to assist in our understanding of how to better foster entrepreneurial activity within varying regions.

Thus the hypotheses for this study are:

	H_0	H_1
H1A	CM<=CF	Male business owners in Colorado have higher performance rates than their female counterparts
H1B	CF<=MF	Female business owners in Colorado have higher performance rates than female owners in Mississippi
H1C	MM<=MF	Male business owners in Mississippi have higher performance rates than their female counterparts
H1D	CE<=ME	Entrepreneurs across gender in Colorado have higher performance rates than entrepreneurs in Mississippi
H1E*	CM<=MM	Male business owners in Colorado have higher performance rates than Male owners in Mississippi
H1F*	MM<=CF	Male business owners in Mississippi have higher performance rates than Female business owners in Colorado

H2A+	C&MFEnv= C&MFStrt	Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures of female entrepreneurs regardless of the strategies followed by the founders of those firms.
H2B	C&MMEnv= C&MMStrt	Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures of male entrepreneurs regardless of the strategies followed by the founders of those firms
H2C+	C&MEEnv= C&MEStrt	Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures across gender regardless of the strategies followed by the founders of those firms
H2D*	CW&MMEnv= CW&MMStrt	Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures of Colorado WOBs vs. Mississippi MOBs regardless of the strategies followed by the founder of those firms

*Note: These three hypotheses were added during testing and analysis to better understand the underlying relationships in the data. +These two hypotheses were dropped as per the results from the first set of hypothesis testing.

Selection of Subjects

The data for this research was collected from four sub-sets of populations of entrepreneurs: a) women-owned businesses in Colorado, b) men-owned businesses in Colorado, c) women-owned businesses in Mississippi, and d) men-owned businesses in Mississippi. Only independent, for-profit

businesses with at least one employee in addition to the owner and which is between three and five years old were used. This structure followed the Shane and Kolvereid (1995) research model, and has been used in previous studies of new firm formation (Dubini 1988, Scheinberg and MacMillan 1988, Shane, Kolvereid and Westhead 1991). Further it excluded more mature or "adolescent" businesses defined as those that have been in business for more than five years (Bantel, 1998).

Shane and Kolvereid's sample came from entrepreneurs in three countries: New Zealand to which 500 surveys were mailed with a useable response rate of 28 percent (or 125); Norway, to which 1146 were mailed out with a 24% (275) useable response rate (with a reminder postcard); and Great Britain, where 1000 surveys were mailed out and 21% (200) were returned useable. A similar pattern was followed with each of the four populations under study for this research effort, using a systematic random sample of companies registered in 1997.

To avoid treatment-selection interaction due to the length of the survey and the possibility of a hesitancy to cooperate on the part of the business founders, a stratified random sampling method was chosen. A guideline for sample size in multivariate analysis is to use a minimum ratio of five observations for each independent variable (Hair, et. al., 1998). So for example, with 23 environmental variables

(see Data Processing and Analysis below), a minimum of 115 respondents is required for results to be generalizable. To reduce the number of required mailings, it was planned that the top three founding members of each company would complete and return a survey (as available). To that end a total of 267 firms in each population category (1068 total) were each sent three survey sets. With two exceptions as apparent from the survey results, only one survey was received from each company that actually participated.

Instrumentation

The questionnaire used in this survey incorporated previously validated scales to measure the various constructs. For the measure of environment and performance a scale that was developed in 1986 by the Society of Associated Researchers in Entrepreneurship (SARIE) was used. Originally data was gathered from 2,278 entrepreneurs and 1,733 non-entrepreneurs from 14 countries. Then in 1989, SARIE revised the first questionnaire improving it with results from the first, creating the SARIE II. At the same time the group began the creation of a new international database, which would assist in studying performance, growth, and characteristics of new ventures across national boundaries.

For the strategy variables, Bantel's (1998) scale was used in conjunction with Style's (1991) innovation scale, as discussed below.

Table 6. The 1997* Small Business Demographics for Colorado and Mississippi (Source: SBA Office of Advocacy).

	Mississippi	Colorado
Total Population (1996)	2,716,000	3,823,000
Number of Businesses with employees	49,916	114,521
Number of self-employed persons	74,000	183,000
Growth in Small Business Income (sole proprietors and partnerships)	^6.2%	^6.6%
Percent of businesses that are small businesses (independent, with less than 500 employees)	97.13	97.6
State Exports ($)	1.2 billion	10.1 billion
Growth in Total Personal Income	^4.8%	^7.9%
Women-owned Businesses (including part-time firms)	54,800	160,400
Between 1987-1996 number of WOBs increased (%)	73.9	64.9
Business Turnover		
Number of new firms	-0.1%	+3.1%
New Incorporations	+13%	+9.4%
Bankruptcies	-0.7%	+27.7%
Failures	-20.7%	+51.5%
Number of Banks	110	226
Job Growth from Small Businesses from 1992-1996	49.69%	84%
Job Growth from Very Small Businesses	59.1%	66.1%

(less than 20 employees) 1992-1996		
Industries		
Total Employment	834,922	1,479,960
Total Employed by Small Businesses	50.1%	55.3%
Mississippi (1994) Top Five Small Business Industries by Employment (%)		
Health Services	11.2	
Eating & Drinking Places	6.1	
Special Trade Contractors	2.6	
Automotive Dealers & Gasoline Service Stations	2.4	
Wholesale Trade - Durable Goods	2.7	
Colorado (1994) Top Five Small Business Industries by Employment (%)		
Health Services		9.4
Eating & Drinking Places		8.9
Business Services		7.5
Special Trade Contractors		4.1
Wholesale Trade - Durable Goods		4.1

*Note: data from 1996.

Operationalization

To measure breadth of domain or generalist/specialist strategy, the following 7-point Likert-type statements were used (Bantel 1997). This scale had a Cronbach-alpha of .68 (Cronbach, 1951; Feldt, Woodruff and Salih, 1987), and each of the statements are scored from a range of possible

degrees for each of the following items, e.g. 'narrow' to 'broad' in the first question (See Appendix B, Section 3: Strategic Posture):

1. We provide a narrow (broad) range of products.
2. We serve limited or specific (broad) geographic markets.
3. We sell products to one (numerous) market segment(s).
4. We try to find small market segments not well served by the competition (with large potential)
5. We attempt to achieve small (high) market share in our market segment(s)

To measure the basis of competition efficiency versus first-to market strategy orientation, Styles' (1991) 16-question measure of technology innovation strategy of the

Table 7. Strategic types quadrant (Bantel, 1998).

		Breadth of Domain	
		Narrow	Wide
Basis of Competition	Efficiency	Defender/K-specialist	Analyzer/K-generalist
	First-to-Market	Entrepreneur/r-specialist	Prospector/r-generalist

firm was used. This scale has a Cronbach-alpha of .91 (See Appendix B, Section 3: Strategic Posture).

The environment category was based on the perceptions the entrepreneurs hold about the region within which their firm carries out its primary business operations. This definition was adapted from Shane and Kolvereid's (1995) use of national environment as the environment variable. Research has shown that organizations face many different types of environments (Tosi, Aldag, and Storey, 1973) and that differences exist between actual environments and those same environments as perceived by the entrepreneurs that function within them (Tsai, MacMillan, and Low 1991). As it is the perception of the environment that was measured by Shane and Kolvereid across countries, it was also used in this case across regions. Twenty-three questions on the survey pertain to founders' perceptions of the business environment at the time of start-up. SARIE researchers composed these questions from the rich body of literature that exists in measurement of the environment.

The four environmental constructs (Shane and Kolvereid 1995, Mullins and Cardozo 1992, Tsai, MacMillan and Low 1991): levels of munificence (richness of the market for new ventures or availability of nutrients in ecological terms), hostility (the degree of competition in the market, thus, competition for those nutrients), complexity (number

of different factors the entrepreneur must face, including degree of customer differences and customization necessary) and volatility (rate of change in the environment, including the presence and strength of competitors) were used in this study to understand the perceived environment. The dependent variable was new venture performance.

The performance variable consisted of a multiple measure to compensate for weaknesses in traditional measures when applied to the new venture. For instance, traditional accounting measures such as net profits or return on investment could not be readily used since new ventures may take many years to see a profit (Tsai, MacMillan, and Low 1991). Likewise, market share was an unrealistic measure. Survival is a relatively constant measure of the success of a new venture, however it does not take into account performance differences among surviving firms (Tsai, MacMillan, and Low 1991). Thus the use of a multiple measure as recommended by Tsai, MacMillan and Low (1991) and McCarthy (1992).

The four composite measures which make up the dependent variable were: 1) average annual growth in number of full-time employees since the firm was founded (current number of employees minus number of employees at time of startup, averaged over number of years firm was in business), 2) growth in sales revenue during the last financial year (percentage increase or decrease in sales revenue as

reported by the respondent), 3) growth in profits over the last fiscal year (percentage increase or decrease in pre-tax loss or profit as reported by the respondent), and 4) profitability relative to competitors (respondents reported their current profit performance relative to that of their major competitor (Shane and Kolvereid, 1995). Please see Appendix B for a copy of the complete survey instrument.

Field Procedures

The contact database was obtained from the mailing list sub-division of Dunn & Bradstreet. A systematic random sample to include an equal number of men and women-owned businesses, registered in 1997, from Colorado and Mississippi, were specified. The survey was coded and mailed out with an explanatory cover letter. Follow-up postcards were mailed out on two separate occasions, and additional surveys were mailed, e-mailed or faxed as requested during the telephone conversations. Returned surveys were input into an SPSS data file for processing and analysis.

Response

Approximately 10% of the addresses in the database were returned as undeliverable. Telephone calls were made to the remaining 969 subject companies, asking for a verbal commitment to return a completed survey. As a result the

actual sample population of subject companies agreeing to do the survey was lowered to 375, stratified across the four population groups. Several reminder mailers and additional surveys were subsequently sent to the owner/entrepreneur agreeing to complete a survey. At the end of the eleven-month follow-up iterations, a total of 125 useable surveys were returned for a net response rate of 33% (gross response rate was 13% of those that actually received the original survey).

Response Bias

Response bias of the returned surveys was tested three ways: a) to determine whether the eligible returned surveys were representative of the sample population, b) to determine whether early responders and late responders were significantly different on key variables (Henry, 1990; Armstrong and Overton, 1977), and c) to show that responders were adequately representative of their population.

Since the sample population of 1,068 companies was a stratified random sample ensuring proportionate representation of the four sub-populations of women and men-owned businesses in Colorado and Mississippi, it was important to determine whether the eligible returned surveys were indeed representative of that original sample population. The corresponding Chi-square test (See Table 8) shows that there was no significant difference between the

number of expected responses and actual responses of the stratified survey population. Armstrong and Overton (1977) and Henry (1990) both argued that if there is shown to be no significant difference between waves of responses, it can indicate that non-response bias is less likely, because late respondents can be considered first-order non-respondents. For this test, the returned survey database was split into two groups, early and late. Both t- tests, and Chi-square tests were run for the variables number of full-time employees and last annual sales. There was no evidence of a statistically significant difference in the mean value of these variables between the early and late responders ($p<.000$ for both variables).

Table 8. Chi-Square test results for expected and actual survey responses.

Actual	Colorado		Mississippi		Total
	Males	Females	Males	Females	
Sent Survey	247	240	252	230	969
Returned Eligible	29	36	30	30	125

Expected	Colorado		Mississippi	
	Males	Females	Males	Females
Sent Survey	247	240	252	230
Returned Eligible	31.25	31.25	31.25	31.25
Chi-Square Statistic:	0.80512			
df:	3			

Source: U.S. SBA - Office of Advocacy 2000a, 2000b.

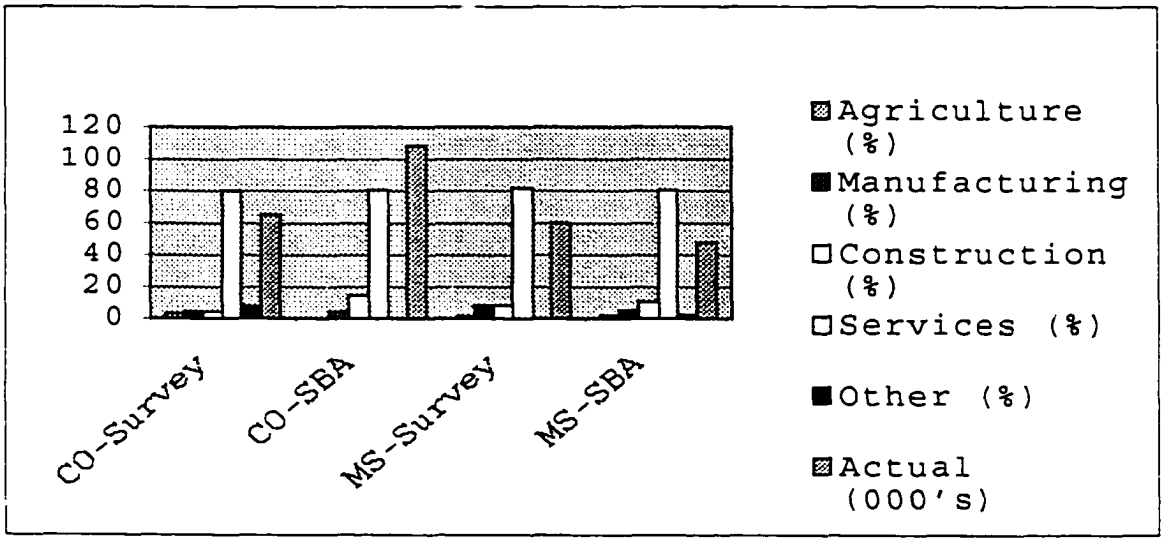
The SARIE II survey asks respondents to classify their business by four industry categories: agriculture, manufacturing, construction and services. This information was compared with the state economic reports from the 2000 Small Business Profile by the Small Business Administration and shown below in graphic form (See Figure 2). The data year reported was 1998, and is for number of firms with less than 500 employees for Colorado and Mississippi. In each case firms in the service industries made up approximately 80% of firms represented as did the sample population. The minor variations in number of firms in the manufacturing, construction and agriculture industries can be accounted for when it is noted that the SBA data includes firms with up to 500 employees, where for this study the sample population average number of full-time employees is 3.5 (Median=2, Range=0-24).

Data Handling

After all the survey responses were input, the SPSS database was scanned for entries that deviated from their expected format or that were outside of their permissible range (Alreck and Settle, 1985). Any questionable entries were rechecked and cleaned. Instances of missing data were handled on a case by case basis, e.g. for missing data on the environmental measures, a ''neither agree nor disagree'' answer was assumed. Two outliers were found for Colorado

men-owned businesses with comparatively high levels of employees. Upon closer examination of each case, it was found that both of these companies had actually been founded in the mid-eighties, and thus had to be disqualified as representative of the target group.

Figure 2. Percentage of Firms by Industry.



Data Processing and Analysis

The data and analysis process followed that of Shane and Kolvereid (1995). In that study, first a cluster analysis was run on the data collected for the strategy questions. The best solution was chosen and labeled. Then to identify the environments the entrepreneurs perceived that they faced, a LISREL factor analysis was performed on the 23 environment items. This is because differences in

factor structures can occur across countries. A joint factor analysis could only be carried out in this situation if the number of countries is sufficiently large as to allow the creation of a global factor structure. It was found that a joint factor analysis would be appropriate since the joint solution worked in all countries, i.e. produced a satisfactory goodness of fit. (Shane and Kolvereid 1995, see also Joreskog and Sorbom 1984). Six factors resulted and were labeled: Volatility, Hostility, Labor Complexity, Munificence, Market Complexity, and Fiscal Complexity. These factors were similar to findings by Dubini (1988) in a study of the influence of the environment on firm formation in Italy as well as those by Birley and Westhead (1994) in a study of 327 English firms.

Since a five-point Likert scale was used in the survey instrument for the environment, polychloric correlations were calculated and four correlation matrices were developed using list-wise deletion of missing values, one each based on the responses of the three countries and one combined. Then the unweighted least squares method of estimating LISREL factor loadings was chosen. To determine the factor structure for all three countries, items which loaded greater than .30 on a factor were permitted to load on it, all other loadings were set equal to zero. Factor loadings were established by comparing the estimated correlation matrices with the correlation matrices fitted by the LISREL

model. This model had a goodness of fit value of .973.

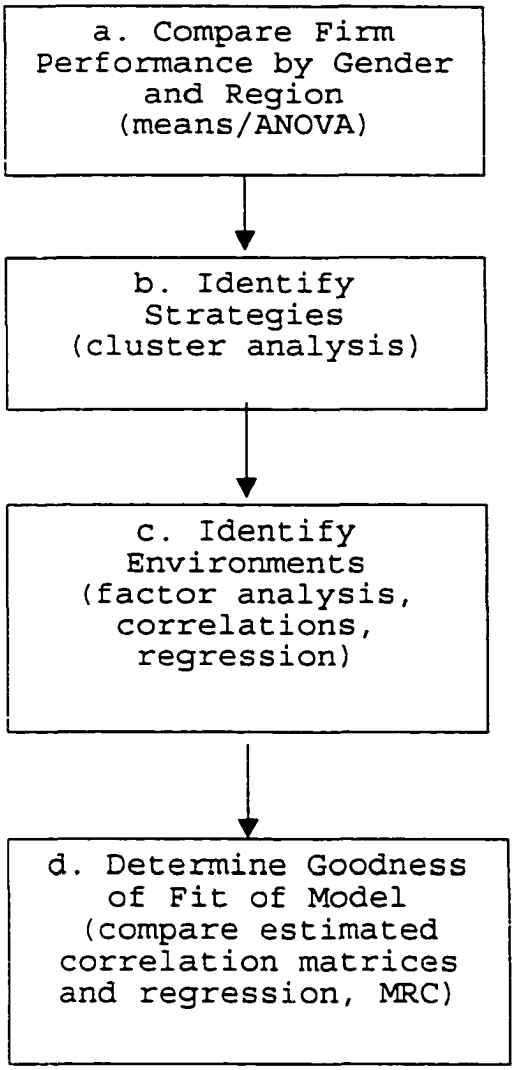
Shane and Kolvereid found that the four items used to measure performance were all significantly correlated, so performed a multivariate analysis of variance (MANOVA) to calculate the effect of the independent variables on the intercorrelated dependent variables simultaneously. They found no significant influence of the interaction of firm strategy and national environment on the performance of entrepreneurial firms. As an additional precaution, univariate F-tests (ANOVA) were run which also failed to show any interaction on any of the four performance measures which confirmed the initial result. Ultimately, their data more strongly supported the population ecology hypothesis since the main effect of national environment explained almost all the variance in firm performance. The analysis in this study generally followed the above procedure, with appropriate adjustments where necessary (see Figure 3).

Methodological Assumptions

It is assumed that the choice of generalist/specialist and efficiency/innovation strategy dimensions (Bantel, 1998; Zammuto, 1988; Styles, 1991) did not negatively affect the results of this study.

To eliminate the possibility of confounding effects of industry type with national environment effects Shane and Kolvereid (1995) performed a chi-square analysis to test for

Figure 3. Flow Chart for Data Processing and Analysis.



significant differences in the industrial distribution of respondents across the three countries (Rumelt, 1991). Since they found no significant differences among types of industries across countries, the assumption made for this

study was that there would be no significant differences among types of industries across regions within the same country, eliminating the need for this step in the analysis. The same argument holds true for the expectation that there is no difference in the interpretation of the questions across gender or region. Finally, it was determined that multiple regression/correlation (MRC) analysis would satisfy the requirements of the hypothesis testing in this research effort (Abelson, 1995; Cohen and Cohen, 1983), without having to turn to the more sophisticated models and analysis required in structural equation modeling (SEM).

SUMMARY

In this chapter were covered research design and methodology. The hypotheses were described, and the issues surrounding sample size, the reliability and validity of the survey instrument and data collection are covered, as are the research variables themselves. Finally, response and response bias, the methodology for data processing, the testing procedures for analysis of the survey database to test the hypotheses and the limitations of the study were presented.

CHAPTER IV

ANALYSIS AND RESULTS

In this chapter are covered the testing of the hypotheses and presenting of the results.

Tests of Hypotheses

The hypotheses to be tested were separated into two groups as follows. Hypotheses one through four which were concerned with variance in performance across region and gender. Then five through seven (an eighth was eventually added) which sought to identify whether, the strategy (contingency theory) or environment (OE) model better explains performance for these groups.

The dependent variable, performance, consists of four component variables:

- DV1: average annual growth in number of full-time employees since the firm was founded,
- DV2: growth in sales revenue during the last financial year,
- DV3: growth in profits over the last fiscal year, and
- DV4: profitability relative to competitors.

In the research design, only the first component variable, growth in full-time employees, is derived as a

calculation from the survey answers, and was computed as a new variable in SPSS. The three remaining component variables are chosen by respondents from a 7-point Likert scale format establishing a direct comparison, thus eliminating the problem of creating statistical artifacts by using difference scores (Peter, Churchill and Brown, 1993). This problem is further avoided with the first component because the variables involved are actual counts (e.g., number of full-time employees, year X_1 minus number of full-time employees, year X_0 divided by actual number of years in business) rather than a measure of abstract constructs (e.g., how many should there be?) or random numbers. A slight positive correlation was indicated (see Table 9) particularly for DV3, profit growth. Univariate F-tests (ANOVA) were run on the four dependent variable components but no interaction was found for this data set.

To test the first four hypotheses, the subpopulations Colorado men-owned businesses (CMOBs), Colorado women-owned businesses (CWOBs), Mississippi men-owned businesses (MMOBs) and Mississippi women-owned businesses (MWOBs) were addressed using univariate analysis of variance (ANOVA) to test the means. This standard repeated measures approach was used in this case rather than a multivariate analysis

Table 9. Correlation Coefficients for the Dependent Variables

	Measure	DV1	DV2	DV3	DV4
DV1	Employee Growth	--			
DV2	Sales Growth	.120 p=.180	--		
DV3	Profit Growth	.114 p=.204	.368 p=.000	--	
DV4	Relative Profitability	.188 p=.035	.181 p=.043	.335 p=.000	--

Note: n=125

(MANOVA) as per Abelson (1995), who recommends using simpler straightforward methods over more complex ones wherever possible. It is noted that in some cases this approach can result in the increased possibility of Type I error (finding differences where none exist). Please refer to Table 10 for the dependent variable component decisions and ANOVA results.

Decision Statements

The decision for each of the hypotheses is presented here. The reader will note that for each of the first set of hypotheses in addition to the ANOVA test on performance, a principal components analysis (PCA) as a confirmatory factor analysis was run to better understand the measurement efficiency of these variables (Bryant and Yarnold, 2000).

It is represented as confirmatory rather than exploratory since the performance variables being used in this study have already been established by past researchers in entrepreneurship (the SARIE II group; Tsai, MacMillan and Low, 1991). While it is not an essential element in the testing of the hypothesis itself, it can give insight to the amount of the total variance that is explained by the component structure.

H1A: Male business owners in Colorado have higher performance rates than their female counterparts. Decision: Reject H_0 (CM<=CF), Accept H_1 (CM>CF). For dependent variables DV2, DV3 and DV4, ANOVA testing found no significant differences. However for DV1, average annual change in employee growth, CMOBs were found to have significantly higher performance levels. A confirmatory factor analysis on the dependent variables for Colorado's data set found that the percent of variance explained by DV1 alone was 51%. DV2 accounted for 22%, DV3 for 15%, and DV4 for 11.9% of the model.

H1B: Female business owners in Colorado have higher performance rates than female owners in Mississippi. Decision: Accept H_0 (CF<=MF), Reject H_1 (CF>MF). For all four dependent variables ANOVA testing found no significant difference. Confirmatory factor analysis results explaining

the variance for this set were more evenly dispersed: DV1 34.4%, DV2 24.3%, DV3 22.3% and DV4 19%.

H1C: Male business owners in Mississippi have higher performance rates than their female counterparts. Decision: Reject H_0 (MM<=MF), Accept H_1 (MM>MF). For dependent variables DV2, DV3 and DV4, ANOVA testing found no significant differences. However for DV1, average annual change in employee growth, CMOBs were found to have significantly higher performance levels. A confirmatory factor analysis on the dependent variables for Mississippi's data set found that the percent of variance explained by DV1 was 63.3%, DV2 was 29.1, DV3 accounted for 20.2%, and DV4 for 17.4% of the model.

H1D: Entrepreneurs across gender in Colorado have higher performance rates than entrepreneurs in Mississippi Decision: Accept H_0 (CE<=ME), Reject H_1 (CE>ME). For all four dependent variables ANOVA testing found no significant difference. Confirmatory factor analysis results explaining the variance for this set were: DV1 42%, DV2 23.6%, DV3 19.9% and DV4 14.4%.

The cross-gender analysis in hypothesis H1D revealed no significant variance in the means of the performance variables. Therefore, an additional hypothesis was added to

better understand the nature of the performance differences indicated in H1A and H1C above.

H1E: Male business owners in Colorado have higher performance rates than Male owners in Mississippi. Decision: Reject H_0 (CM<=MM), Accept H_1 (CM>MM). For dependent variables DV1, DV2 and DV4, ANOVA testing found no significant differences. However for DV3, percent change in pretax profit/loss, CMOBs were found to have significantly higher performance levels. A confirmatory factor analysis on the dependent variables for the MOB data set found that the percent of variance explained by DV1 alone was 55.6%. DV2 accounted for 21.3%, DV3 for 15.1%, and DV4 for 8% of the model.

The need to test whether Mississippi MOBs reported better performance than Colorado WOBs became apparent after the above results. Thus, an additional hypothesis was added:

H1F: Male business owners in Mississippi have higher performance rates than Female business owners in Colorado. Decision: Reject H_0 (MM<=CF), Accept H_1 (MM>CF). For dependent variables DV2, DV3 and DV4, ANOVA testing found no significant differences. However for DV1, average annual change in employee growth, MMOBs were found to have

significantly higher performance levels than did CWOBs. A confirmatory factor analysis on the dependent variables for this combined data set found that the percent of variance explained by DV1 was 45.5%, DV2 was 27.3%, DV3 accounted for 16.4%, and DV4 for 10.7% of the model.

The performance hierarchy as a result of the above analysis for this data set is as follows, the performance of: CO-MOBs > MS-MOBs > CO-WOBs > MS-WOBs. This result supports the argument that a closer examination of gender perceptions and environment may be warranted.

Table 10. Dependent variable component decisions and means test (ANOVA) results for hypotheses H1A-F.

Variable and Source	df	SS	MS	F (p=)
H1A (REJECT)				
DV1 -				
Reject H_0:				
Between	1	2.9603	2.9603	6.7195
Within	62	27.2140	.4405	(.0119)
DV2 -				
Accept H_0:				
Between	1	.0071	.0071	.0056
Within	61	77.9929	1.2786	(.9407)
DV3 -				
Accept H_0:				
Between	1	1.2138	1.2138	1.2467
Within	63	61.34	.9737	(.2684)
DV4 -				
Accept H_0:				
Between	1	.5954	.5954	.2918
Within	63	128.5431	2.0404	(.591)
H1B (ACCEPT)				
DV1 -				
Accept H_0:				
Between	1	.2362	.2362	3.8479
Within	64	3.9282	.0614	(.0542)
DV2 -				
Accept H_0:				

Between	1	.0126	.0126	.0082
Within	64	98.9722	1.5464	(.9283)
DV3 -				
Accept H_0:				
Between	1	.0126	.0126	.016
Within	64	50.4722	.7886	(.8997)
DV4 -				
Accept H_0:				
Between	1	.1136	.1136	.0592
Within	64	122.9167	1.9206	(.8086)
H1C (REJECT)				
DV1 -				
Reject H_0:				
Between	1	3.1304	3.1304	6.3222
Within	58	28.7181	.4951	(.0147)
DV2 -				
Accept H_0:				
Between	1	3.75	3.75	1.9276
Within	58	112.833	1.9454	(.1703)
DV3 -				
Accept H_0:				
Between	1	1.6667	1.6667	2.2835
Within	58	43.3333	.7299	(.1362)
DV4 -				
Accept H_0:				
Between	1	.8167	.8167	.5821
Within	58	81.3667	1.4029	(.4486)
H1D (ACCEPT)				
DV1 -				
Accept H_0:				
Between	1	.2462	.2462	.4908
Within	123	61.7013	.5016	(.4849)
DV2 -				
Accept H_0:				
Between	1	1.6431	1.6431	1.0341
Within	123	195.4449	1.5890	(.3112)
DV3 -				
Accept H_0:				
Between	1	2.1342	2.1342	2.4636
Within	123	106.5538	.8663	(.1191)
DV4 -				
Accept H_0:				
Between	1	.4062	.4062	.2364
Within	123	211.3218	1.7181	(.6277)
H1E (REJECT)				
DV1 -				
Accept H_0:				
Between	1	.0466	.0466	.0516
Within	52	46.9410	.9027	(.8212)

DV2 -				
Accept H_0:	1	4.1073	4.1073	2.3912
Between	52	89.3186	1.7177	(.1281)
Within				
DV3 -				
Reject H_0:				
Between	1	5.7608	5.7608	5.3995
Within	49	52.2785	1.0669	(.0243)
DV4 -				
Accept H_0:				
Between	1	.1667	.1667	.1024
Within	52	84.6667	1.6282	(.7503)
H1F (REJECT)				
DV1 -				
Reject H_0:				
Between	1	1.7703	1.7703	4.4655
Within	64	25.3712	.3964	(.0385)
DV2 -				
Accept H_0:				
Between	1	3.649	3.649	2.5813
Within	64	90.4722	1.4136	(.1131)
DV3 -				
Accept H_0:				
Between	1	1.5278	1.5278	1.7314
Within	64	56.4722	.8824	(.1929)
DV4 -				
Accept H_0:				
Between	1	1.6409	1.6409	.8208
Within	64	127.95	1.9992	(.3684)

Since H1B, and H1D indicated respectively that there is no significant difference in performance between female business owners in Colorado and female owners in Mississippi; and that there is no difference in performance for entrepreneurs across gender in Colorado or Mississippi), it was not necessary to explore the first or third proposed hypotheses in the second set (each were designed to explore any greater-than differences found). As a result, MWOBs

were dropped from the analysis at this point since the remaining hypotheses pertained to differences found across the other three sub-groups. H2B remained valid, since differences were found between the MOB populations of both states for the DV, percent change in pretax profit/loss, and this performance variable will be used in the next analysis. Since it was found that MOBs out-performed WOBs regardless of state (region) for average annual change in employee growth only, a new hypothesis was added, and that variable alone will be used as the performance measure for this test:

H2D: Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures of Colorado WOBs vs. Mississippi MOBs regardless of the strategies followed by the founder of those firms, or H_0: CW&MMEnv=CW&MMStr.

To identify the strategies for CO-MOBs, MS-MOBs and CO-WOBs, a cluster analysis was run on the twenty-one strategy questions (please refer to Appendix B for survey questions Section 3: S1-S21). Table 11 shows the resulting Strategy Quadrant members (Bantel, 1998). A simple visual observation of actual strategy quadrant membership revealed differences in the strategies of the CWOBs vs. the MOBs of both states. An analysis of variance (ANOVA) test of strategy quadrant membership by gender, validated the visual

observation that there is a significant difference in strategy by gender (F=21.7187, p<.000, with d.f.=3,91).

Table 11. Strategy Quadrant # Members.

		Breadth of Domain	
		Narrow	Wide
Basis of Competition	Efficiency	Defender/K-specialist: CO-WOBs (1) CO-MOBs (10) MS-MOBs (5)	Analyzer/K-generalist: CO-WOBs (28) CO-MOBs (3) MS-MOBs (9)
	First-to-Market	Entrepreneur/r-specialist: CO-WOBs (6) CO-MOBs (2) MS-MOBs (3)	Prospector/r-generalist: CO-WOBs (1) CO-MOBs (14) MS-MOBs (13)

The next step was to identify the factor structure of the twenty-three environment variables for the combined groups (please refer to Appendix B for survey questions Section 2: E1-E23). Since this research is concerned (a priori) with the four environmental constructs: munificence, hostility, complexity and volatility (Shane and Kolvereid, 1995; Mullins and Cardozo, 1992; Tsai, MacMillan and Low, 1991), a 4-factor component analysis solution was

chosen. The data was first run un-rotated, then an oblique rotation was chosen (Oblimin in SPSS) since rarely are factors uncorrelated and this method allows correlated factors (Hair, et al., 1998). Please refer to Table 12 for the means and factor loadings of the environmental variables.

According to Hair, et al. (1998), for a sample size of 95, which includes the responses from the MMOBs, CMOBs and CWOBs for this portion of the analysis, a factor loading of .57 or greater is needed to be considered significant. Using this cutoff point, seven environmental items (E5, E10, E11, E13, E16, E17 and E18) were eliminated, leaving sixteen items for the rest of the analysis. Please see Table 13 for the revised factor structure results. At the same time, coefficients for the four environment factors were saved as variables. Table 14 shows the environmental construct label for each factor and its corresponding survey item with item means and standard deviations. The perceived environments for each sub-group with their variable descriptives can be found in Appendix D. After the strategy and environment variables were prepared, the goodness of fit process of the environmental versus strategy models on performance could be performed. In the interest of finding the most straightforward approach to accomplish the job (Abelson, 1995; Hair, et al. 1998; Cohen and Cohen, 1983), it was

Table 12. Summary of Factor Loadings for Oblimin 4-Factor Solution for the Original 23 Environmental Variables - 1st run.

Environmental Item	Factor 1	Factor 2	Factor 3	Factor 4
1	.05	.85	.15	-.01
2	.01	.82	.25	.156
3	-.02	.78	.17	.09
4	.62	.18	.09	.04
5	.49	.31	.15	.22
6	.16	.11	-.05	.74
7	.01	.26	.07	.64
8	.75	-.13	-.04	.01
9	.76	-.16	-.05	.03
10	.53	.01	-.04	-.07
11	-.02	.55	-.00	.41
12	-.07	.15	.57	-.16
13	.44	-.18	.09	.32
14	.58	-.23	-.13	-.05
15	.65	.12	-.00	.04
16	.55	.12	-.05	.21
17	.44	-.04	.20	.25
18	.14	.4	.51	-.17
19	.19	.37	.59	-.24
20	-.17	.02	.74	.16
21	-.19	.21	.80	.02
22	.18	-.03	.65	.23
23	.05	.01	.08	.71

Factor Correlations	1	2	3	4
Factor 1	--			
Factor 2	.00	--		
Factor 3	.03	.17	--	
Factor 4	.99	.05	.03	--

Table 13. Summary of Factor Loadings for Oblimin 4-Factor Solution for the 16 Remaining Environmental Variables - 2nd run.

Environmental Item	Factor 1 Complexity	Factor 2 Munificence	Factor 3 Volatility	Factor 4 Hostility
1	.92	.05	.16	.00
2	.85	-.00	.24	.18
3	.79	-.04	.16	.10
4	.25	.6	.04	.07
6	.06	.11	-.05	.8
7	.2	-.01	.07	.74
8	-.13	.83	-.05	.12
9	-.13	.84	-.06	.1
12	.18	-.09	.57	-.14
14	-.16	.65	-.16	-.1
15	.17	.62	-.13	-.07
19	.36	.19	.61	-.23
20	.08	-.19	.75	.14
21	.26	-.24	.82	.00
22	-.04	.19	.68	.28
23	.01	-.02	.08	.66

Factor Correlations	1	2	3	4
Factor 1	--			
Factor 2	.01	--		
Factor 3	.2	-.05	--	
Factor 4	.03	.02	.03	--

decided that multiple-regression/correlation (MRC) would be used.

MRC is a powerful and flexible tool for this type of analysis, however there are several constraints on the independent variables that must be addressed (Hair, et al. 1998; Licht, 2000). The independent variables must not be too highly correlated in order to avoid problems with multicollinearity. For the environment variables (See Table 13) the highest correlation level was .2, between Factor 1

(complexity) and Factor 3 (volatility), a reasonable level.

For the strategy variables, several of the items are highly correlated (See Appendix C - Correlation Table for the Strategy Variables), however the strategy quadrant membership as a single variable is used controlling for this problem. An added benefit to using the single variable is that by using fewer predictors, power is increased and the chance of Type II errors is reduced (Licht, 2000).

Interaction between the independent variables may also be a factor in MRC analysis. To determine whether there are any moderating effects, the following MRC tests were performed: gender*state, gender*environment, gender*strategy, state*environment and state*strategy. Several combinations of the above were run on the two key remaining dependent variables separately, as well as on the performance index. Only these two performance variables were chosen as the representative DV for each test as per the results from the first round of hypothesis testing. Further, testing for the environment used not only the factor scores, but also an additional run using only the raw scores of the environmental items as listed in Table 13. A significant F-score was found for the combined groups (CMOBs, CWOBs and MMOBs) in only two cases. In both cases the dependent variable was ''percent change in pretax profit/loss.'' The independent variables examined for interaction effects in the first significant case were: the

Table 14. Environmental Construct Labels and Corresponding Items.

Item #	Description	M*	SD
	Complexity		
E1	Skilled labor was available	2.85	1.04
E2	Managerial labor was available	2.97	1.05
E3	Labor skilled in new technologies was available	2.79	.92
	Munificence		
E4	Suppliers were available	4.04	.76
E8	Customers already interested in buying the product	4.18	.79
E9	Customers were easily accessible	3.97	.84
E14	It was relatively easy to identify the typical customer	3.87	.84
E15	Annual sales in my industry were relatively stable	3.65	.7
	Volatility		
E12	Within my industry there were a wide range of businesses offering similar but not identical products or services	3.29	1.08
E19	There was a large number of new businesses in my industry	2.93	.94
E20	There was a large number of new business failures in the area that I live	2.94	.85
E21	There was a large number of new business failures in my industry	2.93	.95
E22	There was political uncertainty in the country	2.71	.85
	Hostility		
E6	Capital from financial institutions was available	3.05	1.19
E7	Capital from other businesses (e.g. suppliers, customers) was available	2.83	1.13
E23	Capital from other sources (e.g. family and friends) was available	3.0	1.04

*Note: Item mean and standard deviation reference to scale: Strongly disagree=1, Disagree=2, Neither agree nor disagree=3, Agree=4, Strongly agree=5

four environmental factors, strategy membership, state and gender (F=2.113, df=7/87, p=.050, SE=.943). In the second case, the independent variables were: strategy membership, state and gender, without the environmental variables (F=2.937, df=3/91, p=.037, SE=.952). The collinearity diagnostic indicated that the lowest tolerance level of all the independent variables was .61 for gender in the first test. A tolerance of lower than .1 would indicate a problem with multicollinearity (Norusis, 1995).

The next stage in the MRC analysis, controlling for gender and state in separate runs to avoid interaction effects, the four environment factors for each group were tested for correlation and the results can be found in Table 15. The specified strategy quadrant membership as a single

Table 15. Correlation Matrix of the Four Environment Factors by Sub-group.

	Complexity	Hostility	Munificence
CMOBs			
Hostility	-.148		
Munificence	.35	.216	
Volatility	-.183	-.051	.01
CWOBs			
Hostility	.07		
Munificence	-.087	-.029	
Volatility	.29	.089	-.053
MMOBs			
Hostility	.174		
Munificence	-.095	-.069	
Volatility	.279	.056	-.238

variable was used for this phase in the analysis. Using the enter mode, first the MRC analysis was run for CWOBs and MMOBs for both strategy and environment effects on the performance variable growth of employees. Then the MRC was run for CMOBS and MMOBs using the performance variable percent change in pretax profits. Next the whole set was run again for both strategy and environment effects only this time using an index created from the four performance variables. This was to test for and eliminate the possibility that any important information might have gone undetected by using a single performance indicator. Table 16 displays the regression analysis summary for the above. As an additional precaution, MRC was again run on the total combined population of CMOBs, CWOBs and MMOBs for strategy and environment (using the original raw scores) on both dependent variables being examined in this section (employee growth and percent change in pretax revenue). A significant F statistic was found for both the effects of the environment and strategy items on employee growth for the combined sample population (respectively: $F=2.039$; $p=.012$; $df=23,71$; $R^2=.398$ and $F=1.933$; $p=.021$; $df=21,73$; $R^2=.357$). Please refer to Appendix C for the Regression Tables for this final combined MRC.

Table 16. Regression analysis summary of Strategy and Environment Effects on Performance for each Sub-Group.

Variable	B	SEB	ß	R^2	$\frac{+/-}{R^2}$	F (df)
Strategy on % +/- pretax profit						
MMOBs	.196	.14	.254	.065	.031	1.94 (1,28)
CMOBs	.198	.136	.27	.073	.039	2.13 (1,27)
Environment on % +/- pretax profit						
MMOBs	-.437	.205	-.375	.14	.11	4.57+ (1,28)
Munificence only was included						
CMOBs	--**	--**	--**	--**	--**	.14 (4,24)
Strategy on +/- employee growth						
MMOBs	.096	.141	.128	.016	-.019	.46 (1,28)
CWOBs	.031	.085	.063	.004	-.025	.14 (1,34)
Environment on +/- employee growth						
MMOBs				.162	.028	1.2
Complexity	-.118	.198	-.12			(4,25)
Hostility	-.183	.189	-.18			
Munificence	-.027	.215	-.024			
Volatility	.414	.22	.368			
CWOBs				.136	.023	1.21
Complexity	.026	.039	.117			(4,31)
Hostility	.038	.038	.165			
Munificence	-.056	.034	-.276			
Volatility	-.036	.039	-.165			
Strategy on Performance Index						
MMOBS	.009	.004	.376	.141	.11	3.63 (1,27)
CMOBS	.008	.004	.344	.118	.086	4.6+ (1,28)
CWOBS	--**	.009	-.01	.000	-.029	.004 (1,34)

*Note: p <.05. **No measurable effect found. +Significant.

Environment on Performance Index						
MMOBS				.151	.016	1.16
Complexity	--**	.006	-.014			(4,25)
Hostility	.001	.006	.036			
Munificence	-.008	.007	-.222			
Volatility	.01	.007	.269			
CMOBS				.169	.03	1.22
Complexity	-.012	.01	-.385			(4,24)
Hostility	--**	.007	-.021			
Munificence	--**	.009	.006			
Volatility	-.008	.007	-.233			
CWOBS				.056	-.066	.46
Complexity	-.004	.005	-.162			(4,31)
Hostility	.004	.004	.157			
Munificence	.002	.004	.089			
Volatility	.001	.004	.046			

*Note: p <.05. **No measurable effect found. +Significant.

Two significant effects (see F scores in Table 16) were found as a result of the above MRC analysis, one for men-owned businesses in Mississippi (MMOBs) and one for men-owned businesses in Colorado (CMOBs). There were no significant effects found for either environment or strategy on the performance variables for women-owned businesses in Colorado. The first effect for the MMOBs was that the single factor munificence, showed an indirect or negative effect on the environment for pretax profits, the other factors were eliminated by the enter method during the MRC procedure. The second effect for the CMOBs, showed that strategy membership seemed to have a direct effect on the performance index (See Table 16). Table 17 shows the decision table for environment and strategy hypotheses.

Thus for:

H2B: Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures of male entrepreneurs regardless of the strategies followed by the founders of those firms (H_0: CM&MMEnv=CM&MMStr). Decision: Reject. Some differences in both the effects of the environment (munificence) and strategy (quadrant membership) on performance were found for MMOBs as versus CMOBs.

And finally:

H2D: Differences within Colorado's environment vs. Mississippi's will explain differences in the performance of new ventures of Colorado WOBs vs. Mississippi MOBs regardless of the strategies followed by the founder of those firms (H_0: CW&MMEnv=CW&MMStr). Decision: Reject. Some differences in both the effects of the environment (munificence) and strategy (quadrant membership) were found for MMOBs versus CWOBs.

A comparison of the proportion of the variance (R^2) explained by each model is presented in Table 18, by sub-group, for both the strategy and environment items, and for the groups as a whole with the interaction effects.

SUMMARY

In this chapter were covered the details and results of the hypotheses testing and analysis. The next chapter will provide a summary of the results as well as a discussion of the findings, contributions to the overall body of knowledge, and implications for the future.

Table 17. Decision Table for MRC Analysis for Environment and Strategy Hypotheses.

Group, Variable and H_0	Decision
H_0: Environment has no effect on performance as measured by Performance Index for:	
CWOBs	Accept
MMOBs	Accept
CMOBs	Accept
H_0: Strategy has no effect on performance as measured by Performance Index for:	
CWOBs	Accept
MMOBs	Reject
CMOBs	Accept
H_0: Environment has no effect on performance as measured by Growth of Employees for:	
CWOBS	Accept
MMOBs	Accept
H_0: Strategy has no effect on performance as measured by Growth of Employees for:	
CWOBs	Accept
MMOBs	Accept
H_0: Environment has no effect on performance as measured by +/- in pretax profits for:	
CMOBs	Accept
MMOBs	Reject
H_0: Strategy has no effect on performance as measured by +/- in pretax profits for:	
CMOBs	Accept
MMOBs	Accept

Table 18. Comparison of Model Variance Explained ($p<.05$).

Variable	R^2	SE (Variance Explained)
% +/- in pretax profit/loss		
Strategy		
MMOBs	.065	.898
CMOBs	.073	.998
Environment (4 factor)		
MMOBs	.14	.861
CMOBs	.023	1.09
Growth of employees		
Strategy		
MMOBs	.016	.899
CWOBs	.004	.263
Environment (4 factor)		
MMOBs	.162	.878
CWOBs	.135	.257
Performance Index		
Strategy		
MMOBs	.141	.027
CMOBs	.118	.032
CWOBs	.000	.029
Environment		
MMOBs	.151	.029
CMOBs	.169	.033
CWOBs	.056	.03
For Combined Groups (showing interaction effect):		
% +/- in pretax profit/loss	.145	.943
Environment (4 factor)		
Strategy		
State, Gender		
% +/- in pretax profit/loss	.088	.952
Strategy		
State, Gender		

CHAPTER V

SUMMARY AND CONCLUSIONS

In this chapter a summary of the results is presented and the implications of the study are discussed. Findings are explained in light of past research and suggestions for further study are provided.

Summary of the Results

For any research effort to be of use in applying findings to the general population, issues of non-response bias and sample size must be addressed. In the non-response bias testing for this study, it was found that there were no significant differences between the returned surveys and the available information on the population. Further, the response bias testing also showed that the eligible returned surveys in each stratified sample group adequately represented their four respective populations, men and women owned businesses in Colorado and in Mississippi. The sample size of returned eligible surveys also speaks to the generalizibility of the results found. In this case with approximately 30 returned surveys in each of the four sub-populations, generalizibility could be problematic. For example, the low number of cases in a given strategy group after a cluster analysis procedure could render a statistical test insensitive to any effect (Hair, 1998).

Alternatively, comparing populations with a sample size of 30, in goodness of fit testing and regression, prevents the over-fitting the model, that is, becoming so specific to that data set as to not be generalizable to other circumstances. Thus the stratified sample falls in the middle of these constraints and should be adequate to reveal any significant variations and other important implications that may be found.

In the first set of hypotheses, tests examining the variance in performance across region and gender found that for both states, men-owned businesses out-performed women-owned businesses in some, but not all of the four dependent performance variable components. This result could be due to the nature of the survey questions themselves (Peter, Churchill and Brown, 1993), three of which asked the respondent to provide an estimate of performance using a percentage range based on their personal experience, rather than actual numbers, e.g., from a financial statement (please refer to Appendix B, Survey Section 1, performance questions A5, A6, E4, E7 and E8). Only the first, growth in number of employees was derived from an actual count. The rationale for asking a question such as, ''What percentage increase or decrease in sales has the business recorded in the past year?'' is found by consideration of the fact that in many cases, actual sales may not be available for a few years after startup. Thus some information might be lost in

a survey method such as this, however, it can allow for a more accurate picture of the whole of entrepreneurial activity, not just that which is quantitatively measurable.

Keeping the above caution in mind, the discussion and conclusions are presented here. The first set of hypotheses showed that across gender in Colorado and Mississippi, there were no statistically significant differences for any of the four performance variables between Colorado and Mississippi-owned businesses as whole comparative sample populations. However when broken down into sub-groups, the results did show differences. CMOBs had significantly higher levels for one of the dependent variables, employee growth, than did CWOBs. MMOBs also had significantly higher levels of employee growth than did MWOBs. This differing effect between women and men-owned businesses seems to reflect the findings of earlier work by Hisrich and Brush (1987) and Cliff (1998) indicating that the female entrepreneur may want to establish more of a limit to growth of employees as versus her male counterparts, in order to better maintain control. What was interesting however is the finding that for pretax profit/loss, there was no significant difference reported between MOBs and WOBs. Again it is noted that percentage growth estimates rather than actual figures were used.

CWOBs and MWOBs were found to have similar levels of performance for all four dependent variables, same gender

but two different regions. CMOBs had a significantly higher performance level than did MMOBs as measured by percent change in pretax profit/loss, but not growth of employees, again same gender, but different regions and different performance effect found. Finally, MMOBs level of growth of employees was found to be significantly higher than that of CWOBs, a cross gender, cross regional variation. At this point in the study, MWOBs were dropped from further analysis because the hypotheses as proposed uncovered no significant differences across region for these female entrepreneurs.

For the second set of hypotheses, strategy and environment constructs were analyzed to see which might better explain performance in the new venture. To identify the strategies of CMOBs, CWOBs, and MMOBs, Bantel's (1998) strategy quadrant was used. Results showed that the majority (n=14) of CMOBs, the highest performers in this study, used a first-to-market, wide domain approach also known as prospector/r-generalist strategy. The second largest CMOB group (n=10) used a strategic opposite approach, an efficiency and narrow domain or defender/K-specialist strategy. The majority of MMOBs (n=13) also used the first-to-market, wide domain strategy, perhaps influencing their performance position, however the second highest category for MMOBs (n=9) was the efficiency, wide domain or analyzer/K-generalist strategy. This was also the strategy chosen by a significant majority of CWOBs (n=28).

The second largest sector for CWOBs (n=6) was the first-to-market, narrow domain or entrepreneur/r-specialist strategy. See Figures 4, 5 and 6 for pie charts of the strategy quadrant memberships for CWOBs, CMOBs and MMOBs, respectively.

Figure 4. CWOBs Strategy Quadrant Membership (n=36).

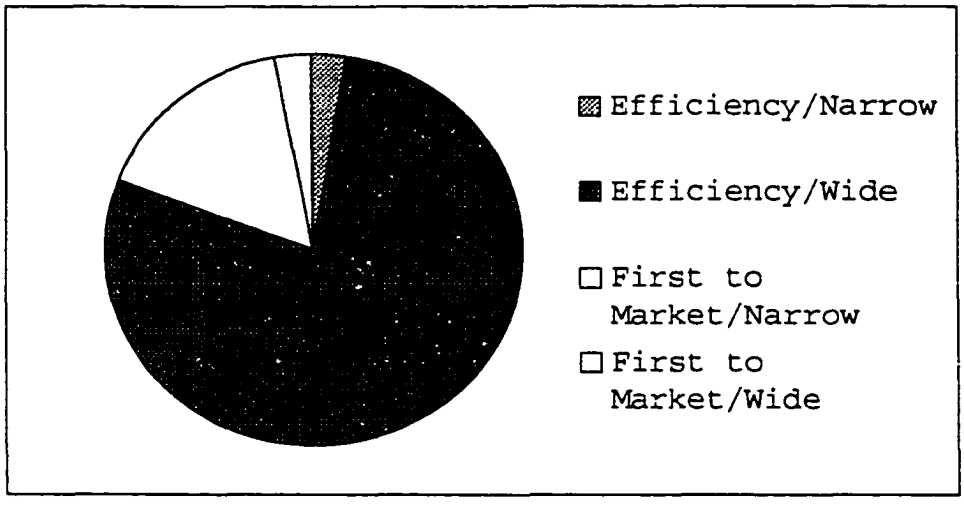


Figure 5. CMOBs Strategy Quadrant Membership (n=29).

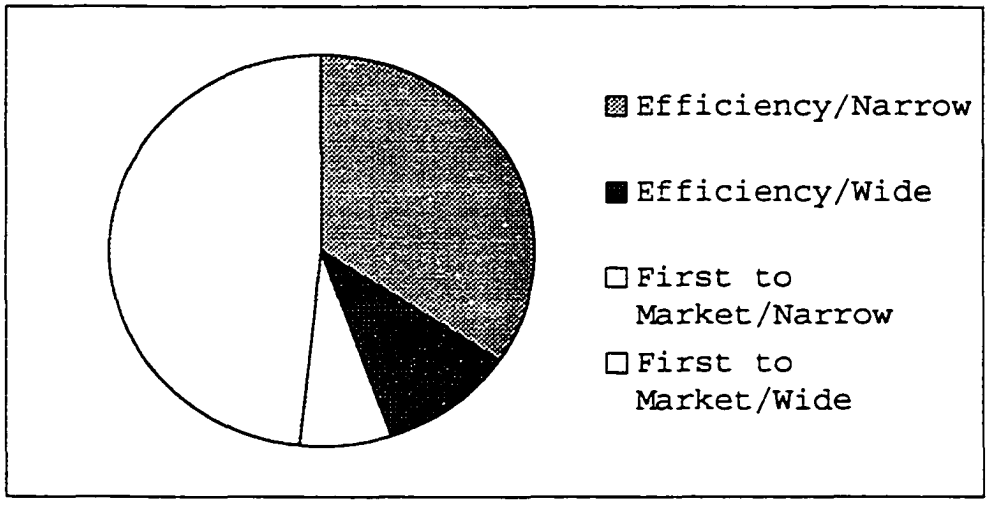
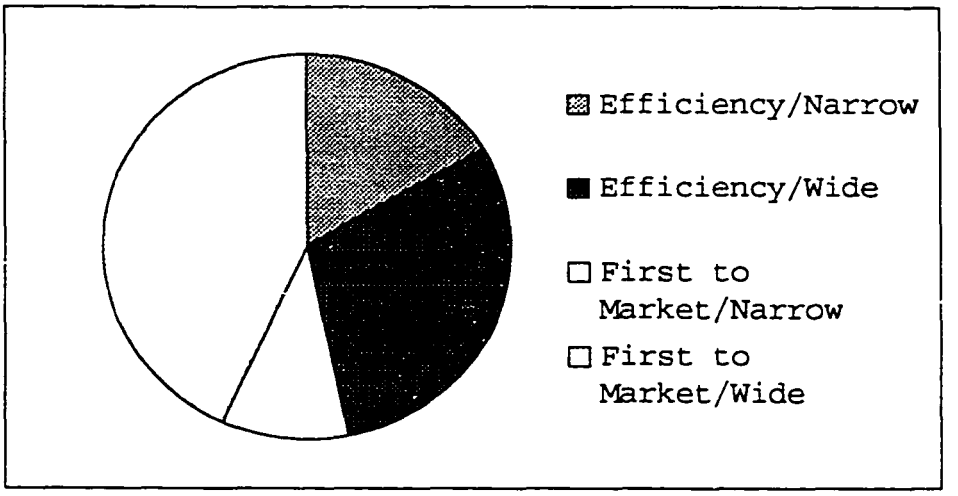


Figure 6. MMOBs Strategy Quadrant Membership (n=30).



To determine perceived environment, with the four-factor construct, complexity, munificence, volatility and hostility (Shane and Kolvereid, 1995; Mullins and Cardozo, 1992; Tsai, MacMillan and Low, 1991) a component analysis was run. Please refer to Appendix D for the variable descriptions (mean and standard deviations) and details of the environmental construct for each remaining sub-group. In each case, CMOBs, CWOBs and MMOBs, the five variables for munificence received the highest ranking. This result indicates that these entrepreneurs perceived that they were operating within a rich environment with sufficient customers and suppliers.

For complexity, CWOBs gave this construct the lowest scores, indicating that they believed their environment was

complex, disagreeing that managerial labor as well as skilled technical labor was readily available, a complicating factor. CMOBs gave the construct somewhat less than a ''neither agree nor disagree'' score, indicating a moderate level of complexity in their perceived environment. MMOBs rated this construct middle to low with a ranking that fell between CWOBs and CMOBs for their environment. MMOBs indicated a lower level of volatility, disagreeing that there were large numbers of new businesses, business failures, etc., that might disrupt confidence for local business. CWOBs ranked volatility somewhat higher than did MMOBs. CMOBs gave this construct the highest scores of the three groups, but even that ranking was still moderate. So the environments for all three groups were perceived as relatively stable but moderately to highly complex.

Finally for hostility, CMOBs gave this the lowest scores, indicting that capital was not available for their endeavors whereas CWOBs gave this factor a moderate score, as did MMOBs. Historically it is WOBs that complain of a higher incidence of lack of capital (see for example Winn, 1997 and Buttner and Rosen, 1988), however, considering the focus on performance results for this sample population the larger employee growth rate alone could be a factor in the need for greater amounts of capital for MOBs.

MRC was run for both environment and strategy variables on performance for each sub-group, controlling for state and

gender. Two significant effects were found (See Chapter 4, Table 16). The first was an indirect effect of munificence of the environment for MMOBs on pretax profits. The second effect, was found for CMOBs, where strategy showed a significant effect on the performance index. These results indicated that for certain conditions, a munificent environment may have a somewhat negative effect on pretax profits, e.g., the findings here where the munificence of the Mississippi environment for men-owned businesses showed an indirect effect on pretax profit performance. This result is suggestive of the findings of Shane and Kolvereid (1995) where inversely, they found that in unfavorable environments new venture performance was higher (see also West and Meyer, 1998; and Naresh and D'Netto, 1997). In the case of Colorado and its men-owned businesses, strategic posture showed a significant effect on the four-factor performance index, a more intuitive result than what was found for MMOBs.

When the interaction effects of state and gender were introduced to the MRC analysis for the combined groups of entrepreneurs, the key performance indicator proving to provide the most valuable information, was percent change in pretax profits. A significant effect was found for strategy, gender, state and the four-factor environment structure. However, a slightly improved model was found when the environment factors were removed (See Chapter 4,

Table 18). This finding indicates that strategy may have a slightly higher explanatory effect on performance. An examination of the SE (explained variance) for each case in Table 18, shows the variations in explanatory power for each model. In the third column of the first group in the table, the SE scores of .998 for CMOBs strategy and 1.09 for CMOBs and the environment factors may be indicators of an over-fitting of the model. However, when the CMOBs scores are combined with the other two groups (refer to the lower part of Table 18), the SE scores of .943, and .952 for state, gender, and environment with strategy, and then state, gender and strategy, respectively indicate that a high percentage of the variance is explained by these models. Again, the strategy, state, gender model shows a slightly higher explanatory power. Since some significant differences were found, both of the null hypotheses in this second set of hypotheses were rejected (See Chapter 4, Table 17).

Limitations

It is possible that the use of a different strategy typology could result in different findings. Shane and Kolvereid found that stronger evidence exists for national environments affecting the performance of new ventures than for a strategy to environment relationship. However, Romanelli (1989) found evidence of an interaction between

environmental conditions and strategic efficiency, which would support a contingency perspective within one country.

Since this survey relied on respondents' perception of their environments at the time of start-up, the data reflected perceived environmental phenomena. For example, entrepreneurs in Colorado may believe that adversity in the environment hindered their success, and this belief may have lead them to assess the environment in a negative way. There is no way to eliminate this, since the survey uses a self-assessment format for both the dependent and the independent variables. Further limitations include the cross-sectional design, and the assumption that sample size and precautions during testing and analysis are adequate to avoid Type I and Type II errors.

Conclusions

This study sought to determine whether 1) regional and gender variations in the performance of new ventures exist in Mississippi and Colorado, and 2) whether such variations could better be explained by organizational ecology or by contingency theory. The findings of this study have shown that both regional and gender variations do exist, but not in a clear cut fashion. Using different combinations of performance measures for the dependent variable, can produce widely varying results. The effort here was to find that combination of performance measures that would produce a

significant difference, if one were to be found at all. WOBs in both Colorado and Mississippi indeed showed no apparent performance differences. Likewise, entrepreneurs as a group in Colorado compared to those in Mississippi showed no performance differences. However in cross gender comparisons within each state, MOBs were the higher performers.

This finding validates past research, and demonstrates that the pattern continues into the present. Arguments as to why this should be range from inexperience and lack of entrepreneurial skill to real or perceived barriers to needed resources for the WOB (See Hisrich and O'Brien, 1981; Stevenson, 1986; Hisrich and Brush, 1987; U.S. Small Business Administration, 1998a; and Winn, 1997 among others). While others have argued that there is no difference between the behaviors or performance of men and women entrepreneurs (Birley, 1989; Chrisman, et. al., 1990; Chell and Baines, 1998), differences in both aspects were found in this study. Performance differences were shown to exist through the first set of hypotheses, and behavioral differences were demonstrated by the varying strategy choices of the WOBs as versus the MOBs. The lower performance results of the MMOBs as versus the CMOBs could be contributed at least in part to choice of strategy as well. Perhaps the MMOBs, and even the CWOBs would deliver higher performance results if they were to choose either a

''first-to-market/wide domain'' (prospector/r-generalist) strategy or an ''efficiency/narrow domain'' (defender/K-specialist) rather than the ''efficiency/wide domain'' (analyzer/K-generalist) approach. That is, for the entrepreneur with a very small business, it may be wise to either be a pioneer and cast your net wide, or stick to a targeted niche with a well-known and established product type. The cautious but broad approach seems to result in a lower performance outcome. If however, the entrepreneur chooses slow controlled growth, than a higher performance level as performance is defined here, may not be the desired outcome. Perhaps when researchers equivocate growth in performance levels with success, they are working from the wrong premise when examining subjects such as the participants in this study.

In addition, there are still unanswered questions surrounding the differences in performance across region and gender. For example, one might take a closer look at Mississippi women-owned businesses. While the results of the hypotheses presented in this study eliminated the MWOBs from further analysis, it might be interesting for future research to compare their perceptions of the environment with WOBs from other states, and to those of the corresponding MOBs. It is further suggested that a state-by-state analysis be done to document regional patterns of very small new ventures.

There is one final recommendation in the area of methodology that researchers may want to consider. Since only two of the four dependent variables for performance, change in employee growth, and change in pre-tax profit/loss, saw any significant relationships, it is suggested that future studies may comfortably use two dependent variables when testing influence on performance for the new venture.

SUMMARY

This study compared the population ecology theory of organizations, which holds that the environment selects or chooses which entrepreneurial ventures will survive, with contingency theory, which holds that management strategy does serve a vital role in survival and performance of the firm. The context was the regional environment and its possible effect on new venture performance. The research question was: The performance of new ventures varies across regions and gender, and is explained by regional environmental factors. This premise is partially supported by the findings in this dissertation. Environment plays a significant role in the performance of new ventures. However, these findings indicate that strategy choice plays

an equally if not more important role even for the smallest of new ventures.

Further these results show that differences do still exist between men and women entrepreneurs in the performance of their firms. Less clear is the outcome that in some cases the OE theory has more explanatory power, but in others the contingency theory perspective better explains the results. In the case of the Mississippi MOBs, the counter-intuitive premise that new ventures may perform better under less positive environmental conditions (munificence) seemed to hold. It is hoped that this study has added some understanding of the dual role that environmental and strategic factors play in their influence on new venture performance of both MOBs and WOBs. For these entrepreneurs the question of either/or should possibly be changed to ''to which degree does one vary with the other'' to explain performance. Perhaps as knowledge continues to expand in this area, researchers in entrepreneurship will be able to address such issues.

Despite the odds against survival let alone growth for new ventures, the entrepreneurial spirit continues to thrive. Hard economic times seem to induce a higher rate of birth of new ventures, with optimistic entrepreneurs as the driving force. For academics, and policy makers, the study of entrepreneurship and the performance of their new ventures remains an important field of study.

APPENDIX A

WOMEN-OWNED BUSINESSES IN THE U.S.

Appendix A

Women-owned Businesses (WOB) in the U.S.

	1990 Total Population	1987 WOB by State	1987 % Population of WOB to Population of Women	Rank	1992 WOB by State	1992 % Population of WOB to Population of Women	Rank
Total U.S.	247,709,873	4,114,787	3.32		5,888,883	4.75	
Alabama	4,040,587	48,018	2.38	50	71,466	3.54	49
Alaska	550,043	13,976	5.08	2	19,380	7.05	3
Arizona	3,665,228	60,567	3.30	30	93,300	5.09	24
Arkansas	2,350,725	35,469	3.02	37	50,440	4.29	39
California	29,760,021	559,821	3.76	18	801,487	5.39	15
Colorado	3,294,394	89,411	5.43	1	121,659	7.39	2
Connecticut	3,287,116	60,924	3.71	19	79,931	4.86	28
Delaware	666,168	9,727	2.92	38	14,904	4.47	34
DC	606,900	10,987	3.62	22	14,599	4.81	29
Florida	12,937,926	221,361	3.42	28	352,048	5.44	13
Georgia	6,478,216	88,050	2.72	46	143,045	4.42	35
Hawaii	1,108,229	21,696	3.92	13	29,743	5.37	16
Idaho	1,006,749	18,973	3.77	17	29,946	5.95	7
Illinois	11,430,602	177,057	3.10	34	250,613	4.38	37
Indiana	5,544,159	89,949	3.24	31	125,411	4.52	32
Iowa	2,776,755	53,592	3.86	15	71,040	5.12	23
Kansas	2,477,574	53,505	4.32	6	66,429	5.36	17
Kentucky	3,685,296	53,454	2.90	39	74,280	4.03	45
Louisiana	4,219,973	55,852	2.65	47	76,849	3.64	46
Maine	1,227,928	23,922	3.90	14	35,260	5.74	8
Maryland	4,781,468	81,891	3.43	26	121,777	5.09	24
Massachusett	6,016,425	111,376	3.70	21	147,572	4.91	26
Michigan	9,295,297	133,958	2.88	41	193,820	4.17	42
Minnesota	4,375,099	88,137	4.03	11	124,143	5.67	10
Mississippi	2,573,216	28,976	2.25	51	40,879	3.18	51
Missouri	5,117,073	87,658	3.43	26	117,885	4.61	31
Montana	799,065	17,747	4.44	5	25,310	6.33	5
Nebraska	1,578,385	32,285	4.09	9	43,637	5.53	12
Nevada	1,201,833	18,831	3.13	33	32,430	5.40	14
New Hampshir	1,109,252	22,713	4.10	8	31,492	5.68	9
New Jersey	7,730,188	117,373	3.04	36	164,798	4.26	40
New Mexico	1,515,069	25,397	3.35	29	40,636	5.36	17
New York	17,990,455	284,912	3.17	32	395,944	4.40	36
North Caroli	6,628,637	93,532	2.82	43	142,516	4.30	38
North Dakota	638,800	12,689	3.97	12	15,355	4.81	29
Ohio	10,847,115	154,084	2.84	42	224,693	4.14	44
Oklahoma	3,145,585	63,690	4.05	10	82,894	5.27	20
Oregon	2,842,321	58,941	4.15	7	87,970	6.19	6
Pennsylvania	11,881,643	167,362	2.82	43	227,500	3.83	47
Rhode Island	1,003,464	14,517	2.89	40	21,353	4.26	40
South Caroli	3,386,703	42,604	2.52	49	64,812	3.83	47
South Dakota	696,004	13,374	3.84	16	18,215	5.23	21
Tennessee	4,877,185	67,448	2.77	45	101,134	4.15	43
Texas	16,986,510	298,138	3.51	24	414,179	4.88	27
Utah	1,722,850	29,810	3.46	25	45,626	5.30	19
Vermont	562,758	13,802	4.91	3	21,033	7.47	1
Virginia	6,187,358	94,416	3.05	35	138,494	4.48	33
Washington	4,866,692	90,285	3.71	19	136,337	5.60	11
West Virgini	1,793,477	22,549	2.51	48	30,644	3.42	50
Wisconsin	3,891,769	69,185	3.56	23	99,357	5.11	22
Wyoming	453,588	10,796	4.76	4	14,617	6.45	4

APPENDIX B

ENTREPRENEURIAL QUESTIONNAIRE

ENTREPRENEURIAL QUESTIONNAIRE

General Instructions: This survey is designed to gather entrepreneurial opinions in over twenty countries scattered throughout the world. By completing this questionnaire you and your colleagues, owners and managers worldwide, are helping to increase our knowledge and understanding of small firms. Our aim is to provide a better environment, both locally and internationally for you to flourish and grow. We appreciate your cooperation. Data gathered during the survey will be treated confidentially and presented only in a summary form without the name or affiliation of the respondent.

Would you like to receive a copy of the summary report for this survey? No [ ] 1 Yes [ ] 2

SECTION 1: BUSINESS DATA, PERSONAL BACKGROUND AND WORK EXPERIENCE

A BASIC BUSINESS DATA

A1 Currently, how many shareholders or partners are there in the business? _____

A2 Into which industry would you classify the business?

Farming, fishing, mining quarrying and utilities	[ ] 1	Construction	[ ] 3
Manufacturing	[ ] 2	Services	[ ] 4

A3 Please indicate the location of the primary operational premises of the business:

Rural area	[ ] 1	Major city	[ ] 3
Smaller city/town	[ ] 2	Capital city	[ ] 4

A4 Please indicate the year the business received its first order: _____

A5 Number of employees employed in the business on January 31, 2000 (including partners and shareholders):

Full-time _____
Part-time _____ (less than 30 hours per week)
Casual _____

A6 Number of employees employed in the business when you received your first order (including partners or shareholders):

Full-time _____
Part-time _____ (less than 30 hours per week)
Casual _____

B PERSONAL BACKGROUND OF THE FOUNDER

B1 Current age of the founder in years: _____

B2 Sex: Male [ ] 1 Female [ ] 2

B3 Are your parents immigrants to this country? No [ ] 1 Yes [ ] 2

B4 Are you an immigrant to this country? No [ ] 1 Yes [ ] 2

B5 What was the occupational status of your parents (i.e. the main income earner) during your childhood?

Business owner	[ ] 1	Skilled employee	[ ] 4	Clerical	[ ] 7
Professional	[ ] 2	Semi-skilled employee	[ ] 5	Farmer	[ ] 8
Manager	[ ] 3	Unskilled employee	[ ] 6	Unemployed	[ ] 9

B6 What is your highest education level? (Please mark the alternative you think is closest to yours):

Compulsory school education	[ ] 1	Undergraduate 'first' university degree	[ ] 3
Technical or professional	[ ] 2	Postgraduate university degree	[ ] 4

C WORK EXPERIENCE

C1 How many different organizations have you worked for full-time? _____

C2 What was your job title when you left your last employer prior to start-up?

Managerial or professional	[ ] 1	Operations	[ ] 3	Unemployed	[ ] 5
Supervisory	[ ] 2	Self-employed	[ ] 4	Student	[ ] 6

C3 Did you start your business in the same industry as your last employer?

No [ ] 1 Yes [ ] 2

C4 In what 'type' of establishment did you last work in prior to start-up?

Private firm	[ ] 1	Had own business	[ ] 3	Not in labor force	[ ] 5
Government	[ ] 2	Worked in family business	[ ] 4	Other (please specify)	[ ] 6

_____

C5 In what employment size of establishment did you last work in prior to start-up?

Small firm (≤99 employees)	[ ] 1	Medium firm (100-999 employees)	[ ] 2	Large firm (≥1,000 employees)	[ ] 3

C6 What is the current relationship between your business and your last employer immediately prior to start-up?

Competitor [ ] 1 Supplier [ ] 3

Customer [ ] 2 No relation [ ] 4

C7 How many other businesses have you established prior to this current one? _____

C8 How old were you when you started your first business? _____ years.

C9 If you have established/owned another business, what happened to the most recent business?

Closed down [ ] 1 Sold it [ ] 2 Still own it [ ] 3 Other (please specify) [ ] 4

_____

C10 How old were you when you started the current business? _____ years.

C11 Was the current business started on a part-time basis while working for your last employer?

No [ ] 1 Yes [ ] 2

D CUSTOMER AND SUPPLIER BASE

D1 How many customers does your business have?

1-10 [ ] 1 51-100 [ ] 3 501-1,000 [ ] 5

11-50 [ ] 2 101-500 [ ] 4 1,001 or more [ ] 6

D2 How many suppliers does your business have?

1-10 [ ] 1 51-100 [ ] 3 501-1,000 [ ] 5

11-50 [ ] 2 101-500 [ ] 4 1,001 or more [ ] 6

D3 Do four customers or fewer account for approximately 75% of sales revenue?

No [ ] 1 Yes [ ] 2

D4 Do four suppliers or fewer account for approximately 75% of purchases?

No [ ] 1 Yes [ ] 2

D5 How far away are the majority (i.e. more than 50%) of customers from the main operational premises?

In same town [ ] 1 In same region [ ] 3 Abroad [ ] 5

In same county [ ] 2 In the rest of the country [ ] 4

D6 How far away are the majority (i.e. more than 50%) of suppliers from the main operational premises?

In same town	[ ] 1	In same region	[ ] 3	Abroad	[ ] 5
In same county	[ ] 2	In the rest of the country	[ ] 4		

D7 What percentage of your sales are exported? _____ %

E FINANCIAL BASE

E1 Please indicate all sources of start-up capital used during the launch period:

Personal savings, family and friends	[ ] 1	Public sources including local and federal government grants	[ ] 3	Other (please specify)	[ ] 5
Banks and financial institutions	[ ] 2	Customers and suppliers	[ ] 4		

_____

E2 Please indicate if your business has in the last financial year received financial investment from any of the following sources:

Personal savings, family and friends	[ ] 1	Public sources including local and federal government grants	[ ] 3	Other (please specify)	[ ] 5
Banks and financial institutions	[ ] 2	Customers and suppliers	[ ] 4		

_____

E3 Please indicate your level of sales for the last financial year ($'s, excluding Value Added Tax (VAT) or sales tax):

1-99,999	[ ] 1	500,000-999,999	[ ] 4	3M-4.99M	[ ] 7	10M or more	[ ] 10
100,000-249,999	[ ] 2	1M-1.99M	[ ] 5	5M-7.49M	[ ] 8		
250,000-499,999	[ ] 3	2M-2.99M	[ ] 6	7.5M-9.99M	[ ] 9		

E4 What percentage increase or decrease in sales has the business recorded in the past year?

20% or more decrease	1-19% decrease	About the same	1-25% increase	26-50% increase	51-100% increase	More than doubled
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5	[ ] 6	[ ] 7

E 5 What percentage of sales revenue is accounted for by the major product line or service group? _____ %

E6 For the last financial year has the business operated at:

A loss? [ ] 1 Breakeven? [ ] 2 A profit? [ ] 3

E7 What percentage increase or decrease in pre-tax loss/profit has the business recorded in the past year?

20% or more decrease	1-19% decrease	About the same	1-25% increase	26-50% increase	51-100% increase	More than doubled
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5	[ ] 6	[ ] 7

E8 How do you rate your current profit performance relative to competition?

Very poor	Poor	Fairly poor	About average	Fairly good	Good	Very good
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5	[ ] 6	[ ] 7

F COMPETITIVE STRUCTURE

F1 Competition. How many competitors does the business have?

None	[ ] 1	6-10	[ ] 3	26-100	[ ] 5
1-5	[ ] 2	11-25	[ ] 4	101 or more	[ ] 6

F2 What is the size of the major competitor, in terms of the number of employees?

1-10	[ ] 1	51-100	[ ] 3	251-1,000	[ ] 5	5,001 or more	[ ] 7
11-50	[ ] 2	101-250	[ ] 4	1,001-5,000	[ ] 6		

F3 How would you rate the price of your major product or service with that of your direct competitors?

Very high	High	Fairly high	About average	Fairly low	Low	Very low
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5	[ ] 6	[ ] 7

F4 How would you rate the quality and finish of your major product or service with that of your direct competitors?

Very low	Low	Fairly low	About average	Fairly high	High	Very high
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5	[ ] 6	[ ] 7

F5 How would you rate the design quality of your major product or service with that of your direct competitors?

Very low	Low	Fairly low	About average	Fairly high	High	Very high
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5	[ ] 6	[ ] 7

F6 How would you rate the quality of your labor force?

Very poor	Poor	Fairly poor	About average	Fairly good	Good	Very good
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5	[ ] 6	[ ] 7

F7 How would you rate the quality of material input supplies?

Very poor	Poor	Fairly poor	About average	Fairly good	Good	Very good
[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5	[ ] 6	[ ] 7

G THE FUTURE OF THE BUSINESS

G1 How would you describe your standard of living today compared with when you started the business?

Worse [ ] 1 About the same [ ] 2 Better [ ] 3

G2 How do you believe the future looks for your business in the next two years?

Shrinking / declining business [ ] 1 Static / unchanged more or less [ ] 2 Growing / expanding business [ ] 3

G3 Do you want your business to grow in the future?

No [ ] 1 Yes [ ] 2

G4 Do you intend to increase the total employment size of your business in the next two years?

No [ ] 1 Yes [ ] 2

SECTION 2: ENVIRONMENTAL INFLUENCES

A THE ENVIRONMENT

There are many factors in the environment that may have influenced you to start your business. Please indicate the extent to which you disagree or agree with the following statements.

		Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
E1	Skilled labor was available	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E2	Managerial labor was available	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E3	Labor skilled in new technologies was available	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E4	Suppliers were available	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E5	Machines and equipment were easily available	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E6	Capital from financial institutions was available	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E7	Capital from other businesses (e.g. suppliers, customers) was available	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E8	Customers already interested in buying the product	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E9	Customers were easily accessible	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E10	The local economy was booming	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E11	There was a wide range of new incentives to encourage new business start-ups	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E12	Within my industry there were a wide range of businesses offering similar but not identical products or services	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E13	The customers were mainly local	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E14	It was relatively easy to identify the typical customer	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E15	Annual sales in my industry were relatively stable	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E16	The price-cost margin in my industry was relatively stable	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E17	The technology used in my industry was relatively stable	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E18	There was a large number of new businesses in the area that I live	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E19	There was a large number of new businesses in my industry	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E20	There was a large number of new business failures in the area that I live	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E21	There was a large number of new business failures in my industry	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E22	There was political uncertainty in the country	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
E23	Capital from other sources (e.g. family and friends) was available	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5

B POLICY AND SUPPORT SERVICES

Were the following support services available and affordable to assist you in starting up your business?

		Not available (1)	Available but not affordable (2)	Available and affordable (3)	Don't know (4)
P1	Low cost legal services	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P2	Low cost consulting services	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P3	Courses in new business management	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P4	Market information	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P5	Skills training programs	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P6	Export assistance	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P7	Plants / offices at reduced cost	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P8	Business advisory service	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P9	Tax-free trade zones / enterprise zones	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P10	Low interest loans	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P11	Operating subsidies	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P12	Industry related grants	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P13	Grants to assist in start-ups	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P14	Loan guarantees	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P15	Public venture capital	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P16	Grants to support the development of new products and processes	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P17	Locally-based enterprise support agency	[ ] 1	[ ] 2	[ ] 3	[ ] 4
P18	Low cost accounting services	[ ] 1	[ ] 2	[ ] 3	[ ] 4

SECTION 3: STRATEGIC POSTURE

There are many factors that contribute to your company's strategic posture. Please indicate the degree that most closely matches your company position.

S1 We provide a narrow range of products.	1 2 3 4 5 6 7	We provide a broad range of products.
S2 We serve limited or specific geographic markets.	1 2 3 4 5 6 7	We serve broad geographic markets.
S3 We sell products to one market segment.	1 2 3 4 5 6 7	We sell products to numerous market segments.
S4 We try to find small market segments not well served by the competition.	1 2 3 4 5 6 7	We try to find markets with large potential not well served by the competition.
S5 We attempt to achieve small market share in our market segment(s).	1 2 3 4 5 6 7	We attempt to achieve high market share in our market segment(s).

To what extent do you disagree or agree that the following statements match your company strategy in technology innovation?

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
S6 The development of new products/processes requires sophisticated or complex equipment, tools, or procedures (e.g. computing resources, advanced analytical or testing devices, etc.)	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S7 The development of new products/processes is based using sophisticated knowledge or technical skills (e.g. a a surgeon may use simple tools such as scalpels and clamps but requires complex knowledge and skills).	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S8 The firm is strongly R & D oriented.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S9 New products/processes are highly innovative ones which differ substantially from existing ones (e.g. a high degree of newness or novelty).	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S10 The underlying technology of new products/processes is complex or difficult to understand (e.g. some personal computers are easy to operate but the inherent technology is complex and sophisticated).	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S11 New products/processes are technically complex to operate/ control.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5

S12 The firm is aggressive in acquiring new development technology (i.e. actively seeks out new development technology).	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S13 New products/processes employ state-of-the-art or leading edge development technologies.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S14 New products/processes are high-risk ventures.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S15 New products/processes employ state-of-the-art production technologies.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S16 The firm is active in generating new product/process ideas.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S17 The program is offensive (vs. defensive) - aimed at gaining market share, or entering new markets.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S18 The new product/process program is a key part of the business strategy.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S19 Technologically, our firm is at the forefront.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S20 Our firm aims to be the first to develop and introduce new products/processes.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5
S21 Our firm strives for relatively continuous technological change or improvement in products/processes.	[ ] 1	[ ] 2	[ ] 3	[ ] 4	[ ] 5

Thank you for taking time to complete this survey!
Your contribution makes a difference.

APPENDIX C

CORRELATION MATRIX

AND

REGRESSION TABLE FOR STRATEGY VARIABLES AND ENVIRONMENT VARIABLES

Appendix C

Correlation Matrix for Strategy Variables
(Correlation, 1-tailed Significance)

	S1	S2	S3	S4	S5	S6	S7
S1	.						
S2	.242 .009	.					
S3	.316 .001	.336 .000	.				
S4	.096 .179	.005 .48	.198 .028	.			
S5	.280 .003	.143 .084	.128 .108	.298 .002	.		
S6	.206 .022	-.004 .486	.075 .234	.084 .209	.167 .052	.	
S7	.153 .069	-.006 .477	-.067 .260	-.041 .347	.15 .074	.596 .000	.
S8	.468 .000	.3 .002	.242 .009	.049 .317	.206 .022	.280 .003	.285 .003
S9	.244 .009	.176 .044	.177 .043	.003 .49	.213 .019	.366 .000	.322 .001
S10	.252 .007	-.002 .49	.107 .152	.241 .009	.004 .485	.546 .000	.44 .000
S11	.303 .001	-.053 .304	.1 .168	.263 .005	.105 .156	.526 .000	.239 .010
S12	.290 .002	.277 .003	.232 .012	-.036 .364	.079 .224	.312 .001	.363 .000
S13	.264 .005	.226 .014	.194 .030	-.061 .28	.256 .006	.324 .001	.445 .000
S14	.073 .242	.032 .379	.106 .154	.208 .022	-.027 .397	.319 .001	.114 .137
S15	.182 .039	.026 .403	.040 .35	.082 .215	.098 .173	.471 .000	.46 .000

Continued

Correlation Table (Continued)

	S1	S2	S3	S4	S5	S6	S7
S16	.275	.105	.211	-.049	.131	.154	.266
	.003	.155	.02	.318	.104	.068	.005
S17	.123	.115	.195	-.072	.192	.161	.33
	.118	.067	.029	.243	.031	.06	.001
S18	.336	.304	.389	.06	.079	.244	.206
	.000	.001	.000	.283	.224	.009	.022
S19	.19	.243	.314	.01	.171	.236	.389
	.032	.009	.001	.463	.048	.011	.000
S20	.266	.139	.192	-.035	.221	.327	.355
	.005	.089	.031	.367	.016	.001	.000
S21	.334	.132	.233	-.075	.084	.352	.432
	.000	.101	.011	.234	.209	.000	.000

Continued

Correlation Table (Continued)

	S8	S9	S10	S11	S12	S13	S14
S8	.						
S9	.535	.					
	.000						
S10	.414	.451	.				
	.000	.000					
S11	.448	.394	.778	.			
	.000	.000	.000				
S12	.525	.387	.321	.29	.		
	.000	.000	.001	.02			
S13	.416	.651	.356	.246	.648	.	
	.000	.000	.000	.008	.000		
S14	.155	.288	.486	.535	.155	.181	.
	.067	.002	.000	.000	.066	.040	
S15	.293	.488	.651	.505	.285	.571	.583
	.002	.000	.000	.000	.003	.000	.000

Continue

Correlation Table (Continued)

	S8	S9	S10	S11	S12	S13	S14
S16	.322	.34	.17	.133	.621	.508	.145
	.001	.000	.05	.099	.000	.000	.081
S17	.224	.283	.214	.185	.475	.493	.143
	.014	.003	.019	.036	.000	.000	.084
S18	.333	.355	.311	.242	.561	.471	.237
	.000	.000	.001	.009	.000	.000	.01
S19	.320	.205	.139	.159	.542	.407	.121
	.001	.023	.089	.062	.000	.000	.122
S20	.364	.323	-.002	.249	.615	.487	.067
	.000	.001	.49	.007	.000	.000	.26
S21	.39	.337	.323	.274	.569	.505	.047
	.000	.000	.001	.004	.000	.000	.327

Continued

Correlation Table (Continued)

	S15	S16	S17	S18	S19	S20	S21
S15	.						
S16	.232	.					
	.012						
S17	.204	.628	.				
	.024	.000					
S18	.246	.718	.71	.			
	.008	.000	.000				
S19	.162	.416	.555	.446	.		
	.058	.000	.000	.000			
S20	.252	.502	.526	.586	.663	.	
	.007	.000	.000	.000	.000		
S21	.362	.211	.466	.624	.545	.691	.
	.000	.02	.000	.000	.000	.000	

Regression Table for Strategy Variables

For Dependent Variable (DV1) - Annual Growth of # Employees

Variable Entered	Step #	B	SEB	Beta	Mean	SD
DV1					.34	.754
S9	1	-.291	.132	-.324	2.93	.841
S4	2	-.014	.049	-.033	4.16	1.76
S2	3	.025	.047	.062	3.71	1.79
S19	4	.094	.114	.131	2.87	1.05
S1	5	-.052	.047	-.132	4.126	1.91
S14	6	.119	.119	.148	2.77	.939
S5	7	.021	.056	.046	4.34	1.68
S6	8	.151	.108	.202	2.88	1.01
S3	9	-.291	.132	-.324	2.93	.841
S16	10	.242	.142	.292	3.21	.91
S8	11	.172	.115	.214	2.81	.937
S7	12	.14	.126	.173	3.24	.931
S17	13	-.253	.159	-.281	3.25	.838
S15	14	-.131	.158	-.152	3.08	.871
S20	15	.025	.132	.033	2.85	.978
S11	16	.242	.142	.292	3.21	.91
S12	17	-.253	.159	-.281	2.99	1.08
S21	18	-.219	.136	-.284	3.14	.974
S13	19	.109	.153	.137	3.1	.946
S10	20	.43	.16	.526	2.98	.92
S18	21	.113	.182	.13	3.19	.867
Constant		.149	.446			

Note: F=1.93; p=.02; df=21,73; R2=.357; n=95.

Regression Table for Environment Variables

For Dependent Variable (DV1) - Annual Growth of # Employees

Variable Entered	Step #	B	SEB	Beta	Mean	SD
DV1					.34	.754
EN9	1	-.6	.144	-.671	3.97	.844
EN18	2	-.109	.088	-.151	3.03	1.05
EN7	3	-.044	.083	-.066	2.83	1.13
EN17	4	-.213	.112	-.231	3.66	.82
EN1	5	-.192	.139	-.265	2.85	1.04
EN20	6	-.016	.123	-.018	2.94	.845
EN13	7	-.134	.096	-.153	3.96	.862
EN12	8	-.047	.075	-.067	3.3	1.08
EN23	9	-.025	.082	-.035	3	1.04
EN5	10	-.004	.124	-.004	3.78	.814
EN11	11	.083	.093	.109	2.56	.986
EN10	12	.085	.09	.113	3.82	1
EN16	13	.191	.106	.224	3.45	.884
EN14	14	.013	.119	.015	3.87	.841
EN22	15	-.024	.112	-.027	2.71	.849
EN6	16	-.066	.081	-.102	3.05	1.18
EN4	17	.071	.134	.071	4.04	.757
EN19	18	-.115	.114	-.143	2.93	.937
EN3	19	.08	.109	.097	2.79	.921
EN15	20	.01	.158	.009	3.65	.7
EN21	21	.255	.118	.321	2.93	.948
EN8	22	.544	.168	.567	4.18	.79
EN2	23	.109	.133	.151	2.97	1.05
Constant		.785	.728			

Note: F=2.04; p=.012; df=23,71; R2=.398; n=95.

APPENDIX D

PERCEIVED ENVIRONMENTS BY SUB-GROUP

Appendix D

Perceived Environments By Sub-Group

Items from Survey Section 2A:

* Complexity Variables = E1, E2, E3
** Munificence Variables = E4, E8, E9, E14, E15
*** Volatility Variables = E12, E19, E20, E21, E22
\+ Hostility Variables = E6, E7, E23

	Variable	Factor Group	Mean	SD
CWOBs	E3	*	2.58	1.0
	E2	*	2.58	1.2
	E1	*	2.58	1.23
	E22	***	2.64	1.1
	E19	***	2.75	1.11
	E21	***	2.81	1.01
	E7	+	2.86	1.25
	E6	+	2.92	1.3
	E20	***	2.97	1.03
	E23	+	3.06	1.15
	E12	***	3.42	1.25
	E15	**	3.5	.77
	E14	**	3.94	1.12
	E4	**	4.0	.86
	E9	**	4.0	1.04
	E8	**	4.14	.99
MMOBS	E3	*	2.63	.96
	E22	***	2.77	.63
	E21	***	2.83	.95
	E19	***	2.87	.82
	E1	*	2.87	.94
	E20	***	2.93	.69
	E7	+	3.0	1.08
	E2	*	3.07	.94
	E23	+	3.07	.83
	E12	***	3.13	.94
	E6	+	3.2	1.03
	E15	**	3.83	.65
	E14	**	3.83	.65
	E9	**	3.9	.71
	E4	**	4.07	.74
	E8	**	4.2	.61
CMOBs	E7	+	2.62	1.01
	E22	***	2.72	.7
	E23	+	2.86	1.13
	E20	***	2.9	.77
	E6	+	3.07	1.19
	E1	*	3.17	.8
	E21	***	3.17	.85
	E3	*	3.21	.62
	Variable	Factor Group	Mean	SD
CMOBs (cont.)				

E19	***	3.21	.77
E12	***	3.31	1.0
E2	*	3.34	.77
E15	**	3.66	.61
E14	**	3.83	.6
E9	**	4.0	.71
E4	**	4.07	.65
E8	**	4.21	.68

REFERENCES

REFERENCES

Abelson, R. (1995). Statistics as Principled Argument. Hillsdale, NJ:Lawrence Erlbaum Associates.

Acs, Z., Tarpley, F., and Phillips, B. (1998). The new American evolution: The role and impact of small firms. U.S. SBA Office of Advocacy [On-Line]. Available: www.sba.gov/ADVO/stats/evol_pap.html.

Aldrich, H. (1979). Organizations and Environments. Englewood Cliffs, NJ:Prentice-Hall.

Aldrich, H. (1990). Using an ecological perspective to study organizational founding rates. Entrepreneurship Theory & Practice, 13(3), 7-24.

Alreck, P., and Settle, R. (1985). The Survey Research Handbook. Homewood, IL: Irwin.

Anonymous (1998). Women in business. The Journal of Business Strategy, 19(3), 4-5.

Armstrong, J. and Overton, T. (1977). Estimating nonresponse bias in mail surveys. Journal of Marketing Research, 14, 396-402.

Athey, T. (1982). Systematic systems approach: An integrated method for solving systems problems Englewood Cliffs, NJ: Prentice Hall.

Babbie, E. (1992). The Practice of Social Research (6th ed.). Belmont, CA: Wadsworth Publishing.

Bantel, K. (1997). Performance in adolescent, technology-based firms: Product strategy, implementation, and synergy. The Journal of High Technology Management Research, 8(2), 243-262.

Bantel, K. (1998). Technology-based "adolescent" firm configurations: Strategy identification, context, and performance. Journal of Business Venturing, 13, 205-230.

Baum, S., and Powell, W. (1995). Cultivating an institutional ecology of organizations: Comment on Hannan, Carroll, Dundon and Torres. American Sociological Review, 60(4), 529-538.

Birch, D. (1979). The job generation process. Cambridge, Mass., MIT program for neighborhood and regional change. In D. Sexton, and J. Kasarda, (Eds.) (1992). The State of the Art of Entrepreneurship. Boston:PWS-Kent Publishing.

Birch, D. (1987). Job Creation in America. New York, NY: Free Press.

Birley, S. (1989). Female entrepreneurs: Are they really different? Journal of Small Business Management, 27(1), 32-37.

Birley, S., and Westhead, P. (1994). A taxonomy of business start-up reasons and their impact on firm growth and size. Journal of Business Venturing, 9(1), 7-31.

Boeker, W. (1989). Strategic change: The effects of founding and history. Academy of Management Journal, 32, 489-515.

Boeker, W. (1991). Organizational strategy: an ecological perspective. Academy of Management Journal, 34(3), 613-635.

Boone, C., and van Witteloostuijn, A. (1995). Industrial organization and organizational ecology: The potentials for cross-fertilization. Organization Studies, 16(2), 265-298.

Brockhaus, R. (1980). Risk taking propensity of entrepreneurs. Academy of Management Journal, 23, 509-520.

Bryant, F. and Yarnold, P. (2000). Principal-components analysis and exploratory and confirmatory factor analysis. In L. Grimm and P. Yarnold (Eds.) Reading and Understanding Multivariate Statistics (pp. 99-136).

Bruno, A., and Tyebjee, T. (1982). The environment for entrepreneurship. In C. Kent, D. Sexton, and K Vesper (Eds.) Encyclopedia of Entrepreneurship (pp. 288-314). Englewood Cliffs, NJ: Prentice Hall.

Buttner, E. and Rosen, B., (1988). Bank loan officers' perceptions of the characteristics of men and women and successful entrepreneurs. Journal of Business Venturing, 3(3), 249-258.

Carroll, G. (1984). Organizational ecology. Annual Review of Sociology, 10, 71-93.

Carroll, G. (1985). Concentration and specialization: Dynamics of niche width in populations of organizations. American Journal of Sociology, 90, 1262-1283.

Carroll, G., and Huo, Y. (1986). Organizational Task and Institutional Environments in Ecological Perspective: Findings from the local Newspaper Industry. *American Journal of Sociology* 91(4), 838-873.

Carroll, G., Preisendorfer, P., Swaminathan, A., and Weidenmayer, G. (1993). Brewery and brauerei: The organizational ecology of brewing. Organization Studies, 14(2), 155-188.

Carter, N., Stearns, T., Reynolds, P., and Miller, B. (1994) New venture strategies: Theories development with an empirical base. Strategic Management Journal, 15(1), 21-41.

Chaganti, R., Chaganti, R., and Mahajan, V. (1989). Profitable small business strategies under different types of competition. Entrepreneurship Theory and Practice, 13, 21-35.

Chaganti, R., and Parasuraman, S. (1996). A study of the impacts of gender on business performance and management patterns in small businesses. Entrepreneurship Theory and Practice, 21(2), 73-75.

Chell, E.. and Baines, S. (1998). Does gender affect business 'performance'? A study of microbusinesses in business services in the UK. Entrepreneurship & Regional Development, 10, 117-135.

Chrisman, J., Carsrud, A., DeCastro, J., and Herron, L. (1990). A comparison of assistance needs of male and female pre-venture entrepreneurs. Journal of Business Venturing, 5(4), 235-248.

Cliff, J. (1998). Does one size fit all? Exploring the relationship between attitudes towards growth, gender, and business size. Journal of Business Venturing, 13, 523-542.

Cohen, J., and Cohen, P. (1983). Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences (2nd ed.) Hillsdale, NJ: Lawrence Erlbaum Associates.

Cooper, A. (1981). Strategic management: New ventures and small business. Long Range Planning, 14(5), 39-45.

Covin, J., and Slevin, D. (1991). A conceptual model of entrepreneurship as firm behavior. Entrepreneurship Theory and Practice, (Fall), 7-25.

Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297-334.

Daily, C., Certo, S., and Dalton, D. (1999). Entrepreneurial ventures as an avenue to the top?: Assessing the advancement of female CEOs and directors in the Inc. Journal of Developmental Entrepreneurship 4(1), 19-32.

Daniels, K. (1998). Towards integrating emotions into strategic management research: Trait affect and perceptions of the strategic environment. British Journal of Management, 9, 163-168.

Delacroix, J., and Carroll, G. (1983). Organizational foundings: An ecological study of the newsarticle industries of Argentina and Ireland. Administrative Science Quarterly, 28, 274-291.

Dollinger, M. (1995). Entrepreneurship: Strategies and Resources. Burr Ridge, IL: Irwin.

Drazin, R., and Van de Ven, A. (1985). Alternative forms of fit in contingency theory. Administrative Science Quarterly, 24, 514-539.

Drucker, P. (1998). The discipline of innovation. Harvard Business Review, 76(6), 149-157.

Dubini, P. (1988). The influence of motivations and environment on business start-ups: some hints for public policies. Journal of Business Venturing, 4, 11-26.

Eisenstadt, S. (1984). Interactions between organizations and societal stratification. In P. C. Nystrom and W. H. Starbuck, (Eds)., Handbook of Organizational Design. Oxford: University Press.

Etzioni, A. (1987). Entrepreneurship, adaptation and legitimation: a macro-behavioral perspective. Journal of Economic Behavior and Organization, 8(2), 175-189.

Feldt, L., Woodruff, D., and Salih, F. (1987). Statistical inference for coefficient alpha. Applied Psychological Measurement, 11(1), 93-103.

Freeman, J. (1982). Organizational life cycles and natural selection processes. In B.M. Staw and L.L. Cummings (Eds.), *Research in Organizational Behavior* (4th ed.) (pp. 1-32). Greenwich, CT: JAI Press.

Freeman, J, and Hannan, M. (1983). Niche width and the dynamics of organization populations. American Journal of Sociology, 88, 1116-1145.

Froelich, K. (1999). Diversification of revenue strategies: evolving resource dependence in nonprofit organizations. Nonprofit and Voluntary Sector Quarterly, 28(3), 246-268.

Galaskiewicz, J. (1985). Interorganizational relations. Annual Review of Sociology, 11, 281-304.

Galbraith, C., and Schendel, D. (1983). An empirical analysis of strategy types. Strategic Management Journal, 4, 153-173.

Galunic D., and Eisenhardt, K. (2001). Architectural innovation and modular corporate forms. Academy of Management Journal, 44(6), 1229-1249.

Gnyawali, D., and Fogel, D. (1994). Environments for entrepreneurship development: key dimensions and researchimplications. Entrepreneurship Theory & Practice 18(4), 43-62

Grinyer, P., Yasai-Ardekani, M., and Al-Bazzaz, S. (1980). Strategy, structure, the environment, and financial performance in 48 United Kingdom companies. Academy of Management Journal, 23(2), 193-220.

Hair, J., Anderson, R., Tatham, R. and Black, W. (1998). Multivariate Data Analysis (5th Ed.). Englewood Cliffs, NJ: Prentice Hall.

Hair, J., Anderson, R., Tatham, R., and Black, W. (1995). Multivariate Data Analysis (4th Ed.). Englewood Cliffs, NJ: Prentice Hall.

Hambrick, D. (1983). Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. Academy of Management Journal, 26, 5-26.

Hannan, M., and Freeman, J. (1977). The population ecology of organizations. American Journal of Sociology 82, 929-964.

Hannan, M., and Freeman, J. (1984). Structural inertia and organizational change. American Sociological Review 49, 149-164

Hannan, M., and Freeman, J. (1987). The ecology of organizational founding: American labor unions, 1836-1985. American Journal of Sociology, 92(4), 910-943.

Hawley, A. (1968). Human ecology. In D. Sills (Ed.) International Encyclopedia of the Social Sciences. New York: Macmillan.

Hebért, R., and Link, A. (1989). In search of the meaning of entrepreneurship. Small Business Economics, 1, 39-49.

Henry, G. (1990). Practical sampling. Applied social research methods series, 21. Newbury Park, CA: Sage.

Hisrich, R., and O'Brien, M. (1981). The woman entrepreneur from a business and sociological perspective. In K. Vesper (Ed.) Frontiers in Entrepreneurship Research (pp. 21-39). Wellesley, MA: Babson College.

Hisrich, R., and Brush, C. (1987). Women entrepreneurs: A longitudinal study. Frontiers in Entrepreneurship Research (pp. 187-189). Wellesley, MA: Babson College.

Jackson, J., and Rodkey, G. (1994). The attitudinal climate for entrepreneurial activity. Public Opinion Quarterly, 58(3), 358-380.

Kalleberg, A., and Leicht, K. (1991). Gender and organizational performance: Determinants of small business survival and success. Academy of Management Journal, 34(1), 136-161.

Khandwalla, P. (1976/1977). Some top management styles, their contest and performance. Organization and Administrative Sciences, 7, 21-51.

Kim, L., and Lim, Y. (1988). Environment, generic strategies, and performance in a rapidly developing country: A taxonomic approach. Academy of Management Journal, 31, 802-827.

Kirchhoff, B., and Phillips, B. (1988). The effect of firm formation and growth on job creation in the United States. Journal of Business Venturing, 3, 261-272.

Kirchhoff, B., and Acs, Z. (1997). Births and deaths of new firms. In Sexton, D. and R. Smilor (Eds.) Entrepreneurship 2000 (pp. 167-188). Chicago, IL: Upstart Publishing.

Kirzner, I. (1982). The theory of entrepreneurship in economic growth. In C. Kent, D. Sexton, and K. Vesper (Eds.) Encyclopedia of Entrepreneurship (pp. 288-314). Englewood Cliffs, NJ: Prentice Hall.

Kohli, H., and Sood, A. (1987). Fostering enterprise development. Finance & Development, 24(1), 34-36.

Lenz, R. (1980). Strategic capability: A concept and framework for analysis. Academy of Management Review, 5, 225-234.

Licht, M. (2000). Multiple regression and correlation. In L. Grimm and P. Yarnold (Eds.) Reading and Understanding Multivariate Statistics. Washington, D.C.: American Psychological Association.

Lincoln, J. (1977). The urban distribution of voluntary organizations. Social Science Quarterly, 58, 472-480.

Lomi, A. (1995). The population ecology of organizational founding: Location dependence and unobserved heterogeneity. Administrative Science Quarterly, 40(1), 111-144.

Luthans, F., Stajkovic, A., and Ibrayeva, E. (2000). Environmental and psychological challenges facing entrepreneurial development in transitional economies. Journal of World Business, 35(1), 95-110.

Masters, R., and Meier, R. (1988). Sex differences and risk-taking propensity of entrepreneurs. Journal of Small Business Management (January), 31-35.

McCarthy, A. (1992). The Role of Strategy, Environment, Resources, and Strategic Change in New Venture Performance. Doctoral dissertation, Purdue University: UMI Dissertation Services, Order number 9229166.

McClelland, D. (1961). The Achieving Society. Princeton, NJ: Van Nostrand.

Miles, R., and Snow, C. (1978). Organizational Strategy, Structure, and Process. New York, NY: McGraw-Hill.

Miles, R., Snow, C., and Pfeffer, J. (1974). Organizations and environments: Concepts and issues. Industrial Relations, 242-264.

Mintzberg, H. (1979). Patterns in strategy formulation. Management Science, 29, 934-948.

Mokry, B. (1988) Entrepreneurship and public policy: Can government stimulate business start-ups? New York: Quorum.

Moore, D., and Buttner, E. (1997). Women Entrepreneurs: Moving Beyond the Glass Ceiling. New York: Sage Publications.

Morris, M., and Lewis, P. (1991). Entrepreneurship as a significant factor in societal quality of life. Journal of Business Research, 23, 21-26.

Mullins, J., and Cardozo, R. (1992). New Venture Strategies and Startup Environment: Concepts, Measurement, and a Research Agenda. Paper presented at the Second Annual Global Conference on Entrepreneurship Research, London, March 9-11.

Namen, J. (1994). Strategic adaptation in entrepreneurial organizations. Doctoral Dissertation, University of Pittsburgh:UMI Dissertation Services, Order number 9507387.

Naresh, K., and D'Netto, B. (1997). Perceived uncertainty and performance: The causal direction. Journal of Applied Management Studies 6(2), 219-232.

Nielsen, F., and Hannan, M. (1977). The expansion of national education systems: Test of a population ecology model. American Sociological Review, 42, 479-490.

Norusis, M. (1995). SPSS 6.1 Guide to Data Analysis. Englewood Cliffs, NJ: Prentice-Hall.

Péli, G., and Masuch, M. (1997). The logic of propagation strategies: Axiomatizing a fragment of organizational ecology in first-order logic. Organization Science, 8(3), 310-331.

Pennings, J. (1982). Organizational birth frequencies: An empirical investigation. Administrative Science Quarterly, 27, 120-144.

Peter, J., Churchill, G., and Brown, T. (1993). Caution in the use of difference scores in consumer research. Journal of Consumer Research, 19, 655-662.

Pfeffer, J., and Salancik, G. (1978). The external control of organizations: A resource dependent perspective. N.Y.:Harper & Row.

Porter, M. (1980). Competitive Strategies. New York, NY: Free Press.

President's Interagency Task Force (1978). The Bottom Line: Unequal Enterprise in America. Washington, D.C.: U.S. Government Printing Office.

Reitan, B. (1997). Where Do we Learn that Entrepreneurship is Feasible, Desirable and/or Profitable? A Look at the Processes Leading to Entrepreneurial Potential. Paper presented at the Annual World Conference of the International Council for Small Business.

Reynolds, P. (1986). New firms: Societal contribution versus survival potential. Journal of Business Venturing, 2, 231-246.

Reynolds, P., Storey, D., and Westhead, P. (1994). Cross-national comparisons of the variation in new firm formation rates. Regional Studies 28(4), 443-456.

Rindova, V. and Kotha, S. (2001). Continuous ''morphing'': competing through dynamic capabilities, form, and function. Academy of Management Journal, 44(6), 1263-1280.

Romanelli, E. (1989). Environments and strategies of organization start-up: effects on early survival. Administrative Science Quarterly, 34, 369-387.

Rumelt, R. (1991). How much does industry matter? Strategic Management Journal, 12(3), 167-185.

Russell, R. (1997). The Impact of National Culture on the Emergence of Entrepreneurship. Paper presented at the Annual World Conference of the International Council for Small Business.

Ryans, J., and Shanklin, W. (1996). Stoking the Small Business Engine: Guidelines for Communities Seeking to Develop Assistance Programs and Infrastructure Conducive to Fostering Business Start-ups and Growing Firms with Potential. Kansas City, MO: The Center for Entrepreneurial Leadership Ewing Marion Kauffman Foundation.

Sage, G. (1993). Entrepreneurship as an economic development strategy. Economic Development Review 11 (2), 66-67

Sandberg, W., and Hofer, C. (1987). Improving new venture performance: the role of strategy, industry structure, and the entrepreneur. Journal of Business Venturing 2, 5-28.

Scheinberg, S., and MacMillan, I. (1988). An 11 country study of motivations to start a business. Frontiers of Entrepreneurship Research (pp. 669-687). Wellesley, MA: Babson College.

Sensenbrenner, J. (1987). The evolving enterprise. China Business Review, 14(2), 35-38.

Sexton, D., and Bowman, N. (1986). Validation of a personality index: Comparative psychological characteristics analysis of female entrepreneurs, managers, entrepreneurship students, and business students. Frontiers of Entrepreneurship Research (pp. 18-25). Wellesley, MA: Babson College.

Sexton, D., and Bowman-Upton, N. (1990). Female and male entrepreneurs: Psychological characteristics and their role in gender-related discrimination. Journal of Business Venturing, 5, 29-36.

Shane, S. (1995). Is the independent entrepreneurial firm a valuable organizational form? Academy of Management Journal, Best Papers Proceedings 1995, 110-113.

Shane, S., and Kolvereid, L. (1995). National environment, strategy, and new venture performance: a three-country study. Journal of Small Business Management 33(2), 37-50.

Shane, S., Kolvereid, L., and Westhead, P. (1991). An exploratory examination of the reasons leading to new firm formation across country and gender. Journal of Business Venturing, 6, 431-446.

Shane, S., and Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. Academy of Management, 25(1), 217-226.

Shenkar, O., and von Glinow, M. (1994). Paradoxes of organizational theory and research: using the case of China to illustrate national contingency. Management Science 40(1), 56-71.

Sherer R., Brodzinski, J., and Weibe, F. (1990). Entrepreneur career selection and gender: A socialization approach. Journal of Small Business Management, 28(2), 37-43.

Slevin, D.. and Covin, J. (1997). Strategy formation patterns, performance, and the significance of context. Journal of Management 23(2), 189-209.

Smith, N., G. McCain, and A. Warren 1982. Women entrepreneurs are really different: A comparison of constructed ideal types of male and female entrepreneurs. *Frontiers of Entrepreneurship Research*. 68-77. Wellesley, MA: Babson College.

Specht, P. (1993). Munificence and carrying capacity of the environment and organization formation. Entrepreneurship Theory & Practice, 17(2), 77-84.

Staber, U. (1997). An ecological perspective on entrepreneurship in industrial districts. Entrepreneurship & Regional Development, 9, 45-64.

Stevenson, L. (1986). Against all odds: the entrepreneurship of women. Journal of Small Business Management, 24(4), 30-36.

Stinchcombe, A. (1965). Social structure and organizations. In J. March (Ed.), Handbook of Organizations. Chicago, IL: Rand McNally.

Styles, G. (1991). Innovation: A Model Relating Orientation of Innovation Strategy to the Performance of the Firm's Innovation Program. Doctoral Dissertation, University of Waterloo, Canada:UMI Dissertation Services.

Swaminathan, A. (1996). Organizational ecology: Neither straight-jacket nor big tent. Administrative Science Quarterly, 41(3), 543-550.

Takyi-Asiedu, S. (1993). Some socio-cultural factors retarding entrepreneurial activity in sub-saharan Africa. Journal of Business Venturing 8(2), 91-98.

Ticknor, T. (1988). Opportunity analysis: Reading the economic development environment for jobs and tax base. Economic Development Review, 6(1), 40-44.

Tosi, H., Aldag, R. and Storey, R. (1973). On the measurement of the environment: An assessment of the Lawrence and Lorsch environmental subscale. Administrative Science Quarterly, 18, 27-36.

Tsai, W., MacMillan, I., and Low, M. (1991). Effects of strategy and environment on corporate venture success in industrial markets. Journal of Business Venturing 6, 9-28

U.S. SBA - Office of Advocacy 1997a. Small business: Backbone of the Mississippi economy. Small Business Profile [On-Line)]. Available: www.sba.gov/ADVO/stats/profiles/97ms.html.

U.S. SBA - Office of Advocacy 1997b. Small business: Backbone of the Colorado economy. Small Business Profile [On-Line]. Available: www.sba.gov/ADVO/stats/profiles/97co.html.

U.S. SBA - Office of Advocacy 1997c. Characteristics of Small Business Employees and Owners [On-Line]. Available: www.sba.gov/ADVO/stats/ch_emp_o.html.

U.S. SBA - Office of Advocacy 1998a. Women in Business [On-Line]. Available: www.sba.gov/ADVO/stats/wib.html.

U.S. SBA - Office of Advocacy 1998b. The New American Evolution: The Role and Impact of Small Firms [On-Line]. Available: www.sba.gov/ADVO/stats/evol_pap.html.

U.S. SBA - Office of Advocacy 2000a. Small business: Backbone of the Mississippi economy. Small Business Profile [On-Line]. Available: www.sba.gov/ADVO/stats/profiles/98ms.html.

U.S. SBA - Office of Advocacy 2000b. Small business: Backbone of the Colorado economy. Small Business Profile [On-Line]. Available: www.sba.gov/ADVO/stats/profiles/98co.html.

U.S. Washington, D.C. (1991). 1987 U.S. Business Census. U.S. Government Printing Office.

U.S. Washington, D.C. (1996). 1992 U.S. Business Census. U.S. Government Printing Office.

Van Auken, H. (1999). Obstacles to business launch. Journal of Developmental Entrepreneurship, 4(2), 175-187.

Venkataraman, S. (1997). The distinctive domain of entrepreneurship research: An editor's perspective. In J.Katz & R. Brockhaus (Eds.) Advances in Entrepreneurship, Firm Emergence, and Growth 3. JAI Press.

Venkataraman, S., and Prescott, J. (1990). Environment-strategy coalignment: An empirical test of its performance implications. Strategic Management Journal, 11, 1-23.

Virtanen, M. (1997). The Role of Different Theories in Explaining Entrepreneurship. Paper presented at the Annual World Conference of the International Council for Small Business.

Weber, M. (1930). The Protestant Ethic and the Spirit of Capitalism. London: Allen and Unwin.

West III, G., and Meyer, G. (1998). To agree or not to agree? Concensus and performance in new ventures. Journal of Business Venturing, 13, 395-422.

Winn, J. (1997). Assessing the Environment: Conditions for Female Entrepreneurship. Paper presented at the Annual World Conference of the International Council for Small Business.

Wholey, D., and Brittain, J. (1986). Organizational ecology: Findings and implications. Academy of Management Review, 11, 513-533.

Yarzebinski, J. (1992). Understanding and encouraging the entrepreneur. *Economic Development Review* 10(1), 32-35.

Yasai-Ardekani, M. (1989). Effects of environmental scarcity and munificence on the relationship of context to organizational structure. Academy of Management Journal, 32(1), 131-156.

Zajac, E., and Shortell, S. (1989). Changing generic strategies: Likelihood, direction, and performance. Strategic Management Journal, 10, 413-430.

Zammuto, R. (1988). Organizational adaptation: Some implications of organizational ecology for strategic choice. Journal of Management Studies, 25(2), 105-120.

BIBLIOGRAPHY

BIBLIOGRAPHY

Abelson, R. (1995). Statistics as Principled Argument. Hillsdale, NJ:Lawrence Erlbaum Associates.

Acs, Z., Tarpley, F. and Phillips, B. (1998). The new American evolution: The role and impact of small firms [On-line]. U.S. SBA Office of Advocacy. Available: www.sba.gov/ADVO/stats/evol_pap.html.

Aldrich, H. (1979). Organizations and Environments. Englewood Cliffs, NJ:Prentice-Hall.

Aldrich, H. (1989). From traits to rates: An ecological perspective on organizational foundings. Paper presented at the Gateway Conference on Entrepreneurship, St. Louis University, St. Louis, MO.

Aldrich, H. Spring (1990). Using an ecological perspective to study organizational founding rates. Entrepreneurship Theory & Practice 13(3), 7-24.

Aldrich, H., and Auster, E. (1986). Even dwarfs started small: Liabilities of age and size and their strategic implications. In B.M. Staw and L.L. Cummings (Eds.), Research and Organizational Behavior. Greenwich, CT: JAI Press.

Aldrich, H., Kalleberg, A., Marsden, P. and Cassell, J. (1989). In pursuit of evidence: Sampling procedures for locating new businesses. Journal of Business Venturing, 4(6), 367-386.

Aldrich, H., and Mueller, S. (1982). The evolution of organizational forms: Technology, coordination, and control. Research in Organizational Behavior, 4, 33-87.

Aldrich, H., and Pfeffer, J. (1976). Environments of organizations. In Inkeltes, Coleman and Smelser (Eds.), Annual Review of Sociology, Annual Reviews.

Alreck, P., and Settle, R. (1985). The Survey Research Handbook. Homewood, IL: Irwin.

Anonymous (1998). Women in business. The Journal of Business Strategy, 19(3), 4-5.

Armstrong, J. and Overton, T. (1977). Estimating nonresponse bias in mail surveys. Journal of Marketing Research, 14, 396-402.

Astley, W., and Fombrun C., (1987). Organization communities: An ecological perspective. In S. B. Bacharach (Ed.), Research in the Sociology of Organizations, 5. Greenwich, CT: JAI Press.

Athey, T. (1982). Systematic Systems Approach: An Integrated Method for Solving Systems Problems. Englewood cliffs, NJ: Prentice Hall.

Armington, C. (1986). Entry and exit of firms: An international comparison. Paper presented at the U.K. Conference on Job Formation and Economic Growth, London, England.

Babbie, E. (1992). The Practice of Social Research (6th Ed). Belmont, CA:Wadsworth Publishing.

Bantel, K. (1997). Performance in adolescent, technology-based firms: Product strategy, implementation, and synergy. The Journal of High Technology Management Research, 8(2), 243-262.

Bantel, K. (1998). Technology-based "adolescent" firm configurations: Strategy identification, context, and performance. Journal of Business Venturing, 13, 205-230.

Barkham, R. (1989). Entrepreneurship, new firms and regional development. (Doctoral Dissertation, University of Reading, United Kingdom, 1989). Dissertation Abstracts, DAI-A 50/12, p. 4039.

Baum, J., and Powell, W. (1995). Cultivating an institutional ecology of organizations: Comment on Hannan, Carroll, Dundon and Torres. American Sociological Review, 60(4), 529-538.

Birch, D. (1979). The job generation process. Cambridge, Mass., MIT program for neighborhood and regional change. In D. Sexton, and J. Kasarda, (Eds.) (1992). The State of the Art of Entrepreneurship. Boston:PWS-Kent Publishing.

Birch, D. (1987). Job Creation in America. New York, NY: Free Press.

Birley, S. (1989). Female entrepreneurs: Are they really different? Journal of Small Business Management, 27(1), 32-37.

Birley, S. (1993). A comparison of new businesses established by 'novice' and 'habitual' founders. International Small Business Journal, 12(1), 38-53.

Birley, S. and Westhead, P. (1994). A taxonomy of business start-up reasons and their impact on firm growth and size. *Journal of Business Venturing, 9*(1), 7-31.

Birley, S. and Westhead, P. (1994). New producer services businesses: Are they any different from new manufacturing ventures? Service Industries Journal, 14(4), 455-481.

Boeker, W. (1988). Organizational origins: Entrepreneurial and environmental imprinting at the time of founding. In G.R. Carroll (Ed.), Ecological Models of Organizations. Cambridge, MA: Ballinger Publishing Co.

Boeker, W. (1989). Strategic change: The effects of founding and history. Academy of Management Journal, 32, 489-515.

Boeker, W. (1991). Organizational strategy: an ecological perspective. *Academy of Management Journal, 34*(3), 613-635.

Bluedorn, A., Johnson, R., Cartwright, D., and Barringer, B. (1994). The interface and convergence of the strategic management and organizational environment domains. Journal of Management 20(2), 201-262.

Boone, C. and van Witteloostuijn, A. (1995). Industrial organization and organizational ecology: The potentials for cross-fertilization. Organization Studies, 16(2), 265-298.

Brockhaus, R. (1980). Risk taking propensity of entrepreneurs. Academy of Management Journal, 23, 509-520.

Brockhaus, R. (1982). The psychology of the entrepreneur. In C. Kent, D. Sexton and K. Vesper (Eds.), Encyclopedia of Entrepreneurship. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Brouwer, L. (1995). What do women want? A grounded theory of Women in corporate America. Doctoral Dissertation, University of Minnesota, 1995). Dissertation Abstracts, DAI-A56/08, p. 3205.

Bruederl, J., Preisendoerfer, P. and Ziegler, R. (1996). Der Erfolg neugegruendeter Betriebe: Eine empirische Studie zu den Chancen und Risiken von Unternehmensgruendungen. Berlin: Duncker and Humblot.

Bruno, A., and Tyebjee, J. (1982). The environment for entrepreneurship. In C. Kent, D. Sexton, and K Vesper (Eds.) Encyclopedia of Entrepreneurship, 288-314. Englewood Cliffs, NJ: Prentice Hall.

Brush, C., and Hisrich, R. (1988). Women entrepreneurs: Strategic origins impact on growth. In B. Kirchhoff, W. Long, W. McMullan, K. Vesper and W. Wetzel, Jr. (Eds.), Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

Brush, C., and Vanderwal, P. (1992). A comparison of methods and sources for obtaining estimates of new venture performance. Journal of Business Venturing, 7(2), 157-170.

Bryant, F. and Yarnold, P. (2000). Principal-components analysis and exploratory and confirmatory factor analysis. In L. Grimm and P. Yarnold (Eds.) Reading and Understanding Multivariate Statistics (pp. 99-136).

Buttner, E., and Rosen, B. (1988). Bank loan officers' perceptions of the characteristics of men and women and successful entrepreneurs. Journal of Business Venturing, 3(3), 249-258.

Buttner E., and Rosen, B. (1989). Funding new business ventures: Are decision makers biased against women entrepreneurs? Journal of Business Venturing, 4(4), 249-264.

Bygrave, W. (1993). Theory building in the entrepreneurship paradigm. Journal of Business Venturing, 8(3), 255-280.

Bygrave, W., and Stein, M. (1989). A time to buy and a time to sell: A study of venture capital investments in 77 companies that went public. In Frontiers of Entrepreneurship Research, (Eds.) B. A. Kirchhoff, W.A. Long, W.E. McMullan, K.H. Vesper, and W.E. Wetzel, Jr. (pp. 288-303). Wellesley, Mass.: Babson College.

Calatone, R., Schmidt, J., and DiBenedetto, C. (1997). New product activities and performance: The moderating role of environmental hostility. Journal of Product Innovation Management, 14, 179-189.

Carroll, G. (1984). Organizational ecology. Annual Review of Sociology, 10, 71-93.

Carroll, G. (1985). Concentration and specialization: Dynamics of niche width in populations of organizations. American Journal of Sociology, 90, 1262-1283.

Carroll, G. (1988). (Ed.) Ecological Models of Organizations, Cambridge, MA:Ballinger Publishing Co.

Carroll, G., and Delacroix, J. (1982). Organizational mortality in the newspaper industries of Argentina and Ireland: An ecological approach. Administrative Science Quarterly, 29, 169-198.

Carroll, G. and Huo, Y. (1986). Organizational Task and Institutional Environments in Ecological Perspective: Findings from the local Newspaper Industry. American Journal of Sociology 91(4), 838-873.

Carroll, G., Preisendorfer, P., Swaminathan, A. and Weidenmayer, G. (1993). Brewery and brauerei: The organizational ecology of brewing. Organization Studies, 14(2), 155-188.

Carland, J., Hoy, F., Boulton, W., and Carland, J. (1984). Differentiating entrepreneurs from small business owners: a conceptualization. Academy of Management Review, 9, 354-359.

Carter, N., Stearns, T., Reynolds, P., and Miller, B. (1994). New venture strategies: Theories development with an empirical base. Strategic Management Journal, 15(1), 21-41.

Castrogiovanni, G. (1996). Pre-startup planning and the survival of new small businesses: theoretical linkages. Journal of Management, 22(6), 801-822.

Chaganti, R., and Parasuraman, S. (1996). A study of the impacts of gender on business performance and management patterns in small businesses. Entrepreneurship Theory and Practice, 21(2), 73-75.

Chaganti, R., Chaganti, R., and Mahajan, V. (1989). Profitable small business strategies under different types of competition. Entrepreneurship Theory and Practice, 13, 21-35.

Chaganti, R. (1996). A study of the impacts of gender on business performance and management patterns in small businesses. Entrepreneurship Theory and Practice, 21(2), 73-75.

Chandler, G., and Hanks, S. (1994). Founder competence, the environment and venture performance. Entrepreneurship: Theory and practice 18(3), 77-90.

Chell, E., and Baines, S. (1998). Does gender affect business 'performance'? A study of microbusinesses in business services in the UK. Entrepreneurship & Regional Development, 10, 117-135.

Child, J. (1972). Organization structure, environment and performance: The role of strategic choice. Sociology, 6, 2-22.

Chrisman, J., Carsrud, A., DeCastro, J., and Herron, L. (1990). A comparison of assistance needs of male and female pre-venture entrepreneurs. Journal of Business Venturing, 5(4), 235-248.

Cliff, J. (1998). Does one size fit all? Exploring the relationship between attitudes towards growth, gender, and business size. Journal of Business Venturing, 13, 523-542.

Cohen, J., and Cohen, P. (1983). Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences (2nd Ed.). Hillsdale, NJ:Lawrence Erlbaum Associates.

Comrey, A. (1978). Common methodological problems in factor analytic studies. Journal of Consulting and Clinical Psychology, 46, 423-440.

Conant, J., Mokwa, M., and Varadarajan, P. (1990). Strategic types, distinctive marketing competencies and organizational performance: A multiple measures-based study. Strategic Management Journal, 11, 365-383.

Cooper, A. (1981). Strategic management: New ventures and small business. Long Range Planning, 14(5), 39-45.

Cooper, A. (1985). The role of incubator organization in the founding of growth oriented firms. Journal of Business Venturing, 1, 75-86.

Cooper, A. (1993). Challenges in predicting new firm performance. Journal of Business Venturing, 8(3), 241-253.

Cooper, A., and Dunkelberg, W. (1987). Old questions, new answers, and methodological issues. American Journal of Small Business, 11, 11-23.

Cooper, A., Dunkelberg, W., and Woo, C. (1988). Survival and failure: A longitudinal study. In B. Kirchhoff, W. Long, W. McMullan, K. Vesper and W. Wetzel, Jr. (Eds.), Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

Cooper, A., Woo, C., and Dunkelberg, W. (1988). Entrepreneur's perceived chances for success. Journal of Business Venturing,3, 97-108.

Cooper, W. (1984). The performance impact of product Innovation strategies. European Journal of Marketing, 18(5), 1-54.

Covin, J., and Slevin, D. (1988). The strategic management of new ventures in emerging, growing, and mature industries. Paper presented at Babson Entrepreneurship Research Conference, Calgary, Canada.

Covin, J., and Slevin, D. (1989). Strategic management of small firms in hostile and benign environments. Strategic Management Journal, 10(1), 75-87.

Covin, J., and Slevin, D. (1989). Empirical relationships among strategic posture environmental context variables and new venture performance. In R. Brockhaus, N. Churchill, J. Katz, B. Kirchhoff, K. Vesper, W. Wetzel (Eds.), Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

Covin, J., and Slevin, D. (1990). New venture strategic posture, structure, and performance: An industry life cycle analysis. Journal of Business Venturing, 5, 123-135.

Covin, J., and Slevin, D. (1991). A conceptual model of entrepreneurship as firm behavior. Entrepreneurship Theory and Practice, (Fall), 7-25.

Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16(3), 297-334.

Daily, C., Certo, S. and Dalton, D. (1999). Entrepreneurial ventures as an avenue to the top?: Assessing the advancement of female CEOs and directors in the Inc. Journal of Developmental Entrepreneurship 4(1), 19-32.

Daly, K. (1990). Public Policy and the Formation of Firms: A general equilibrium simulation approach (Venture Capital). Doctoral Dissertation, Boston College, 1990. Dissertation Abstracts, DAI-A 51/01, p. 228.

Daniels, K. (1998). Towards integrating emotions into strategic management research: Trait affect and perceptions of the strategic environment. British Journal of Management, 9, 163-168.

Davidson, P. (1990). Continued Entrepreneurship and Small Firm Growth. Doctoral Dissertation, Handelshogskolan I Stockholm, 1990. Dissertation Abstracts DAI-C 51/04, P. 507.

Davis, D., Morris, M. and Allen, J. (1991). Perceived environmental turbulence and its effect on selected entrepreneurship, marketing, and organizational characteristics in industrial firms. Journal of the Academy of Marketing Science, 19(1), 43-51.

Delacroix, J., and Carroll, G. (1983). Organizational foundings: An ecological study of the newsarticle industries of Argentina and Ireland. Administrative Science Quarterly, 28, 274-291.

Dess, G., and Davis, P. (1984). Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance. Academy of Management Journal, 27, 467-488.

Dess, G., Ireland, R., and Hitt, M. (1990). Industry effects and strategic management. Journal of Management, 17(4), 7-27.

Dess, G., and Robinson, R. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. Strategic Management Journal, 5, 265-273.

Dollinger, M. (1995). Entrepreneurship: Strategies and Resources. Burr Ridge, IL:Irwin.

Doutriaux, J., and Simyar, F. (1988). Duration of the comparative advantage accruing from start-up factors in high-tech entrepreneurial firms. In N. Churchill, J. Hornaday, B. Kirchhoff, O. Krasner, and K. Vesper (Eds.), Frontiers in Entrepreneurship Research, Wellesley, MA: Babson College.

Drazin, R., and Van de Ven, A. (1985). Alternative forms of fit in contingency theory. Administrative Science Quarterly, 24, 514-539.

Drucker, P. (1998). The discipline of innovation. Harvard Business Review, 76(6), 149-157.

Dubini, P. (1988). The influence of motivations and environment on business start-ups: some hints for public policies. Journal of Business Venturing, 4, 11-26.

Dubini, P., and MacMillan, I. (1988). Entrepreneurial prerequisites in venture capital backed projects. In B. Kirchhoff, W. Long, W. McMullan, K. Vesper and W. Wetzel, Jr. (Eds.), Frontiers in Entrepreneurship Research, Wellesley, MA: Babson College.

Dunkelberg, W., and Cooper, A. (1982). Patterns of small business growth. Proceedings of the Academy of Management.

Dunkelberg, W., Cooper, A., Woo, C., and Dennis, W. (1987). New firm growth and performance. In N. Churchill, J. Hornaday, b. Kirchhoff, O. Drasner, and K. Vesper (Eds.), Frontiers in Entrepreneurship Research, Wellesley, MA: Babson College.

Ensley, M. (1997). Expanding the horizons of new venture research: Toward a more complete conception of the determinates of new venture performance. Presented at the Academy of Management Conference, Boston, MA.

Eisenhardt, K., and Bourgeois, L. (1988). Politics of strategic decision making in high-velocity environments: Toward a midrange theory. Academy of Management Journal, 31(4), 737-770.

Eisenstadt, S. (1984). Interactions between organizations and societal stratification. In P. C. Nystrom and W. H. Starbuck, (Eds)., Handbook of Organizational Design. Oxford: University Press.

Etzioni, A. (1987). Entrepreneurship, adaptation and legitimation: a macro-behavioral perspective. Journal of Economic Behavior and Organization, 8(2), 175-189.

Fabowale, L., Riding, A., and Swift, C. (1991). Factors influencing Loan turndowns: On the role of gender. Proceedings of the 36th Annual World Conference of the ICSB. Vienna, Austria, June 24-26, 2, 49-55.

Feldt, L., Woodruff, D., and Salih, F. (1987). Statistical inference for coefficient alpha. Applied Psychological Measurement, 11(1): 93-103.

Ford, J., and Schellenberg, D. (1982). Conceptual issues of linkage in the assessment of organizational performance. Academy of Management Review, 7, 49-58.

Freeman, J. (1982). Organizational life cycles and natural selection processes. In B.M. Staw and L.L. Cummings (Eds.), *Research in Organizational Behavior* (4th ed.) (pp. 1-32). Greenwich, CT: JAI Press.

Freeman, J., Carroll, G. and Hannan, M. (1983). The liability of newness: Age dependence in organizational death rates. American Sociological Review, 48, 692-710.

Freeman, J, and Hannan, M. (1983). Niche width and the dynamics of organization populations. American Journal of Sociology, 88, 1116-1145.

Froelich, K. (1999). Diversification of revenue strategies: evolving resource dependence in nonprofit organizations. Nonprofit and Voluntary Sector Quarterly, 28(3), 246-268.

Galaskiewicz, J. (1985). Interorganizational relations. Annual Review of Sociology, 11, 281-304.

Galbraith, C., and Schendel, D. (1983). An empirical analysis of strategy types. Strategic Management Journal, 4, 153-173.

Galunic D., and Eisenhardt, K. (2001). Architectural innovation and modular corporate forms. Academy of Management Journal, 44(6), 1229-1249.

Gartner, W. (1982). An Empirical Model of the business Startup, and Eight Entrepreneurial Archetypes. Doctoral Dissertation, University of Washington, 1982. Dissertation Abstracts, DAI-A 43/02, p. 499.

Gartner, W. (1985). A conceptual framework for describing the phenomenon of new venture creation. Academy of Management Review, 10(4), 696-706.

Gartner, W., and Brush, C. (1997). Entrepreneurship: Emergence, newness, and transformation. Paper presented at the Academy of Management Entrepreneurship Division Doctoral Consortium, Boston.

Gatignon, H., and Hanssens, D. (1987). Modeling marketing interactions with application to sales force effectiveness. Journal of Marketing Research, 24, 247-57.

Gilad, B. (1982). An Interdisciplinary Approach to Entrepreneurship: Locus of Control and Alertness. Doctoral Dissertation, New York University, 1982. Dissertation Abstracts, DAI-A 43/02, p. 499.

Gnyawali, D., and Fogel, D. (1994). Environments for entrepreneurship development: Key dimensions and research implications. Entrepreneurship Theory & Practice 18(4), 43-62

Govindarajan, V., and Fisher, J. (1990). Strategy, control systems, and resource sharing: Effects on business-unit performance. Academy of Management Journal, 33, 259-285.

Grinyer, P., Yasai-Ardekani, M., and Al-Bazzaz, S. (1980). Strategy, structure, the environment, and financial performance in 48 United Kingdom companies. Academy of Management Journal, 23(2), 193-220.

Gupta, A., and Govindarajan, V. (1990). Methodological issues in testing contingency theories: An assessment of alternative approaches. In Y. Ijiri and R. Banker (Eds.), Management and Management Science.

Hair, J., Anderson, R., Tatham, R., and Black, W. (1998). Multivariate Data Analysis (5th Ed.). Englewood Cliffs, NJ:Prentice Hall.

Hair, J., Anderson, R. Tatham, R. and Black, W. (1995.) Multivariate Data Analysis, (4th Ed). Englewood Cliffs, NJ:Prentice Hall.

Hambrick, D. (1983). Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. Academy of Management Journal, 26, 5-26.

Hambrick, D. (1983). An empirical typology of mature industrial-products environments. Academy of Management Journal, 26, 213-230.

Hannan, M., and Freeman, J. (1977). The population ecology of organizations. American Journal of Sociology 82, 929-964.

Hannan, M., and Freeman, J. (1984). Structural inertia and organizational change. American Sociological Review 49, 149-164

Hannan, M., and Freeman, J. (1987). The ecology of organizational founding: American labor unions, 1836-1985. American Journal of Sociology, 92(4), 910-943.

Harrigan, K. (1985). An application of clustering for strategic group analysis. Strategic Management Journal, 6, 55-73.

Hart, M. (1996). Founding resource choices: influences and effects(entrepreneurs, venture capital). Doctoral Dissertation, Harvard University, 1996. Dissertation Abstracts, DAI-A 56/08, p. 3208

Harwood, E. (1982). The Sociology of entrepreneurship. In C. Kent, D. Sexton and K. Vesper (Eds.), Encyclopedia of Entrepreneurship. Englewood Cliffs, NJ: Prentice-Hall.

Hawley, A. (1968). Human ecology. In D. Sills (Ed.) International Encyclopedia of the Social Sciences. New York: Macmillan.

Hawley, A. (1988). Foreword. In G. Carroll (Ed.), Ecological Models of Organizations, Cambridge, MA: Ballinger Publishing Co.

Hebért, R., and Link, A. (1982). The Entrepreneur. New York, NY:Praeger.

Hebért, R., and Link, A. (1989). In search of the meaning of entrepreneurship. Small Business Economics, 1, 39-49.

Henry, G. (1990). Practical sampling. Applied social research methods series, 21. Newbury Park, CA: Sage.

Hoad, W., and Rosko, P. (1964). Management Factors Contributing to the Success or Failure of New Small Manufacturers. Ann Arbor, MI: Bureau of Business Research, The University of Michigan.

Hobson, E., and Morrison, R. (1983). How do corporate start-up ventures fare? Frontiers in Entrepreneurship Research, Wellesley, MA: Babson College.

Hornaday, J., and Aboud, J. (1971). Characteristics of successful enterepreneurs. Personnel Psychology, 24, 141-153.

Hornaday, J., and Churchill, N. (1987). Current trends in entrepreneurial research. Frontiers in Entrepreneurship Research, Wellesley, MA: Babson College.

Hisrich, R. (1988). Entrepreneurship: Past, present, and future. Journal of Small Business Management, 26(4), 1-4.

Hisrich, R., and O'Brien, M. (1981). The woman entrepreneur from a business and sociological perspective. In K. Vesper (Ed.) Frontiers in Entrepreneurship Research. (pp. 21-39). Wellesley, MA: Babson College.

Hisrich, R., and Brush, C. (1987). Women entrepreneurs: A longitudinal study. Frontiers in Entrepreneurship Research (pp. 187-189). Wellesley, MA: Babson College.

Hofer, C., and Sandberg, W. (1987). Improving new venture performance: Some guidelines for success. American Journal of Small Business, 12(1), 11-25.

Jackson, J., and Rodkey, G. (1994). The attitudinal climate for entrepreneurial activity. Public Opinion Quarterly, 58(3), 358-380.

Johnson, R., and Wichern, D. (1988). Applied multivariate statistical analysis. Englewood Cliffs, NJ: Prentice-Hall.

Kalleberg, A., and Leicht, K. (1991). Gender and organizational performance: Determinants of small business survival and success. Academy of Management Journal, 34(1), 136-161.

Kalleberg, A., Marsden, P. Aldrich, H. and Cassell, J. (1990). Comparing organizational sampling frames. Administrative Science Quarterly, 35(4), 658-688.

Kanter, R. (1981). Organizational performance: Recent developments in measurement. Annual Review of Sociology, 7, 321-49.

Kaplan, E., (1988). Women entrepreneurs: Constructing a framework to examine venture success and business failures. In B. Kirchoff, W. Long, W. McMullan, K. Vesper and W. Wetzel (Eds.) Frontiers of Entrepreneurship Research (pp. 625-637). Wellesley, MA: Babson College.

Kaufman, H. (1985). Time, Chance and Organizations: Natural Selection in a Perilous Environment. Chatham, NJ: Chatham House Publishers.

Keats, B., and Hitt, M. (1988). A causal model of linkages among environmental dimensions, macro organizational characteristics, and performance. Academy of Management Journal, 31, 570-598.

Keeley, R., and Roure, J. (1989). Determinants of new venture success before 1982 and after: A preliminary look at two eras. In R. Brockhaus, N. Churchill, J. Katz, B. Kirchhoff, K. Vesper, W. Wetzel (Eds.), Frontiers of Entrepreneurship Research, Wellesley, MA: Babson College.

Kelly, D., and Amburgey, T. (1991). Organizational inertia and momentum: A dynamic model of strategic change. Academy of Management Journal, 34, 591-612.

Kent, C., Sexton, D. and Vesper, K. (Eds.) (1982). The Encyclopedia of Entrepreneurship. Englewood Cliffs, N.J.:Prentice Hall,Inc.

Khandwalla, P. (1976/77). Some top management styles, their contest and performance. Organization and Administrative Sciences, 7, 21-51.

Khatri, N. and D'Netto, B. (1997). Perceived uncertainty and performance: The causal direction. Journal of Applied Management Studies, 6(2), 219-232.

Kim, J., and Mueller, C. (1978). Factor Analysis: Statistical Methods and Practical Issues. Beverly Hills, CA: Sage Publications.

Kim, L., and Lim, Y. (1988). Environment, generic strategies, and performance in a rapidly developing country: A taxonomic approach. Academy of Management Journal, 31, 802-827.

Kirchhoff, B., and Acs, Z. (1997). Births and deaths of new firms. In D. Sexton, and R. Smilor (Eds.) Entrepreneurship 2000 (pp. 167-188). Chicago, IL:Upstart Publishing.

Kirchhoff, B., and Phillips, B. (1988). The effect of firm formation and growth on job creation in the United States. Journal of Business Venturing, 3, 261-272.

Kirchhoff, B., and Phillips, B. (1991). Employment growth in the decade of the entrepreneur. Paper presented at the Entrepreneurship Research Conference, Pittsburgh, PA.

Kirzner, I. (1973). Competition and Entrepreneurship. Chicago: The University of Chicago Press.

Kirzner, I. (1982). The theory of entrepreneurship in economic growth. In C. Kent, D. Sexton, and K. Vesper (Eds.) Encyclopedia of Entrepreneurship (pp. 288-314). Englewood Cliffs, NJ: Prentice Hall.

Kirzner, I. (1985). Discovery and the Capitalist Process. Chicago: The University of Chicago Press.

Koberg, C. (1987). Resource scarcity, environmental uncertainty and adaptive behavior. Academy of Management Journal, 30, 798-807.

Kohli, H., and Sood, A. (1987). Fostering enterprise development. Finance & Development, 24(1), 34-36.

Kunkel, S. (1991). The impact of strategy and structure on new venture performance. Unpublished doctoral dissertation, University of Georgia.

Lambkin, M., and Day, G. (1989). Evolutionary processes in competitive markets: Beyond the product life cycle. Journal of Marketing, 53, 4-20.

Lee-Gosselin, H. and Grise, J. (1990). Are women owner-managers challenging our definitions of entrepreneurship? An in-depth survey. Journal of Business Ethics (Netherlands), 9(4-5), 423-433.

Lefevbre, L., Mason, R. and Lefebvre, E. (1997). The influence prism in SMEs: the power of CEO's perceptions on technology policy and its organizational impacts. Management Science, 43(6), 856-878.

Lemeshow, S., and Hosmer, D. (1989). Applied Logistic Regression. New York, NY: Wiley.

Lenz, R. (1980). Strategic capability: A concept and framework for analysis. Academy of Management Review, 5, 225-234.

Lenz, R. (1981). Determinants of organizational performance: an interdisciplinary review. Strategic Management Journal, 2, 131-154.

Licht, M. (2000). Multiple regression and correlation. In L. Grimm and P. Yarnold (Eds.) Reading and Understanding Multivariate Statistics. Washington, D.C.:American Psychological Association.

Lincoln, J. (1977). The urban distribution of voluntary organizations. Social Science Quarterly, 58, 472-480.

Lomi, A. (1995). The population ecology of organizational founding: Location dependence and unobserved heterogeneity. Administrative Science Quarterly, 40(1), 111-144.

Luthans, F., Stajkovic, A., and Ibrayeva, E. (2000). Environmental and psychological challenges facing entrepreneurial development in transitional economies. Journal of World Business, 35(1), 95-110.

MacMillan, I. (1986). To really learn about entrepreneurship, let's study habitual entrepreneurs. Journal of Business Venturing, 1, 241-243.

MacMillan, I., and Day, D. (1987). Corporate ventures into industrial markets: Dynamics of aggressive entry. Journal of Business Venturing, 2, 29-39.

MacMillan, I., Zemann, L. and Subbanarasimha, P. (1987). Criteria distinguishing successful from unsuccessful ventures in the venture screening process. Journal of Business Venturing, 2, 123-137.

Marple, D. (1982). Technological innovation and organizational survival: A population ecology study of nineteenth-century American railroads. Sociological Quarterly, 23, 107-116.

Masters, R., and Meier, R. (1988). Sex differences and risk-taking propensity of entrepreneurs. Journal of Small Business Management January, 31-35.

Matthews, C. (1991). Small firm strategic planning: Strategy, environment and performance (entrepreneurship). Doctoral Dissertation, University of Cincinnati, 1991. Dissertation Abstracts, DAI-A 51/11, p. 3820.

Matthews, D., and Scott, S. (1995). Uncertainty and planning in small and entrepreneurial firms: An empirical assessment. Journal of Small Business Development & Analysis Management, 33(4), 34-52.

McArthur A., and Nystrom, P. (1991). Environmental dynamism, complexity, and munificence as moderators of strategy-performance relationships. Journal of Business Research, 23, 349-261.

McCarthy, A. (1992). The Role of Strategy, Environment, Resources, and Strategic Change in New Venture Performance. Doctoral dissertation, Purdue University:UMI Dissertation Services, Order number 9229166.

McCarthy, A., Schoorman, F., and A. Cooper, (1992). Reinvestment decisions by entrepreneurs: Rational decision making or escalation of commitment. Journal of Business Venturing, 8(1), 9-24.

McClelland, D. (1961). The Achieving Society. Princeton, NJ: Van Nostrand.

McCloy, R., Campbell, J., and Cudeck, R. (1994). A confirmatory test of a model of performance determinants. Journal of applied Psychology, 79(4), 493-505.

McDougall, P. (1987). An Analysis of Strategy, Entry Barriers, and Origin as Factors Explaining New Venture Performance. Unpublished doctoral dissertation, University of South Carolina.

McDougall, P. (1989). International versus domestic entrepreneurship: New venture strategic behavior and industry structure. Journal of Business Venturing, 4, 387-400.

McKee, D., Varadarajan, P., and Pride, W. (1989). Strategic adaptability and firm performance: A market-contingent perspective. Journal of Marketing, 53, 21-35.

McPherson, M. (1983). An ecology of affiliation. American Sociological Review, 48, 519-532.

Miles, M., Arnold, D. and Thompson, D. (1993). The interrelationship between environmental hostility and entrepreneurial orientation. Journal of Applied Business Research, 9(4), 12-23.

Miles, R. and Snow, C. (1978). Organizational Strategy, Structure, and Process. New York, NY: McGraw-Hill.

Miles, R., Snow, C., and Pfeffer, J. (1974). Organizations and environments: Concepts and issues. Industrial Relations, 242-264.

Miller, C., Cardinal, L. and Glick, W. (1997). Retrospective reports in organizational research: A reexamination of recent-evidence. Academy of Management Journal, 40(1), 189-204.

Miller, D. (1988). Relating Porter's business strategies to environment and structure: Analysis and performance implications. Academy of Management Journal, 31, 280-308.

Miller, D., and Friesen, P. (1983). Strategy-making and environment: the third link. Strategic Management Journal, 4, 221-235.

Miller, D., and Friesen, P. (1986a). Porter's (1980) generic strategies and performance: An empirical examination with American data (part I). Organization Studies, 7, 37-55.

Miller, D., and Friesen, P. (1986b). Porter's (1980) generic strategies and performance: An empirical examination with American data (part II). Organization Studies, 7, 255-261.

Mintzberg, H. (1978). Patterns in strategy formulation. Management Science, 29, 934-948.

Mintzberg, H. and Waters, J. (1982). Tracking strategy in an entrepreneurial firm. Academy of Management Journal, 25, 465-499.

Mokry, B. (1988). Entrepreneurship and public policy: Can government stimulate business start-ups? New York:Quorum.

Moore, D., and Buttner, E. (1997). Women Entrepreneurs: Moving Beyond the Glass Ceiling. (New York: Sage Publications).

Morris, M., and Lewis, P. (1991). Entrepreneurship as a significant factor in societal quality of life. Journal of Business Research, 23, 21-26.

Morris, M., and Lewis, P. (1995). The determinants of entrepreneurial activity: implications for marketing. European Journal of Marketing 29(7), 31-48.

Mullins, J., and Cardozo, R. (1992). New Venture Strategies and Startup Environment: Concepts, Measurement, and a Research Agenda. Paper presented at the Second Annual Global Conference on Entrepreneurship Research, London, March 9-11.

Murphy, G., Trailer, J., and Hill, R. (1996). Measuring performance in entrepreneurship research. Journal of Business Research, 36(1), 15-23.

Naman, J., and Slevin, D. (1993). Entrepreneurship and the concept of fit: A model and empirical tests. Strategic Management Journal, 14, 137-153.

Namen, J. (1994). Strategic adaptation in entrepreneurial organizations. Doctoral Dissertation, University of Pittsburgh:UMI Dissertation Services, Order number 9507387.

Naresh, K., and D'Netto, B. (1997). Perceived uncertainty and performance: The causal direction. Journal of Applied Management Studies 6(2), 219-232.

Neiswander, D., and Drollinger, J. (1986). Origins of Successful start-up ventures. In R. Ronstadt, J. Hornaday, R. Peterson and K Vesper (Eds.), Frontiers of Entrepreneurship Research, Wellesley, MA: Babson College.

New Economic Realities: The Rise of Women Entrepreneurs (1988). A Report of the Committee on Small Business, House of Representatives, Second Session (June 28). Washington, DC: U.S. Government Printing Office.

Nelson, R., and Winter, S. (1982). An Evolutionary Theory of Economic Change. Cambridge, MA: Belknap Press.

Neter, J., Wasserman, W., and Kutner, M. (1985). Applied Linear Statistical Models. Homewood, IL: Irwin.

Nielsen, F., and Hannan, M. (1977). The expansion of national education systems: Test of a population ecology model. American Sociological Review, 42, 479-490.

Norusis, M. (1995). SPSS 6.1 Guide to Data Analysis. Englewood Cliffs, NJ: Prentice-Hall.

Nwachukwu, O., and Tsalikis, J. (1989). Environmental heterogeneity, strategy-making, structure and small business performance: A path analytic model. The Journal of Applied Business Research, 7(2), 38-44.

Oviatt, B., McDougall, P., Simon, M., and Shrader, R. (1991). A New Venture Without Geographic Limits: Case History of a Global Start-up. Paper presented at 1991 Babson Entrepreneurship Conference, Pittsburgh, PA.

Palmer, M. (1971). The application of psychological testing to entrepreneurial potential. California Management Review, 13, 1970-1971.

Péli, G., and Masuch, M. (1997). The logic of propagation strategies: Axiomatizing a fragment of organizational ecology in first-order logic. Organization Science, 8(3), 310-331.

Pennings, J. (1982). Organizational birth frequencies: An empirical investigation. Administrative Science Quarterly, 27, 120-144.

Penrose, E. (1959). The Theory of the Growth of the Firm. New York, NY: Wiley.

Peter, J., Churchill, G., and Brown, T. (1993). Caution in the use of difference scores in consumer research. Journal of Consumer Research, 19, 655-662.

Peters, T. (1990). Prometheus barely unbound. Academy of Management Executive, 4, 70-84.

Peterson, R. (1984). Entrepreneurship and organization. In P. Nystrom and W. Starbuck (Eds.), Handbook of Organizational Design, Vol. 1. Oxford University Press.

Pfeffer, J. (1981). Power in Organizations. Cambridge, MA: Ballinger.

Pfeffer, J. (1982). Organization Theory. Marshfield, MA: Pitman

Pfeffer, J., and Salancik, G. (1978). The external control of organizations: A resource dependent perspective. N.Y.:Harper & Row.

Phillips, L., and Calantone, R. (1994). Hong Kong retailers: the relationship between environment, hostility, planning and performance. International Journal of Retail & Distribution Management, 22(8), 13-24.

Pollock, M. (1989). Controlling their own success: Women and business ownership. Doctoral Dissertation, Rutgers University, 1989. Dissertation Abstracts, DAI-A 50/11 , p. 3639.

Porter, M. (1980). Competitive Strategies. New York, NY: Free Press.

Porter, M. (1985). Competitive Advantage. New York, NY: Free Press.

Potter, D. (1994). Rare mettle: Gold and silver strategies to succeed in hostile markets. California Management Review, 37(1), 65-82.

Prescott, J. (1986). Environments as moderators of the relationship between strategy and performance. Academy of Management Journal, 29, 329-346.

President's Interagency Task Force (1978). The Bottom Line: Unequal Enterprise in America. Washington, D.C.: U.S. Government Printing Office.

Priem, R. (1994). Executive judgement, organizational congruence, and firm performance. Organization Science, 5(3), 421-437.

Punj, G., and Stewart, D. (1983). Cluster analysis in marketing research: Review and suggestions for application. Journal of Marketing Research, 20, 134-148.

Ray, D. (1986). Perceptions of risk and new enterprise formation in Singapore: An exploratory study. Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

Reitan, B. (1997). Where Do we Learn that Entrepreneurship is Feasible, Desirable and/or Profitable? A Look at the Processes Leading to Entrepreneurial Potential. Paper presented at the Annual World Conference of the International Council for Small Business.

Reynolds, P. (1986). New firms: Societal contribution versus survival potential. Journal of Business Venturing, 2, 231-246.

Reynolds, P., and Maki, W. (1990). New Firms and Economic Growth: Correlations or Causality? Paper presented at the Babson Entrepreneurship Conference, Wellesley, MA.

Reynolds, P., and Miller, B. (1989). New firm survival: Analysis of a panel's fourth year. In R. Brockhaus, N. Churchill, J. Katz, B. Kirchhoff, K. Vesper, W. Wetzel (Eds.), Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

Reynolds, P., Miller, B., and Maki, W. (1995). Explaining regional variation in business births and deaths: U.S. 1976-88. Small Business Economics, 7, 389-407.

Reynolds, P., Storey, D., and Westhead, P. (1994). Cross-national comparisons of the variation in new firm formation rates. Regional Studies 28(4), 443-456.

Rindova, V. and Kotha, S. (2001). Continuous ''morphing'': competing through dynamic capabilities, form, and function. Academy of Management Journal, 44(6), 1263-1280.

Roberts, E. (1972). Influences upon performance of new technical enterprises. In A. Cooper and J. Komives (Eds.), Technical Entrepreneurship: A Symposium. Milwaukee, WI: The Center for Venture Management.

Roberts, E., and Hauptman, O. (1987). The financing threshold effect on success and failure in biomedical and pharmaceutical start-ups. Management Science, 33, 381-393.

Robinson, R. Jr. (1982). The importance of 'outsiders' in small firm strategic planning. Academy of Management Journal, 25, 80-93.

Robinson, R. Jr., and Pierce, J., (1984). Research thrusts in small firm strategic planning. Academy of Management Review, 9, 128-137.

Robinson, R. Jr., and Pierce, J. (1986). Planning and financial performance of small, mature firms. Strategic Management Journal, 7, 503-522.

Robinson, K. (1995). Measures of Entrepreneurial Value Creation: An Investigation of the Impact of Strategy and Industry Structure on the Economic Performance of Independent New Ventures. Unpublished doctoral dissertation, University of Georgia.

Robinson, W., and Fornell, C. (1985). Sources of market pioneer advantages in consumer goods industries. Journal of Market Research, 22, 305-317.

Romanelli, E. (1989). Environments and strategies of organization start-up: effects on early survival. Administrative Science Quarterly, 34, 369-387.

Roure, J., and Keeley, R. (1989). The influence of strategic choices on the success of new firms financed with venture capital. In B. Dean and J. Cassidy (Eds.) Strategic Management: Methods and Studies. Amsterdam: North Holland/Elsevier.

Roure, J., and Maidique, M. (1986). Linking prefounding factors and high-technology venture success. Journal of Business Venturing, 1, 295-306.

Rumelt, R. (1986). Strategy, structure and economic performance. Boston: Harvard Business School Press.

Rumelt, R. (1987). Theory, strategy and entrepreneurship. In D. Teece (Ed.), The Competitive Challenge. Cambridge, MA:Ballinger.

Rumelt, R. (1991). How much does industry matter? Strategic Management Journal, 12(3), 167-185.

Runkel, P., and McGrath, J. (1972). Research on Human Behavior: A systematic guide to method. New York, NY: Holt, Rinehart and Winston, Inc.

Russell, R., and Russell, C. (1992). An examination of the effects of organizational norms, organizational structure, and environmental uncertainty on entrepreneurial strategy. Journal of Management, 18(4), 639-656.

Russell, R. (1997). The Impact of National Culture on the Emergence of Entrepreneurship. Paper presented at the Annual World Conference of the International Council for Small Business.

Ryans, J., and Shanklin, W. (1996). Stoking the Small Business Engine: Guidelines for Communities Seeking to Develop Assistance Programs and Infrastructure Conducive to Fostering Business Start-ups and Growing Firms with Potential. Kansas City, MO: The Center for Entrepreneurial Leadership Ewing Marion Kauffman Foundation.

Sage, G. (1993). Entrepreneurship as an economic development strategy. Economic Development Review 11 (2), 66-67

Sandberg, W. (1984). The Determinants of New Venture Performance: Strategy, Industry Structure and the Entrepreneur. Unpublished doctoral dissertation, University of Georgia.

Sandberg, W. (1986). New venture performance: The role of strategy and industry structure. Lexington, MA: D.C. Heath and Co.

Sandberg, W., Gatewood, E. and Olm, K. (1989). Entrepreneurship research centers: Their interest, activities, and support of research. In R. Brockhaus, N. Churchill, J. Katz, B. Kirchhoff, K. Vesper, and W. Wetzel, Frontiers in Entrepreneurship Research. Wellesly, MA: Babson College.

Sandberg, W., and Hofer, C. (1987). Improving new venture performance: the role of strategy, industry structure, and the entrepreneur. Journal of Business Venturing 2, 5-28.

Sapienza, H., Smith, K., and Gannon, M. (1988). Using subjective evaluations of organizational performance in small business research. American Journal of Small Business, 12, 45-53.

Schmalensee, R. (1985). Do markets differ much? American Economic Review, 75, 341-351.

Scheinberg, S., and MacMillan, I. (1988). An 11 country study of motivations to start a business. Frontiers of Entrepreneurship Research (pp. 669-687). Wellesley, MA: Babson College.

Scherer, R., Brodzinski, J. and Wiebe, F. (1990). Entrepreneur career selection and gender: A socialization approach. Journal of Small Business Management, 28(2), 37-43.

Schumpeter, J. (1950) Capitalism, socialism, and democracy. New York: Harper & Row.

Sensenbrenner, J. (1987). The evolving enterprise. China Business Review, 14(2), 35-38.

Sexton, D. (1982). Research needs and issues in entrepreneurship. In C. Kent, D. Sexton, and K. Vesper (Eds.), Encyclopedia of Entrepreneurship. Englewood Cliffs, NJ: Prentice-Hall.

Sexton, D., and Bowman, N. (1986). Validation of a personality index: Comparative psychological characteristics analysis of female entrepreneurs, managers, entrepreneurship students, and business students. Frontiers of Entrepreneurship Research (pp. 18-25). Wellesley, MA: Babson College.

Sexton, D., and Bowman-Upton, N. (1990). Female and male entrepreneurs: Psychological characteristics and their role in gender-related discrimination. Journal of Business Venturing, 5, 29-36.

Sexton, D., and Kasarda, J., (Eds.) (1992). The State of the Art of Entrepreneurship. Boston:PWS-Kent.

Shane, S. (1995). Is the independent entrepreneurial firm a valuable organizational form? Academy of Management Journal, Best Papers Proceedings 1995, 110-113.

Shane, S., and Kolvereid, L. (1995). National environment, strategy, and new venture performance: a three-country study. Journal of Small Business Management 33(2), 37-50.

Shane, S., Kolvereid, L., and Westhead, P. (1991). An exploratory examination of the reasons leading to new firm formation across country and gender. Journal of Business Venturing, 6, 431-446.

Shane, S., and Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. Academy of Management, 25(1), 217-226.

Shapero, A. (1975). Entrepreneurship and economic development. In Wisconsin Project (pp. 185-192). ISEED, Ltd., Center for Venture Management.

Shapero, A. (1985). Why entrepreneurship? A worldwide perspective. Journal of Small Business Management, 23, 1-5.

Shapero, A., and Sokol, L. (1982). The social dimensions of entrepreneurship. In C. Kent, D. Sexton, and K. Vesper (Eds.), Encyclopedia of Entrepreneurship. Englewood Cliffs, NJ: Prentice Hall.

Shenkar, O., and von Glinow, M. (1994). Paradoxes of organizational theory and research: using the case of China to illustrate national contingency. Management Science 40(1), 56-71.

Sherer R., Brodzinski, J., and Weibe, F. (1990). Entrepreneur career selection and gender: A socialization approach. Journal of Small Business Management, 28(2), 37-43.

Siegel, S. (1956). Nonparametric Statistics for the Behavioral Sciences. New York, NY: McGraw-Hill.

Slevin, D.. and Covin, J. (1997). Strategy formation patterns, performance, and the significance of context. Journal of Management 23(2), 189-209.

Smith, K., Guthrie, J., and Chen, M. (1986). Miles and Snow's typology of strategy, organizational size and organizational performance. Proceedings of the Academy of Management, 45-49.

Smith, N. (1967). The Entrepreneur and His Firm: The Relationship Between Type of Man and Type of Company. Michigan State University Press.

Smith, N., McCain, G. and Warren, A. (1982). Women entrepreneurs are really different: A comparison of constructed ideal types of male and female entrepreneurs. Frontiers of Entrepreneurship Research (pp. 68-77). Wellesley, MA: Babson College.

Smith, N., and Miner, J. (1983). Type of entrepreneur, type of firm and managerial motivation: Implications for organizational life cycle theory. Strategic Management Journal, 4, 325-340.

Snow, C., and Rebiniak, L. (1980). Strategy, distinctive competence, and organizational performance. Administrative Science Quarterly, 25, 317-336.

Snyder, N., and Glueck, W. (1982). Can environmental volatility be measured objectively? Academy of Management Journal, 25(1), 185-192.

Specht, P. (1993). Munificence and carrying capacity of the environment and organization formation. Entrepreneurship Theory & Practice, 17(2), 77-84.

Staber, U. (1997). An ecological perspective on entrepreneurship in industrial districts. Entrepreneurship & Regional Development, 9, 45-64.

Staw, B. (1976). Knee-deep in the big muddy: a study of escalating commitment to a chosen course of action. Organizational Behavior and Human Performance, 16, 27-44.

Stearns, T., Carter, N., Reynolds, P., and Williams, M. (1995). New firm survival: Industry, strategy, and location. Journal of Business Venturing, 10, 23-42.

Stevenson, H., and Gumpert, D. (1985). The heart of entrepreneurship. Harvard Business Review, 63, 85-94.

Stevenson, L. (1986). Against all odds: the entrepreneurship of women. Journal of Small Business Management, 24(4), 30-36.

Stevenson, L. (1990). Some methodological problems associated with researching women entrepreneurs. Journal of Business Ethics (Netherlands), 9(4-5), 439-446.

Stinchcombe, A. (1965). Social structure and organizations. In J. March (Ed.), Handbook of Organizations. Chicago, IL: Rand McNally.

Stewart, A. (1987). Entrepreneurs In and At their Cultures: An Anthropological Paradigm. Unpublished working paper, Brock University.

Stuart, R. (1988). Towards a Contingency Model of New Technical Ventures: The Relationships among Performance, Environment, Strategy Organization and the Entrepreneur. Doctoral Dissertation, Rensselaer Polytechnic Institute, 1988. Dissertation Abstracts, DAI-A 49/04, p. 881.

Stuart, R., and Abetti, P. (1987). Start-up ventures: Towards the prediction of initial success. Journal of Business Venturing, 2, 215-230.

Stuart, R., and Abetti, P. (1988). Field study of technical ventures (part III): The impact of entrepreneurial and management experience on early performance. In B. Kirchhoff, W. Long, W. McMullan, K. Vesper and W. Wetzel (Eds.), Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

Stuart, R., and Abetti, P. (1990). Impact of entrepreneurial and management experience on early performance. Journal of Business Venturing, 5, 151-162.

Styles, G. (1991). Innovation: A Model Relating Orientation of Innovation Strategy to the Performance of the Firm's Innovation Program. Doctoral Dissertation, University of Waterloo, Canada:UMI Dissertation Services.

Suarez, F., and Utterback, J. (1995). Dominant designs and the survival of firms. Strategic Management Journal 16(6), 415-430.

Swaminathan, A. (1996). Organizational ecology: Neither straight-jacket nor big tent. Administrative Science Quarterly, 41(3), 543-550.

Takyi-Asiedu, S. (1993). Some socio-cultural factors retarding entrepreneurial activity in sub-saharan Africa. Journal of Business Venturing 8(2), 91-98.

Ticknor, T. (1988). Opportunity analysis: Reading the economic development environment for jobs and tax base. Economic Development Review, 6(1), 40-44.

Timmons, J. (1990). New Venture Creation. Homewood, IL: Irwin.

Tosi, H., Aldag, R. and Storey, R. (1973). On the measurement of the environment: An assessment of the Lawrence and Lorsch environmental subscale. Administrative Science Quarterly, 18, 27-36.

Tsai, W., MacMillan, I., and Low, M. (1991). Effects of strategy and environment on corporate venture success in industrial markets. Journal of Business Venturing 6, 9-28

Tushman, M. (1986). Technological Discontinuities and Organizational Environments. Administrative Science Quarterly 31, 439-465.

Tyebjee, T., and Bruno, A. (1982). A comparative analysis of California start-ups from 1978 to 1980. In K. Vesper (Ed.) Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

U.S. SBA - Office of Advocacy 1997a. Small business: Backbone of the Mississippi economy. Small Business Profile [On-Line)]. Available: www.sba.gov/ADVO/stats/profiles/97ms.html.

U.S. SBA - Office of Advocacy 1997b. Small business: Backbone of the Colorado economy. Small Business Profile [On-Line]. Available: www.sba.gov/ADVO/stats/profiles/97co.html.

U.S. SBA - Office of Advocacy 1997c. Characteristics of Small Business Employees and Owners [On-Line]. Available: www.sba.gov/ADVO/stats/ch_emp_o.html.

U.S. SBA - Office of Advocacy 1998a. Women in Business [On-Line]. Available: www.sba.gov/ADVO/stats/wib.html.

U.S. SBA - Office of Advocacy 1998b. The New American Evolution: The Role and Impact of Small Firms [On-Line]. Available: www.sba.gov/ADVO/stats/evol_pap.html.

U.S. SBA - Office of Advocacy 2000a. Small business: Backbone of the Mississippi economy. Small Business Profile [On-Line]. Available: www.sba.gov/ADVO/stats/profiles/98ms.html.

U.S. SBA - Office of Advocacy 2000b. Small business: Backbone of the Colorado economy. Small Business Profile [On-Line]. Available: www.sba.gov/ADVO/stats/profiles/98co.html.

U.S. Washington, D.C. (1991). 1987 U.S. Business Census. U.S. Government Printing Office.

U.S. Washington, D.C. (1996). 1992 U.S. Business Census. U.S. Government Printing Office.

Van Auken, H. (1999). Obstacles to business launch. Journal of Developmental Entrepreneurship, 4(2), 175-187.

Van de Ven, A., Hudson, R., and Schroeder, D. (1984). Designing new business startups: Entrepreneurial organizational and ecological considerations. Journal of Management, 10, 87-107.

Van de Ven, A., Hudson, R., and Schroeder, D. (1980). Early planning, implementation and performance of new organizations. In J. Kimberly and R. Miles (Eds.), The Organization Life Cycle. San Francisco, CA: Jossey Bass.

Vega, G. (1995). Letting go: When entrepreneurs turn into managers. Doctoral Dissertation, The Union Institute, 1995. Dissertation Abstracts, DAI-A 56/09, p. 3654.

Venkataraman, S. (1997). The distinctive domain of entrepreneurship research: An editor's perspective. In J.Katz & R. Brockhaus (Eds.) Advances in Entrepreneurship, Firm Emergence, and Growth 3. JAI Press.

Venkataraman, S., and Prescott, J. (1990). Environment-strategy coalignment: An empirical test of its performance implications. Strategic Management Journal, 11, 1-23.

Venkataraman, N., and Ramanujam, V. (1986). Measurement of business performance in strategy research. Academy of Management Review, 11, 801-814.

Vesper, K. (1980). New Venture Strategies. Englewood Cliffs, NJ: Prentice-Hall.

Vesper, K. (1982). Expanding entrepreneurship research. In K. Vesper (Ed.), Frontiers of Entrepreneurship Research. Wellesley, MA: Babson College.

Virtanen, M. (1997). The Role of Different Theories in Explaining Entrepreneurship. Paper presented at the Annual World Conference of the International Council for Small Business.

Weber, M. (1930). The Protestant Ethic and the Spirit of Capitalism. London: Allen and Unwin.

Weick, K. (1979). The social psychology of organizing (2nd Ed.). New York: Random House.

Weiner, N., and Mahoney, T. (1981). A model of corporate performance as a function of environmental, organizational, and leadership influences. Industrial Marketing Management, 6, 163-174.

Werner, S., Brouthers, L., and Brouthers, K. (1997). The relationship between entry mode choice, perceived environmental uncertainty and industrial sector. Working Paper Series #284. University of Houston, College of Business Administration.

Wernerfelt, B. (1984). A resource-based view of the firm. Strategic Management Journal, 24, 453-470.

West III, G. (1997) Frameworks for research and theory development in entrepreneurship. In L.N. Dozier & J.B. Keys (Eds.), Academy of Management Best Papers Proceedings, Georgia Southern University, Statesboro, GA.

West III, G., and Meyer, G. (1998). To agree or not to agree? Concensus and performance in new ventures. Journal of Business Venturing, 13, 395-422.

Winn, D. (1975). Industrial Market Structure and Performance. Ann Arbor, MI: Division of Research, Graduate School of Business Administration, University of Michigan.

Winn, J. (1997). Assessing the Environment: Conditions for Female Entrepreneurship. Paper presented at the Annual World Conference of the International Council for Small Business.

Winter, S. (1987). Knowledge and competence as strategic assets. In David Teece (Ed.), The Competitive Challenge. Cambridge, MA: Ballinger.

White, R. (1986). Generic business strategies, organizational context and performance: An empirical investigation. Strategic Management Journal, 7:217-231.

Wholey, D., and Brittain, J. (1986). Organizational ecology: Findings and implications. Academy of Management Review, 11, 513-533.

Woo, C. (1979). Strategies of Effective Low Share Business. Unpublished doctoral dissertation, Purdue University.

Woo, C., Cooper, A., and Dunkelberg, W. (1988). Entrepreneurial Typologies: Definitions and Implications. Working paper, Purdue University.

Woo, C., and Willard, G. (1983). Performance Representation in Strategic Management Research: Discussions and Recommendations. Paper presented at the Academy of Management, Dallas, TX.

Wortman, M. (1987). Entrepreneurship: An integrating typology and evaluation of the empirical research in the field. *Journal of Management*, 13, 259-279.

Yarzebinski, J. (1992). Understanding and encouraging the entrepreneur. *Economic Development Review* 10(1), 32-35.

Yasai-Ardekani, M. (1989). Effects of environmental scarcity and munificence on the relationship of context to organizational structure. Academy of Management Journal, 32(1), 131-156.

Young, E., and Welsch, H. (1984). Male and Female entrepreneurial characteristics and behaviors: A profile of similarities and differences. International Small Business Journal, 2(4).

Zajac, E., and Shortell, S. (1989). Changing generic strategies: Likelihood, direction, and performance. Strategic Management Journal, 10, 413-430.

Zammuto, R. (1988). Organizational adaptation: Some implications of organizational ecology for strategic choice. Journal of Management Studies, 25(2), 105-120.