

## **ORGANIZATIONAL ENTREPRENEURSHIP AND THE ORGANIZATIONAL PERFORMANCE LINKAGE IN UNIVERSITY EXTENSION**

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### **ACADEMIC ABSTRACT**

This study examined the relationship between Organizational Entrepreneurship and Organizational Performance within the Cooperative Extension System, a national educational network extending the research-based knowledge of land-grant colleges and universities. This study measured both Entrepreneurial Orientation (Covin & Slevin, 1989), and Entrepreneurial Management (Brown, Davidsson, & Wiklund, 2001). Extension Directors nationwide responded to a questionnaire, reporting on Organizational Entrepreneurship and Organizational Performance based on both financial and non-financial indicators. As Extension organizations address more diverse audiences, an increasingly complex funding mix, and rapidly evolving technologies, the field of entrepreneurship offers principles to continuously improve performance.

### **EXECUTIVE SUMMARY**

Worldwide Extension organizations have long played a vital role in advancing technology transfer and human resource development in 115 developed and developing countries. However, as technologies and society change, so must Extension organizations. To assist Extension leaders with new knowledge and to contribute to the fields of public sector, nonprofit and corporate entrepreneurship, this study examined the relationship between Organizational Entrepreneurship and Organizational Performance within the Cooperative Extension System, a national educational network extending the research-based knowledge of land-grant colleges and universities. This study measured both Entrepreneurial Orientation, based on Covin and Slevin's scale (1989), and Entrepreneurial Management, based on a scale developed by Brown, Davidsson, and Wiklund (2001) that operationalized Stevenson's (1983) conceptualization of entrepreneurship as a set of opportunity-based management practices.

Extension Directors in the United States and territories were invited to respond to a questionnaire, reporting on Organizational Entrepreneurship and Organizational Performance based on both financial and non-financial indicators. Seventy percent of the Extension directors responded and results were aggregated by regional categories. Substantial Organizational Entrepreneurship was evident in Extension organizations in all four regions. This study measured Organizational Performance based on a five year funding trend, as well as on non-financial indicators through a Performance Satisfaction index. Because a positive relationship was found through multivariate data analysis, the Organizational Entrepreneurship framework can be used to address factors that stimulate or inhibit entrepreneurship in Extension. As Extension organizations nationwide address more diverse audiences, an increasingly complex funding mix, and rapidly evolving technologies, the field of entrepreneurship offers principles to

continuously improve performance. This study contributed to the field of public sector entrepreneurship and to organizational development in university Extension.

## INTRODUCTION

Entrepreneurship research has progressively moved from the study of individual traits to the features of the entrepreneurial organization (Morris & Kuratko, 2002; Zahra, Kuratko, and Jennings, 1999). As the twenty-first century unfolds, entrepreneurial actions are viewed as critical pathways to competitive advantage and improved performance in organizations of all types, sizes, and ages (Brown, Davidsson, and Wiklund, 2001; Covin, Slevin, and Heeley, 2000; Kuratko, Ireland, and Hornsby, 2001). Evidence has suggested organizations that learn how to facilitate entrepreneurship in its various forms are more competitive and perform better than those that do not (Zahra & Covin, 1995). Some even believe that the lack of attention focused on implementing entrepreneurial actions successfully in the fast-paced and complex economy will result in failure (Zahra, 1999).

With an increasingly diverse constituency, new technologies, and changes in traditional funding sources, the Cooperative Extension System (CES), like other established organizations, is exploring entrepreneurship theory and practice. The Cooperative Extension System (CES) was created by the Smith-Lever Act of 1914 as a cooperative relationship between federal, state, and county government for land-grant universities (LGUs) to link their research and education with local communities. All universities engage in research and teaching, but the nation's land-grant colleges and universities have a third critical mission—outreach and engagement, in which the CES is a critical component.

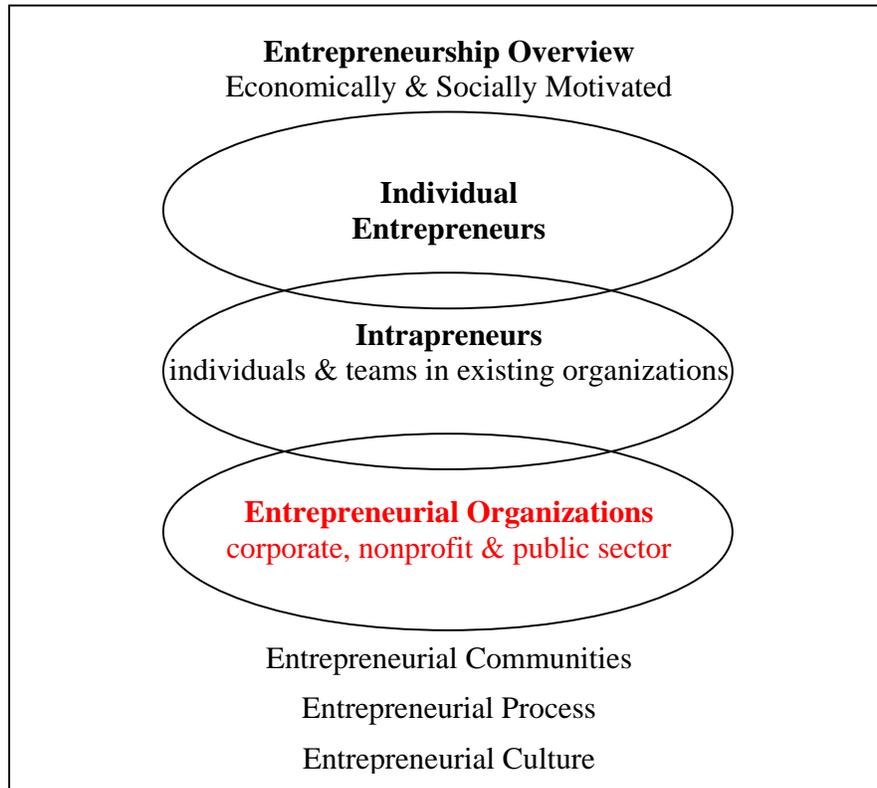
Extension is a publicly funded system that links the educational and research resources and activities of the National Association of State Universities and Land-Grant Colleges (NASULGC), the U.S. Department of Agriculture (USDA) Cooperative State Research, Education, and Extension System (CSREES) and approximately 3,000 county administrative units. With LGUs in every state and territory, the CES mission is “to enable people to improve their lives and communities through learning partnerships that put knowledge to work” (NASULGC, 2001). This study focused on the 54 U.S. Extension organizations at NASULGC-member land-grant institutions established through the Morrill Act of 1862.

The CES has proven to be a successful model for federal, state, and local governments to work cooperatively with the national land-grant universities (Rasmussen, 1989). However, due to federal, state, and local funding trends, the CES is exploring a changing funding portfolio. As the CES faces these challenging economic conditions, Extension leaders can learn from the emerging field of organizational entrepreneurship. Modern organizations need to operate as entrepreneurial businesses that are stable across situation and time (Scase, 2000).

## ORGANIZATIONAL ENTREPRENEURSHIP

Entrepreneurship research has focused on different units of analysis, ranging from individuals and teams to organizations and communities (Figure 1). Entrepreneurship can be viewed in the context of a range of factors, as it is not an all-or-nothing phenomenon that some individuals, teams, organizations, or communities have and others do not (Stevenson & Gumpert, 1985).

FIGURE 1  
Entrepreneurship Overview



This study began with a review of literature regarding entrepreneurial organizations, including research from the fields of corporate, nonprofit, and public sector entrepreneurship. Within management literature, advocates of corporate entrepreneurship stress its importance for rejuvenating and revitalizing existing organizations (Maes, 2004). Zahra (1991) observed that corporate entrepreneurship may be formal or informal activities aimed at creating new business in established companies through product and process innovations and market developments. It is brought into practice as a tool for business development, revenue growth, profitability enhancement, and pioneering the development of new products, services and processes (Kuratko, Montagno, and Hornsby, 1990; Lumpkin & Dess, 1996; Miles & Covin, 2002; Zahra, 1991; Zahra & Covin, 1995; Zahra, Jennings, and Kuratko, 1999). The pursuit of corporate entrepreneurship has arisen from a variety of challenges including global competition, interest in organizational efficiency for greater profitability, dramatic changes in the marketplace, perceived limitations in the traditional methods of management, and the exodus of innovative-minded employees who are disenchanted with bureaucratic organizations (Morris & Kuratko, 2002).

Entrepreneurial organizations demonstrate competencies such as opportunity recognition (Miller, 1983; Stevenson & Jarillo, 1986), organizational flexibility (Murray, 1984; Naman & Slevin, 1993; Stevenson & Gumpert, 1985), and the ability to measure, encourage, and reward innovative behavior (Zahra, 1993). Entrepreneurship is relevant to all types of organizations,

regardless of whether the organization is a for-profit business, a public-service agency, a nonprofit group or a governmental institution. The entrepreneurial literature claims that entrepreneurial organizations are characterized by a set of organizational attitudes and behaviors. Definitions from the literature that describe the entrepreneurial efforts associated with existing organizations and confirm the possible integration between organizational management and entrepreneurship include:

- corporate entrepreneurship (Burgelman, 1983; Carrier, 1996; Covin & Miles, 1999; Covin & Slevin, 1991; Dess, Lumpkin, and McGee, 1999; Hisrich & Peters, 1986; Hornsby, Kuratko, & Zahra, 2002; Zahra, Ireland, & Hitt, 2000).
- corporate venturing (MacMillan, Block, and Narasimha, 1986; Miles & Covin, 2002; von Hippel, 1977).
- entrepreneurial management (Brown and Davidsson, 1998; Michael, Storey, and Thomas, 2002; Stevenson & Jarillo, 1990).
- entrepreneurial orientation (Covin & Slevin, 1986; Khandwalla, 1977; Lumpkin & Dess, 1996; Miller 1983; Miller & Friesen, 1978).
- entrepreneurial strategic posture (Covin & Slevin, 1991).
- entrepreneurial strategy making (Dess, Lumpkin, and Covin, 1997).
- strategic behavior (Burgelman, 1983).
- strategic entrepreneurship (Guth & Ginsberg, 1990; Hitt, Ireland, Camp, and Sexton, 2002; Murray, 1984).

Entrepreneurial organizations are flexible and adaptable, far from the bureaucratic and mechanistic organization (Birch, 1987). When contrasting traditional organizations with entrepreneurial organizations, complex issues make it difficult to agree on definitions (Cornwall & Perlman, 1990). However, descriptions focusing on various organizational factors evolve throughout this paper. While there is no single agreed upon method for measuring organizational entrepreneurship, there are various instruments that assess a number of critical factors (Table 1). The Entrepreneurial Performance Index (EPI) captures both the degree and the frequency of entrepreneurship, as well as underlying dimensions of innovativeness, risk taking, and proactiveness (Morris & Sexton, 1996). The Corporate Entrepreneurship Assessment Instrument (CEAI), developed by Kuratko et al. (1990) is a diagnostic tool for evaluating how supportive the corporate environment is, based on management support of organizational entrepreneurship; work discretion; rewards and reinforcements; time availability; organizational boundaries.

TABLE 1  
Summary of Organizational Entrepreneurship Scales

<b>Scale</b>	<b>Contributors</b>	<b>Organizational Factors</b>
<b>Entrepreneurial Orientation</b>	Khandwalla (1977); Miller & Friesen (1978; 1982); Miller (1983); Covin & Slevin (1986; 1989; 1990; 1991); Lumpkin & Dess (1996)	risk taking, proactiveness, innovativeness  competitive aggressiveness, autonomy
<b>Entrepreneurial Management</b>	Brown, Davidsson, & Wiklund (2001)	strategic orientation, resource orientation, management structure, reward philosophy, growth orientation, entrepreneurial culture
<b>Entrepreneurial Performance Index (EPI)</b>	Morris & Sexton (1996)	Degree of entrepreneurship (company characteristics and behaviors: underlying dimensions of innovativeness, risk taking, and proactiveness, as well as structure, and reward, strategic & resource orientations) Frequency of entrepreneurship (new product, service and process introductions)
<b>The Corporate Entrepreneurship Assessment Instrument (CEAI)</b>	Kuratko, Montagno, & Hornsby (1990); Hornsby et al. (2002)	management support of organizational entrepreneurship; work discretion; rewards and reinforcements; time availability; organizational boundaries

The literature has expanded to include the development of frameworks for the emergence of entrepreneurship within public and nonprofit sectors (Borins, 1998; Boyett, 1996; Dees, Emerson, and Economy, 2002; Forster, Graham, and Wanna, 1996; Graham & Harker, 1996; Morris & Jones, 1999; Morris & Kuratko, 2002). Schuyler (1998) suggested that social entrepreneurship focused on profit as a means, and not an end. Publications from the Roberts Enterprise Development Fund mentioned various terms to describe similar entrepreneurial activities, including: social purpose venture; community wealth venture; nonprofit enterprise (Emerson & Twersky, 1996). Additional terms include venture philanthropy, caring capitalism, social enterprise (Cannon & Fenoglio, 2000), and civic entrepreneurship (Henton, Melville, and Walsh, 1997). In spite of the varying definitions of social entrepreneurship, the commonality is the problem-solving nature of social entrepreneurship and the emphasis on developing and implementing initiatives that produce measurable results in the form of changed social impacts (Johnson, 2000).

The concept of public entrepreneurship has been defined in a variety of ways, including the process of creating value for citizens by bringing together unique combinations of public and private resources to exploit social opportunities (Bellone & Goerle, 1992; Linden, 1990; Morris & Jones, 1999; Osborne & Gaebler, 1992; Stevenson, Roberts, and Grousbeck, 1989). The term public implies that an organization is accessible to or shared by all members of a community. In the literature on entrepreneurial public management, scholars emphasize different strategies, depending on whether they focus on launching innovations (Borins, 1998; Levin & Sanger,

1994), managing effective programs (Behn, 1991), or improving overall organizational performance (Light, 1998; Moore, 1995; Osborne & Plastrik, 1997). There have always been elements of innovation and entrepreneurship in public sector organizations (Jordan, 1990; Moore, 1983). Creating value for customers, putting resources together in unique ways, and being opportunity-driven are not inherently in conflict with the purpose of public agencies (Morris & Kuratko, 2002). The factor that differentiates public entrepreneurs from ordinary managers is their ability to alter the existing allocation of scarce resources in fundamental ways (Lewis, 1980, p. 233). A stream of research suggests that entrepreneurship is linked to strategic management that enables public sector organizations to identify new opportunities and generate new process and service innovations (Behn, 1991; Mokwa & Permut, 1981; Nutt & Backoff, 1993). When applied to existing public organizations, entrepreneurship takes on distinct characteristics (Bower, 1977; Cullen & Cushman, 2000; Frederickson, Rainey, Backoff, and Levine, 1976) and strategic approaches to management are necessary if entrepreneurship is to be facilitated on an ongoing basis (Cornwall & Perlman, 1990; Jennings & Seaman, 1990; Tropman & Morningstar, 1989).

Advocacy for public sector entrepreneurship was supported through the work of Linden (1990), who proposed an operational action agenda for public sector managers that began with strategic thinking and acting, and then led to creating a felt need for change, introducing structural changes to reinforce and validate new approaches, dealing with risk, and using political skills. Another approach can be found in the “reinventing government” literature popularized by Carroll (1996), Fox (1996), Osborne and Gaebler (1992). In the book, *Reinventing Government*, Osborne and Gaebler (1992) suggested that government organizations could be transformed by focusing on outcomes, customer orientation, proactiveness, and other market mechanisms. Entrepreneurial governance brings a flexible, dynamic, and innovative approach to the process by which complex problems are collectively solved and society’s needs are met (Morris & Kuratko, 2002). Cullen and Cushman, (2000) discussed strategic approaches for organizations to make a transition from traditional function-driven management to more competitive performance-driven management.

Entrepreneurship is a universal construct that can be applied in public sector organizations (Morris & Kuratko, 2002). As public sector organizations face a turbulent external environment with eroding tax bases, heightened accountability, rapidly changing technology, and increasingly diverse audiences to serve, entrepreneurship can be an integral component that leads to generating alternative revenues, improving internal processes, and developing innovative solutions to meet social and economic needs. Interest in public sector entrepreneurship and innovation continues to grow through research such as Zegans’s (1992) report on innovation in the well-functioning public agency, through debates such as that presented by Borins (2000), and through new initiatives such as the Government Innovators Network, The Center for The Business of Government, the Social Enterprise Initiative at Harvard Business School, the Center for the Advancement of Social Entrepreneurship at Duke University, the Stanford’s Social Innovation Review, and social entrepreneurship teaching resources available through the United States Association for Small Business and Entrepreneurship (USASBE).

Interest in organizational entrepreneurship is also being explored in nonprofit organizations and institutions of higher education. Just as there are a variety of for-profit and public organizations,

there are a variety of nonprofit organizations. Generally, they differ from traditional businesses in that they are governed by a board of directors, they have multiple goals beyond selling products and services, and they are driven by multiple constituencies rather than solely on the economic market (Cornwall & Perlman, 1990). Similar to public agencies, many nonprofit organizations are facing increased accountability, as well as other various external and internal challenges. The emergence of public sector entrepreneurship has also led to interest in entrepreneurship in the context of higher education. The education environment is evolving as new learning methods, budget constraints, changes in demands based on life long learning precepts and other factors stimulate entrepreneurship.

### **STUDY SUMMARY**

This non-experimental quantitative research study did not seek to demonstrate causality, but explored the extent to which Organizational Entrepreneurship was associated with organizational performance within the Cooperative Extension System. Data was gathered through a single informant survey (Appendix 1). There are a number of advantages to using only a single informant (Lyons, Lumpkin, and Dess, 2000). Glick, Huber, Miller, Doty, and Sutcliffe (1990) noted there was a high likelihood that the CEO was the most knowledgeable individual in the organization to provide the information. Entrepreneurship studies have often used self-reports to gather performance data and they have been shown to be reliable (Schulze, Lubatkin, Dino, and Buchholz, 2001).

Consistent with most survey-based entrepreneurship research, the state Directors, as the Chief Executive Officer (CEO), were placed in the role of key informant to minimize biases associated with hierarchical levels (Glick, et al., 1990) and the perceptual agreement problem (James, 1982). Senior leaders typically provide a reasonably accurate picture of the organization's conditions (Chandler & Hanks, 1993; Hambrick, 1982). The population frame used for this study was drawn from a data set available through NASULGC and contained 54 appointed Extension organizations at NASULGC-member land-grant institutions established through the Morrill Act of 1862. For populations of one hundred or less, Leedy and Ormond (2001) suggested surveying the entire population.

The first part of the questionnaire was an organizational-level scale for Organizational Entrepreneurship which included both the extensively used measure of Entrepreneurial Orientation (Covin & Slevin, 1989), as well as a scale for Entrepreneurial Management, which was based on a modified instrument developed by Brown et al. (2001) that operationalized Stevenson's (1983) conceptualization of entrepreneurship (Figure 3).

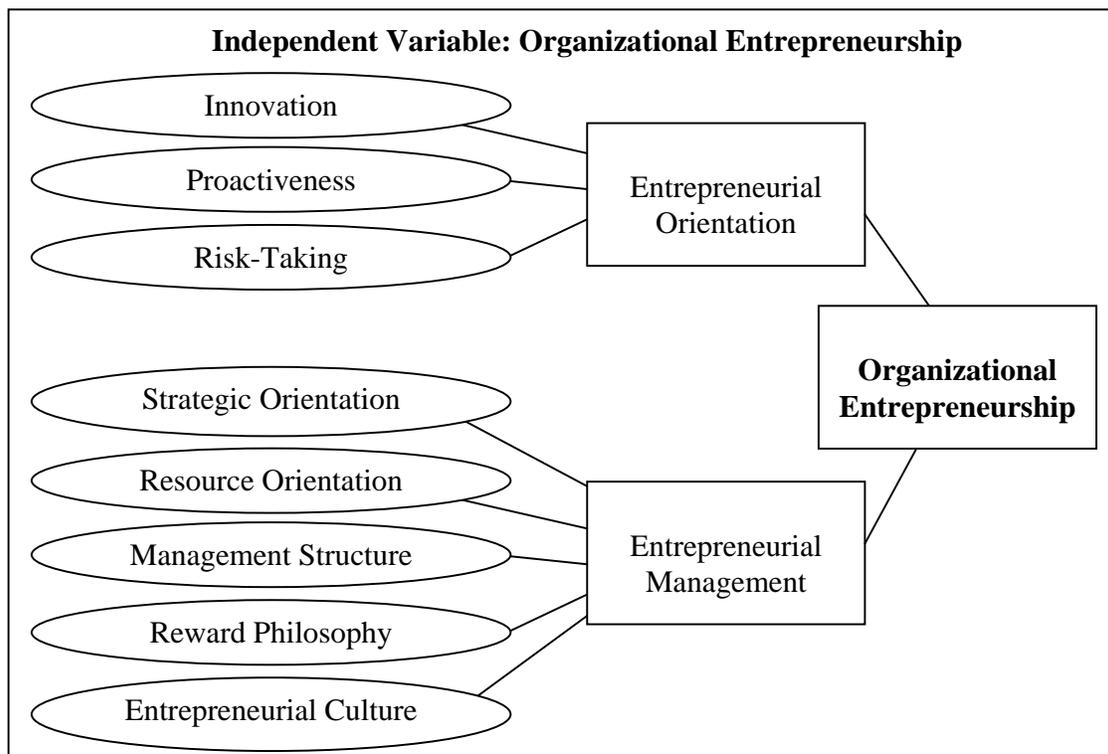
The Entrepreneurial Orientation scale was designed to explore distinct dimensions of innovativeness, proactiveness, and risk taking (Figure 2). The scale used in this study has evolved through extensive theoretical work and has proven to serve as a reliable firm-level analysis of Entrepreneurial Orientation (Kreiser, Marino, and Weaver, 2002). The term Entrepreneurial Orientation is defined as organizational behavior patterns that reflect the organization's commitment to entrepreneurial intensity, which is the combination of entrepreneurial frequency and the degree of entrepreneurship. Entrepreneurial frequency represents the number of entrepreneurial events in which an organization becomes involved, as

represented by new products, services, processes, (Jennings & Seaman, 1990). The degree of entrepreneurship is the extent to which any event involves innovativeness, risk taking and proactiveness (Cheah, 1990; Covin & Slevin, 1990; Morris & Sexton, 1996). Entrepreneurial Orientation was operationalized using a scale developed by Covin and Slevin (1989).

The Entrepreneurial Management scale was designed to explore distinct dimensions of strategic orientation, resource orientation, management structure, reward philosophy, and entrepreneurial culture (Brown et al., 2001). The term Entrepreneurial Management is based on Stevenson's (1983) conceptualization of entrepreneurship as a management approach focused on the pursuit and exploitation of opportunity without regard to resources currently controlled. Stevenson (1983) contrasted entrepreneurial behavior with administrative behavior. He described a continuum with promoter organizations placed at the entrepreneurial end of a spectrum and trustee organizations at the administrative end.

Both scales have also been used as summed indexes. These two prominent scales have been analyzed with various samples, differing in organization size, governance, and industry sector. The items were measured through a forced choice, eight-point opposite statement interval level scale. The questions were arranged in order to avoid response set contamination.

FIGURE 2  
Indicators of Organizational Entrepreneurship

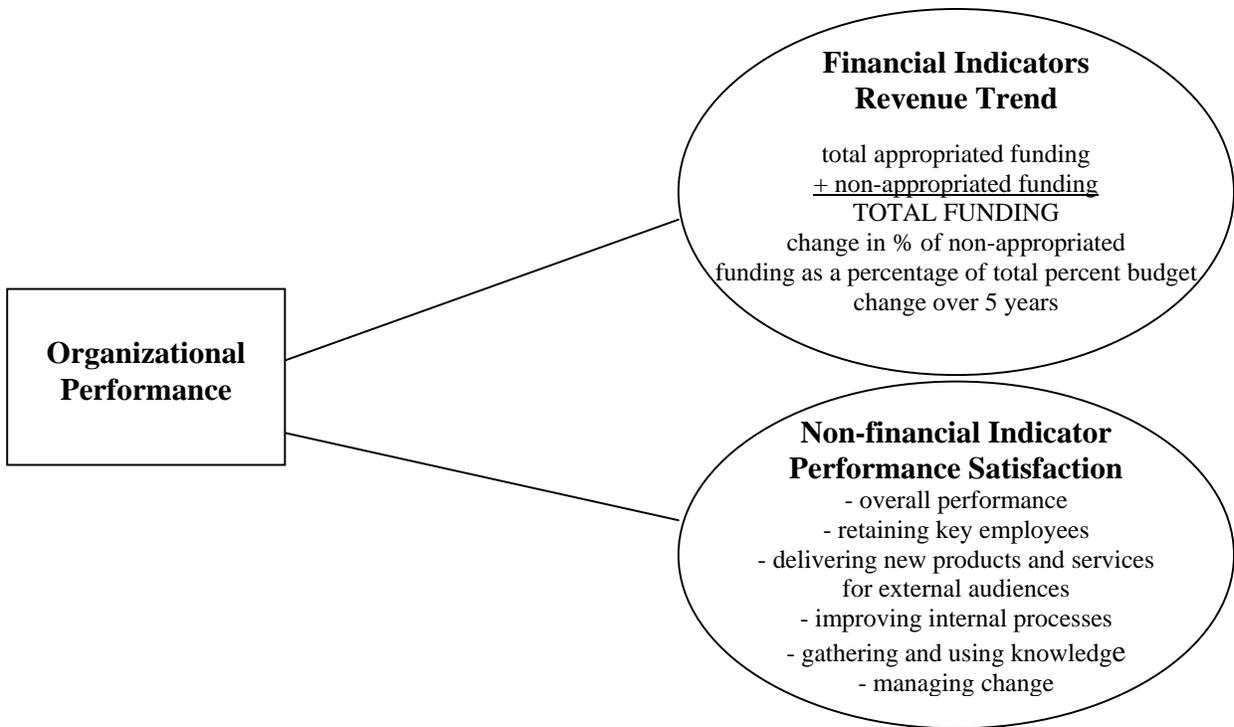


The second part of the questionnaire focused on the dependent variable, Organizational Performance. Performance is multidimensional in nature and it is advantageous to integrate

different dimensions of performance in empirical studies (Cameron, 1978; Dess & Robinson, 1984; Ford & Schellenberg, 1982; Lumpkin & Dess, 1996). Understanding and improving performance is a central aim of entrepreneurship research (Covin & Slevin, 1991; Murphy, Traylor, and Hill, 1996). There is a growing body of evidence to suggest that Organizational Entrepreneurship is positively associated with numerous measures of performance (Davis, Morris, and Allen, 1991; Morris & Sexton, 1996; Zahra, 1996). Studies have included both objective measures which are obtained from organizational records (Seashore & Yuchtman, 1967) and subjective measures which are perceptions collected from organizational members and stakeholders (Campbell, 1977).

Extension organizations are complex and each organization faces a unique set of circumstances. The dependent variable, Organizational Performance, consisted of two financial revenue trend indicators, including the percentage change in total funding for the five years (2000-2004) and the percentage change in non-appropriated revenue as a percentage of the total funding change, for the same five years. These two trend indicators were calculated based on funding data from the year 2000 and the year 2004. The dependent variable, Organizational Performance, also consisted of a non-financial Performance Satisfaction index based on 6 items related to overall performance (Figure 3).

FIGURE 3  
Indicators of Organizational Performance



Identifying the rate of revenue change permits an assessment of the economic success of the organization (Sexton & Smilor, 1997). Appropriated funding and non-appropriated revenue for the five year time period provided information to determine a revenue trend scale focused on

change in total funding and change in percentage of non-appropriated funding over five years. Non-appropriated revenue was defined by the Extension Committee on Organization and Policy (ECOP) Personnel and Organizational Development Committee (PODC) as monies that were not appropriated directly to Cooperative Extension or research units by federal, state, and local governments.

In addition to financial indicators, the literature has mentioned several possible non-financial outcomes to evaluate the potential influence of entrepreneurship on organizational performance (Bromwich & Bhimani, 1994; Zahra, 1993). Some of the very best managerial actions and innovations do not yield measurable financial performance but they define the organization and give meaning to its different activities (Kanter, 1989). Possible non-financial outcomes include keeping the organizations' most talented people (Peters & Waterman, 1982); creating value for a variety of stakeholders (Graves & Waddock, 1994; McGrath, Venaktraman, and MacMillan, 1992; Ogden & Watson, 1999; Ruf, Muralidhar, Brown, Janney, and Paul, 2001) process innovations (Wiklund & Shepherd, 2003); gathering and using knowledge (Lumpkin & Lichtenstein, 2005); and managing change (Hage, 1999). An organizational performance construct was operationalized by Jawaorski and Kohli (1993) with two judgmental questions. In their study, respondents were asked for their opinion of the previous year's overall performance of their organization and their overall performance relative to leading competitors.

Various approaches provide a framework for organizational performance. The goal approach focuses on output and explicit goal-based behaviors (Etzioni, 1964). The systems resource approach provides a framework based on how effectively an organization obtains resources needed for high performance and survival (Yuchtman & Seashore, 1967). The internal process approach addresses efficient use of resources and harmonious internal functioning. The constituency or stakeholder approach focuses on benefiting numerous internal and external constituencies (Thompson, 1967). The competing values approach integrates diverse concepts of effectiveness.

A Performance Satisfaction index was developed for this study, in order to try to capture the complex indicators of performance in Extension organizations. Satisfaction is a fundamental measure of the perception of successful performance, and has been presented within the framework of discrepancy theory, whereby there may be a perceptible gap between what an individual has and what they want to have (Cooper & Artz, 1995). This gap may exist relative to either specific goals or general expectations (Cooper & Artz, 1995). While the combined scale represents complex factors of organizational performance, the collective dimension allows for organizations to report on indicators that best align with the unique opportunities and objectives being addressed during the five year time period from 2000 to 2004. In the Performance Satisfaction section of the questionnaire used for this study, Extension Directors were asked to rate six items on a Likert-type scale, with 1 representing unsatisfactory and 6 representing fully satisfactory. The level of satisfaction with overall Organizational Performance was indicated through six items focused on overall performance; retaining key employees; delivering new programs, products, or services for external audiences; improving internal processes; gathering and using knowledge; and managing change. Subjective performance measures, used in prior entrepreneurial organization research, have been shown to be correlated to objective measures of performance (Dess & Robinson 1984).

Because Extension organizations throughout the United States focus on a variety of specialized programs, overall organizational performance satisfaction was based on outputs and impacts. Outputs are the number of service units provided through activities such as the number of client contact hours, the number of publications delivered, or the number of participants and presentations. Impacts are the observed outcomes evident in short-term learning, medium term actions and long-term conditions (Chinman, Imm, and Wandersman, 2004; Taylor-Powell, 2002). The overall performance dimension as a non-financial indicator of performance is linked to the rational goal model of organizational effectiveness (Etzioni, 1964; Maynard-Moody & McClintock, 1987).

Key employee retention is the ability of Extension to keep the organization's best and most talented people. Research shows that purposeful talent management is a critical source of competitive advantage and improved performance (Ramlall, 2004). When an organization loses a critical employee, it is costly (Fitz-enz, 1997; Hale, 1998), and there is negative impact on innovation, a decline in service, an adverse affect on the satisfaction of internal and external customers, and negative consequences in the profitability of the organization (Abbasi & Hollman, 2000). Where it was once common for faculty to be hired exclusively for Extension work, now universities are hiring faculty with split appointments and expectations of Extension, research, and teaching. Requirements for these positions require increasing formal university education, certifications, accountability, and performance standards.

Within the Performance Satisfaction index, delivering quality products and services for external audiences included new programs, new delivery methods and reaching new people. As populations have shifted in various states, Extension organizations have had to maintain customer-focused performance, and in some instances compete with the private market, to extend the reach of programming to larger and more diverse audiences.

Improving internal processes included new operational structures or new methods to process financial transactions, enhance communications, or create efficiencies in workflow. Internal process performance is especially important as new technologies enable organizations to use resources in ways that add value for internal and external stakeholders. This dimension as a non-financial indicator of performance is closely associated to the internal process model of organizational effectiveness (Spray, 1976).

Gathering and using knowledge included market research, new advisory groups, trend reports, or other approaches that provide Extension personnel with timely and quality information for decision making. Knowledge is context-bound and can be characterized by information which ranges from precise to speculative (Barnard, 1938). Information should be easily accessible throughout the organization. The decisions made based on the information are influenced by attitude and capacity to interpret information in order to make it meaningful and useful (Beijerse, 2000). Knowledge can be implicit, which is personal and includes creative ideas or explicit which is linked to systems and consists of information which can easily be reproduced, transferred and spread (Nonaka & Takeuchi, 1997). The knowledge cycle consists of determining the knowledge necessary; examining the knowledge available; interpreting and developing knowledge; sharing and applying knowledge; and evaluating knowledge (Weggeman, 1997).

Personnel throughout the Extension organization enhance organizational performance by being attentive to external changes and leading internal changes in structure, strategy, and operational methods. Changes are evident in all sectors of the economy and organizations must mobilize to search for them, seize them as they emerge, and use them to create new value for stakeholders (Harari, 1998, p.42). Changes in and around Extension are evolving at a rapid pace and coming from many directions, including changes in higher education; changes in the funding mix; changes in personnel requirements, responsibilities, and expectations; changes in competition from other information sources and educational providers; changes in customers and their needs and expectations; changes in organizational partners and accountability obligations. The body of literature on organizational response to discontinuously changing environments is expanding rapidly (Romanelli & Tushman, 1994), and various scholars have presented research on the change process (Galpin, 1996; Judson, 1991; Kotter, 1995).

Other covariates were explored to mitigate any potential false interpretations of the findings. Additional variable data used in this study included state population change between the years 2000 and 2004 and respondent's length of service as an Extension Director (tenure), which was included as part of the questionnaire. According to Nunnally (1978), alpha levels above 0.70 are typically considered acceptable for the purpose of organizational research. The alpha levels in this study were acceptable (Table 2). In addition, analysis explored the two independent groups of respondents and non-respondents, to see if there was a different pattern between respondents and non-respondents with regard to census data.

TABLE 2  
Cronbach's alpha for Organizational Entrepreneurship and Performance Satisfaction

<b>Dimension</b>	<b>N</b>	<b>Cronbach's Alpha</b>
Innovativeness	38	.664
Proactiveness	38	.661
Risk Taking	38	.793
<b>Entrepreneurial Orientation</b>	<b>38</b>	<b>.821</b>
Strategic Orientation	38	.851
Resource Orientation	38	.624
Management Structure	38	.846
Reward Philosophy	38	.714
Entrepreneurial Culture	38	.845
<b>Entrepreneurial Management</b>	<b>38</b>	<b>.832</b>
<b>Organizational Entrepreneurship</b>	<b>38</b>	<b>.882</b>
<b>Performance Satisfaction</b>	<b>38</b>	<b>.775</b>

The questionnaire was developed based on the Tailored Designed Method (TDM) consisting of five elements which individually have been shown to significantly improve response to mail surveys (Dillman, 2000). Data was entered and analyzed through multiple regression and other descriptive statistics, using SPSS 13.0. Regression analysis is the most widely used and versatile

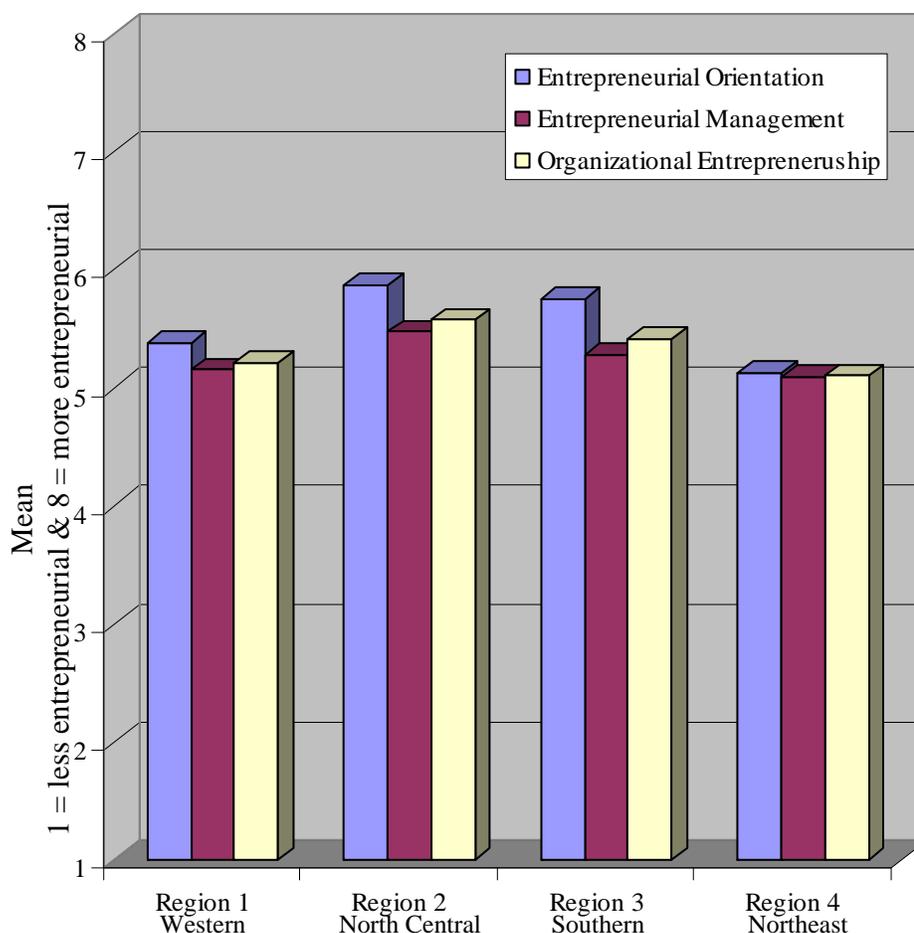
dependence technique, applicable in every facet of business decision making (Hair, Anderson, Tatham, and Black, 1998). The objective of multiple regression for this study was explanation of the extent to which Organizational Entrepreneurship was related to Organizational Performance. Results were aggregated by categories, based on regional assignments of the NASULGC member land-grant institutions (1862) Cooperative Extension System Regions so that information about individual organizations could not be identified. The overall response rate was 70% (n=38), with each region represented by a fairly equal number of respondents. Analysis included screening data for potential errors, assessing the variables for meeting the assumptions of regression, exploring potential moderating factors, examining collinearity statistics and residuals, and considering non-response bias. Using Davis (1971) as a guide, the absolute value of numbers was described with low [.10 to .29], moderate [.30 to .49], substantial [.50 to .69], and very high [.70 to .99]. Descriptive statistics provided data on central tendency and variability for all variables.

Some response error is inherent in all social science research (Kerlinger, 1986). Because Extension Directors were used as the sole respondent for this study, Extension Directors were asked to provide contact information for their direct supervisor, who served as their Vice President, Dean, or other leader who could provide perspective on their Extension organization. While only 24 percent of the responding Directors provided the name of someone who then completed the survey, the data represented all 4 Extension regions. A review of the overall means indicated similar responses from directors and their supervisors.

## **STUDY FINDINGS**

Extension directors in all four geographic regions reported substantial levels of Organizational Entrepreneurship, as measured through the Entrepreneurial Orientation and Entrepreneurial Management scales. All regions reported substantial means for the measure of Entrepreneurial Orientation, with a overall mean of 5.5 (S.D. .92). Within the Entrepreneurial Orientation scale, descriptive statistics revealed that responses to each of the sub-dimensions had a mean above 5 on the scale of 1-8. All regions also reported means above 5.0 on a scale of 1-8 for the measure of Entrepreneurial Management, with an overall mean of 5.25 (S.D. .74). Within the Entrepreneurial Management scale, descriptive statistics revealed responses to each of the sub-dimensions, with entrepreneurial culture having the highest mean and reward philosophy and management structure having the lowest mean. Descriptive statistics of the summated scale revealed that all regions reported a mean above 5.0 for the measure of Organizational Entrepreneurship. In each of the 4 regions, the mean for Entrepreneurial Orientation was slightly higher than the dimension of Entrepreneurial Management and the combined measure, Organizational Entrepreneurship (Figure 4).

FIGURE 4  
Organizational Entrepreneurship in Extension by Region

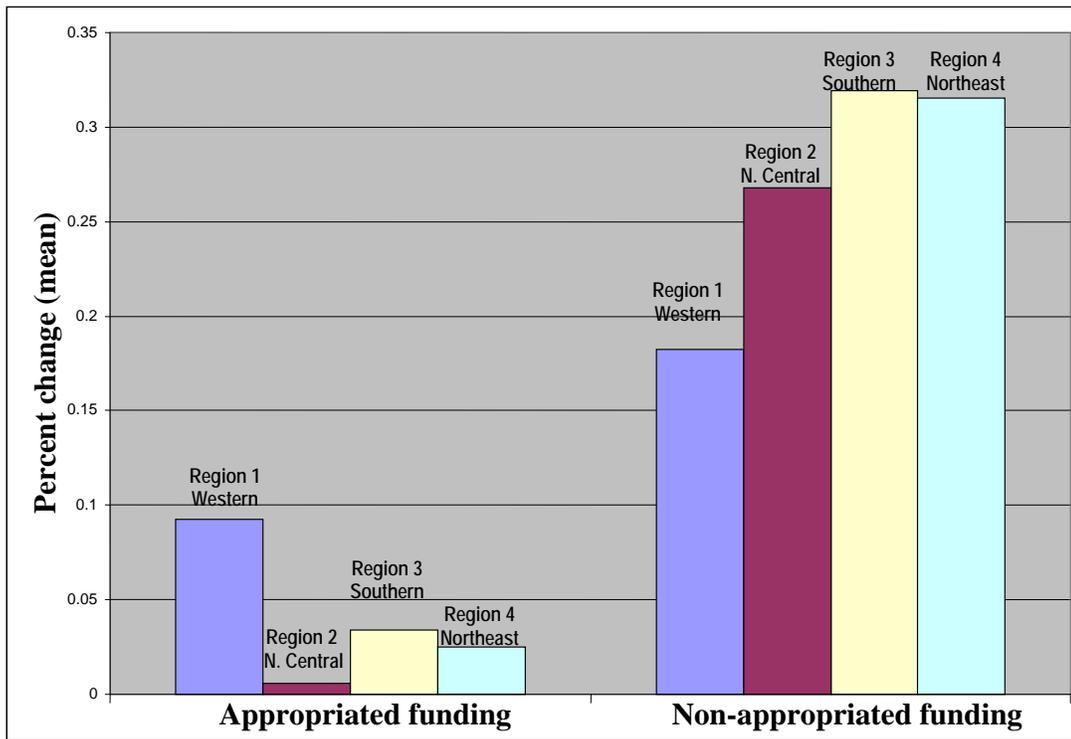


For Organizational Performance, the five-year trend indicated a range of funding changes based on a financial report of 2000 and 2004 appropriated and non-appropriated funding (Figure 5). This confirmed evidence gathered through a 2004 Revenue Generation report (Miller, 2005). The percent change in total funding from the year 2000 to the year 2004, was .10 (S.D. .12) and ranged from a minimum of -1.20 to a maximum of .40. The change in total funding indicator does not completely reflect the complex changes in various Extension organizations. Because only two years of data were requested and reported, there was a limitation due to the possibility that the year 2000 and/or the year 2004 represented unusual funding circumstances that did not capture the most complete trend for the Extension organization.

Appropriated funding was the monies that were appropriated directly to Cooperative Extension by federal, state, and local governments. A frequency analysis indicated that 37% of the respondents reported decreases in appropriated funding between the year 2000 and the year 2004. The mean for the percent change in appropriated funding from the year 2000 to the year 2004 was .04 (S.D. .11), and ranged from a minimum of -.29 to a maximum of .24.

Non-appropriated funding included non-appropriated government funding, foundation funding, and all monies generated through grants and contracts; gifts and donations; royalties, user fees, direct sales, and other methods. A frequency analysis revealed that 79% of the respondents reported increases in non-appropriated funding, when comparing the year 2000 and the year 2004. The mean for the percent change in non-appropriated funding from the year 2000 to the year 2004, was .27 (S.D. .28) and ranged from a minimum of -.30 to a maximum of .74.

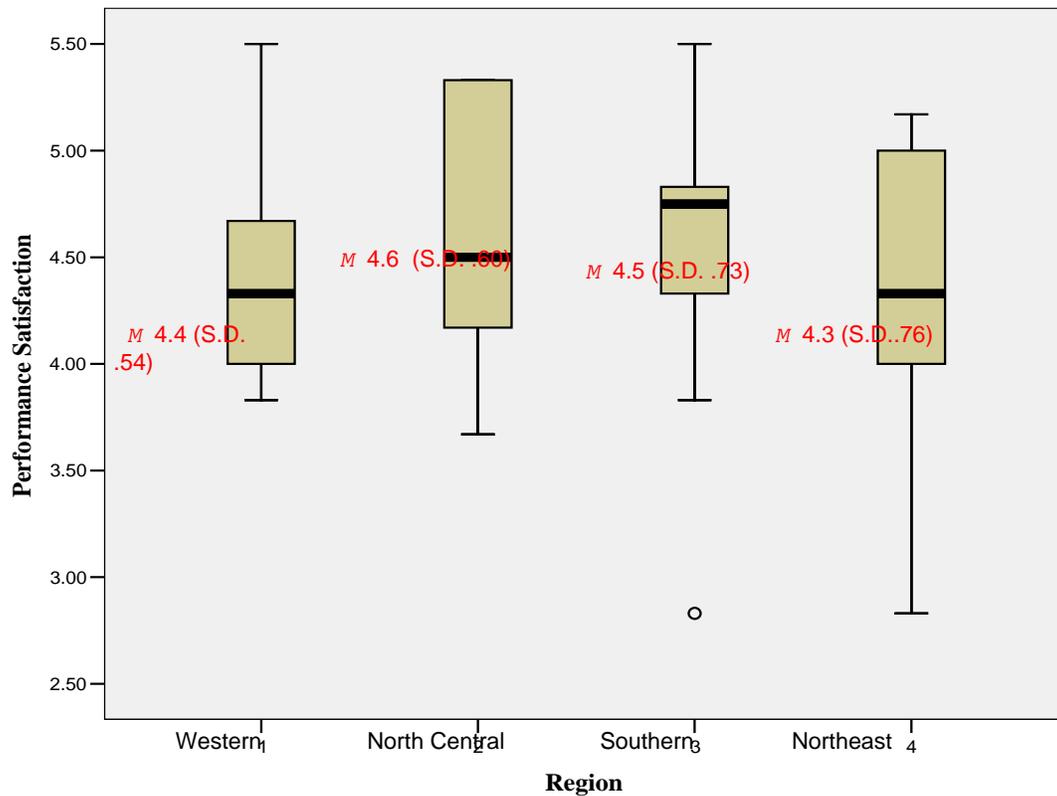
**FIGURE 5**  
**Percent Change in Appropriated and Non-appropriated Funding by Region**



As funding portfolios change for Extension organization’s nationwide, the value of non-appropriated funding seemed evident as a frequency analysis indicated that while 37% of the respondents reported decreases in appropriated funding, only 16% reported a decrease in total funding. As part of the financial dimension of Organizational Performance, this study also explored the percent change in non-appropriated funding as a percentage of total funding. The overall mean was .05 (S.D. .06), with a range of means from a minimum of -.08 to a maximum of .20.

A non-financial indicator of performance was measured through a series of six items indicating satisfaction with performance during the five year period, 2000 – 2004, which summed into a single non-financial performance index, Performance Satisfaction. On this scale, 1 represented unsatisfactory and 6 represented fully satisfactory. The mean for the summed index for the total population was 4.5 (S.D. .12), and ranged from a minimum of 2.8 to a maximum of 5.5 (Figure 6).

FIGURE 6  
Performance Satisfaction by Region



In order to explore the relationship between Organizational Entrepreneurship and the Organizational Performance, bi-variate correlations and multiple regression analyses were explored. Regression of Performance Satisfaction on selected variables resulted in 58 percent of variance explained. Variables were entered using the hierarchical entry. With Performance Satisfaction as the dependent variable, tenure and population change accounted for 5 percent of the variance, Entrepreneurial Orientation accounted for 32 percent of the variance, and Entrepreneurial Management accounted for 21 percent of the variance. A review of regression Beta coefficients indicated that risk taking and tenure accounted for the highest relative contribution to the dependent variable Performance Satisfaction. An examination of collinearity statistics indicated no collinearity problems and an examination of residuals showed no violation of the assumptions for linear regression.

This study also included an exploration of the relationship between selected variables and the financial indicator of performance, percent change in total funding. Regression of percent change in total funding on selected variables resulted in 32 percent variance explained. Variables were entered using the hierarchical entry. With percent change in total funding as the dependent variable, tenure and population change accounted for 3 percent of the variance, Entrepreneurial Orientation accounted for 12 percent of the variance, and Entrepreneurial Management accounted for 17 percent of the variance. A review of regression Beta coefficients indicated that strategic orientation and risk taking accounted for the highest relative contribution to the dependent variable, percent change in total funding. An examination of collinearity

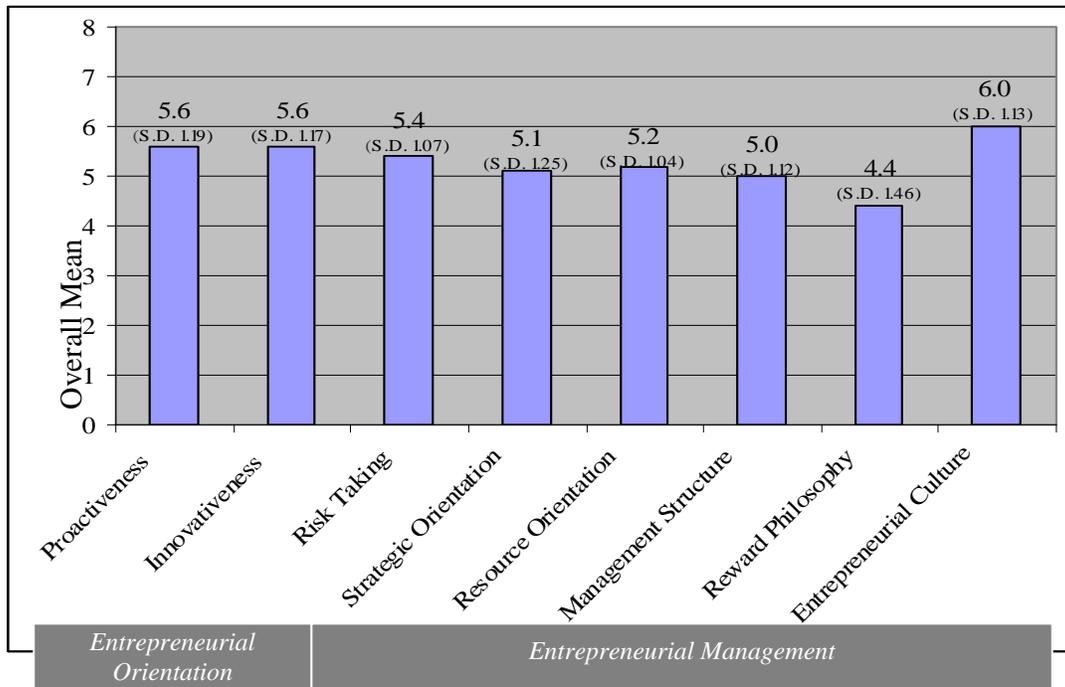
statistics indicated no collinearity problems and an examination of residuals showed no violation of the assumptions for linear regression.

### OPPORTUNITIES FOR EXTENSION

For nearly 100 years, Cooperative Extension has proven to be a successful model for local, state, and federal governments to work in cooperation with the national system of land-grant universities and citizens in local communities. Changes in society, technology, and funding have prompted Extension organizations to create new partnerships, programs, funding sources, and approaches to fulfill the mission of enabling people to improve their lives and communities through learning partnerships that put knowledge to work. Public sector entrepreneurship definitions and themes were consistent with the mainstream entrepreneurship literature (Morris & Jones, 1999). Bellone and Goerl (1992) suggested that public sector entrepreneurship was an active approach to administrative responsibility that included generating new sources of revenue, providing enhanced services, and helping facilitate increased citizen education and involvement.

All Extension organizations reported indications of Organizational Entrepreneurship during a time when changing financial portfolios required greater effort to generate both appropriated and non-appropriated funding. On the overall Organizational Entrepreneurship scale, Entrepreneurial Culture had the highest mean of 6.0 (S.D. 1.13) on a scale of 1-8 (Figure 7). Stephenson and Jarillo (1990) noted that an organization with an entrepreneurial culture, encouraged ideas, experimentation, and creativity. An Entrepreneurial Culture includes various elements such as value creation through innovation and change; freedom to grow and fail; commitment and personal responsibility; and ethics of integrity, trust and credibility (Cornwall & Perlman, 1990; Morris & Kuratko, 2002).

FIGURE 7  
Sub-dimensions of Organizational Entrepreneurship



Results from multivariate data analysis indicated that risk taking and tenure accounted for the highest relative contribution to the dependent variable Performance Satisfaction. Strategic orientation and risk taking accounted for the highest relative contribution to the dependent variable, percent change in total funding. Entrepreneurship is about risk and reward (Morris & Kuratko, 2002). However, both risk and reward involve perceptions which influence how survey respondents judge what is cautious or bold. Strategic orientation determines whether an organization is driven more by opportunity or by resources currently controlled. In addition to strategic orientation, entrepreneurial culture was the other sub-dimension included in the regression model. The individual sub-dimensions of Organizational Entrepreneurship are distinct yet related measures, therefore each dimension, as well as the combined scales can be used for further discussion and development of entrepreneurship in Extension organizations.

In recent years, the rapid pace of change has placed intense demands on Extension organizations and how the system maximizes opportunities presented by these changes will help determine how Extension will look in the future. As change continues to be a theme permeating throughout all types and sizes of organizations, including Extension, the field of entrepreneurship provides insight through valuable theory and practice. When adopted, these principles will not necessarily result in a high degree of entrepreneurial intensity all of the time and in all situations. However, development of an entrepreneurial orientation and entrepreneurial behaviors can improve performance as the principles become embedded throughout the organization. Results from this study indicated that Extension organizations were promoter-oriented, but entrepreneurship is not a static phenomenon. The framework can be used as Extension organizations continue to build upon the rich history of the organizations and maximize new opportunities most relevant for the future.

Specifically, Extension organizations can focus on developing risk taking and strategic orientation, two sub-dimensions identified in this study that account for the highest relative contribution to the dependent variables.

To develop risk taking, extension organizations can:

- Balance the Extension portfolio with projects ranging in degrees of risk and return; requiring different development and payoff times; targeting current versus new markets; utilizing familiar or emerging technologies.
- Recognize that organizational and personal risks are driven by cognitive biases and perceived intensity of threat based on financial, emotional, reputation or other implications. Create an award for individuals or groups that accepted uncertainty and ambiguity, and then took risks, perhaps failed on numerous occasions, learned, and then accomplished their objective.
- Examine if there have been situations when those trying new ideas experienced negative consequences, because when this happens, people become risk averse, stop experimenting and mistakes are covered up which limits organizational learning results. Empower people throughout the organization with tools, resources and systems for continuous information flow and decision making.

To move toward an opportunity-driven rather than resource-driven strategic orientation, Extension organizations can adopt a stakeholder-focused entrepreneurial process (Figure 8) and:

- Shift emphasis from budgets, human resource constraints, and other resource challenges to opportunity.
- Gather information and ideas on perceived limitations that have halted action to pursue opportunities. Use this information to identify patterns and improve systems that support strategic orientation. This shifts primary attention from resources to opportunity so that decisions and actions are guided more by stakeholder-focused ends rather than by an excessive and restrictive fixation on the means.

FIGURE 8  
Stakeholder-focused Entrepreneurial Process



In addition, Extension can develop other interrelated factors of Organizational Entrepreneurship and conduct and learn from future research and practice. In addition to this study, there are numerous opportunities for future research based on multiple respondents, other interactive variables, additional methods to gather and analyze data, and investigations into related fields of study. Extension organizations throughout the world could be considered for future research. According to the World Bank, development of worldwide Extension operations in the past four decades is one of the largest institutional development effort the world has ever known (Anderson & Feder, 2004). Each type of Extension organization has characteristics unique in structure, funding and delivery. As lines blur between public, private and not-for-profit ventures, there is a need for research focused in a variety of contexts, including new organizational alliances.

## APPENDIX 1 QUESTIONNAIRE

### **Organizational Entrepreneurship in Extension**

#### **A Survey of State Extension Service Directors and Administrators**

**Purpose:** As the 21<sup>st</sup> century unfolds, entrepreneurial actions are viewed as critical pathways to value creation and improved performance in organizations of all types and sizes. This study examines the relationship between organizational entrepreneurship and organizational performance within the Cooperative Extension System (CES), as perceived and reported by state Extension Director/Administrators and their direct supervisors.

**All information will remain confidential:** Results will be aggregated by categories and reported only by statistical summaries. Information about individual organizations will not be identified.

**Option:** You may also complete this survey online. An E-mail invitation, with a direct link, will be sent to you within the week.

**Timeline:** Please complete this survey by May 20, 2005.

**Contact:** Julie Fox, fox.264@osu.edu; 740-289-2071;  
OSU South Centers 1864 Shyville Rd., Piketon, OH 45661.

**Overview:** This study focuses on organizational entrepreneurship, using a modified instrument that measures both Entrepreneurial Orientation, which is based on the extensively tested Covin and Slevin's scale, and Entrepreneurial Management, which is based on Stevenson's conceptualization of entrepreneurship as a set of opportunity-based management practices which can help organizations remain vital and contribute to firm and societal value creation. This survey begins with items that are measured through a forced choice, eight-point opposite statement, organizational-level scale.

EXAMPLE: For the following statement, the respondent believes that their organization defines strategies based slightly more on opportunity than on existing resources.

Strategic Orientation										
1	As we define our strategies, our major concern is how to best utilize the resources we control.	1	2	3	4	5	6	7	8	As we define our strategies, we are driven by our perception of opportunity. We are not constrained by the resources at (or not at) hand.

***Thank-you for your participation.***  
***A confidential report will be sent to you upon completion of this dissertation.***

## Organizational Entrepreneurship in Extension A Survey of State Extension Directors and Administrators - 2005

### Section I: Organizational Entrepreneurship

Please respond as candidly as possible to the following statements by circling a number between 1 and 8 on this opposite statement scale that best represents your organization as it was during the past five years. In order to get a complete assessment of organizational entrepreneurship, this study explores both entrepreneurial orientation and entrepreneurial management.

**Entrepreneurial Orientation:** This part of the scale is based on an extensively tested scale that includes a combination of three sub-dimensions: innovativeness, proactiveness, and risk-taking.

A. Innovation												
1	Our organization rarely markets new products/services.	1	2	3	4	5	6	7	8	Our organization frequently markets new products/services.		
2	Changes in products or services have been minor.	1	2	3	4	5	6	7	8	Changes in products or services have been quite dramatic.		
B. Proactiveness												
3	Typically, our organization responds to actions which other organizations initiate.	1	2	3	4	5	6	7	8	Typically our organization initiates actions which other organizations respond to.		
4	Compared to similar organizations, we are seldom the first to introduce new products or services, administrative techniques, operating technologies, etc.	1	2	3	4	5	6	7	8	Compared to similar organizations, we are often the first to introduce new products or services, administrative techniques, operating technologies, etc.		
C. Risk-taking												
5	Our top leaders have a strong tendency to pursue low-risk projects (with normal and certain rates of return.)	1	2	3	4	5	6	7	8	Our top leaders have a strong tendency to pursue high-risk projects (with chances of very high returns).		
6	Our top leaders believe that, owing to the nature of the environment, it is best to explore ideas gradually via careful, incremental behavior.	1	2	3	4	5	6	7	8	Our top leaders believe that, owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the organization's objectives.		
7	When confronted with decision-making situations involving uncertainty, we typically adopt a cautious, "wait-and-see" posture in order to minimize the probability of making costly decisions.	1	2	3	4	5	6	7	8	When confronted with decision-making situations involving uncertainty, we typically adopt a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities.		

**Entrepreneurial Management:** This part of the scale is based on Stevenson's contrast of opportunity seeking behaviors of promoter-type firms that pursue and exploit opportunities regardless of resources controlled with trustee-type firms that focus on efficiently using resources controlled.



D. Strategic Orientation												
8	As we define our strategies, our major concern is how to best utilize the resources we control.	1	2	3	4	5	6	7	8	As we define our strategies, we are driven by our perception of opportunity. We are not constrained by the resources at (or not at) hand.		
9	We limit the opportunities we pursue on the basis of our current resources.	1	2	3	4	5	6	7	8	Our fundamental task is to pursue opportunities we perceive as valuable and then to acquire the resources to exploit them.		
10	The resources we have significantly influence our business strategies.	1	2	3	4	5	6	7	8	Opportunities control our business strategies.		

<b>Section I <i>continued</i></b>										
<b>E. Resource Orientation</b>										
11	Since we do not need resources to commence the pursuit of an opportunity, our commitment of resources may be in stages.	1	2	3	4	5	6	7	8	Since our objective is to use our resources, we will usually invest heavily and rapidly.
12	All we need from resources is the ability to use them	1	2	3	4	5	6	7	8	We prefer to totally control and own the resources we use.
13	In exploiting opportunities, having the idea is more important than just having the money.	1	2	3	4	5	6	7	8	In exploiting opportunities, access to money is more important than just having the idea.
<b>F. Management Structure</b>										
14	We prefer tight control of funds and operations by means of sophisticated control and information systems.	1	2	3	4	5	6	7	8	We prefer loose, informal control. There is a dependence on informal relations.
15	We strongly emphasize getting things done by following formal processes and procedures.	1	2	3	4	5	6	7	8	We strongly emphasize getting things done even if this means disregarding formal procedure.
16	We strongly emphasize holding to tired and true management principles and industry norms.	1	2	3	4	5	6	7	8	We strongly emphasize adapting freely to changing circumstances without much concern for past practices.
17	There is a strong insistence on a uniform management style throughout the organization.	1	2	3	4	5	6	7	8	Managers' operating styles are allowed to range freely from very formal to very informal.
18	There is a strong emphasis on getting line and staff personnel to adhere closely to their formal job descriptions.	1	2	3	4	5	6	7	8	There is a strong tendency to let the requirements of the situation and the personality of the individual dictate proper job behavior.
<b>G. Reward Philosophy</b>										
19	Our employees are evaluated and compensated based on their responsibilities.	1	2	3	4	5	6	7	8	Our employees are evaluated and compensated based on the value they add to the organization.
20	Our employees are usually rewarded by promotion and annual raises.	1	2	3	4	5	6	7	8	We try to compensate our employees by devising ways for them to benefit from the increased value of the organization.
<b>I. Entrepreneurial Culture</b>										
21	We have many more promising ideas than we have time and the resources to pursue.	1	2	3	4	5	6	7	8	We find it difficult to find a sufficient number of promising ideas to best utilize all of our resources.
22	The products and services we offer are based on good information about customers, the market, and/or changes in society-at-large.	1	2	3	4	5	6	7	8	The products and services we offer can not be linked to information about customers, the market, and/or changes in society-at-large.
23	We never experience a lack of creative ideas that we can convert into products/services that are valued by our key stakeholders.	1	2	3	4	5	6	7	8	It is difficult for our organization to find creative ideas that can be converted into products/services that are valued by our key stakeholders.
24	Personnel realize that the way they perceive the marketplace must be continually explored.	1	2	3	4	5	6	7	8	Personnel are limited in the ways they continually explore the marketplace.
25	Personnel basically agree that our organization's ability for continuous learning is a priority that enhances performance.	1	2	3	4	5	6	7	8	Personnel are limited in the ways they engage in activities and processes that enhance the organization's ability for continuous learning.

**Section II: Organizational Performance**

Understanding and improving performance is a central aim of entrepreneurship. Because performance is multidimensional in nature, the performance construct in this study consists of both financial and non-financial indicators. **All information will remain confidential.**

**A. Financial Performance –**

In row one, please write in the total amount of your appropriated funding for the year 2000 and the year 2004 (monies that were appropriated directly to Cooperative Extension by federal, state, and local governments).

In row two, please write in the amount of the revenue generated through non-appropriated funding for the year 2000 and the year 2004 (including non-appropriated government funding, foundation funding, and all monies generated through grants and contracts; gifts and donations; royalties, user fees, direct sales, etc.).

The combined amounts of appropriated funding and non-appropriated funding represent your total funding for the year 2000 and the year 2004.

*If you do not have this information available, please provide contact information for the individual in your organization who can provide this data. Name/Title: \_\_\_\_\_*

*Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_*

Revenue		2000	2004
1	<b>Appropriated funding</b> (federal, state & local)	\$ _____	\$ _____
2	<b>Non-appropriated funding</b>	\$ _____	\$ _____

**B. Satisfaction with Performance –**

Some of the very best managerial actions do not yield measurable financial performance but they define the organization and give meaning to its different activities. Satisfaction is a fundamental measure of the perception of successful performance. Please respond as candidly as possible to the following statements by circling a number between 1 and 6 that best represents your organization as it was during the past five years, with 1 representing unsatisfactory and 6 representing fully satisfactory.

Satisfaction with organizational performance		Unsatisfactory						Satisfactory					
1	<b>Overall performance -</b> overall performance of your organization based on outputs & impacts	1	2	3	4	5	6	1	2	3	4	5	6
2	<b>Retaining key employees -</b> ability of your organizations to keep the organization's best & most talented people	1	2	3	4	5	6	1	2	3	4	5	6
3	<b>Delivering quality products and services for external audiences -</b> including new programs, new delivery methods and reaching new people	1	2	3	4	5	6	1	2	3	4	5	6
4	<b>Improving internal processes -</b> such as new operational structures or new methods to process financial transactions, enhance communications, or create efficiencies in workflow	1	2	3	4	5	6	1	2	3	4	5	6
5	<b>Gathering and using knowledge -</b> such as market research, new advisory groups, trend reports or other approaches that provide Extension personnel with timely and quality information for decision-making	1	2	3	4	5	6	1	2	3	4	5	6
6	<b>Managing change -</b> personnel throughout our organization enhance organizational performance by being attentive to external changes and leading internal changes in structure, strategy & operational methods.	1	2	3	4	5	6	1	2	3	4	5	6

**C. How long have you been in a Director or an Administrator of Extension (# of years)?** \_\_\_\_\_

**D. Please attach any additional comments or support documentation.**

*Thank you for your participation.  
A confidential report will be sent to you upon completion of this dissertation.*

Code \_\_\_\_\_ *A code number is used for follow-up purposes and to facilitate the data entry process.*

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