

ENTREPRENEURIAL ACTIVITIES IN INDEPENDENT COLLEGE AND UNIVERSITY
PRESIDENTS: A VIEW FROM THE TOP

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ENTREPRENEURIAL ORIENTATION OF SMALL INDEPENDENT COLLEGE AND UNIVERSITY PRESIDENTS: A VIEW FROM THE TOP

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Pressure is growing for presidents of small independent colleges and universities to become more entrepreneurial in generating revenue for their schools. This study examined the entrepreneurial orientation of such presidents and how their orientations relate to their institutions' revenue-generating activities.

Forty-seven presidents of small independent institutions were surveyed to determine their self-ratings on 10 characteristics of entrepreneurial orientation: innovative, risk taker, creative, change agent, team builder, competitive, opportunist, visionary, proactive, and persuasive. They also reported their institutions' revenue-generating activities, their education and professional preparation, and their schools' enrollments and endowments. Follow-up interviews were conducted with four of the presidents to gain further insights into the results.

All of the presidents considered the 10 entrepreneurial characteristics to be, overall, somewhat to very self descriptive (mean 4.11, range 3.10-5.00). There were no relationships between entrepreneurial orientation and previously held position or undergraduate education. Presidents believing they had been sufficiently prepared for their fundraising activities perceived themselves as more entrepreneurial than those believing they had not.

Of 54 activities in 8 categories, the presidents' institutions carried out a mean of 21.19 (range 9-38). Larger institutions generally carried out more educational programs, retail sales activities, and intellectual property activities than smaller schools. Institutions with endowments

of less than 10 million dollars invested in fewer types of securities than those with larger endowments.

Entrepreneurial orientation of the president was positively correlated with total revenue-generating activities, and with Fundraising, Small Business Development, Intellectual Property and Off-campus Real Estate activities. Presidents' entrepreneurial orientations were not related to their institutions' reported financial strength.

Conclusions based on both surveys and interviews include the following:

- Most presidents of small independent educational institutions have at least a fairly high entrepreneurial orientation, but they exhibit considerable differences in this respect.
- Most small independent schools engage in a fairly large number of revenue-generating activities, but some engage in considerably more such activities than others.
- Institutions led by presidents with higher entrepreneurial orientations tend to engage in more revenue-generating activities.
- Becoming more entrepreneurial in developing revenue-generating activities is important to the financial well-being of many small colleges and universities.

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1. INTRODUCTION

1.1. BACKGROUND

1.1.1. Financial Challenges Faced by Small Independent Educational Institutions

American higher education institutions are confronted with considerable challenges in adapting to changing economic conditions. Globalization, increased costs, declines in governmental funding, competition for funds, and a growing demand for higher education services have put the economic viability of some institutions at risk.

Small independent colleges and universities face their own unique challenges in this market environment. These include increased competition for students from other providers of higher education (Schapiro, 1999) and the perceptions of some students and families that private schools may not be affordable (Wegge, n.d). Fluctuating donations are another problem. For example, the decline in the economy in the first years of the new century led to reduced numbers of donors for private institutions as well as shrunken portfolios (NACUBO, 2004).

Traditionally, small independent institutions have relied on their reputation to attract students. Tuition and donor contributions have made up most of their revenue stream, and they have often coped with deficits by increasing tuition. In recent years, however, Americans have seen a dramatic change in the way higher education is perceived and valued by students, parents, teachers and administrators. According to data from the *Chronicle of Higher Education*, most consumers of education today are less interested in the academic prestige of a school. They are

interested in the income value of higher education over a lifetime, considering it to be a return on their investment (Selingo, 2003).

In light of this, smaller institutions are facing increased concerns about tuition costs, while they are receiving new demands for accountability. Both students and parents are demanding superior outcomes to justify private institutions' high prices (Stimpert, 2004). One result is that outside competition has forced independent colleges and universities to limit tuition increases. In addition, monies gained by raises in tuition are often offset by financial aid provided to students (Stimpert).

Fluctuating endowment and fundraising earnings compound the problem for small institutions. Private schools have also recently been witness to increased competition for students from other educational providers (Schapiro, 1999). Richard Artman, sitting president with 10 years of experience at Siena Heights University in Adrian, Michigan, reports, "The landscape has changed dramatically for all of us since 9/11 when the economy slumped and the stock market plummeted—impacting endowment earnings and fundraising" (personal communication, January 13, 2004). He adds,

The additional ripple effect has been on state budgets which have been hit hard and have cut support for public institutions and the few special programs that have been available for independent colleges (mostly tuition grant programs that have been hard to get and keep in years past).

Wegge (n.d), too, points out that the decline in the economy in the early years of the new millennium has decreased the value of donor portfolios. The result is that many contributors are more careful with their donations than previously.

Small independent higher education institutions are in increasingly sharp competition with public colleges and universities. State-run schools receive heavy subsidies, which allow them to charge lower tuition. According to Wolfram (1997), in-state tuition covers only about 28

percent of the actual educational costs in public colleges. Their considerably lower tuition allows them to draw students from private schools.

At the beginning of this century, more than four of every five students were enrolled in private colleges. Now almost four of every five students are enrolled in public universities. More than 300 private colleges closed their doors between 1969-70 and 1992-93 (Wolfram, 1997, p. 1).

The competition between public institutions and small independent schools takes place not only for students, but for funds. According to Wegge (n.d.), with fewer state resources available, public institutions are placing a stronger emphasis on fundraising and developing strategies similar to those that have traditionally been used by private schools to increase contributions and putting more effort into advertising. Public colleges and universities are also engaging in significant facility development to increase capacity.

Other threats to the economic viability of private institutions include increased competition for students from other types of educational providers (Schapiro, 1999). These include proprietary schools, corporate education programs, and long-distance learning arrangements. According to Cook (1997), private corporations recently spent more on education than did colleges and universities. On-line educational providers are also attracting significant numbers of students by making education more convenient for many.

1.1.2. The Need for Entrepreneurial Leadership in Small Independent Educational Institutions

The rapid changes in economic, demographic, and political conditions that face American institutions of higher education indicate that both the institutions and their leaders must be adaptable and diverse. As a result, the main responsibilities of the American college president

may change (Corrigan, 2002). Bornstein (2002) notes that the college presidency has become more complex in scope, as well as in administrative responsibility. She maintains that in an era of fiscal constraints, changing demographics, public disaffection and heated competition for resources and students, presidents' focus must turn to maintaining the viability and quality of their institution.

This applies to small college presidents as well. Stimpert (2004) states that there are no easy answers to the financial challenges facing smaller independent colleges and universities. The college president will have to be adept not only at controlling costs, but at enhancing revenues.

Artman points out:

most of us who keep our jobs beyond the average length of stay (6–7 years) do so because we have found ways to produce new revenues and create new opportunities for growth—it's the only way those of us with small endowments can keep up—while balancing our need to stay mission centered (personal communication, January 13, 2004).

Given the financial challenges facing American institutions of higher education, Clark (2000) maintains the need for institutional leaders to develop a more entrepreneurial orientation toward generating revenues. Because universities are currently presented with an overload of demands, while being badly constrained in their traditional financing, they must become more proactive and entrepreneurial. “If they do not,” he cautions, “they will put themselves at considerable risk during the first decades of the 21st century” (p. 1). President Artman agrees, holding that college presidents must be dynamic fundraisers, but must also become more entrepreneurial in guiding their institutions: “the higher education landscape is changing rapidly and both private and public institutions are searching for new revenues—requiring more entrepreneurial ways” (personal communication, January 13, 2004).

It is evident that many American higher education institutions are already taking to heart the importance of engaging in more entrepreneurial activities. According to Goldschmidt and Finkelstein (n.d.):

Over the past two decades, institutions of higher education now prepare more professional and technical workers, have closer ties with business and industry leaders, and pursue applied knowledge with commercial applications with greater zeal than they had in the past. In other words, they are becoming more entrepreneurial and market driven (para. 1).

President Artman (personal communication, January 13, 2004) emphasizes that the need for institutional leaders to become more entrepreneurial also applies to presidents of small independent schools. The importance of such an entrepreneurial orientation is today often reflected in published candidate qualifications when small schools are searching for a new president. For example, Morris & Berger Consultants, in a February 2, 2005 letter (R. Artman, personal communication, February 15, 2005) in which they announced an executive search for a new president for the University of Redlands, a small independent liberal arts and science university with nearly 2300 students in Redlands, California, include in their list of traits and characteristics the following. They state that the successful candidate for the position “will be an entrepreneurial visionary who will, together with his/her academic and administrative team, build upon the success that the University has enjoyed in the past while leading it to future achievements.”

Artman believes that becoming more entrepreneurial may prove especially difficult for smaller institutions because many entrepreneurial activities used by public and elite private institutions may not be an option for small independent institutions. He states, “We recognize, for the most part, that we have limited opportunities for such ventures because of our size, the

heavy teaching loads and lean staff, and limitations on risk taking (due to small endowments) and other reserves” (personal communication, January 13, 2004).

Duderstadt (n.d.) states that presidents of American educational institutions must strive to develop promising new ideas—and especially entrepreneurial activities—that can provide a stronger financial support for their schools and give them stability.

In fact, the adoption of entrepreneurial means to address the financial challenges may be crucial to the survival of their institutions. The leadership challenge is to tap the creativity and energy associated with entrepreneurial activity in a way that preserves the university’s fundamental mission and values (Duderstadt, n.d, p. 1).

1.2. PROBLEM STATEMENT AND RESEARCH QUESTIONS

Small independent colleges and universities are facing serious financial challenges. Increasing costs, reduced donations, price competition with state and community colleges and the perception that private schools are overly expensive are all factors that threaten the financial stability of many independent institutions. There are no easy answers to these financial challenges, but it seems clear that financial strength and institutional viability require new, innovative ways of enhancing revenues. As a result, there is increasing pressure for the presidents of such institutions to become more entrepreneurial and to develop successful new fundraising methods.

The success with which independent college and university presidents identify and develop entrepreneurial opportunities is likely to depend on the attributes that they bring to their revenue-generating endeavors. It seems probable that a president’s possession of attitudes, dispositions and skills that are typical of entrepreneurs may be an important predictor of how extensively their institutions embark on entrepreneurial activities. In particular, it appears likely

that the stronger presidents' entrepreneurial orientation, the more likely they are to successfully lead their institutions in entrepreneurial endeavors.

These ideas need to be empirically evaluated. At present, little is known about the entrepreneurial orientations of small independent educational institution presidents or about how these may be related to the revenue-generating activities of their institutions. The problem for this study was therefore twofold: (1) to determine the entrepreneurial orientation of small independent college and university presidents and (2) to determine how those orientations are related to the revenue-generating activities of their institutions and the institutions' financial stability.

To address the problem of the investigation, the following research questions were posed:

1. How do presidents of small independent institutions of higher education perceive their entrepreneurial orientation in their presidential role?
 - 1a. Are there differences by previously held positions?
 - 1b. Are there differences by undergraduate field of study?
 - 1c. Are there differences by perceptions of their preparation for the presidency?
2. To what extent do small independent institutions carry out revenue-generating activities?
 - 2a. Are there differences by enrollment?
 - 2b. Are there differences by endowments?
3. What is the relationship of presidents' entrepreneurial orientation with the revenue-generating activities most commonly carried out by small independent colleges?
4. What is the relationship between the presidents' perceptions of their entrepreneurial orientation and the financial stability of their institution?

1.3. DELIMITATION OF THE STUDY

This study focused on entrepreneurial orientations of presidents of small independent colleges and universities in the United States. It did not address the entrepreneurial orientations of leaders of public educational institutions, large or small, nor with the entrepreneurial orientations of leaders of large private schools.

This delimitation of the study was based largely on the circumstance that there are major differences between smaller private schools on the one hand, and public institutions and large private schools on the other, in respect to important financial factors, including primary revenue sources. In general, small independent schools form a relatively cohesive category of educational institutions in regard to size, costs, and revenue-generating potentials.

1.4. LIMITATIONS OF THE STUDY

1. In focusing on those attributes of college presidents that indicate entrepreneurial orientation, this study did not address other characteristics of those presidents that might be relevant to their overall ability to help generate revenue for their institutions.
2. The study did not take into account differences in facilities or in particular educational mission among the educational institutions whose presidents' entrepreneurial orientations are studied.
3. The investigation used a sample of convenience rather than a random sample. Care should therefore be taken in inferring conclusions to a larger population of small colleges and universities.
4. In this study, determinations of college presidents' entrepreneurial orientation was based on their self-perceptions about the degree to which they demonstrate certain

characteristics. It was assumed that their self-perceptions were closely correlated with the degree to which they actually represent those characteristics.

1.5. EDUCATIONAL SIGNIFICANCE

This study was exploratory and descriptive in nature. It aimed to examine the characteristics of entrepreneurial orientation and expand the literature and research concerning the entrepreneurial college or university by including presidents' perceptions of their role. President Richard Artman (personal communication, January 13, 2004) maintains:

The topic is certainly of top concern to most presidents—perhaps a few of the elite schools aren't worried about their entrepreneurial activities, but even Harvard (\$25 billion endowment) has huge holdings in real estate ventures, aggressive postures with investments and, of course, big time merchandising. The rest of us are constantly looking for ways to enhance revenues (p. 2).

The study was designed to provide rich data important to small independent institutions and their challenges. It aimed to offer insight into academic leadership and provide valuable information for presidents, presidential hopefuls, administrators and governing boards. It may also prove valuable for the development of higher education administration programs and may be replicated with other higher education constituents (administrators, faculty, etc). In addition, the results may serve to enrich the presidents' perceptions concerning the scope of their entrepreneurial role.

1.6. DEFINITION OF TERMS

Entrepreneur: An organizational leader who tirelessly and actively transcends good leadership and management practices and personally identifies opportunities, develops a creative and innovative vision, welcomes competition, persuades others to contribute and participate, personally assumes the risks involved to create change, and proactively and enthusiastically

undertakes a challenge in a new way. (See section B of the Review of Literature for the source of this definition.)

Entrepreneurial activities: Revenue-generation activities that are (1) profit-based self-supporting operations that go beyond traditional sources, such as business development activities and innovative retail sales operations, (2) that develop and enhance traditional income streams such as endowment and tuition, or (3) that involve both traditional and nontraditional aspects, such as distance learning, which uses nontraditional methods of teaching to gain tuition, which is a traditional source of income.

Entrepreneurial organization: An organization in which a significant amount of its revenue-generating activities are entrepreneurial in nature.

Entrepreneurial orientation: The disposition of an individual or an organization to engage in entrepreneurial activities. Based on the understanding of “entrepreneur” that is developed in the Review of Literature, in this study the entrepreneurial orientation of leaders is determined by the degree to which they exhibit 10 attributes: *innovative, risk-taker, creative, change agent, team-builder, competitive, flexible, visionary, proactive and persuasive.*

Small independent colleges and universities: Privately run colleges and universities that are in the Council of Independent Colleges. These are generally liberal arts institutions with an enrollment in the range of 1,000 to 5,000, though a few have a larger enrollment, and a few have a smaller enrollment.

2. REVIEW OF LITERATURE

The Review of Literature is divided into six main sections. Section A is a brief overview of the current economic environment for higher education in the United States. Section B is devoted to reviewing the literature in order to develop an understanding of the concepts of entrepreneur and entrepreneurship. This will enable the identification of 10 attributes that are exhibited by individuals that have an entrepreneurial orientation. Section C further discusses the 10 attributes of entrepreneurial orientation that were identified in section B.

Section D focuses on understanding entrepreneurial colleges and universities. It includes subsections on entrepreneurial ideology, characteristics of entrepreneurial colleges and universities, and entrepreneurial activities carried on by such institutions. In section E, the main focus is financial challenges currently faced by small, independent colleges and universities. Finally, section F provides information about entrepreneurial presidents and the growing demand that such leaders have an entrepreneurial background and skills.

2.1. THE CURRENT ECONOMIC ENVIRONMENT OF AMERICAN HIGHER EDUCATION

Prior to the 1980s, funding for public higher education in the United States was largely sponsored by government. Over the past two decades, however, there has been a significant change in the willingness of governments to fund public colleges and universities at previous levels (Hignite & Larger, 2004). This change is partly due to other expensive, large-scale areas of need such as health care and prison systems taking precedence over higher education in regard to the percent of government subsidies allocated. At the same time, state governments are switching more monies from areas that were perceived to be issues of public welfare such as higher education to projects directly affecting business development and markets in attempts to boost economic competitiveness (Slaughter, 1998).

These changes have occurred while costs for higher education have continued to rise, with those costs growing faster than inflation for the past two decades (Hammond, 2004). As a result, public universities and colleges are facing crucial funding issues and new organizational challenges. While the percentage of government support erodes, operating costs are continuing to rise, with institutions being required to develop means to diversify their funding base. This has necessitated substantial tuition increases and a greater reliance on other traditional sources of revenue. It has also meant the use of a more market-oriented approach by public colleges and universities to help make up for lost revenues (Hignite & Larger, 2004).

Independent higher education institutions are facing many of the same funding challenges that public institutions are. Though not directly affected by the decline of government appropriations, other significant factors such as varying donor support, competition for students from less-expensive public institutions, corporate downsizing and the stock market decline in the first couple of years of the new millennium have combined to create serious funding challenges for small independent colleges and universities (Hignite & Larger, 2004).

Funding problems are often even more pressing for independent than for state-run institutions, especially for smaller private schools. Only in extreme cases do public institutions close their doors due to financial difficulties; and when that does occur, it is a political rather than an economic decision. Private schools, however, cannot stay in business if they do not generate sufficient revenues from students, donors, or other nongovernmental sources (Wolfram, 1997).

In this economic environment, both public and private schools must seek to develop and hone their traditional means of generating income. For many institutions, however, traditional methods for increasing revenue have been stretched to the limit. For private schools without

access to direct government support, the primary funding sources are generally tuition and endowments. In regard to tuition, a natural place to begin seeking increased revenues is to increase tuition rates. This may seem attractive because private institutions often rely on their academic reputation to attract students (Wolfram, 1997), and a good reputation may justify a higher tuition in the perception of an institution's potential students. However, tuition raises have not been able to restore lost revenues for small independent schools because of competition—especially from less expensive state-run schools—for the student tuition dollar. As a result, such increases have been tempered by the realities of the market, with tuition raises actually working against some schools by reducing their competitiveness.

Endowments do not provide the entire answer to revenue woes for smaller institutions either. According to National Association of College and University Business Officers (NACUBO) president James E. Morley, Jr., endowments are becoming increasingly important for all colleges and universities during this time of rising expenses and decreasing public funds (NACUBO, 2003). However, endowment earnings are hostage to the overall economic health of the nation, tending to weaken in a depressed or stagnant economic environment. The results of an annual study conducted by NACUBO showed a recent decline in college endowment earnings due to a volatile stock market and a weak economy:

For two consecutive years in 2001-2002, the average college and university endowment lost value amidst investment market declines and a poor economy. Those 556 participants with a June 30, 2002, fiscal year end recorded an average six percent decline in value over 12 months. Participants in the 2001 NES saw a 3.6 percent drop in endowment fund value in fiscal year 2001. (NACUBO, 2003). Such variations in endowment value are likely to affect small

independent institution even more than public schools because of their greater dependence on endowment income.

Clearly, new sources of revenue are needed for both public and independent institutions of higher education. Such sources are actively being sought, identified, and developed by many schools. According to Steve Golding, Vice President of Budget and Finance for the University of Colorado system, American institutions of higher education in general are exploring a wide variety of means for generating revenue, including fundraising, life-long learning, sponsored research activity, technology transfer, contract work and partnerships with business (Hignite & Larger, 2004).

The increasing necessity for developing new funding sources for American institutions of higher education constitutes a serious challenge for their leaders. The new market environment in which colleges and universities are vying with one another for students and revenue creates the need for college presidents who are more business and finance savvy and more willing to look beyond traditional ways of funding their institutions' operations. In a word, a more entrepreneurial approach to revenue acquisition is needed by both the institutions themselves and their leaders, and especially for independent schools and their presidents.

If colleges and universities are to take a more entrepreneurial approach toward the financing of their institutions, they require leaders who possess entrepreneurial skills. They must possess the kinds of attributes that help make them proficient at identifying and developing fresh ideas for increasing revenues. The next section reviews literature in regard to the nature of entrepreneurial activities and entrepreneurs in order to determine what attributes characterize a leader with an entrepreneurial orientation. Later in the review, the discussion of the current state of higher

education finance will continue, though the focus will be narrowed specifically to small independent colleges and universities.

2.2. UNDERSTANDING ENTREPRENEURSHIP AND ENTREPRENEURIAL ORIENTATION

The word “entrepreneur” comes from the French verb “entreprendre,” which means to undertake (Agnes, 2000; ARTFL Project (n.d.)). The English words “entrepreneur” and “entrepreneurship” follow this idea closely by encompassing the notion of someone undertaking a business venture(s). Typically, an entrepreneurial business venture is one that involves taking some risk for the sake of gaining a profit (Agnes, 2000). It often requires a degree of creativity and innovativeness.

Entrepreneurship can be defined by the activities that it involves. These include activities such as pursuing opportunities, taking risks, starting new ventures, innovating and creating value (Sexton, 1994). Hornaday (1992) views entrepreneurship in terms of activities that occur within a three-dimensional conceptual space defined by economic innovation, organization creation and profit-seeking in the market sector. The first of these three dimensions is economic innovation, which is the “what” of entrepreneurship. It is “innovation aimed at creating economic value” (p. 2) and involves developing new combinations of circumstances that create economic value where it did not exist before. A particular instance of entrepreneurship may involve new technology or new ways to use existing technology.

Organization creation is the “how” of entrepreneurship, which comprise the methods that the entrepreneur uses to achieve economic innovation that creates new economic value (Hornaday, 1992). For the entrepreneurial organization, the how of the economic innovation will be carried out by the organization itself, not an individual.

Profit seeking in the market sector is the “where” of entrepreneurship. This third dimension of entrepreneurial activities is the place where economic innovation is accomplished by an organization and encompasses the objective of entrepreneurial activity, which is to make a profit (Hornaday, 1992). Though Hornaday holds that non-profit activity in the market sector should not be considered entrepreneurship, the term is often currently used to refer to such activity. For non-profit organizations such as independent colleges and universities, it seems reasonable to consider the third dimension of entrepreneurship as including the pursuit of revenues not necessarily for profit, but for the continued economic health of an institution.

Stevenson et al. (1989) hold that entrepreneurship has both attitudinal and behavioral components. In respect to attitude, entrepreneurship refers to the willingness of individuals or organizations to embrace new opportunities and to strive for creative change. Such an individual or organization can be said to have an entrepreneurial orientation. This orientation implies a set of activities that include evaluation of opportunities and the design, development and operation of one or more business ventures.

Venkataraman (1997) maintains that successful entrepreneurial individuals require specific skills, aptitudes and insights. For example, Long’s (1998) emphasis on the importance of uncertainty and risk in entrepreneurship suggests that ability to take risks is an important characteristic of successful entrepreneurs and may be said to partially define an individual with an entrepreneurial orientation. Cunningham and Lischeron (1991), too, state that risk-taking is a fundamental personality trait for entrepreneurs, and Stevenson (1988) speaks of risk in holding that those involved in an entrepreneurial venture take responsibility for it or assume some risk.

Entrepreneurs are also opportunists. Krizner (1973) emphasizes that entrepreneurs are alert to opportunities that the market presents. Venkataraman (1997) agrees that entrepreneurship

requires the ability to see commercial opportunities and make the connection between specific knowledge and those opportunities. Long (1998) also maintains that creative opportunism is important for entrepreneurs. Furthermore, the entrepreneur is proactive in seeking new opportunities (Sexton and Bowman-Upton, 1991).

Smilor (2001) adds that the best entrepreneurs are able to develop a vision for their organization and to provide the energy that is needed to change behavior and catalyze change within the organization. Bennis and Nanus (1985) agree that entrepreneurs are individuals who can create a vision and then develop commitment to it. The entrepreneur's vision may be a creative view of an opportunity that has previously not been identified. It may require considerable skill for the entrepreneur to convince other organizational members to accept and work to implement such an innovative vision.

Fortitude is another attribute required of the entrepreneur (Smilor, 2001). He or she must exercise persistence, realism, consistency and perseverance to keep a business undertaking strong and eventually bring it to harvest.

Kao (1989) maintains that a successful entrepreneur must be an individual who motivates, directs and leads people. The role can involve setting clear goals and creating opportunities for an organization. The qualities of motivation and leadership also imply the ability to persuade people of a goal and to build a team. Stevenson (1988) holds that entrepreneurial processes emphasize personal evaluating, planning, acting and reassessing and that the tools for managing entrepreneurial ventures come from several disciplines. To understand entrepreneurs requires understanding their personal perspective, their ways of identifying opportunities, their methods of acting and managing, and their mechanisms for adapting and reassessing a wide range of activities including creating and managing a venture.

The literature suggests that the distinction of entrepreneurial leadership from basic leadership is centered around personality traits associated with activities. Though an entrepreneur is typically a leader (Kao, 1989), not all leaders are very entrepreneurial. For example, an organizational leader may be hesitant to take risks and may be more comfortable trying to maintain the status quo. Or a leader may not be particularly well suited at identifying and evaluating opportunities. In the current rapidly changing economic climate, however, organizational leaders who do not possess entrepreneurial skills may be at a disadvantage, depending on the mission and funding of the organization. For one thing, leaders with an entrepreneurial orientation tend to demonstrate more innovative and expansive efforts.

The above perspectives on entrepreneurs and entrepreneurship found in the literature suggest that entrepreneurs and others with an entrepreneurial orientation are individuals who tend to display several attributes. These include being creative, innovative visionaries; proactive, opportunistic and competitive change agents who are capable of taking risks; and persuasive team-builders who tend to work diligently to bring entrepreneurial ventures to fruition.

Sexton (1994) reports the results of a study that helps confirm a number of these characteristics. The study was a content analysis of key words in 77 definitions of “entrepreneurship” appearing in journal articles and textbooks published from 1982 and 1992. The journals were Theory and Practice, the Journal of Business Venturing, the Journal of Small Business Management, and the American Journal of Small Business, as well as textbooks from major publishing houses which have achieved widespread adoption.

Among the terms that were mentioned most by the respondents were the following:

- starting/founding/creating (41),
- innovation/new products/new market (39),

- pursuit of opportunity (31),
- risk-taking/risk management/uncertainty (25),
- management (22),
- marshalling resources (18),
- value creation (13),
- initiative-taking/getting things done/proactiveness (12), and
- create change (9).

These results support most of the attributes of entrepreneurial orientation identified above, including the attributes of creativity, innovation, being an opportunist, risk-taking, team-building, proactiveness, and being a change agent.

Several of the characteristics of entrepreneurs identified above were also confirmed by a Delphi study in which 36 scholars and eight business leaders were surveyed. The study found that of 90 attributes, the greatest emphasis was placed on creating a new venture (confirming the attributes of creativity and change agent), bringing resources to bear (change agent), innovation, and capitalizing on an opportunity (opportunism) (Gartner, 1990, as reported in Sexton, 1994).

Finally, Clark's (1998) comments about entrepreneurship in universities indicate that all of the above-identified attributes can be viewed as characteristics of individuals with an entrepreneurial orientation. Clark speaks of the deepening need for greater managerial capacity in the university (p. 5), and of the importance of reacting to internal and external demand as the university formulates what he calls "the entrepreneurial response" (p. 8). Responding to external demands requires being willing to enter into competition with external entities, which in turn suggests that being competitive is an important quality for leaders of entrepreneurial institutions.

In addition, Clark (1998) refers to innovation and being a change agent in stating, “Significant innovation in the character of a university means that some core tasks and some deep structures are altered to the point where the long term course of the organization is changed” (p. 8). He speaks of organizational creativity (p. 6), which suggests that creativity is a valuable attribute in the entrepreneurial institution and its leader. He also mentions that the prudent course of action for the institution is to be out front. This indicates that proactivity is a necessary quality for the entrepreneurial leader of a college or university. He says,

Universities concerned about their marginality, even their survivability, cannot depend on old habits of reputation and political clout for guaranteed resources and competitive status. They need to become quicker, more flexible, and especially more focused in reactions to expanding and changing demands. (p. 5)

Clark (1998) also mentions that entrepreneurial universities take the risks of promoting an entire new periphery of nontraditional units, which suggests that entrepreneurial presidents must be individuals who are willing to take risks. He speaks of the importance of dealing with the impact of demands by steering a course instead of just drifting, which suggests that an entrepreneurial leader should be proactive in entrepreneurial endeavors and that he or she should be opportunistic, ready and willing to identify and exploit opportunities.

Furthermore, the entrepreneurial response must embrace both managerial groups and academic departments (Clark, 1998). This helps to create “an integrated entrepreneurial culture” (p. 7) in the institution. This suggests that the leader of the entrepreneurial institution should be competent at building teams and should be persuasive in getting different groups to work together. Entrepreneurial leaders must also attempt to raise money from secondary resources and compete strongly for grants and contracts (p. 6), which also requires persuasive skills.

Based on the above review of the literature about attributes of leaders who display entrepreneurship by engaging in entrepreneurial activities, the definition of a leader with an

entrepreneurial orientation was determined. That definition incorporates 10 attributes that were mentioned by various reviewed sources and that seem integral to individuals who exhibit an entrepreneurial orientation. Most of those 10 attributes were further confirmed by Sexton (1994), and all seem to be implied by Clark's (1998) comments about the entrepreneurial response of institutions of higher education. The definition is the following:

One who tirelessly and actively transcends good leadership and management practices and personally identifies opportunities, develops a creative and innovative vision, welcomes competition, persuades others to contribute and participate, personally assumes the risks involved to create change, and proactively and enthusiastically undertakes a challenge in a new way.

2.3. TEN FACTORS THAT DESCRIBE ENTREPRENEURIAL ORIENTATION

The above definition of entrepreneurial orientation that was derived from the literature specifies 10 attributes that describe an individual with such an orientation. These are: opportunist, creative, innovative, visionary, competitive, persuasive, team-builder, risk-taker, change agent and proactive. Because of the importance of these 10 descriptors to the study, this section briefly discusses the nature of each of these attributes.

2.3.1. Opportunist

An opportunist is an individual who takes advantage of opportunities. In the case that the individual is the leader of an organization, being an opportunist amounts to taking advantage of opportunities that are available to the organization. Bygrave and Hofer (1991) agree that the entrepreneurial process is centrally concerned with the perception of opportunities.

The identification and exploitation of opportunities generally takes place within an environment of change (Drucker, 1986). According to Duderstadt (1999), the future will be a time of unprecedented change for colleges and universities. This change will present not only new challenges but also new and unusual opportunities.

Peterson (1985) speaks of creative opportunism, and it is clear that the attributes of innovation and creativity (see below) are generally implied by the kind of opportunism that entrepreneurs display. This generally involves creating new value for customers (Clark, 2001), developing a niche in a market (Garfield, 1986), and/or founding new business ventures (Sexton, 1994).

2.3.2. Creative

Creativity is an essential part of the entrepreneur's repertoire because entrepreneurship involves the identification and development of successful new business models. These often require a good deal of creative input if they are to have the highest chance at success. Clark (1998) points to the need for "organizational creativity" in describing entrepreneurial activity. (p.7) This requires the presence of creative individuals in the organization, and the entrepreneurial leader must be included among these. In speaking of entrepreneurship as involving change, Sexton (1994) refers not just to change per se, but to creative change.

The entrepreneur's creativity may take many forms. For example, an entrepreneurial leader may be creative in identifying, designing and developing new revenue-producing opportunities. The entrepreneur is also creative inasmuch as he or she creates organization (Hornaday, 1992). In addition, the entrepreneur is creative in the sense of creating new value (Sexton, 1994). Sexton (1994) holds that entrepreneurship involves creating change "by adjusting, adapting, and modifying one's personal repertoire, approaches, and skills to meet different opportunities available in the environment" (pp. 2-3).

2.3.3. Innovative

The root of the English term "innovative" is the Latin word "novus," which means new (Agnes, 2000). Accordingly, innovative ideas and activities are ones that are new. Cunningham

and Lischeron (1991), agree with this understanding of the attribute, holding that to be innovative is to seek problem solutions that are creative, unusual or novel.

Drucker (1986) views innovation as the specific tool that entrepreneurs use to transform change into an opportunity for a new business or service. He claims that innovativeness can be treated as a discipline that can be learned and practiced. Innovation is not generally a hit-or-miss matter. The entrepreneur, says Drucker, should search purposefully for indicators of change that suggest opportunities for successful innovation and then apply principles of successful innovation.

2.3.4. Visionary

The most successful entrepreneurs are able to develop a vision for their organization (Smilor, 2001). Peterson (1985) likens the entrepreneur to a creative dreamer who visualizes where the organization will be at some point in the future. The job for the entrepreneurial leader is then to determine how to achieve that vision.

The entrepreneurial vision must be for the growth of the organization. The entrepreneur is one who has a strong positive orientation toward growth in several key organizational aspects, including sales, income, assets and employment (Sexton, 1994).

Bennis and Nanus (1985) point out that entrepreneurs not only create a vision, but they also develop a commitment to that vision. This commitment helps to draw team members together in a common vision toward which they aim their efforts.

2.3.5. Competitive

Entrepreneurial activities always take place in a competitive environment. They are themselves a form of competition. The entrepreneurial leader must therefore not be an individual who shies away from competition but who rather embraces it. That entrepreneurial leaders of

institutions of higher education must be competitive is indicated by the situation facing higher education today. American colleges and universities are facing increasing competition in a dynamic educational marketplace (Freeland, 1997; Stimpert, 2004). Addressing these competitive challenges requires individuals who are competitive themselves.

Having a competitive nature is closely related to several other of the identified attributes of entrepreneurial orientation. For example, to be overly anxious about competition can hinder the expression of attributes such as risk-taking and being an opportunist. Similarly, to be an effective change agent in a competitive environment requires being ready and willing to compete strongly for the resources that can build a stronger organization.

2.3.6. Persuasive

Entrepreneurial leaders may be called upon to present innovative, somewhat risky ideas to stakeholders. In doing so, they must be able to present those ideas in clear and persuasive ways. Being persuasive is tied closely to being a team-builder and being visionary. The entrepreneur must be able to define an organizational vision of what can be done, and able to rally people around the vision so that it can be made into a reality (Kao, 1989). This takes skill in persuasion. The necessity of being persuasive is perhaps even more important for college and university entrepreneurial leaders than for many other entrepreneurs because they must deal with so many different stakeholder groups.

2.3.7. Risk Taker

Risk taking is an attribute that applies to entrepreneurs in relation to their business endeavors. Risks are taken in exchange for profits (Sexton, 1994). The risk-taker is one who is willing to commit significant organizational resources in an attempt to exploit an opportunity

when there is a significant risk of failure (Mill, 1984). Mill sees this as a key attribute that distinguishes entrepreneurs from managers.

Cunningham and Lischeron (1991) point out that the entrepreneur is not generally someone who takes overly dangerous or unappreciated risks. Rather, he or she typically takes risks that are moderate and calculated. Still, entrepreneurial endeavors often include a notable chance of incurring substantial losses.

2.3.8. Team Builder

A leader who is a team builder is one who is able to create cohesiveness among individuals who are aiming for the same objective. Clark (1998, p. 7) holds that teamwork and a unified objective are fundamental to the entrepreneurial process in an institution.

Being a team builder is essential to being a successful entrepreneurial leader because the leader must rely on others for the accomplishment of purposes and objectives (Kao, 1989). The entrepreneur must be able to successfully appeal to others to join in the effort to reach entrepreneurial goals. He or she must be good at managing people and able to motivate, direct, and lead the team. The successful team-building entrepreneur sets clear goals, creates opportunities, develops a human resource system, and empowers people (Kao). According to Duderstadt (n.d) for the leader of the entrepreneurial college or university,

The challenge is to work together to provide an environment in which such change is regarded not as a threat but as an exhilarating opportunity to engage in the primary activity of a university: learning—in all its many forms—to better serve our world (p. 3).

2.3.9. Change Agent

Entrepreneurial activities within an organization are attempts to change the status quo and increase revenues by developing new business activities. In leading these attempts at change, an entrepreneur must therefore be an agent of change. Clark (1998) agrees, describing

entrepreneurial activity as an action that “points more powerfully to deliberate local effort, to actions that lead to change in organizational posture” (p. 4).

Sexton (1994) points out that an entrepreneur takes responsibility for bringing about creative change by adjusting his or her approaches and skills to address opportunities that are available. Given a rapidly changing society, entrepreneurs within the higher educational system must be agents of change to prevent their college’s or university’s financial position from being undermined by large-scale trends and events. Responding successfully to the challenges and opportunities requires developing new paradigms that can better serve society (Duderstadt, n.d).

2.3.10. Proactive

Being proactive implies initiating activities that are intended to achieve some goal. In the case of an organizational leader such as an entrepreneurial college president, this would involve initiating activities intended to create or enhance new revenue sources. Cunningham and Lischeron (1991) describe proactiveness as doing what is necessary to implement a particular entrepreneurial effort. Sexton and Bowman-Upton (1991) hold that in being proactive, the entrepreneur seeks to grow beyond whatever constraints are placed on activities by the resources currently available.

Proactivity includes not only initiating some effort, but also ongoing activity. It is an attribute that the leader continues to exhibit as an entrepreneurial project proceeds and usually involves a significant amount of perseverance and adaptability (Cunningham & Lischeron, 1991).

2.4. THE ENTREPRENEURIAL COLLEGE AND UNIVERSITY

2.4.1. Entrepreneurial Ideology

For most American institutions of higher education, traditional academic ideology held that the institution had no business in the marketplace. The proper role for higher education in society was to be a haven for teaching, learning and research and it was not customary for colleges and universities to step out of that role. As a result, the schools were reluctant to get into the marketplace.

This continued after World War II. For two decades or more, American higher education took place in an environment that was mostly protected from outside competition as large amounts of public funds were invested in the nation's colleges and universities (Cook, 1997). In that environment there was no pressing need for schools to change their previous academic ideology.

Over the last two decades, however, many changes that significantly affect the financial state of American's higher education institutions have taken place. These include significant curtailments of federal funds, changing demographics, and the entrance of private corporations into the business of higher education (Cook, 1997). As a result, for many institutions, and especially small private schools, monetary concerns have become of the first importance. In this new environment, the prior academic ideology has changed considerably. Today, American higher education must be viewed as an integral part of a larger system grounded in the market economy. Competition for students and funds is an increasingly pressing reality for colleges and universities, leaving them embedded in a competitive market framework. According to Freeland (1997, p. 1), "American colleges and universities are no more or less than vigorous competitors in an increasingly diversified and dynamic marketplace."

Adding to this market environment, colleges and universities are increasingly valued by their usefulness in serving economic ends. This includes their being expected to generate revenue to justify programs, and to justify programs by how well they prepare students for the world of work. Statistics derived from a 2003 survey conducted by the Chronicle of Higher Education reported 71 percent of the group surveyed thought that preparing students for a career was the most important role of a college or university (Ross, 2003).

Making ends meet in this competitive environment is a matter of survival for many institutions, especially for small independent schools who receive no public funds. To survive and thrive in competitive times, an institution may be required to make substantial changes. As Duderstadt (1996) points out, when costs exceed revenues, a college or university may be able to accommodate the imbalance for a short period, but over a longer period, the school will have to restructure its mission and activities.

There is thus great pressure for higher education to adapt to the rapidly changing economic environment. Higher education is perceived to have a higher commercial value than before, and there is a heightened understanding of how universities can contribute to economic growth. As a result, institutions of higher education must reconsider all aspects of their role in society (MIT, 2003) Slaughter and Leslie (1997) observe that “the center of activity shifted from a liberal arts core to an entrepreneurial periphery” (p. 207).

Clark (2002) suggests that today’s universities need to develop entrepreneurial skills and traits. Clark emphasizes the importance of the market in forming a new ideology for the future of higher education with respects to traditional academic ideology. In light of the globalization of higher education services, he claims, there is an urgent demand for a new type of administrative leadership in higher education.

2.4.2. Characteristics of Entrepreneurial Colleges and Universities

According to Trachtenberg (1999), educational institutions with an entrepreneurial orientation work to create and develop new ideas for generating revenue and programs. In doing so, they foster new attitudes, direct and inspire individuals and develop interpersonal relationships and teams.

The new entrepreneurial university is turning out to be a place that makes money. The new entrepreneurial university is a place where you can legally talk about your students as “customers”.... In the new entrepreneurial university, we have finally succeeded in making living contact with the world we purport to be teaching our students about. It is serious business we’re in. Universities are critically important to American society. So it is serious business to get along with business leaders and with bureaucrats. It is serious business to listen to our customers and hear what they need and want. (Trachtenberg, 1999, p. 2)

A search for alternative and unique income streams has been a focus of higher education management in creating this entrepreneurial institution. Indeed, Clark (1998) one of the most respected and prolific commentators on the rise of entrepreneurship in American colleges and universities, defines “the entrepreneurial institution” in terms of its sources of revenue. Clark explains that there are three basic income streams for institutional resources:

- (1) Governmental allocation based on numbers and statistics about students, faculty and other aspects.
- (2) Funds from government research councils that focus on research groups, departments and professors that compete for research funds and contracts.
- (3) Income from virtually all other sources, such as endowments, student fees, profits on campus operations, monies obtained from industries, and others.

Clark then defines “entrepreneurial university” in terms of the third income stream. He describes entrepreneurial institutions as “significant actors on their own terms seeking third-stream sources of financing and actively reaching out to them” (Clark, 1998, p. 6).

This study used Clark’s (1998) theoretical framework as a basis for defining and understanding the entrepreneurial university. In particular, the study considered entrepreneurial activities to comprise third-stream income sources that include (1) innovative and profit-based self-supporting operations that go beyond traditional sources, such as business development activities and innovative retail sales operations, (2) activities that develop and enhance traditional income streams such as endowment and tuition, and (3) activities that involve both traditional and nontraditional aspects, such as distance learning, which uses nontraditional methods of teaching to gain tuition, which is a traditional source of income.

Clark (1998) offers a number of important insights into the nature of the entrepreneurial institution of higher education. Principal characteristics that identify the entrepreneurial university are: (1) the ability to change its organizational structure, (2) cooperative and unified stakeholders, and (3) developed entrepreneurial attributes that lead to autonomy within the institution.

Clark (1998) also points out three critical aspects of the evolutionary process that transform an institution into an entrepreneurial university:

- (1) The institution must have strong leadership, sturdy management and administration to direct the institution into achieving autonomy, self-sufficiency and financial stability through entrepreneurial approaches.
- (2) The institution must expand its development periphery, intentionally working to bring in outside interests to participate in projects that attempt to solve serious practical problems that are

critical to economic and social development. In doing so, the institution seeks to acquire greater financial resources, widen the financial base, and diversify income to increase financial resources, provide discretionary money, and reduce governmental dependency.

(3) The institution must diversify its funding base and balance its funding portfolio. “Entrepreneurial universities learn faster than non-entrepreneurial counterparts that money from many sources enhances the opportunity to make significant moves without waiting for system wide enactments that come slowly” (Clark, 1998, p. 7).

2.4.2.1. Core Factor One: Organizational Change.

To develop and expand third-stream revenue generation in educational institutions requires organizational change. The university must make changes in its organizational character while it actively seeks innovation in its business model (Clark, 1998). Entrepreneurial universities understand change to be necessary for their continued existence within the competitive capitalist economic system. Typically, the leadership of pre-entrepreneurial academic institutions resisted structural change, clinging to traditional practices instead of replacing them with more effective alternatives (p. 7). Such change can occur according to a functionalist perspective that allows organizational structures to develop within the educational institution. Change is the element of functional entrepreneurialism that forces institutions to adapt. Furthermore, higher education’s participation in this process of social change has enormous power to influence the economy.

The university must be quick, flexible, and more focused in reacting to expanding and changing demands, and organized in a way to refashion its programmatic capabilities. The university must also take on even more tasks and expectations; undercut the possibilities of building a critical mass of resources, faculty, and students in a different basic unit; fashion a new change-oriented

character; and take on an entrepreneurial outlook in order to define its societal usefulness. (Clark, 1998, p.147)

Duderstadt (1996, p. 11) agrees that “modern universities must engage in a strategic process of change to address the future challenges and opportunities that confront higher education.” Duderstadt identifies other equally profound changes occurring in the role of the university. “The process of creating new knowledge through research and scholarships involves moving away from the solitary scholar to teams of scholars spread over a various number of disciplines” (p. 8).

2.4.2.2. Core Factor Two: Cooperative and Unified Stakeholders.

Another key element defining the entrepreneurial university is the level of unity and cooperation among its internal stakeholders: faculty, administrators and staff. On this view, it is teamwork and a unified objective that are fundamental to the entrepreneurial process in an institution. The academic stakeholders then respond as a unified force to fulfill the functional aspects necessary to achieve their economic mission. Clark (1998) points to openness to organizational change from stakeholders as a factor that helps create a cohesive environment. Clark stresses that the term “entrepreneurial” is a characteristic of a total social system of the university and all its departments, research centers, faculties and schools (pp. 3-4).

Slaughter (1997) points out that decreased government funding requires considerable expenditure of a university’s human and financial resources to make up for those losses. However, when the skills of university personnel are marshaled with unity and purpose, in contracts and business plans, then the university can become self-supporting. Slaughter emphasizes that all those involved need to have input and to receive appropriate rewards for their efforts to enhance unity.

Thomas Michaud, director of the Center for Applied Ethics at Wheeling Jesuit University in Wheeling, West Virginia, also stresses the importance of everyone on a team knowing the goal and how the team can accomplish it:

Academics are accomplished planners with a forward vision and a trust in the mission statement to guide their plans. Academic institutions in financial distress need well-defined recovery plans that are explicitly consistent with the institution's identity and mission. Trust is built with a mission-driven recovery plan shared throughout the institution. If such a plan is not developed and implemented, academics are more likely to lose trust in the institution's ability to guide itself. Academics need to feel that they are valued participants in the financial recovery and rebuilding of their institution, with the right to question commands and decisions (Michaud, 2003, p. C6).

2.4.2.3. Core Factor Three: Entrepreneurial Attributes of Intellectual Innovation, Creativity and Risk-taking.

The entrepreneurial institution understands the importance of its stakeholders' activities and attitudes toward growth in revenues. Adapting to changes in the organizational structure depends on the intellect, creativity, and innovative energy generated by the stakeholders, and determines the outcome of all entrepreneurial efforts. Clark (2000) holds that a successful entrepreneurial response requires proactivity in generating innovative revenue generating ideas.

Entrepreneurial attitudes such as being unafraid of challenges and willingness to take risks need to be developed at all levels of the entrepreneurial university. This includes doing so in teaching, research, administration, and the way financial decisions are made:

d. Putting the Three Factors Together. As can be seen, all three factors of the entrepreneurial university must work together for success. The effectiveness of organizational change depends on the cooperation, support and unity of stakeholders. It also depends on how creativity, intellectual innovation and risk-taking are brought to bear on the institution's projects and goals.

Furthermore, creativity and innovation depend on both cooperation and unity and on specific details of organizational structure.

An important issue that arises is whether educational institutions' traditional values can be maintained in the face of an increasing entrepreneurial profile. Duderstadt (1996) believes that they can. Duderstadt maintains:

The challenge for leadership is thus to tap into the creativity and energy associated with entrepreneurial activity, but in a way that preserves the institution's fundamental mission and values. Instead of continuing to evolve as an unconstrained transactional entrepreneurial culture, universities need to guide this process in such a way as to preserve their core missions, characteristics, and values (p. 1).

Becoming more entrepreneurial may actually help institutions preserve their traditional values by controlling their destiny. By becoming free of economic dependence on governmental funding, they become more autonomous. They can then more freely choose areas of specialization. This fiscal autonomy can help the institution to preserve higher education's values as viewed by its stakeholders (Clark, 1998).

The entrepreneurial response offers a formula for institutional development that puts autonomy on a self-defined basis: diversify income to increase financial resources, provide discretionary money, and reduce governmental dependency; develop new units outside traditional departments to introduce new environmental relationships and new modes of thought and training (Clark, 1998, p. 146).

2.4.3. Entrepreneurial Activities in Colleges and Universities

In addition to tuition, governmental support and donor contributions, many institutions have developed creative approaches to financing, reaching out to nontraditional sources of income in order to create a firmer financial base. One main way schools are doing this is by offering their academic specialties in exchange for opportunities for added revenue, using faculty experts to produce value for the private sector (Rhodes, 2000). In some cases, "High tech

research is being conducted in collaborative business, government and university consortia, specially established to meet the short term needs of specific clients or problems” (Subotsky, 1998, p. 3). Institutions make liaisons with business and industry, create partnerships focused on innovative product development, and market educational and business services (Slaughter & Leslie, 1998, p. 43).

Other activities include developing partnerships, funding potentially revenue-producing research, engaging in technology transfer and creating centers for information technology that combine education with applied research and business services (Rhodes, 2000).

In an attempt to increase sources of support for their traditional teaching responsibilities, some universities have experimented with the creation of separate for-profit companies, seeking to benefit from everything from distance learning to athletics to technology transfer. In their efforts to better serve the public, universities have undertaken the sponsorship and management of community enterprises such as schools, environmental initiatives, and healthcare organizations, sometimes in alliances with public agencies or other groups. All of these pose unfamiliar challenges to traditional campus norms and values, even as they seek to extend the effectiveness of the university’s services and increase the usefulness of its activities. (p. 3)

The range of entrepreneurial activities that colleges and universities are engaged in is wide and may be growing wider. The remainder of this section briefly describes a number of revenue-generating activities that are currently occurring in American colleges and universities.

2.4.3.1. Research and Technology.

A significant source of revenue for some institutions is the transference of technology and knowledge to the private sector and government. Many American universities have become aware of the value of applied research and of innovative teaching and services that can be

provided to the public and private sectors. As a result, new linkages are being formed between educational institutions and these sectors.

One way this can be accomplished is through extension services that send experts from the university into various sectors of the economy such as agriculture to implement new research findings and techniques. Schools may also attract key firms to the state by sponsoring contacts between university researchers and industry, participating in economic development planning, and facilitating communication and collaboration between the university and private, technology-based companies (Rhodes, 2000).

As Rhodes (2000) points out, much of the activity at the graduate level in universities focuses on the development of knowledge through student thesis and dissertation research, individual faculty research and organized research projects involving groups of students and faculty. Such knowledge may have almost immediate practical economic application for various constituents. Government, industry, and private research institutes often collaborate in funding these research activities (Rhodes).

2.4.3.2. Intellectual Property Licensing and Patenting.

Another source of revenue is intellectual property licensing and patenting. Slaughter (1996) explains that private corporations may select marketable products and processes from university inventories, then work with faculty to bring them to market. The university then receives a share of the profits through licensing and royalty agreements.

Faculty entrepreneurs are the source of many projects in both public and private research universities. These are professors and researchers who are able to bring in revenue for the institution by marketing their expertise and research to outside parties. Entrepreneurial

administrations may be proactive in seeking and developing innovative partnerships with external partners and in trying to achieve licenses and patents (Slaughter, 1996).

2.4.3.3. Small Business Development.

Some institutions provide small business development services in the form of management and technical assistance to firms and individuals. In doing so, they attempt to help small businesses succeed while they contribute to economic growth and prosperity (Rhodes, 2000).

By providing consulting services, a small business development center can gain needed revenue for itself as well as for faculty, research assistants and student interns (Grayson, 2003). Its services can be invaluable to local small business concerns. Grayson points out that whereas half of all small businesses fail within four years, the survival rate for companies incubated through institutions of higher education is 85%.

Small business development programs may encompass any of a variety of services, including:

- Providing counseling, technical or managerial assistance, Coordinating and conducting research to small businesses
- Conducting training programs, conferences and workshops for businesses
- Offering specialty and high technology services to the business client
- Assisting with product engineering, technological research and patent searches, product testing and feasibility studies and providing plant layout and design
- Establishing incubator businesses, assistance with small business start-ups, and establishing for-profit companies
- Outsourcing with business, providing databases, leasing and access to resources.

2.4.3.4. Partnerships.

Slaughter (1998) states that the entrepreneurial university seeks creative opportunities to collaborate with outside business and industry. “University, industry, and government partnerships have become the central vehicle for grants and contracts increasingly displacing the principal investigator/individual investigator system” (p. 24).

There are a number of kinds of partnerships that colleges and universities can make with various organizations, including partnerships with not-for-profit organizations, other educational institutions, industry, and outside businesses. Some of these involve joint ventures, partnership alliances in community projects, and investments with outside parties. Monies received from such collaborations can be an important source of revenue for the institution.

Such partnerships can raise issues related to the traditional freedom of information flow connected to the results of university research. Rhodes (2000) points out, “In their attempts to cooperate with industry, universities wrestle with demands for restrictive corporate contracts and exclusive partnerships” (p. 4).

Subotsky (1998) points out that community service partnership projects can be undertaken with local and regional governmental bodies as well as other social development institutions. Such projects may include community education, community development and mutually beneficial projects. Some projects may also provide benefits to students in the form of learning and research opportunities (Subotsky).

2.4.3.5. Fundraising Programs.

Fundraising is a traditional way utilized by virtually all colleges and universities to generate new income, but some institutions are using new entrepreneurial approaches to fundraising. Grayson (2003) points out that schools may now employ more creative and broader

marketing plans for fundraising efforts targeting alumni and potential donors. The entrepreneurial aspect is also reflected in the means of reaching donors. These include new network technologies and communications systems and marketing techniques and tools that can help increase donor bases and increase donations (Grayson).

Innovative methods of fundraising include:

- •Planned giving programs
- •Athletics-related events such as summer camps
- •Concessions and booster clubs
- •Special events
- •Alumni travel programs and classroom experiences
- •Retirement communities built near campus (Grayson, 2003).

2.4.3.6. Investment Activities.

Investments are another traditional area of revenue production for institutions, but like fundraising, schools can take a more entrepreneurial approach to their investment activities. Instead of allowing funds to remain in investment vehicles that produce a minimal return, they can enlist the help of creative investment managers to maximize the earnings of invested monies. Popular choices for more dynamic investments are venture capital investment funds, private equity covering private corporate mergers and buyouts, and hedge funds (Grayson, 2003).

Grayson (2003) reports that according to Commonfund's 2003 Interim Report, 51% of schools have changed the way their assets are allocated, compared to 29% in the previous year's interim report. Grayson also maintains that these new investment strategies boosted performance according to the report, with educational endowments gaining 2.9%, compared to losing 5.9% in 2002 (p. 38).

2.4.3.7. Educational Services.

A number of opportunities for educational programs to generate new revenue present themselves to colleges and universities. These include:

- Distance and online education programs: the virtual university
- Corporate/contract education, continuing education programs and seminars, degree completion programs, children's and study-abroad programs
- Educational consulting, extensive tutoring, summer programs, concerts and plays
- Off-campus programs
- Alumni programs and emeritus college for senior learners

According to Rhodes (2000), the most significant recent expansion of the university campus and its facilities may consist of distance learning. Rhodes also believes that partly because of its growing value as an educational medium, distance learning will probably be one of the most important sources of revenue for colleges and universities in the first decade of the twenty-first century.

Nearly half a million students were enrolled in online or distance learning programs in the first academic year of the new millennium, representing \$2.4 billion in tuition (Grayson, 2003). Grayson reports that a 2003 public opinion survey by the Chronicle of Higher Education indicates that 59 percent of respondents believed that during the next decade, students pursuing a college education would take most of their courses via the internet.

There are several growth markets in higher education. These include students of color, adult students, part-time students, and international students. However, those programs that target part-time or adult students show the greatest potential for growth (Grayson, 2003).

Contract and corporate educational opportunities are currently a popular source of career development and retraining activities, all of which may generate revenues for sponsoring institutions that provide them:

Contract education is finally getting attention because schools now see it as a rock-solid revenue generator while corporations are cutting back on education initiatives. Continuing education divisions are free to operate more like true businesses within the university, moving quickly to address customer and student needs, and thus generating revenue on new course offerings. (Grayson, 2003, p. 2)

2.4.3.8. Real Estate.

There are a number of entrepreneurial opportunities involving real estate that may be available for colleges and universities. These include property acquisition, development, leasing and sales, along with property management. Both off-campus and on-campus properties may be sources of revenue.

The many types of real estate projects that various schools may undertake include the following:

- Leasing or renting of school facilities such as auditoriums and practice grounds
- Construction and renting of alumni living quarters
- Renting out already-existing office space
- Construction of parking facilities that generate income
- Construction of facilities sponsored and partly funded by business

One kind of on-campus opportunity involves the development of office buildings on campus within which space would be rented to the private sector. Rents collected could help pay

for the building over a period of twelve to fifteen years. Once the building is paid for, it could generate substantial income for the school (Grayson, 2003).

2.4.3.9. Retail Sales and Services.

Numerous retail sales and service opportunities can provide significant income for colleges and universities. These include institutionally operated bookstores, publishing companies, food services, vending machines and concessions. In addition, some institutions derive substantial profit from vendor-operated services such as concessions and food outlets. Universities and colleges are expanding their retail opportunities to include new products and retail outlets to generate revenue through leasing retail space and offering products and services (Grayson, 2003).

Financial services for students, faculty and staff are another potential source of revenue. For example, credit card services can be tied to a credit union to offer banking for students and employees. The school may receive a flat fee per month from the credit union, along with a payment for every account opened and linked to the card program. Most of the revenue may come from a payment the credit union makes on the total value of the checking and savings accounts opened (Grayson, 2003).

Income can also be generated through sales of insurance. Life insurance is the type most commonly offered through alumni associations; however, auto, property, and short-term medical insurance are growing areas (Grayson, 2003).

As indicated, many of the activities are not so much in new areas or ventures but in the ways in which the ventures are carried out. Because entrepreneurship is about creativity and innovation, it is highly probable that new fund-raising ideas and activities will continue to be

identified and developed by entrepreneurial institutions and presidents as the need for new sources for funds continues.

2.5. FINANCIAL CHALLENGES FACING SMALL INDEPENDENT COLLEGES AND UNIVERSITIES

2.5.1. The Unique Role of Independent Schools in American Higher Education

Small independent colleges and universities occupy a unique place in American higher education as they strive to fulfill diverse missions often not present in public institutions (Wolfram, 2004). One such mission is to provide a teaching and learning environment that is highly personalized (Stimpert, 2004). While public institutions tend to have a large enrollment, often in the tens of thousands, private colleges offer a small-school experience, with 85 percent of colleges that enroll fewer than 1,000 students being private institutions (Wolfram).

In addition, unlike large publicly supported universities, many small schools focus strongly on undergraduate education. Even so, private institutions are an important part of America's graduate school programs, awarding nearly half of the nation's doctorates (Wolfram, 2004). The forte of many private colleges is a liberal arts education, with 95 percent of America's liberal arts colleges being private. Religious affiliation is also a hallmark of many independent schools, with almost 800 private colleges and universities maintaining such an association and many more embodying a curriculum grounded in religious values. About 200 private colleges offer single-sex education (Wolfram).

2.5.2. Competing for Students and Funds

Today, the small American liberal arts college is finding itself in sharp competition with other institutions of higher education for both students and funds. In regard to students, they have had to face a steady decline in their traditional market over the past 25 years, which is high school graduates. Over the 18-year period from 1976 to 1993, the number of annual high school

graduates declined from 3.2 million to 2.5 million (Schapiro, 1999). This 22-percent decline represented a significant decrease in the number of incoming domestic students available for smaller schools.

At the same time, there has been a vigorous expansion of public institutions over the past several decades. Schapiro (1999) states that public colleges and universities generally receive half or more of their operating revenues from state government appropriations, allowing them to charge tuitions that are significantly below costs. In addition, major research universities and other doctoral-granting universities get more than a quarter of their revenues from federal research grants and contracts, which helps them to hold their reliance on net tuition to about 55 percent of revenues. By being able to offer lower tuition to students, public colleges and universities have seen their enrollment increase at the expense of private schools, which do not have public funds available and so must generally charge higher tuition and fees.

Private schools have also recently been witness to increased competition for students from other educational providers (Schapiro, 1999). These include for-profit businesses and corporate educational programs. Private corporations are now spending more dollars on education than colleges and universities do (Cook, 1997). As even more alternatives become available to students through rapidly developing on-line educational options, the competition for students will likely become even more intense.

Competition for revenues has also become much sharper for private schools over the past few decades. This is tied to the competition for students because having more students typically implies more funds from tuition. In addition, public institutions, because they are receiving a smaller percentage of public funds than previously, are now often vying for the same market sources of additional funds as private schools. Both public and private universities have

increased their commitment to private fundraising (Cook, 1997). There is also competition for corporate partnerships, research monies, and other supplementary income sources.

Private schools—unlike public institutions—cannot depend on public funds to help alleviate financial problems. Private colleges, which are expected to be self-supporting, must lobby for money from governments and seek foundation grants (Associated Press, 2003) while also seeking other revenue sources. Overall, they are forced to innovate in order to survive and prosper (Ashcroft & Kerr, 1991).

The financial challenges facing small schools are complicated by a number of factors that significantly affect, sometimes negatively, their two main sources of revenue: tuition and fees, and endowment income. To understand these better, the next two sections will discuss several of the factors affecting these main income sources.

2.5.2.1. Tuition Issues.

The major source of revenue for private schools is tuition and fees. Liberal arts colleges generally receive more than three-quarters of their revenues from tuition after grants provided to students (Schapiro, 1999). To keep up with inflation and increasing costs, tuition and fees rose from 35.9 percent to 41.2 percent of current-fund revenue from 1979-80 to 1992-93, rising \$7 billion to \$25.9 billion in current dollars (Wolfram, 1997). These increases highlight one of the main challenges to smaller institutions, which is marketplace perceptions about the affordability of private higher education (Wegge, n.d). The perception that public schools are much less expensive than private schools is one major factor that leads many students to opt for the former. In order to maintain higher tuition while competing effectively with other institutions for students, it has been necessary for private schools to rebate a substantial portion of tuition and fees in the form of scholarships and other financial aid, commonly referred to as discounting. As

a result, the management not only of tuition but also of student aid is a key factor in the finances of liberal arts colleges (Schapiro, 1999).

Commenting on this problem, Stimpert (2004) maintains that whereas most liberal arts colleges have been raising their tuition charges faster than the rate of inflation, these increases are offset by financial aid programs. Such programs are necessary to meet enrollment goals, maintain affordability, and compete with other colleges and universities for outstanding students, with the result that increasingly high discount rates often accompany tuition increases. In effect, most liberal arts colleges are using tuition dollars from the students who can afford to pay full tuition to subsidize those who have a significant financial need (Stimpert).

The percent of tuition dollars rebated to students in the form of institutionally financed grants by private schools rose from 18.5 percent in 1986-87 to 26.6 percent only seven years later in 1993-94. In the latter year, the average liberal arts college received \$10,823 in tuition revenues per student, but it also rebated \$2,882 to students (Schapiro, 1999). This constitutes an increasingly substantial inroad into the main income stream for independent institutions. Wegge (n.d.) points out that when colleges continue to raise the amount of financial aid provided to incoming students at the same time that they raise their tuition, the latter raises sometimes simply cancel out the former.

Small independent institutions thus appear to be caught in a difficult quandary with regard to tuition. Charging higher tuition and fees are necessary in order to fund educational programs. However, without offering sizeable rebates to a significant number of students, many of those students would choose less expensive institutions. But at the same time, providing these rebates results in substantially less additional income from tuition increases than the school would otherwise enjoy. As a result, the institution must turn to other sources of income.

2.5.2.2. Endowments.

Endowment income accounts for much of the remainder of the revenues for independent institutions after tuition. Endowment amounted to about 16 percent of such schools' income in 1994 (Schapiro, 1999). The National Association of College and University Business Officers reported endowment assets for its members at \$230 billion as of June 2003. This compared to \$241 billion at the end of the 2000 fiscal year, and \$222 billion reported for the 2002 fiscal year (Hammond, 2004). Most institutions determine their use of endowment income through a three-year average market value approach. This generally results in spending between five and six percent of the endowment's value (NACUBO 2002 Endowment Study). The vast majority of endowment funds are preserved over the long term to maintain the institution's financial base (Schapiro, 1999). These funds have the benefit of being able to help protect against fluctuations in revenues (Wolfram, 1997).

However, endowments are far from being the answer to the revenue questions of independent schools. In the first place, the values of such funds vary widely among institutions (Wolfram, 1997). Schapiro (1999) points out that endowments are unevenly distributed among liberal arts colleges, with the forty richest colleges controlling 75 percent of the total. Furthermore, some endowment funds may be earmarked for specific uses, for example through restrictions that are made by benefactors. Such funds may not be available for institutional operations or other matters.

Endowments can also be strongly affected by the broad economic health of the nation. The shifts in the economy that resulted from the 9/11 attacks and recent corporate failures seriously affected the stock market. This, in turn, led many institutions to lose a significant percentage of their donors, while other donors found it difficult to continue annual contributions

with depleted portfolios (NACUBO, 2004, article “Higher Education endowments still struggled in FY03).

Endowments, though a steady influence on the finances of small institutions, are therefore far from being a full answer for revenue challenges. Because they themselves face fluctuations, to provide the strongest revenue base for the institution, it is necessary to identify and develop other sources of revenues that can help support the school.

2.5.2.3. Other Income.

There are a number of other important revenue sources for small institutions, some traditional and some relatively new. Gifts, often solicited for the institution’s “annual fund,” are one of the most important traditional sources of funds for private institutions. Fund-raising for gifts may be done to replenish or increase endowments, and in some campaigns 50 percent or more of gifts may be dedicated to the institution’s endowment fund (Cook, 1997). However, fund-raising campaigns may also be targeted to particular projects such as new programs, special professorships, or new buildings. Because major gifts are often intended for specific purposes, it may be difficult to find unrestricted gifts that can be used to fund any of the recipient school’s programs or operations (Cook, 1997).

Non-endowment gifts are subject to some of the same problems in variability that endowment funds face. Slowdowns in the national or the local economy can adversely affect the number of individuals who can donate to a campaign or to annual funds. The amounts donated may also be reduced for the same reasons.

Other significant avenues of income for private institutions include sales and services, auxiliary enterprises (most notably residence halls room and board), hospitals, and independent

operations. For the year 2000, the Chronicle of Higher Education (2000) provides the following breakdown for percentage of revenue for particular revenue-producing areas for private schools:

- Sales and service of educational activities 2.4
- Auxiliary enterprises 6.9
- Independent operations 2.6
- Hospitals 6.0
- Other 3.6

Together, these account for 21.5 percent of income for private institutions for 2000. The Entrepreneurial Activities section of part D of the Review further describes some of the additional kinds of fund-raising activities in which colleges and universities, including private schools, engage.

2.5.3. The Need for Identifying and Developing New Revenue Sources

In the very competitive economic environment in which small colleges and universities now find themselves, where they are competing for both students and funds, it is clear that they must identify and develop new sources of funds. With much of the potential value of tuition raises being eaten up by tuition rebates and the danger of losing students if tuitions are raised too high, and with endowment values and growth being reliant on the broad economic environment, it is necessary for private schools to increase their financial base through new ideas and ventures. This is a matter of securing stability and enabling growth, and it can be a matter of survival for some institutions. As Wolfram (1997) states:

Considering that many institutions receive up to three-fourths of their budget from student tuition, fees and room-and-board, and another 20 to 25 percent from annual alumni and donor gifts, the state of a college's financial health can change year to year. Although the incentives for

administrators and faculty may be similar in the public and private sectors, the constraints on the private sector are much stronger. Even though private colleges may be nonprofit, they can still go out of business. (p. 3)

Simply relying on past methods may prove to be the downfall of smaller independent institutions. This is something that schools have generally recognized. There has been a wide expansion in the range of entrepreneurial activities taking place within schools of higher education (Bok, 2000). Fundraising has changed to become very entrepreneurial (Cook, 1997), with institutions seeking alternative ways to provide revenue. Such methods may include anything from finding innovative methods for generating gift income, to developing auxiliary enterprises, to identifying fresh concepts and undertaking new business ventures.

However, smaller educational institutions have conditions that limit their ability to successfully implement such approaches. Small schools face many of the same kinds of struggles, challenges and issues that public and elite private institutions face, but they lack many of the opportunities or advantages to increase revenue streams that are afforded the larger institutions. Small independent institutions are thus caught in the middle: they are not large enough or financially capable of implementing many of the entrepreneurial activities of their larger counterparts, and they are not recipients for significant governmental funding as public schools are.

This makes their challenge even greater. Leaders of small independent institutions may find themselves ill-prepared for finding and developing new revenue-generating activities, and leaders may be lacking in the entrepreneurial skills needed to compete in the academic marketplace. As we have seen, profit-driven strategies are not routinely built into higher education or embedded in academic ideology. Yet clearly, presidents of smaller independent

colleges and universities need to be more entrepreneurial in their orientation and outlook if they are to lead their schools to financial independence and inspire their constituents in that direction.

2.6. ENTREPRENEURIAL PRESIDENTS

As higher education has changed over the years, the role of the American college president has evolved. The religious leader and moralist of colonial times eventually became the builder of institutions following World War II. Until recently, however, even in the face of widespread change, the academic ideology that viewed the marketplace as no place for higher education still shaped presidents' agendas. University presidents before 1970, says Bok (2000) "only occasionally resorted to advertising and other promotional methods borrowed from the world of business.... commercialization in the strict sense of the term—efforts to sell the work of universities for a profit—was largely confined to the periphery of campus life: to athletic programs and, in a few institutions, to correspondence schools and extension programs." (p. 8)

Over the past several decades, this circumstance has changed substantially, with entrepreneurial activities in colleges and universities now extending far beyond departments of athletics and development offices. Such activities may now involve a number of academic units across the campus and may include professors and researchers from numerous departments (Bok, 2000).

Accompanying the rise of the entrepreneurial university has been a transformation of its leadership to be more entrepreneurial. This stands to reason, because creative and enterprising leadership is a vital part of the success of entrepreneurial ventures everywhere, including in higher education. The president must be a leader and director of entrepreneurial activities and a vital player in determining how the institution adapts and develops income stream resources. Today, the most characteristic role for a college or university president is to increase the school's

resources, with the individual's reputation largely depending on how successfully he or she succeeds in that role. Their ability to raise funds has become an important factor in the selection of presidents (Cook, 1997). At the same time, today's president must also fulfill other functions, include that of being a political leader for the institution. A large part of this political role can be seen as closely related to entrepreneurial efforts as presidents are required to communicate visions, persuade stakeholders of the value of new endeavors, build strong teams, and find effective ways to market the school's expertise to potential clients and work with media to publish information that can assist in revenue-raising efforts.

Corrigan (2002) suggests that fundraising and finding new avenues for tuition remain the focus of many presidents. However, as expenses rise, and with tuition and fundraising possibly stagnating as sources of needed funds, the leader's success increasingly depends on his or her ability to generate new funds. As a result, qualifications for presidents may have shifted over the last few decades. Because of the challenge of finding new revenue sources, the president may require wider expertise than previous presidents, along with a different set of skills (Corrigan).

Bok (2000) claims that today's entrepreneurial president must possess diverse skills and be flexible and adaptable. These needs are legislated by rapidly changing economic, demographic and political conditions. The changing roles and responsibilities of the college president call for leaders who can explain their institution's important roles in economic growth, research, and technology. This may require presidents who "come prepared with extensive skill in academic leadership, financial management, and political negotiation honed by diverse career experiences" (p. 48).

The changing qualifications of presidents appear to be reflected by the circumstance that more college presidents are coming from outside the academic circle. This is a trend for both

public and private schools. However, according to Corrigan (2002), private institutions are more likely than public schools to hire presidents from outside higher education. In 2001, nineteen percent of private college and university presidents came from outside higher education compared to nine percent of all presidents in public colleges and universities (p. 37).

More institutional governing boards and search committees for presidents are making an entrepreneurial orientation and entrepreneurial skills a major factor in their evaluations of presidential candidates and presidents. Richard Novak, vice president for public sector programs and executive director of the Center for Public Trusteeship and Governance in his article in the AGB Association of Governing Boards publication, Trusteeship states:

Governing boards that expect chancellors and presidents to be entrepreneurial to meet the goals will need to build these expectations into performance reviews that will, in turn, inform the board about the executive's performance. If board leaders are clear about this at the time of hiring or at the start of a new performance cycle, they can open up communication about presidential and institutional initiatives. And, they can assure all trustees that these entrepreneurial activities are aligned with institutional missions and goals—as the board defines them. (Novak, 2005, p. 36)

It is understandable that as schools' needs for effective fundraisers increase, they may often seek entrepreneurially oriented presidents because the attributes that make for an effective fundraiser may be similar to those that characterize entrepreneurs. In particular, the most effective leader in respect to fundraising for an institution may be an individual who proves to be:

- a proactive, opportunistic, risk-taker and visionary in identifying and promoting alternative sources of revenue;
- a creative, innovative, competitive change agent in developing such sources; and
- a persuasive team builder in building consensus for new fund-raising efforts.

Despite the growth of the entrepreneurial university, greater focus on college and university presidents with an entrepreneurial orientation and skills, and an increased need for such leaders, relatively little is published about this important educational trend. In particular, little or no research has been undertaken to learn about such presidents' views and attitudes about entrepreneurship and entrepreneurial orientation, and how their entrepreneurial orientation is related to their institutions' fundraising activities.

This is unfortunate because presidents' perceptions of entrepreneurship and of their role as entrepreneurs is relevant to understanding the directions in which particular schools and higher education itself is going in this country. Each institution faces its own unique set of challenges concerning the use of entrepreneurial activities. How a president views and responds to the challenges of producing revenues may reflect the posture of the entire institution. A president's perception of the changes and actions that are needed to produce the funds necessary to create a stable foundation are relevant to the school's overall direction and future.

On a broader scale, understanding current presidents' perceptions regarding their roles as entrepreneurial leaders could provide a useful tool for better understanding the practical issues that confront entrepreneurial presidents. As this review has made clear, entrepreneurial colleges and universities and their leaders are probably here to stay for some time. The more we learn about these institutions and their leaders, the better we will be able to understand where American higher education may be going and how it can best get there.

3. METHOD

3.1. OVERVIEW

The method to explore and characterize entrepreneurial orientation in this study utilized a specially developed questionnaire that was administered to 47 presidents of small independent colleges and universities. The questionnaire asked the presidents to self-report their perceptions of their entrepreneurial orientation as it relates to their presidential role and to list the entrepreneurial activities carried on at their institution. The instrument was also used to gather data on the presidents' educational background and experience, their enrollments and endowments, and their institutions' financial stability ratio. The main purpose of the survey was to gather data that would allow the identification of any relationships between the presidents' perceived entrepreneurial orientation, their institution's revenue-generating activities, and the financial condition of their institutions.

3.2. RESEARCH DESIGN

The research design section is divided into four main parts. The first of these explains how the sample was chosen. The second part focuses on the survey instrument. The pilot study is discussed in the third part. The fourth and fifth parts of the section explain the data collection and how the data were analyzed, respectively.

3.2.1. Sample Selection

Sixty presidents of colleges and universities that are members of the Council of Independent Colleges (CIC) were asked to be part of the study (see Appendix D for a list of institutions whose presidents were asked to take part). This sample represented presidents of 11 percent of the CIC. The sample was a convenience sample, chosen through personal referrals and through professional contact, rather than being a random sample. President Richard Artman, who

is a member of the CIC, assisted in recruiting colleagues from the organization who agreed to participate in the study. In addition, President Artman assisted in gaining the participation of four additional presidents of institutions that are members of the CIC for the pilot study.

The CIC is the only national organization that focuses solely on providing services directly to independent colleges and universities. The organization provides ideas, resources, and services that assist institutions in improving leadership expertise, educational programs, administrative and financial performance, and institutional visibility. Members of the organization must be nonprofit, independent, baccalaureate degree-granting colleges and universities of liberal arts and sciences (CIC, 2004).

The CIC's mission statement declares:

The Council of Independent Colleges is an association of more than 530 colleges and universities that share the attributes of dedication to teaching, purposefulness about moral and civic values, small classes, close partnerships between the campus and its surrounding community, and governing structures that are not part of state government. The Council's main purposes are (1) supporting college leadership, (2) advancing institutional excellence, and (3) enhancing public understanding of the contribution of private higher education to society. (CIC, 2004)

It should be noted that President Artman, who served on the researcher's dissertation committee, assisted not only in recruiting participants for the study, but in providing useful information about current challenges faced by small independent college and university presidents. His experience in holding such a presidency made him a particularly valuable source for such information.

3.2.2. Instrumentation

A mailed questionnaire was administered, considering the time constraints of a university president, and for confidentiality purposes. A primary purpose of the questionnaire was to obtain

independent college and university presidents' perception of their own entrepreneurial orientation and the entrepreneurial activities in which their institution was engaged. In order to develop the instrument, it was necessary to (1) gain an understanding of entrepreneurial orientation and (2) determine what kinds of activities carried out by colleges and universities were to be treated as entrepreneurial activities in this study. Both of these tasks were based on information provided in the Review of Literature.

First, in regard to entrepreneurial orientation, a number of writers and researchers were reviewed in order to determine the main attributes of entrepreneurs. The review yielded a list of 10 attributes that are used to describe an individual who has an entrepreneurial orientation. These attributes are: visionary, creative, innovative, change agent, risk taker, competitive, opportunist, proactive, team builder, and persuasive. Most of these attributes are also among the top key terms that resulted from Sexton's (1994) study of key words in definitions of "entrepreneurial." Furthermore, all 10 appear to be implied by Clark's (1998) discussion of what constitutes an entrepreneurial response by a college or university.

Second, in regard to what counts as entrepreneurial activities, the review paid special attention to Clark's (1998) discussion of entrepreneurial response by colleges and universities. Clark's views overall helped provide a touchstone for understanding entrepreneurial universities and in that way helped form the theoretical basis of the study. Clark (1998) speaks of entrepreneurial activities as involving the generation of "third-stream income" (p. 25). In this study, third-stream income is considered to consist of (1) profit-based self-supporting operations that go beyond traditional sources of income for small independent colleges and universities, (2) activities that develop and enhance traditional income streams such as endowment and tuition,

and (3) activities that involve both traditional and nontraditional aspects, such as distance learning.

Using these understandings of entrepreneurial orientation and entrepreneurial activities, the survey instrument was developed. The questionnaire included a demographic section that was designed to gather data on the presidents' undergraduate degree, their previous experience, and areas in which they may have felt insufficiently prepared. In addition, it used a five-point Likert-type scale to ask presidents to rate themselves in regard to 10 entrepreneurial characteristics. Finally, the survey asked presidents to report their institution's revenue-generating activities and the financial stability ratio of their institution. Financial stability ratios are collected by the U.S. Department of Education and provide a capsule view of the financial health of an institution.

Frequent meetings for several months with Dr. Elaine Rubenstein of the Office of Measurement and Evaluation at the University of Pittsburgh were instrumental in designing the instrument. These meetings also helped in determining the appropriate procedure for data analysis.

3.2.3. Pilot Study

After the questionnaire was developed, it was mailed to four presidents of institutions that are members of the CIC who had agreed to review and complete it. The pilot survey packet included:

- A letter from President Artman requesting that his colleagues participate.
- A letter of introduction from the author briefly explaining the nature of the study.
- The Independent College and University President's Perspective Survey.
- A return-addressed, postage-paid envelope.

All four presidents indicated that they believed that the instrument was suited for the study, though suggestions were made for the addition of several entrepreneurial activities to the survey. These suggestions were followed and the instrument modified accordingly. The only additional change to the questionnaire following the pilot study was the reduction in the number of demographic questions. It was determined that the average time to complete the questionnaire was 15-20 minutes. (See Appendix C for the questionnaire that was mailed to presidents.)

3.2.4. Data Collection

The questionnaires were mailed to the 60 presidents in January, 2005, along with a letter of introduction from President Richard Artman and a letter from the researcher requesting the presidents' participation in the study (see Appendixes A and B). Approximately three weeks later, a follow-up letter was mailed to each of the presidents who had not yet responded.

In early February 2005, the researcher sent an email to those presidents who had not responded to the survey by that time, reminding them of the study and asking again for their participation. By late February 2005, 47 (78.3%) of the 60 questionnaires had been returned to the researcher. The information in these formed the database for the study.

3.2.5. Data Analysis

3.2.5.1. Overview.

In addition to analyses performed to answer the research questions, descriptive statistics were used to summarize survey results. This included reporting frequencies, percentages, means, and standard deviations where appropriate of respondents' perceptions of their entrepreneurial orientation and of replies to other questions.

Several scales were computed by aggregating responses to individual items. Summary measures of respondents' perceptions of their own entrepreneurial characteristics were produced

by computing the average of responses to items regarding individual entrepreneurial traits. To derive summary measures of entrepreneurial activity, the total number of activities checked by each respondent were counted. Counts were computed within each type of activity, e.g., revenue-generating activities. A total count across activities was also computed.

To answer the research questions, several analyses were performed on the data. In regard to answering research questions 1, 1a, 1b, and 1c, presidents' perceptions about the degree to which they possess characteristics that contribute to their being entrepreneurial in their role as presidents were aggregated as mentioned above. These responses were then analyzed to determine if there were differences in regard to previously held position, undergraduate field of study, or presidents' perceptions of their preparation for their presidency.

To answer research questions 2, 2a, and 2b, the revenue-generating activities that their institutions engaged in were determined and classified into eight activity categories. These were then analyzed to determine if there were any differences in such activities among institutions in regard to enrollment and endowments.

To answer research question 3, the presidents' replies in regard to their entrepreneurial orientation were compared to their replies to the question asking about their institution's revenue-generating activities. To answer research question 4, the presidents' replies about their entrepreneurial orientation were compared to their replies to the question about their institution's financial stability ratio.

The following subsections provide further detail about the analyses performed to address each of the four research questions.

3.2.5.2. Data Analysis for Research Question 1.

Research question 1 was the following: How do presidents of small independent institutions of higher education perceive their entrepreneurial orientation in their presidential role? Once this question was answered, the answers to questions 1a, 1b, and 1c could then be addressed:

1a. Are there differences by previously held position?

1b. Are there differences by undergraduate field of study?

1c. Are there differences by perceptions of their preparation for the presidency?

Survey items 1, 2, 5, and 7 pertained to these questions. To answer the first part of research question 1, replies to survey item 7 were used. The responses of each president to question 7 for each of the 10 entrepreneurial characteristics were summed and then divided by 10 to provide a summary entrepreneurial orientation score for the president. The mean score across all presidents for each characteristic was then determined. Summary statistics were also calculated.

Internal consistency of the set of characteristics was evaluated using Cronbach's alpha. Cronbach's alpha is a reliability coefficient that can be used to measure internal consistency of a survey instrument. According to Nunnally (1978), a score of .70 for Cronbach's alpha is acceptable. The Cronbach's score for the survey instrument was .81, indicating an acceptable degree of internal consistency in the presidents' responses to the questions asking them to rate themselves on the 10 characteristics.

To answer research question 1a (previously held position), the results of survey questions 2 and 7 were used. The frequency and percentage of type of positions previously held by presidents were first determined. Then the positions were gathered into several categories

determined by the types of previous positions reported by the presidents, and descriptive statistics were calculated for each category. An Analysis of Variance (ANOVA) was then performed to compare presidents' mean overall entrepreneurial orientation scores across the categories of previous position.

To answer research question 1b (field of study), the response options for survey items 1 and 7 were used. For question 1, the presidents could choose any of 13 majors listed on the questionnaire. The frequency and percentage of presidents with each kind of undergraduate major were first determined. Then the reported majors were gathered into categories of similar undergraduate majors and descriptive statistics calculated. An ANOVA was then performed to determine any significant relationship between the presidents' summary entrepreneurial score and their undergraduate majors.

To answer research question 1c (areas of preparation), results of survey questions 5 and 7 were used. For question 5, presidents could mark one or more of 13 areas in which they felt insufficiently prepared for their first presidency. The number of presidents who chose each area was calculated, along with the percentage of presidents who chose each area. To determine whether there were any significant relationships between areas in which the presidents felt insufficiently prepared and entrepreneurial orientation, t-tests were then performed.

3.2.5.3. Data Analysis for Research Question 2.

Research question 2 was the following: To what extent do small independent institutions carry out entrepreneurial activities? Once this question was answered, the two associated questions could be addressed:

- 2a. Are there differences by enrollment?
- 2b. Are there differences by endowments?

The following survey items were used to answer research questions 2, 2a, and 2b: 6, 3, and 4. The first part of research question 2 was answered by the replies to survey question 6, which listed 54 revenue-generating activities in eight categories that presidents could indicate their institution engaged in, along with spaces for them to indicate other activities. The frequencies and percentages of participants who reported that each revenue-generating activity was carried out at their institution were determined. In addition, the rank order of most to least commonly reported activities were presented. To reflect the overall amount of entrepreneurial activity at each institution, a count was produced of the total number of revenue-generating activities reported. In addition, the number and percentage of institutions that engaged in each activity in each category were determined.

For the purpose of answering research question 2a, the results of survey questions 3 and 6 were used. The enrollment figures reported in replies to survey question 3 were first placed into meaningful categories. Then an ANOVA was performed to determine whether there were any significant relationships between institutional size and numbers of revenue-generating activities overall and in each of the activity areas.

To answer research question 2b, the results of survey questions 4 and 6 were used. The endowment values reported in replies to survey question 4 were first placed into meaningful categories. An ANOVA was then performed to determine any significant relationships between institutions' endowment value and revenue-generating activities overall and in each of the activity areas.

3.2.5.4. Data Analysis for Research Question 3.

Research question 3 was the following: What is the relationship of presidents' entrepreneurial orientation and the revenue generating activities most frequently carried out by small independent colleges?

To answer this question, the replies to research questions 6 and 7 were used. Pearson correlation coefficients were computed to evaluate the relationship between the participants' summary entrepreneurial orientation scores and their revenue-generating activities. The Pearson coefficients were calculated for all activities and for each area of activities.

3.2.5.5. Data Analysis for Research Question 4.

Research question 4 was the following: What is the relationship between the presidents' perceptions of their entrepreneurial orientation and the financial ratio of their institution?

The following survey items were used to answer research question 4: 6 and 8. Descriptive statistics showing the number and percent of president reporting different values of viability ratios were first calculated. Then Pearson correlations were used to evaluate the relationship between institutions' financial stability ratios and their presidents' entrepreneurial orientations.

Table 1 on the following page shows the relation between the research questions and the survey questions. The second column of the table shows which survey questions were relevant to answering each of the four research questions.

3.3. FOLLOW-UP INTERVIEWS

To provide additional depth to the study, follow-up interviews were conducted with four of the presidents in the sample. The two presidents with the highest summary entrepreneurial scores on the survey and the two with the lowest summary entrepreneurial scores were selected

for the interviews. The interviews consisted of open-ended questions that were developed after the questionnaires were returned and analyzed. The purpose of the interviews was to enrich the study with further insights and information from the presidents.

The interviews are further described in the last section of chapter 4. The results of the interviews are presented and discussed in chapter 5.

Table 1 Survey Items Used to Answer Research Questions

Research question	Survey item
<p>1. How do presidents of small independent institutions of higher education perceive their entrepreneurial orientation in their presidential role?</p> <p>1b. Are there any differences by undergraduate field of study?</p> <p>1a. Are there any differences by undergraduate field of study?</p> <p>1c. Are there any differences by their perception of their preparation for the presidency?</p>	<p>7. Please indicate the extent to which each characteristic below is descriptive of you generally.</p> <p>1. Indicate major field of study for your undergraduate earned degree.</p> <p>2. Position held prior to assuming your undergraduate earned degree.</p> <p>5. In which of the following areas did you not feel sufficiently prepared for your first presidency?</p>
<p>2. To what extent do small independent institutions carry out revenue generating activities?</p> <p>2a. Are there any differences by enrollment?</p> <p>Are there any differences by endowments?</p>	<p>6. Which of the following revenue activities are being carried out in your institution?</p> <p>3. What is the total enrollment of students in your school as of fall, 2004.</p> <p>4. Please indicate the general range of the the market value of your endowment.</p>
<p>3. What is the relationship of presidents' entrepreneurial orientation with the revenue generating activities most commonly carried out by small independent colleges?</p>	<p>6. Which of the following revenue activities are being carried out in your institution?</p> <p>7. Please indicate the extent to which each characteristic below is descriptive of you generally.</p>
<p>4. What is the relationship between the presidents' perceptions of their entrepreneurial orientation and the financial strength of their institution?</p>	<p>7. Please indicate the extent to which each characteristic below is descriptive of you generally.</p> <p>8. Please indicate your ratio for the most immediate past fiscal year in which you have this information.</p>

4. RESULTS

This chapter presents the results of the study. These include the responses of the college and university presidents to the study questionnaire and results of the statistical analysis of the responses. The chapter is divided into five main sections. The first four of these correspond to the study's four research questions. The fifth section previews the interviews with presidents, which will be discussed in detail in chapter five.

A total of 47 of the 60 independent college and university presidents contacted returned survey questionnaires within the specified deadline. This represented 78.3 percent of the total number of presidents initially contacted. (See Appendix D for a list of the institutions whose presidents took part in or were asked to take part in the study.)

4.1. RESULTS FOR RESEARCH QUESTION 1

Research question 1 consisted of four parts:

1. How do presidents of small independent institutions of higher education perceive their entrepreneurial orientation in their presidential role?
 - 1a. Are there any differences by previously held positions?
 - 1b. Are there any differences by undergraduate field of study?
 - 1c. Are there any differences by perceptions of their preparation for the presidency?

4.1.1. First Part of Research Question 1

The answer to the first part of research question 1 was given by the presidents' replies to question 7 of the survey. This question asked the respondents to use a five-point Likert scale to report how they perceived themselves in regard to possessing 10 characteristics that had been previously identified as contributing to an entrepreneurial orientation.

The 10 characteristics were the following:

- Innovative
- Risk Taker
- Creative
- Change Agent
- Team Builder
- Competitive
- Opportunist
- Visionary
- Proactive
- Persuasive

Internal consistency of the set of characteristics was evaluated using Cronbach's alpha test and was determined to equal .81. Using Nunnally's (1978) minimum standard of .70, this indicated an acceptable degree of internal consistency among the 10 characteristics.

The mean scores of each of the 10 characteristics, averaged over all 47 presidents, were calculated. These means showed a range of 3.72 to 4.38 in the presidents' perceptions of how well the characteristics described them. The highest score, 4.38, occurred for 2 characteristics: Proactive and Persuasive. The lowest score, 3.72, was for the attribute of Risk Taker. None of the presidents perceived any of the characteristics as not at all pertaining to them. Of a total of 470 replies to questions about specific characteristics, only 7 replies (1.49%) indicated that one of the attributes was mostly not characteristic of the respondent. These results are summarized in Tables 2 and 3.

Table 2 Frequencies and Percentages of Perceived Entrepreneurial Characteristics

Trait	Not at all char. (1)		Mostly not char. (2)		Somewhat Char. (3)		Mostly char. (4)		Very char. (5)		M	SD
	n	%	n	%	N	%	n	%	n	%		
Proactive	0	0	0	0	2	4.3	25	53.2	20	42.6	4.38	0.57
Persuasive	0	0	1	2.1	4	8.5	18	38.3	24	51.1	4.38	0.74
Team Builder	0	0	0	0	8	17.0	17	36.2	21	44.7	4.32	0.78
Change Agent	0	0	1	2.2	7	15.2	21	45.7	17	37.0	4.17	0.77
Competitive	0	0	1	2.1	10	21.3	19	40.4	17	36.2	4.11	0.81
Visionary	0	0	0	0	10	21.3	22	46.8	15	31.9	4.11	0.73
Innovative	0	0	0	0	11	23.9	20	43.5	15	32.6	4.09	0.76
Opportunist	0	0	1	2.1	13	27.7	21	44.7	12	25.5	3.94	0.79
Creative	0	0	2	4.3	15	32.6	17	37.0	11	23.9	3.87	0.91
Risk Taker	0	0	1	2.1	19	40.4	19	40.4	8	17.0	3.72	0.77

Table 3 Rank Order of Means of Entrepreneurial Characteristics

Characteristic	Rank	Mean
Proactive	1.5	4.38
Persuasive	1.5	4.38
Team Builder	3	4.32
Change Agent	4	4.17
Visionary	5.5	4.11
Competitive	5.5	4.11
Innovative	7	4.09
Opportunist	8	3.94
Creative	9	3.87
Risk Taker	10	3.72

A summary score for entrepreneurial orientation was then created by averaging each participant's responses across the set of characteristics. These summary scores ranged from 3.10 to 5.00. The lowest summary score, 3.10, indicates that that respondent perceived that the 10 attributes were, overall, somewhat characteristic of him or her. The highest summary score, 5.00, which was scored by two presidents, indicates that those two individuals perceived that all 10 attributes were very characteristic of them.

The mean score over all 10 attributes was 4.11 and the median was 4.20, with a standard deviation of 0.47. This indicated that on the average, respondents perceived that overall, the 10 attributes were mostly characteristic of them. A total of 29 (61.7%) of the presidents rated the 10 characteristics as pertaining to them overall at the 4.00 level or above. See Table 4 for a summary of these statistics and a breakdown (by frequency and percentage) of summary scores by quarter-point intervals.

Table 4 Quarter-Point Frequencies and Summary Statistics for Entrepreneurial Orientation Scores

Summary score range	Number of presidents	Percent of presidents
3.00–3.24	2	4.3
3.25–3.49	2	4.3
3.50–3.74	9	19.1
3.75–3.99	5	10.6
4.00–4.24	7	14.9
4.25–4.49	10	21.3
4.50–4.74	10	21.3
4.75–5.00	2	4.3
Summary statistics		
Mean	4.11	
Median	4.20	
Standard deviation	0.47	
Minimum	3.10	
Maximum	5.00	

A somewhat different view of the data can be gained by combining only those responses that indicated, for each attribute, that the president perceived it to be mostly or very characteristic of them. This has been done in Table 5, which shows almost the same order of the 10 characteristics as the rank order shown in Table 3. The main differences are that Proactive occurred more frequently than Persuasive, and Visionary occurred more frequently than Competitive when only mostly and very characteristic responses are taken into account.

Table 5 Frequency of *Mostly* and *Very Characteristic* Responses to Specific Entrepreneurial Attributes

Attribute	Number of presidents	Percent of presidents
Proactive	45	95.7
Persuasive	42	89.4
Team Builder	38	80.9
Change Agent	38	80.9
Visionary	37	78.7
Competitive	36	76.6
Innovative	35	74.5
Opportunist	33	70.2
Creative	28	59.6
Risk Taker	27	57.4

Notably, Table 5 makes evident that almost all of the presidents (45, 95.7%) perceived Proactivity to be mostly or very characteristic of themselves. However, many fewer perceived Creative (28, 59.6%) and Risk Taker (27, 57.4%) to be mostly or very characteristic of themselves.

4.1.2. Part a of Research Question 1

Research question 1a asked whether there were any differences in entrepreneurial orientation among the presidents depending on what kind of position they had held prior to their current position. To answer this question, the results for survey question 7 were compared to the results for survey question 2, which asked the presidents to indicate what kind of position they had held prior to their current one.

In answering survey question 2, the presidents could choose among 13 specific positions or could indicate that their previous position was of some other kind not listed. In analyzing the

responses, the frequency and percentage of each kind of position indicated by the presidents were first calculated. The results indicated that 42 (89.4%) of the presidents had come from academia, while 5 (10.6%) had come from outside academia. Table 6 shows the previous positions reported by the presidents, including the number and percent reporting each kind of position.

Table 6 Frequencies and Percentages of Previously Held Positions

Position	Number of presidents	Percent of presidents
Chief Academic Officer or Provost	16	34.0
President/CEO/Chancellor	10	21.3
Senior Exec. In Development or External Affairs	6	12.8
Senior Executive in Student Affairs	5	10.6
Other Senior Executive in Academic Affairs	3	6.4
Corporate Executive	3	6.4
Chair/Faculty	2	4.3
K-12 Administrator	1	2.1
Military	1	2.1
Total	47	100.0

Next, the various position choices made by the presidents were gathered into 4 categories: Top College Administrator, Higher College Administrator, Corporate Executive, and Other Positions. The frequencies and percentages of presidents whose previous positions had been in each of these categories were then determined, as shown below in Table 7.

The means and standard deviations of the presidents' entrepreneurial orientation summary scores were calculated for each category of previously held position. Little variability

Table 7 Frequencies and Percentages of Previous Positions by Category

Category	Positions included	Number of presidents	Percent of presidents
Top College Administrator	President/CEO/Chancellor Chief Academic Officer/Provost	26	55.3
Higher College Administrator	Other Sr. Exec. in Acad. Affairs Sr. Exec. in Dev. or External Affairs Sr. Exec. in Student Affairs	14	29.8
Corporate Exec.	Corporate Executive	3	6.4
Other	Chair/Faculty K-12 Administrator Military	4	8.5
Total		47	100.0

was found in these means across the types of position, with the lowest mean (3.93) and the highest mean (4.21) being separated by only a little more than a quarter of a point. Table 8 provides further details.

Table 8 Means and Standard Deviations of Entrepreneurial Orientation Summary Scores by Category of Previous Position

Type of position	Number	Mean	Std. dev.	Minimum	Maximum
Top College Administrator	26	4.07	.52	3.10	5.00
Higher College Administrator	14	4.21	.39	3.50	5.00
Corporate Executive	3	3.93	.55	3.30	4.30
Other	4	4.06	.41	3.56	4.40

An Analysis of Variance (ANOVA) was then performed to compare the presidents' mean summary entrepreneurial orientation scores across the categories of previous position. The results of the ANOVA showed no significant relation between the presidents' summary orientation scores and their previously held positions ($F(3,43) = .393, p = .758$). See Table 9.

Table 9 Analysis of Variance (ANOVA) Comparing Mean Entrepreneurial Orientation across Categories of Previous Position

Source	Sum of squares	df	Mean square	F	Significance
Between groups	.272	3	.091	.393	.758
Within groups	9.920	43	.231		

4.1.3. Part b of Research Question 1

Research question 1b asked whether there were any differences in entrepreneurial orientation among the presidents depending on their undergraduate field of study. To answer this question, the results for survey question 7 concerning the 10 characteristics of entrepreneurial orientation were compared to the results for survey question 1, which asked the presidents to indicate their undergraduate field(s) of study.

In answering survey question 1, the presidents could choose among 13 kinds of major. In analyzing the responses, the frequency and percentage of occurrence of each kind of major indicated by the presidents were first calculated. The results indicated that over half of the presidents had undergraduate majors in the humanities (15, 31.9%) or the social sciences (10, 21.3%). These results are summarized in Table 10.

The various majors that the presidents could choose were gathered into five categories: Math/Science/Technical, Education, Arts/Humanities, Social Sciences, and Business.

Frequencies and percentages were tabulated for each of the categories, as shown in Table 11. Means and standard deviations of the presidents' entrepreneurial orientation summary scores were then calculated for each category of undergraduate major. Means ranged from 3.70 for Business, the category of undergraduate major indicated by the smallest number (3, 6.4%) of the presidents, to 4.24 for Arts/Humanities, the category indicated by the greatest number (19, 40.4%) of the presidents. These statistics are presented below in Table 12.

An Analysis of Variance was then performed to compare the presidents' mean summary entrepreneurial orientation scores across the categories of undergraduate major. The results of the ANOVA showed no significant relation between the presidents' orientation scores and categories of undergraduate major ($F(4,42) = 1.382, p = .256$). (See Table 13.)

Table 10 Frequencies and Percentages of Presidents' Undergraduate Degrees

Major	Number of presidents	Percent of presidents
Humanities	15	31.9
Social Sciences	10	21.3
Education	6	12.8
Mathematics	4	8.5
Arts	4	8.5
Business	3	6.4
Agriculture	2	4.3
Engineering	2	4.3
Biological Sciences	1	2.1
Total	47	100.0

Table 11 Frequencies and Percentages of Categories of Undergraduate Major

Category of major	Majors included in category	Number of presidents	Percent of presidents
Arts/Humanities	Arts Humanities	19	40.4
Social Sciences	Social sciences	10	21.3
Math/Science/Tech	Agriculture Biological sciences Mathematics Engineering	9	19.1
Education	Education	6	12.8
Business	Business	3	6.4
Total		47	100.0

Table 12 Means and Standard Deviations of Entrepreneurial Orientation Summary Score by Category of Undergraduate Major

Type of position	Number	Mean	Std. dev.	Minimum	Maximum
Math/Science/Technical	9	4.16	.49	3.20	4.70
Education	6	3.89	.32	3.40	4.20
Arts/Humanities	19	4.24	.39	3.56	5.00
Social Sciences	10	4.04	.64	3.10	5.00
Business	3	3.70	.20	3.50	3.90

Table 13 Results of Analysis of Variance (ANOVA) Comparing Mean Entrepreneurial Orientation Across Undergraduate Majors

Source	Sum of squares	df	Mean square	F	Significance
Between groups	1.186	4	.296	1.382	.256
Within groups	9.006	42	.214		

4.1.4. Part c of Research Question 1

Research question 1c asked whether there were any differences in entrepreneurial orientation among the presidents related to their perception of their preparation for becoming president of an institution of higher education. To answer this question, the results for survey question 7 about the 10 characteristics of entrepreneurial orientation were compared to the

results for survey question 5, which asked the presidents to indicate what areas, if any, they did not feel sufficiently prepared in for their first presidency.

In answering survey question 5, the presidents could choose 1 or more of 13 areas in which they felt insufficiently prepared for their first presidency, or they could indicate that they felt prepared in all areas. In analyzing the responses, the number of presidents who chose each area was calculated, along with the percentage of presidents who chose each area. This percentage totaled more than 100 because some presidents indicated that they were insufficiently prepared in more than one area. The area that the greatest number of presidents (16, 34.0%) felt insufficiently prepared in was Fundraising. The area that the least number of presidents (1, 2.1%) felt insufficiently prepared in was Student Life. See Table 14.

To determine any differences in entrepreneurial orientation among the presidents depending on their perceived preparation in different areas, the data were analyzed by means of t-tests. The t-tests were performed only for the 6 areas of preparation in which the presidents most frequently mentioned they were insufficiently prepared. These were Fundraising (16), Federal/State Policy (11), Financial Management (10), Academic Program Management (8), Collective Bargaining (8), and Entrepreneurial Activities (7). Too few presidents indicated insufficient preparation in the other areas for valid comparisons to be made for those areas.

The t-tests showed that Fundraising was the only area for which there was a significant difference in entrepreneurial orientation between those reporting insufficient preparation and those reporting sufficient preparation. Presidents who felt sufficiently prepared in Fundraising perceived themselves as more entrepreneurial (mean = 4.26) than respondents who felt insufficiently prepared (mean = 3.85) ($p = .001$). See Table 15.

4.1.5. Part c of Research Question 1

Research question 1c asked whether there were any differences in entrepreneurial orientation among the presidents related to their perception of their preparation for becoming president of an institution of higher education. To answer this question, the results for survey question 7 about the 10 characteristics of entrepreneurial orientation were compared to the results for survey question 5, which asked the presidents to indicate what areas, if any, they did not feel sufficiently prepared in for their first presidency.

In answering survey question 5, the presidents could choose 1 or more of 13 areas in which they felt insufficiently prepared for their first presidency, or they could indicate that they felt prepared in all areas. In analyzing the responses, the number of presidents who chose each area was calculated, along with the percentage of presidents who chose each area. This percentage totaled more than 100 because some presidents indicated that they were insufficiently prepared in more than one area. The area that the greatest number of presidents (16, 34.0%) felt insufficiently prepared in was Fundraising. The area that the least number of presidents (1, 2.1%) felt insufficiently prepared in was Student Life. See Table 14.

To determine any differences in entrepreneurial orientation among the presidents depending on their perceived preparation in different areas, the data were analyzed by means of t-tests. The t-tests were performed only for the 6 areas of preparation in which the presidents most frequently mentioned they were insufficiently prepared. These were Fundraising (16), Federal/State Policy (11), Financial Management (10), Academic Program Management (8), Collective Bargaining (8), and Entrepreneurial Activities (7). Too few presidents indicated insufficient preparation in the other areas for valid comparisons to be made for those areas.

The t-tests showed that Fundraising was the only area for which there was a significant difference in entrepreneurial orientation between those reporting insufficient preparation and those reporting sufficient preparation. Presidents who felt sufficiently prepared in Fundraising perceived themselves as more entrepreneurial (mean = 4.26) than respondents who felt insufficiently prepared (mean = 3.85) ($p = .001$). See Table 15.

Table 14 Number and Percent of Presidents Reporting Insufficient Preparation in Areas of Responsibility

Area of responsibility	Number of presidents	Percent of presidents
Fundraising	16	34.0
Federal/State Policy	11	23.4
Financial Management	10	21.3
Academic Program Management	8	17.0
Collective Bargaining	8	17.0
Entrepreneurial Activities	7	14.9
Strategic Planning	6	12.8
Intercollegiate Activities	4	8.5
Public Relations	4	8.5
Crisis Management	3	6.4
Conflict Management	2	4.3
Personnel Issues	2	4.3
Student Life Issues	1	2.1

Table 15 Results of t-tests Comparing Sufficient Preparation to Insufficient Preparation in Six Areas of Responsibility

Area of responsibility	<u>Sufficient prep.</u>			<u>Insufficient prep.</u>			<i>t</i>	p
	n	Mean	SD	n	Mean	SD		
Academic Program Mngt.	39	4.10	.50	8	4.12	.27	-.12	.908
Collective Bargaining	39	4.08	.47	8	4.23	.47	-.86	.396
Federal/State Policy	36	4.04	.47	11	4.32	.42	-1.78	.081
Financial Management	37	4.11	.46	10	4.07	.53	.24	.813
Fundraising	31	4.26	.42	16	3.79	.40	3.69	.001
Entrepreneurial Activities	40	4.15	.47	7	3.85	.44	1.55	.128

4.2. RESULTS FOR RESEARCH QUESTION 2

Research question 2 consisted of three parts:

2. To what extent do small independent institutions carry out revenue-generating activities?
 - 2a. Are there any differences by enrollment?
 - 2b. Are there any differences by endowments?

1. First Part of Research Question 2

The first part of research question 2 was answered by examining replies to question 6 of the survey, which asked presidents to indicate which of 54 revenue-generating activities, in eight categories, their institution engaged in or whether they engaged in other activities in that category. The percent of presidents who indicated that their institution engaged in each of the 54 activities was determined, and the rank order calculated, are shown in Appendix E.

The institutions' revenue-generating activities were also broken down according to category of activity so that they could be more easily displayed and compared. The eight categories of activity were Educational, Fundraising, Retail Sales, Research/Intellectual Property, Small Business Development, Real Estate, Investment, Partnerships. For each category, the number and percent of institutions engaging in activities included in the category were calculated. This enabled the most common and least common activities within each category to be easily compared. The results of these calculations by category are shown in Tables 16 through 23 below.

Table 16 Number and Percent of Institutions Reporting Educational Activities

Activity	Number of institutions	Percent of institutions
Non-traditional programs	35	74.5
Degree completion programs	34	72.3
Continuing education	31	66.0
Study abroad programs	28	59.6
Off-campus programs	27	57.4
Educational seminars	24	51.1
Niche programs	21	44.7
Distance educational programs	19	40.4
Contract educational programs	14	29.8
Educational consulting	6	12.8
Other educational programs	5	10.6

Table 17 Number and Percent of Institutions Reporting Fundraising Activities

Activity	Number of institutions	Percent of institutions
Planned giving programs	46	97.9
Alumni programs	44	93.6
Athletics-related	43	91.5
Special events	38	80.9
Other fundraising programs	14	29.8

Table 18 Number and Percent of Institutions Reporting Retail Sales Activities

Activity	Number of institutions	Percent of institutions
Lease/rentals of campus facilities	43	91.5
Vendor operated food service	39	83.0
Vendor operated vending concessions	33	70.2
Vendor operated bookstore	26	55.3
Institutionally operated bookstore	22	46.8
Commissions on sales and services	15	31.9
Internet	11	23.4
Institution operated vending concessions	9	19.1
Institutionally operated food service	6	12.8
Other retail sales and business ventures	3	6.4

Table 19 Number and Percent of Institutions Reporting Research/Intellectual Property Activities

Activity	Number of institutions	Percent of institutions
Research and technology transfer	6	12.8
Intellectual property licensing, patenting	5	10.6

Table 20 Number and Percent of Institutions Reporting Small Business Development Activities

Activity	Number of institutions	Percent of institutions
Conferences and workshops for business	28	59.6
Training programs for business	23	48.9
Training for businesspersons	17	36.2
Counseling to small businesses	13	27.7
Research on small business problems	9	19.1
Business feasibility studies	8	17.0
Assistance with small business start up	7	14.9
Specialty high technology services for business	6	12.8
Assistance to technology oriented firms	5	10.6
Incubator businesses	5	10.6
For-profit companies	2	4.3
Assists businesses with product engineering	1	2.1
Assists businesses in technology research	1	2.1
Plant layout & design	1	2.1
Product testing	1	2.1
Provides business with patent searches	0	0.0

Table 21 Number and Percent of Institutions Reporting Off-campus Real Estate Activities

Activity	Number of institutions	Percent of institutions
Real estate acquisition	17	36.2
Real estate leasing	17	36.2
Construction projects	10	21.3
Real estate maintenance services	4	8.5
Real estate management services	1	2.1
Other real estate activities	1	2.1

Table 22 Number and Percent of Institutions Reporting Investment Activities

Activity	Number of institutions	Percent of institutions
Bonds	39	83.0
Equities	39	83.0
Hedge funds	18	38.3
Other securities	7	14.9

Table 23 Number and Percent of Institutions Reporting Partnerships

Activity	Number of institutions	Percent of institutions
Partnerships with other educational Institutions	39	83.9
Partnership alliances in community projects	25	53.2
Partnerships with outside businesses	19	40.4
Participates in joint ventures	14	29.8
Investments with outside parties	2	4.3
Other partnerships	1	2.1

Table 24 summarizes the presidents' replies for the eight areas of activity. As can be seen from the table, the respondents listed more activities in the Educational Programs area than in any other area. Of 10 Educational Program activities listed on the questionnaire, the presidents' replies indicated that their institutions carried out an average of 5.09 (51%) of those activities. The least-reported kind of activity was in the area of Intellectual Property activities. Of 2 such activities that were listed on the questionnaire, the presidents' responses indicated that their schools carried out a mean of 0.23 (11.5%) of those activities.

The area for which the highest percentage of listed activities was reported by the presidents was Fundraising. Of 4 fundraising activities listed on the questionnaire, the presidents indicated that their institutions carried out a mean of 3.64 (91%) of those activities. Overall, of 54 listed activities in 8 areas, the presidents listed an average of 21.19 (39.2%) of those activities as being engaged in by their schools.

Table 24 Descriptive Statistics on Counts of Entrepreneurial Activities within Each Area

Activity area	Activities listed on survey	Activities reported by presidents				
		Mean	Median	Std. dev.	Min.	Max.
Educational Programs	10	5.09	5.00	2.48	0	10
Fundraising	4	3.64	4.00	0.71	2	4
Retail Sales (Business Ventures)	9	4.34	4.00	0.98	2	6
Intellectual Property	2	0.23	0.00	0.56	0	2
Small Business Development	16	2.70	2.00	2.69	0	12
Securities	3	2.04	2.00	1.02	0	3
Off-Campus Real Estate	5	1.04	1.00	1.16	0	5
Partnerships	5	2.11	2.00	1.13	0	5
All activities	54	21.19	20.00	6.11	9	38

4.2.1. Part a of Research Question 2

Research question 2a asked whether there were any differences related to enrollment in the surveyed presidents' institutions' revenue-raising activities. To answer this question, the results for survey question 3, which asked the presidents to report their institution's student enrollment as of the fall 2004 term, were compared with the results for survey question 6, which asked which revenue generating activities the institution engaged in. In analyzing the data, total enrollment figures were first collapsed into meaningful ranges. These ranges were the following: less than 2,000, 2,000 to 2,999, 3,000 to 5,000, and more than 5,000. Results showed that of the 47 institutions, 18 had less than 2,000 students, 19 had from 2,000 to 2,999 students, 8 had from 3,000 to 5,000 students, and 2 had enrollments of more than 5,000 students. Because the 2 largest institutions had enrollments exceeding 11,000 students, which was more than twice the number of the school with the next highest enrollment, these institutions were not included in the analysis for research question 2a.

An Analysis of Variance was performed to determine whether there were any significant differences related to size of enrollment in areas of revenue-raising activities among the institutions. The analysis revealed significant differences at the .05 level between groups in the areas of Educational Programs, Retail Sales, and Intellectual Property. Tukey post-hoc analysis showed that institutions with enrollments in the 3,000–5,000 bracket reported higher numbers of Educational Programs than institutions with enrollments of less than 2,000. Institutions with enrollments in the 2,000–2,999 bracket reported higher numbers of Retail Sales activities than institutions with enrollments of less than 2,000. Institutions with enrollments in the 3,000–5,000 bracket reported higher numbers of Intellectual Property activities than institutions with

enrollments of less than 3,000. There were no significant differences between groups in the number of activities within other areas or across all areas. These results are shown in Table 25.

Table 25 Mean Number of Entrepreneurial Activities within Areas by Category of Enrollment

Area of entrepreneurial Activity	Category of enrollment (headcount) ¹						F
	< 2000 (n=18)		2000-2999 (n=19)		3000-5000 (n=8)		
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	
Educational Programs	4.06	2.55	5.05	2.22	7.00	2.00	4.43*
Fundraising	3.56	0.78	3.63	0.76	3.88	0.35	0.55
Retail Sales (Business Ventures)	3.94	0.99	4.74	1.05	4.25	0.46	3.23*
Intellectual Property	0.17	0.38	0.05	0.23	0.63	0.92	4.23*
Small Business Development	3.28	3.50	2.42	1.92	2.38	2.50	0.54
Securities	2.22	0.94	1.95	1.08	1.88	1.25	0.44
Off-campus Real Estate	1.00	1.37	1.11	1.10	1.00	1.07	0.04
Partnerships	2.17	0.99	1.89	1.05	2.63	1.60	1.18
All activities	20.39	6.57	20.84	5.85	23.63	6.48	0.78

¹Two institutions with enrollments greater than 11,000 were omitted from this analysis.

*p < .05

4.2.2. Part b of Research Question 2

Research question 2b asked whether there were any differences in the surveyed presidents' institutions' revenue-raising activities depending on the value of their endowment. To answer this question, the results for survey question 4, which asked the presidents to report the range of the market value of their institution's endowment, were compared with the results for survey question 6, which asked which revenue generating activities the institution engaged in.

First, the number of institutions within each endowment range were calculated. The results showed that of the 47 schools that the presidents reported on, 12 had an endowment value of 9.9 million dollars or less, 21 had an endowment in the range of 10 to 29.9 million dollars, 5 had an endowment in the range of 30 to 59.9 million dollars, and 9 had an endowment in the range of 60 to 99.9 million dollars. None of the institutions had an endowment of 100 million dollars or more.

An Analysis of Variance was performed to determine whether there were any significant differences in areas of revenue-raising activities by level of endowment among the institutions. The analysis revealed that there was a significant difference at the .05 level between groups in the area of securities investment. Tukey post-hoc analysis showed that institutions with endowments in the bracket of 0-9.9 million invested in fewer types of securities than institutions with endowments in the 10-29.9 million and 60-99.9 million brackets. There were no significant differences between groups in the number of activities within other areas or across all areas. These results are shown in Table 26.

Table 26 Mean Number of Entrepreneurial Activities within Areas by Level of Endowment

Activity Area	Level of endowment (in millions of dollars)								F
	0-9.9 (n=12)		10-29.9 (n=21)		30-59.9 (n=5)		60-99.9 (n=9)		
	Mean	Std. dev.	Mean	Std. Dev.	Mean	Std. dev.	Mean	Std. dev.	
Educational Programs	5.58	1.88	5.38	2.54	5.00	2.35	3.78	3.03	1.10
Fundraising	3.75	0.62	3.48	0.81	4.00	0.00	3.67	0.71	0.91
Retail Sales	4.67	0.89	4.43	0.93	4.40	1.52	3.67	0.71	2.04
Intellectual Property	0.17	0.39	0.33	0.66	0.00	0.00	0.22	0.67	0.55
Small Bus. Develop.	2.42	2.43	2.95	2.89	3.20	3.70	2.22	2.28	0.25
Securities	1.25	1.36	2.19	0.75	2.40	0.55	2.56	0.73	4.27*
Off-campus Real Estate	0.67	0.89	1.05	1.32	1.40	1.14	1.33	1.12	0.75
Partnerships	1.92	0.90	2.24	1.04	1.80	1.30	2.22	1.56	0.35
All activities	20.42	4.87	22.05	5.48	22.20	7.89	19.67	8.34	0.42

*p < .05

4.3. RESULTS FOR RESEARCH QUESTION 3

Research question 3 was the following: what is the relationship of presidents' entrepreneurial orientation with the revenue-generating activities most commonly carried out by small independent colleges? To answer this question, the presidents' responses to survey question 6, asking about their institution's entrepreneurial activities, and survey question 7, asking them to report their perceptions of themselves in regard to the 10 entrepreneurial characteristics, were compared.

Pearson correlation coefficients were then computed to evaluate the relationships between the participants' summary entrepreneurial orientation scores and their revenue-generating activities. The Pearson coefficients were calculated for each area of activities and for all activities in all areas.

The analysis showed that entrepreneurial orientation was significantly correlated with the number of activities reported in the following areas: Fundraising (at the .001 level), Small Business Development (at the .01 level), Intellectual Property and Off-campus Real Estate (at the .05 level). Entrepreneurial orientation was also significantly correlated at the .01 level with the total number of institutional revenue-generating activities across all areas. In each of these cases, presidents with higher entrepreneurial orientations tended to report more activities than presidents with lower entrepreneurial orientations. See Table 27 for a summary of these correlations.

Table 27 Relationship between Entrepreneurial Orientation and Counts of Activities Reported Overall and in Each Activity Area

Area of entrepreneurial activity	r
Educational Programs	.13
Fundraising	.52***
Retail Sales (Business Ventures)	.17
Intellectual Property	.29*
Small Business Development	.42**
Securities Investment	.15
Off-campus Real Estate	.35*
Partnerships	.15
All activities	.47**

*p < .05
 **p < .01
 ***p < .001

4.4. D. RESULTS FOR RESEARCH QUESTION 4

Research question 4 was the following: what is the relationship between the presidents' perceptions of their entrepreneurial orientation and the financial stability of their institution? To answer this question, the presidents' responses to survey question 7 were compared to their replies to survey question 8, which asked them to report their institution's financial viability ratio.

A total of 24 of the 47 presidents replied to question 8. Of the 23 who did not report their financial viability ratio, 4 reported that their institution was not required to report to the Department of Education, 3 stated that they were not able to get the information from their auditors, 5 reported that they were not aware of the ratio, and 11 offered no reason for not answering the question.

Of the 24 presidents who did report their financial viability ratio, more than half ($n = 14$, 58.3%) reported a ratio of 3.00 or above. A total of 4 (16.7%) reported a financial viability ratio of less than 2.00. See Table 28 for details.

To answer research question 4, Pearson's correlation coefficients were calculated in order to determine any correlation between the institutions' reported financial strength and the presidents' entrepreneurial orientation. The analysis revealed no significant relationship ($r = .183$, $p = .391$).

Table 28 Descriptive Statistics for Financial Viability Ratio Replies

Table 28

Descriptive Statistics for Financial Viability Ratio Replies

Viability ratio	Number of presidents	Percent of presidents
1.00-1.49	2	8.3
1.50-1.99	2	8.3
2.00-2.49	4	16.7
2.50-2.99	2	8.3
3.00-3.49	14	58.3
Overall	24	100.0
<u>Summary statistics</u>		
Mean	2.64	
Median	3.00	
Standard deviation	.63	
Minimum	1.20	
Maximum	3.25	

4.5. INTERVIEWS WITH PRESIDENTS

To assist in the interpretation of the results and to add greater depth and understanding to the study, follow-up interviews were conducted with four of the presidents who responded to the initial survey. It was decided that the two presidents who had scored highest on overall entrepreneurial orientation on the survey and the two presidents who had scored lowest would be asked to provide brief telephone interviews after all results had been tabulated. This was judged to be an effective selection procedure to ensure that the presidents interviewed had a wide range of entrepreneurial orientation scores. When the four presidents were contacted, they all agreed to the interview.

A set of five open-ended questions were developed on the basis of the responses to the survey (see Appendix F), and the interviews were conducted over a one-week period. With the presidents' understanding and agreement, the interviews were recorded. The results were then transcribed and closely examined for themes that could provide further insight into the topic of entrepreneurship among small colleges and universities. (See Appendix G.) The results of the interviews are discussed in detail in chapter five.

5. DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This chapter is divided into four main parts. The first two parts consist of the discussion of the results. In the first of these two, the results of the survey are discussed. In the second, the results of the post-survey interviews with the four presidents are explained and discussed. Themes that arose during the interviews are identified, and other comments made by the presidents in the interviews that seem especially pertinent to the study are pointed out.

In the third part of the chapter, several conclusions are drawn based on the results, the interviews and the review of literature. The fourth part of the chapter includes recommendations for further research in the important area of entrepreneurship in small independent colleges and universities.

5.1. DISCUSSION OF SURVEY RESULTS

5.1.1. Research Question 1

The first part of research question 1 asked how presidents of small independent institutions of higher education perceive their entrepreneurial orientation in their presidential role. The presidents answered this question by indicating how they perceived themselves in regard to 10 entrepreneurial characteristics. Cronbach's Alpha was calculated for the results and was found to equal .81, which indicated an acceptable degree of internal consistency among the presidents' replies to the 10 entrepreneurial characteristics. This was also suggested by the result that of 470 replies to specific characteristics, only 7 (1.49%) indicated that an attribute was mostly not characteristic of the person responding, and none indicated that the attribute was not at all characteristic.

The mean scores of the 10 characteristics for all 47 presidents ranged from 3.72 to 4.38, with the lowest score being for Risk Taker and the highest being for Proactive and Persuasive.

That Risk Taker was the characteristic with the lowest score may be partly due to some of the connotations of the term “risk taker.” The term can have the connotation not only of being willing to seize an opportunity, but also of being imprudent, which has a negative connotation. Some of the presidents may have hesitated to mark themselves highly on an attribute that they thought might suggest that they were imprudent, when they actually saw themselves as prudent and thoughtful.

In discussions of entrepreneurship, the meanings of terms like “risk” and “risk taker” actually seem to have only a positive connotation. Cunningham and Lischeron (1991) state that the entrepreneur is normally someone who does not take overly dangerous risks. Stevenson (1988), too, seems to take a positive view of risk taking in saying that individuals who undertake an entrepreneurial venture generally take responsibility for it or assume some risk. Most of the presidents may have seen the characteristic in a positive light, because 27 (57.4%) of them indicated that Risk Taker was mostly or very characteristic of them.

Creative was the characteristic that received the second lowest mean score (3.87). This result may have partly been because the term “creative” can imply being artistic. If some of the presidents were thinking of Creative in that way, they may have thought the characteristic was not as much of a leadership trait as some of the other characteristics.

Actually, creativity has a broader meaning when applied to entrepreneurship. As discussed in the Review of Literature, entrepreneurs are creative in several ways, including creating organization (Hornaday, 1992), creating new value (Sexton, 1994) and creating change (Sexton). Clark (1998) speaks of the importance of organizational creativity, which includes creating new revenue-generating ideas and activities.

Proactive and Persuasive were the highest-rated characteristics (4.38). The high rating for Proactive suggests that the presidents tended to view themselves as being very active in seeking and implementing ways to better their institution, including financially. Such proactivity implies trying to grow beyond constraints set by currently available resources (Sexton & Bowman-Upton, 1991).

The high rating for Persuasive suggests that the presidents saw themselves as having highly developed persuasive skills. The high ratings for both of these characteristics may also suggest that being proactive and being persuasive are among the most important parts of presidents' job functions. Cunningham (1991) states that being proactive amounts to doing what has to be done in order to implement entrepreneurial efforts. Kao (1989) emphasizes the importance of being able to rally people around an organizational vision in order to achieve it. To get people excited and "on board" requires effective persuasive skills by the leader.

The next highest rated characteristic was Team Builder (4.32). This score indicates that the presidents tended to view themselves as being good team builders. It also suggests that team building may be one of the most important skills for presidents. This is understandable given the various stakeholder groups that college and university leaders must work with in many of their revenue-generating projects. Clark (1998) emphasizes that working as a team toward a unified objective is a fundamental aspect of the entrepreneurial process. There are many constituent groups in an institution, and being entrepreneurial is an attribute of a total social system of the institution and all of its components. Therefore, the entrepreneurial response has to include both managerial groups and academic departments (Clark, 1998). Michaud (2003) agrees that it is important to include academic departments in setting financial goals and objectives. Kao (1989)

points out that being a team builder is an essential trait of successful entrepreneurial leaders because they have to depend on others for the accomplishment of overall goals.

There was considerable range among the presidents in their summary entrepreneurial orientation scores, which ranged from 3.10 to 5.00. This indicated that there were meaningful differences among the presidents in how they saw themselves overall in regard to entrepreneurial characteristics. At the same time, all of the presidents viewed all or almost all of the 10 characteristics as being at least somewhat descriptive of them. Furthermore, the result that the mean summary score was 4.11 indicated that on the average, respondents perceived the 10 attributes to be, overall, mostly characteristic of them. Thus, the average president tended to view himself or herself as possessing a fairly high overall entrepreneurial orientation. This suggests that having at least a fairly high entrepreneurial orientation may be beneficial to fulfilling the presidential role. It also may suggest that having a high entrepreneurial orientation is something that small independent colleges and universities currently expect from their presidents.

According to Stevenson et al. (1989), entrepreneurship involves the willingness of individuals and organizations to strive for creative change. On that basis, the finding that the presidents rated themselves as fairly high in entrepreneurial orientation seems to be an indication of a concern for change in small independent colleges. Clark (2002) believes that creative change is necessary, holding that today's institutions need to develop an entrepreneurial stance.

Research question 1 asked, in part a, whether there were any differences in entrepreneurial orientation among the presidents depending on what kind of position they had held prior to their current position. The replies to survey question 2 showed that 42 of the 47 presidents (89.4%) had previously held a position in academia. Ten (21.3%) of these had held a previous position as president of a college or university. Only (10.6%) had come from outside

academia. The proportion of presidents from inside higher education was somewhat higher than expected given Corrigan's (2002) statements as reported in the Review of Literature. Corrigan claimed that in 2001, 19 percent of private college and university presidents came from outside higher education, while 9 percent of public college and university presidents did so. That only 10.6 percent of the private institution presidents surveyed in this study came from outside higher education may be a statistical anomaly of the sample.

When the previously held positions were gathered into the four categories of Top College Administrator, Higher College Administrator, Corporate Executive and Other (which included Military, K-12 Administrator, and Chair/Faculty), the first two categories had considerably more members (26 and 14, respectively) than the second two categories (3 and 4 members, respectively). The ANOVA that was conducted to determine whether the four categories of previously held position had any relationship to overall entrepreneurial orientation showed no significant difference. This result may be partly due to the low number in each of the second two categories, Corporate Executive (3 members) and Other (4 members). However, it is notable that the overall entrepreneurial orientation mean among the four groups differed by very little, with a range of only 3.93 to 4.21.

Part b of research question 1 asked whether there were any differences in the presidents depending on their undergraduate major. The presidents' replies about their undergraduate majors were gathered into five categories that were deemed to include similar kinds of majors: Arts/Humanities, Social Sciences, Math/Science/Technical, Education, and Business. The first three categories were well represented, with 19, 10, and 9 presidents, respectively. In addition, 6 presidents had an undergraduate degree in Education, and 3 had a degree in Business. It was interesting that more than half of the presidents (29, 61.7%) had a degree in the arts, the

humanities or the social sciences. This may be partly due to the circumstance that most of the institutions surveyed focused on liberal arts education.

That the presidents with a Business degree had the lowest mean entrepreneurial orientation score (3.70) out of the 5 categories of undergraduate degree was unexpected, because entrepreneurship is usually considered to be closely related to business. For that reason, it might be thought that individuals with a Business degree would tend to have higher entrepreneurial orientation scores than those with degrees in other fields. The low scores for those with Business degrees may be a statistical anomaly however, due to the small size of the Business degree category (3 members). Furthermore, an ANOVA comparing the presidents' overall entrepreneurial orientations by undergraduate major showed no significant relationships.

Overall, these results indicate that there is no difference in presidents' entrepreneurial orientation depending on their undergraduate field of study. Entrepreneurial orientation may be something that is more related to individual attitudes and ways of approaching problem solving than to specific educational backgrounds. Or it may depend more on work experiences and practical problem solving tasks than on undergraduate major, which is something that is also suggested by the results of the interviews of the presidents (see the next section).

Part c of research question 1 asked whether there were differences in entrepreneurial orientation among the presidents related to their perception of their preparation for becoming president. One noteworthy result from the survey was that the area of responsibility for which the presidents most often felt insufficiently prepared was Fundraising (16, 34.0%). This may be due to the presidents having found that Fundraising was more demanding and/or more complex than they had realized before becoming presidents of their institution.

As discussed in the Review of Literature, fundraising efforts are more challenging today than in the past as a result of factors such as decreases in federal funding and increased competition from other institutions, including public institutions, that are also seeking funds from the private sector (Cook, 1997). Fundraising remains very important for smaller schools because there are limits to how high tuitions can be raised. Many schools receive 20 to 25 percent of their budget from annual alumni and donor gifts (Wolfram, 1997). Increased competition for students from other providers of higher education (Schapiro, 1999) and demands for superior outcomes to justify higher prices by smaller private institutions (Stimpert, 2004) put limits on tuition increases. In addition, increased financial aid often tends to counteract tuition raises. This all points to the need for strong fundraising efforts by private schools.

According to Wegge (n.d), even public colleges and universities are now placing a stronger emphasis on fundraising due to decreases in government funding. Corrigan (2002) notes that current institutional presidents may require wider expertise and a different set of skills than previous presidents because of the challenge of finding new revenue sources. This challenge may include developing new fundraising methods. Some presidents in this study seem to have discovered that fundraising is a more complex function than they had previously realized.

The next two most frequently cited areas in which presidents felt insufficiently prepared were Federal/State Policy (11, 23.4%) and Financial Management (10, 21.3%). The reason for the first of these may be because most small independent college presidents had their previous experience in small institutions. While they were employed there, they had substantially less need to be aware of federal and state policies, except for financial aid programs, than their counterparts in public institutions (R. Artman, personal communication, March 3, 2005). The second may be because in their previous positions, many presidents may have had dealt with

only a part of the institution's financial picture, for example divisional or departmental units. When the individual becomes president, he or she may feel overwhelmed in dealing with the financial and accounting matters of the entire institution (R. Artman, personal communication, March 3, 2005).

Interestingly, even though 16 (34%) of the presidents reported insufficient preparation for Fundraising, only 7 (14.9%) reported insufficient preparation for Entrepreneurial Activities. This may be partly because the presidents perceived the fundraising aspect of revenue generation to be more difficult, complex, and/or time consuming than the Entrepreneurial Activities aspect. It may also be partly due to the presidents having a more realistic idea of what would be demanded of them in regard to Entrepreneurial Activities than they did in regard to Fundraising.

When t-tests were performed to determine any differences in entrepreneurial orientation between presidents who felt sufficiently prepared and those who felt insufficiently prepared for an area of responsibility, the only significant difference was in regard to Fundraising. Presidents who felt sufficiently prepared for Fundraising perceived themselves to be significantly more entrepreneurial (mean = 4.26) than those who felt insufficiently prepared (mean = 3.85). This may be partly because adequate preparation for the institutions' needs for effective new methods of Fundraising helps to instill or strengthen some or all of the 10 entrepreneurial characteristics. On the opposite side, insufficient preparation in Fundraising may leave individuals with less developed skills in regard to entrepreneurial orientation characteristics such as Team Building, Persuasion and Proactivity.

The result that preparation in Fundraising was correlated with higher entrepreneurial orientation seems to support Cook's (1997) statement that fundraising has become very entrepreneurial. Schools may now employ more creative and broader marketing plans for

fundraising efforts. These entrepreneurial efforts include new communications systems and marketing techniques and tools (Grayson, 2003).

It seems worth noting that those presidents who reported that they were sufficiently prepared for Entrepreneurial Activities on the survey had a higher mean entrepreneurial orientation score (4.15) than those who reported that they were insufficiently prepared (3.85). Although the difference was not significant ($p = .128$), it suggests that in some cases, sufficient preparation in Entrepreneurial Activities may help to strengthen entrepreneurial orientation.

5.1.2. Research Question 2

The first part of research question 2 asked to what extent small independent colleges and universities carry out revenue-generating activities. Of 54 revenue-generating activities in eight categories, the presidents indicated that their schools carried out a mean of 21.19 (39.2%, range 9–38), which indicated that most schools had a substantial number of revenue-generating programs.

This result appears to support Bok's (2000) statement that there has been a wide expansion in the range of entrepreneurial activities in institutions of higher education. Such institutions are exploring a wide variety of ways of generating new revenue, according to Steve Golding, Vice President of Budget and Finance for the University of Colorado system (Hignite & Larger, 2004).

The result is also positive, given that serious financial challenges are facing small independent colleges and universities (Hignite & Larger, 2004). Clark (2000) maintains the need for institutional leaders to become more proactive and entrepreneurial in generating revenues. "If they do not," he cautions, "they will put themselves at considerable risk during the first decades of the 21st century" (p. 1). That the average number of revenue-generating activities by the

schools was over 21 suggests that most of them are being proactive in seeking numerous ways to raise funds for their institutions.

The presidents listed more activities in the Educational Programs area than in any other area. This is understandable from the standpoint that Educational Programs are an obvious mainstay of educational institutions. Notably, 35 (74.5%) of the 47 institutions carried out non-traditional educational programs, which suggests that the institutions are taking steps to maintain and increase their enrollments by addressing students' needs for diverse and convenient educational opportunities.

The second and third areas with the greatest number of activities were Retail Sales (mean = 4.34) and Fundraising (3.64). The first of these results is understandable because retail sales, including bookstores, school merchandise sales, cafeterias, and vending sales, have long been mainstays for revenue generation among institutions of higher education of all sizes. A survey of private schools by the Chronicle of Higher Education (2000) showed that for the year 2000, 21.5 percent of their income came from various sales and service operations.

The second result can be understood as arising from a similar reason. That is, fundraising activities such as alumni programs and planned giving programs are a fundamental and traditional source of revenue generation for higher education institutions.

The two activity categories for which institutions had the lowest mean number of activities were Intellectual Property (0.23) and Off-campus Real Estate (1.04). This is understandable given that most of the schools whose presidents were surveyed were small and with limited resources. Intellectual Property is a type of activity that generally suits larger research institutions better than small liberal arts schools. Also, Off-campus Real Estate activities often require substantial funds that may be less available to small institutions than to large ones.

Interestingly, although 16 activities were listed on the survey for Small Business Development, the mean for this category of activity was only 2.04 (range 0–12). This may also be due to limited funds of smaller institutions. However, the low number may suggest that there are opportunities in this area that many schools are not taking advantage of. This may be doubly unfortunate because business development services can also be very valuable to local and areas businesses. Grayson (2003) points out the value of consulting services by reporting that although half of all small businesses fail within four years, companies that are incubated through colleges and universities have an 85 percent survival rate.

Part a of research question 2 asked whether there were any differences in the institutions' revenue-raising activities that were related to enrollment. An ANOVA showed that there were significant differences between groups in several areas. One of these was that institutions with an enrolment in the 3,000–5,000 range reported more Educational Programs than institutions with enrollments of less than 2,000. This may be because larger institutions generally have more resources such as money, space, and instructors to be able to provide a greater variety of programs to students.

In addition, institutions with enrollments in the 2,000 to 2,999 bracket reported significantly higher numbers of Retail Sales activities than those with enrollments of less than 2,000, and institutions with enrollments in the 3,000–5,000 bracket reported higher numbers of Intellectual Property activities than institutions with enrollments of less than 3,000. In each case, the large institutions tended to have more activities, and this, again, is probably related to the larger institutions having more resources to invest in more activities.

The same reasoning can be used to explain why, in general, the larger institutions had more activities overall. However, it should be pointed out that there were no significant

differences in this case, and that the mean number of activities (20.84) for the schools with 2,000 to 2,999 enrollment was only slightly more than for the schools with less than 2,000 enrollment (20.39).

Part b of research question 2 asked whether there were any differences in revenue-generating activities depending on the institutions' endowment. There was a wide range of endowments among the institutions of the presidents surveyed, ranging from less than 10 million dollars to more than 60 million dollars. This was expected because endowment fund values vary widely among institutions (Wolfram, 1997; Schapiro, 1999).

The ANOVA showed that institutions with endowments valued at 0–9.9 million dollars invested in fewer types of securities than institutions with endowments in the 10–29.9 million and 60–99.9 million brackets. It seems likely that this result may be partly because institutions with smaller endowments have less money to invest in securities, and thus tend to invest in fewer securities. There are a number of choices available to institutions for investments, including more potentially volatile ones such as venture capital investment funds and hedge funds (Grayson, 2003), but it seems likely that institutions with smaller endowments would be especially hesitant to invest in such funds.

Notably, the results showed that the most highly endowed institutions had the fewest revenue-generating activities, though this difference was not significant. Also, the less the endowment, the more likely institutions were to offer vendor-operated, contract education, off-campus education, and distance education. This suggests that institutions may be attempting to make up for smaller endowments by expanding program development outside the main campus through graduate programs, distance education, and other programs.

5.1.3. Research Question 3

Research question 3 asked whether there is a relationship between the entrepreneurial orientation of presidents of small independent colleges and the revenue-generating activities most commonly carried out by their institutions. Pearson correlation coefficients showed that entrepreneurial orientation was positively correlated with total number of revenue-generating activities and with the number of activities reported in the Fundraising, Small Business Development, Intellectual Property and Off-campus Real Estate areas.

It seems reasonable that higher entrepreneurial orientations were correlated with more revenue-generating activities overall. Presidents with higher entrepreneurial orientations would likely be more inclined than other presidents to find new ways to generate revenue and would likely be more proactive in engaging their institutions in a wide range of income-producing activities.

That higher entrepreneurial orientations were positively related to number of Small Business Development and Off-campus Real Estate activities may be partly because those categories include some of the most non-traditional revenue-generating activities. Presidents with high entrepreneurial orientations tend to be innovative risk takers and change agents who are more likely to approve of non-traditional means of increasing institutional income.

It seems important to emphasize again that the mean number of Small Business Development activities engaged in by the institutions was quite small (2.70 out of a possible 12 activities listed). Eleven of the schools conducted no business activities. This included the two schools whose presidents had the lowest entrepreneurial orientation score, whereas the schools of the two presidents with the highest scores both conducted such activities. Also notably, the schools of all of the presidents who had previously been presidents all conducted Small Business

Development activities. That some of the schools conducted 6 or more such activities, with one school engaging in 12, suggests that there are opportunities in this area that some institutions are not taking advantage of.

The mean number of Off-campus Real Estate activities was also low (1.04 out of a possible 5 such activities listed). Twenty of the presidents reported that their institutions did not engage in any Off-campus Real Estate ventures. This may be partly because of lack of institutional resources.

That higher entrepreneurial orientations for presidents were positively correlated with their institutions' Intellectual Property activities may be explainable by the idea that such activities are non-traditional for many schools. However, it should be noted that the mean number of such activities was very low (0.23), with only eight of the presidents' institutions engaging in that type of revenue-generating activity. Even though seven of these presidents had an entrepreneurial orientation score of 4.30 or above, it may be that the number of Intellectual Property activities carried out by schools is related more to institutional resources and the type of institution than to entrepreneurial orientation. Most of the presidents' institutions were liberal arts schools, and none were large research universities. Therefore, the kinds of research-based programs that tend to give rise to Intellectual Property activities were limited in their schools.

Fundraising was the activity area that was most highly correlated with the presidents' entrepreneurial orientation. Fundraising is a major revenue-generating activity in virtually all institutions of higher education. All of the presidents in the survey reported that their schools engaged in two or more fundraising activities. The high correlation between entrepreneurial orientation and number of Fundraising activities may be partly because entrepreneurial orientation, as measured in this study, comprises characteristics such as Persuasive, Team

Builder, Proactive, and Innovative. Individuals who possess such characteristics to a high degree may be especially well suited to looking for and developing new ways to enhance their institution's fundraising efforts.

Another reason for the correlation between Fundraising and entrepreneurial orientation may be that, as mentioned earlier in the discussion, fundraising has become very entrepreneurial (Cook, 1997). Schools are using more creative marketing plans and communication techniques to contact and raise funds from alumni and other donors (Grayson, 2003). For many small independent institutions, finding new and creative means of generating funds is becoming more and more important. For these schools, fundraising and entrepreneurship may go hand in hand.

5.1.4. Research Question 4

Research question 4 asked what relationship there was between the presidents' entrepreneurial orientation score and the financial stability of their institution. Use of Pearson's correlation coefficients showed that there was no significant relationship between the institutions' reported financial strength and the presidents' entrepreneurial orientation.

In explaining this result, it is important to keep in mind that only about half of the presidents (24 out of 47, 51.1%) reported the viability ratio for their institution. Thus, the comparison was made for only those 24 presidents. If the full sample of 47 presidents could have been used in making the comparison, greater confidence could have been put on the result.

That there was no correlation between entrepreneurial orientation and financial strength may be partly because financial strength depends on factors such as endowment and property values that reflect long-term financial efforts. The trend toward greater entrepreneurship in small institutions is relatively recent, so it may not have had time to significantly add to the financial stability for some schools.

5.2. DISCUSSION OF INTERVIEWS

The four interviews with college presidents helped to provide additional insights into entrepreneurship in today's small independent colleges and universities. Five main questions were asked in each of the interviews. These were the following:

- Q1. Why do you think all presidents surveyed described themselves as having all of the factors that the literature suggests are characteristic of entrepreneurial leaders?
- Q2. How important do you think entrepreneurial orientation is to the success of today's small independent college or university?
- Q3. How important is your entrepreneurial orientation to the success of your institution?
- Q4. What in your background (education or experience) has best prepared you for entrepreneurial endeavors in regard to your presidential position?
- Q5. What would you recommend to other would-be presidents that would better orient them to the entrepreneurial side of higher education today?

To help clarify the answers to specific questions, in some cases one or more follow-up questions were asked of a president.

The interviews were analyzed using a qualitative methodology. According to Huberman and Miles (1984), the process of qualitative analysis of texts such as interviews can be carried out in three basic steps: data reduction, data display, and consolidation and triangulation. This method was used for the interviews in this study in the following way.

First, the transcripts of the interviews of the four presidents were examined to determine the main points of the replies to each question. Comments that were obvious digressions were ignored. Second, the replies of all presidents to each question were arranged under that question. Third, the main points made by all participants for each question were examined to determine any common themes that occurred in two or more of the presidents' replies to the question.

Specific statements that the presidents made that supported any theme were highlighted. In addition, the presidents' replies to other questions were examined to determine any other statements that supported the theme. This was necessary because presidents' replies to one question were often directly relevant to a different question.

The following subsections identify themes that were found in the responses of two or more presidents to one or more of the questions. Comments that supported the theme are identified by the president that made them. The presidents are referred to by numbers 1 through 4. As explained earlier, the two presidents who had scored highest on entrepreneurial orientation on the surveys and the two who had scored lowest were selected for the interviews. Presidents 2 and 4 were the two who scored highest, and presidents 1 and 3 were the ones who scored lowest. (See Appendix G for the complete interview transcripts.)

5.2.1. Theme 1: Today, for Most Small Independent Institutions, Having an Entrepreneurial Orientation is an Important Aspect of the Presidential Role

This theme was identified mainly in the presidents' responses to interview question 1, which was, Why do you think all presidents surveyed described themselves as having all of the factors that the literature suggests are characteristic of entrepreneurial leaders? In one way or another, three of the presidents expressed the idea that having an entrepreneurial orientation in temperament, behavior or both is a very important part of the role for leaders of small independent colleges and institutions today.

Comments made by the presidents that supported this idea included the following, all of which were made in reply to interview question 1:

- President 1: “We may be wanting to think that all of our talents are employed in a way that is forward leaning, creative and relevant to the mission of the institution and its advancement. For all of those reasons, most of those attributes are absolutely necessary....”

- President 2: “From my experience with over 500 schools in the Council of Independent Colleges, it is a kind of survival of the fittest. What these schools had to do is find entrepreneurial-type presidents, and those they selected that aren’t don’t stay very long or don’t succeed unless the school is very grounded and not really in that survival mode.” Also, “I know schools ... that still haven’t quite done that [found someone with entrepreneurial experience] and they keep searching for somebody who can make college pop. You know, really make it go.”

It should be noted, however, that President 2 also stated that some small independent colleges do not want an entrepreneurial president, saying “There is a group of them [small independent colleges] that are so well off in a sense that they don’t have to be too entrepreneurial.”

- President 4: “[W]hether they [presidents] have entrepreneurial characteristics to some extent or other, they’re being forced to behave as if they have them. And boards know it. Boards are tending to hire presidents who have a good business sense, are risk takers, are willing to innovate, often, like myself, have degrees from very prestigious old state organizations, universities, and yet are very entrepreneurial in temperament. They have been forced to be innovative and so the consequence is that whether or not you’re entrepreneurial in temperament, you have to be in terms of behavior.”

Also, in response to the follow-up question, “So if you’re applying for that job, you know going in that you have to have the entrepreneurial traits. Obviously.” President 4 said, “Yeah. You either know it straight up or you know it intuitively.”

It is understandable that Theme 1 was found among the presidents' responses. Cook (1997) points out that ability to raise funds has become an important factor in the selection of presidents and that the president's reputation greatly depends on how successfully he or she does so. Corrigan (2002) agrees that fundraising and finding new avenues for tuition are the focus of many presidents. With fundraising becoming more entrepreneurial (Cook, 1997), and with the new ways of generating tuition requiring creative and innovative ideas, it stands to reason that having an entrepreneurial orientation is an important aspect of the presidential role for many schools. Furthermore, Clark (1998) emphasizes the importance for institutional leaders to develop a more entrepreneurial orientation toward generating revenues.

5.2.2. Theme 2: Having an Entrepreneurial Orientation is Very Important to the Success of Many Small Independent Colleges and Universities

This theme was identified mainly in responses to the second interview question, which was, How important do you think entrepreneurial orientation is to the success of today's small independent college or university? In one way or another, all four of the presidents expressed the idea that entrepreneurial activities are critical sources of revenue for many colleges and universities in order to help ensure their success.

Comments made by the presidents that supported this idea included the following, all of which were made in reply to interview question two, except where noted.

- President 1: "The competitive world out there requires, in my judgment, differentiation and innovation to attract students primarily. Students are the bottom line of the economic engine. Without them you are going to have a hard time meeting your budget and your needs."

In addition, in reply to the follow-up question, "So would you say, very important?" President 1 said, "Absolutely."

- President 2: “For some people it’s survival. They can’t figure out [without it] how to do all kinds of somewhat different things they started out doing as a college 100 years ago when they were classic small liberal arts residential colleges.”
- President 3: I think it’s very important. I do try to fit that model. We all need more money to survive, so we are all in highly competitive environment, most of small colleges like ours have very little endowment.... Some of us are [well endowed] but most of us aren’t, and some of us recognize that we may not be around in 10-15 years. It’s a competitive environment. You don’t talk like that on campus but that’s a reality of competition so you better go after it, you can’t be sitting on your hands.”
- President 4: “I think it’s really high because you are buying time.... [Building a long term endowment is] essential for the financial sustainability of the school. And in the meantime you have to be doing all these entrepreneurial ventures to meet the day-to-day obligations of the university.”

In addition, when asked what was the biggest risk in his job, in a follow-up to interview question 3, president 4 said, “I actually think the biggest risk was coming, period. It is competition. By the most part, it’s friendly, and it’s cordial, but boy, there’s a cut-throat nature to it.” Also, “[The presence of rules] is often the case for Christian Colleges and Universities. There’s a general format, the rules often get changed, they’re not often considerate of your needs as a private independent college or university. And your ability to survive is completely dependent on your ability to improvise and innovate based on how the referee is calling the rules.”

The presence of this theme among the presidents’ interview responses agrees with Hignite and Larger’s (2004) claim that a number of factors have come together that make it

necessary for colleges and universities to use a more market-oriented approach to help make up for lost revenues. To stay in business, private schools must generate sufficient revenue (Wolfram, 1997), and to survive and prosper, they must innovate (Ashcroft & Kerr, 1991).

5.2.3. Theme 3: Having an Entrepreneurial Orientation is Very Important to the Presidents' Own Institutions

This theme was identified mainly in responses to the third interview question, which was, How important is entrepreneurial orientation to the success of your institution? In one form or another, the four presidents expressed the idea that entrepreneurial orientation is very important to their own institutions.

The following comments supporting this idea were made in reply to interview question 3.

- President 1: “It is in one way, it is in fundraising.” Also, “My role is to continue to operate under those principles that brought us so far, but we always need private capital both for building purposes as well as for scholarship purposes because our students can’t even take grants because we don’t take federal money.”
- President 2: “In the sense the board has an entrepreneurial spirit and so does faculty and staff. We all do it together.... [I]f you have nothing special but usual to offer them [students] they will go someplace else that has something different.... In the sense it’s not so entrepreneurial but more pursuit of excellence to say that if we’re going to go down, let’s go down because of the fact that we have spent money and added faculty programs, and if that doesn’t do it, let’s work harder and try some more things....”
- President 3: “I think its very important, at least I’m told that by people. I think it’s true. I’m a guy that likes to hit the ground running. When we first got here 14 years ago we really

were listing badly to a side, talking about survival not thriving.... It's been very important that we have been vigorous or I don't think we would be where we are."

- President 4 made a number of statements indicating that he had learned entrepreneurship in another position and considered himself to be entrepreneurial, and that this had led to positive results for his institution. President 4 also stated that his institution was writing a grant proposal to establish an Entrepreneurship and Innovation Center. Quoting from the proposal, the president said: "We do not even know if the entrepreneurial spirit is stored in an individual's DNA. But we do know that it is impossible to build a great business or great organization without clear thinking, sound knowledge of the fundamentals of business, and an entrepreneur's unconventional approach to thinking and working in order to provide new products and services that meet the needs of our ever changing world."

This theme is much like Theme 2, except it applies directly to the presidents' own institutions. In each case, the presidents explained how, in one way or another, their institutions are engaged in entrepreneurial activities. This suggests that the institutions are making the kind of entrepreneurial response that Clark (1998) believes is so important.

5.2.4. Theme 4: Experience in Previous Entrepreneurial Institutions and/or Entrepreneurial Mentors Was Important in Preparing the Presidents for Their Role

This theme was identified by two presidents in responses to several of the interview questions. It was expressed by one of those presidents in responding to the fourth question, which was, What in your background, educational experience or otherwise has best prepared you for our entrepreneurial endeavors? It was expressed by the other president in responses to the second and third interview questions.

The following comments supporting this theme were made.

- President 2: “I think the most powerful influence in my background was to have a model. I had three people that in a sense I worked with that kind of modeled my entrepreneurship.” President 2 went ahead to identify these individuals, including two former presidents and a dean, who were proactive and entrepreneurial.

In reply to the follow-up question, “Are you crediting your entrepreneurial background to mentors?” President 2 also said, “They certainly stimulated me to think that you just don’t have to be a purist. We are not that kinds of schools. You will be left behind, and you cannot generate enough revenue.”

- President 4 (in response to interview question 2): “I have been deeply shaped by Peter Drucker, by his writings. I took four classes with him. I still periodically correspond with him. And you know he just teaches you to think about an organization in such a different and unique way than you typically would as an academic and he was enormously helpful.”

President 4 also said, in responding to interview question 3, “I had been at a very entrepreneurial school. And I will say this ... that presidents who have been at entrepreneurial universities before going to their university, before becoming presidents themselves, that is a huge influence on their willingness and ability to be entrepreneurial.”

Theme 4 was especially interesting because it provided an insight into what two of the presidents felt was an important part of their preparation for their role. Corrigan (2002) states that because of the challenge of finding new revenue sources, today’s presidents may require a wider range of expertise than other presidents. This may include skills in academic leadership, financial management, and political negotiation (Corrigan). Much of this expertise is likely to be practical knowledge, and if so, then mentors may be an especially valuable source of this knowledge.

5.2.5. Theme 5: Would-be and New Presidents of Small Independent Colleges Should Seek Mentors in Order to Better Orient Themselves to the Entrepreneurial Side of Higher Education Presidency

This theme was identified in responses to the fifth interview question, which was, What would you recommend to other would-be presidents that would better orient them to the entrepreneurial side of higher education today? All four of the presidents expressed the idea that would-be or new presidents of small independent institutions of higher education should seek mentors to orient themselves to the entrepreneurial side of their presidency.

The following comments supporting this idea were made in reply to interview question five.

- President 1: “[M]ost presidents come to the office in their early to mid fifties ... its hard if you don’t have that spirit and the experience or some experience to acquire it. In that case, you have to make sure you have a first report or two that has that in abundance, be it your primary fund raiser or a visionary provost who can help you state the case.
- President 2: “If they are just getting into business ... what he has to understand is what it takes to survive and thrive in this type of environment.... [O]nce he gets settled in, he wants to go visit some other schools ... steal some of the ideas and meet some of the colleagues who have been there for a while and find little bit more about them.” Also, “[The] Council of Independent Colleges does provide mentors. Retired presidents form a group that would go out and consult for virtually no money just for expenses as part of being part of CIC. Other is to find some successful schools, get in the car and go talk to the president, meet with some of the people on the campus and see what is going on.”
- President 3: “I would say, if they are uncomfortable themselves in being a risk taker, there are others out there, board members, executive presidents, vice presidents, deans that say

the same things to people who they feel they are not visionary, who don't have big ideas. You have people around you who have big ideas, and as a leader you can't just be a facilitator. Pull those people together and listen and pick the best ideas. Listen to the risk-oriented people and package it in a way that is palatable for you. And, you can still move forward.”

- President 4: “I only know my own experience, and my MBA training was just life changing. Go to a place that has people that think outside the box, expose yourself to mentors who think outside the box, always work for people who will develop you, who will challenge you, who will give you the opportunity to make mistakes without punitive [repercussions].”

This theme suggests even more strongly than Theme 4 the importance of mentoring to today's small independent college president. These leaders have complex jobs and great responsibility for ensuring the success of their institutions. In many cases, they may have to “hit the ground running.” Being exposed to entrepreneurial leaders and activities beforehand or even during their presidency may help provide the knowledge and experience that can help them to fulfill their complex roles effectively.

5.2.6. Theme 6: There Is Strong Competition among Institutions of Higher Education Today

The responses of two of the presidents expressed the idea that there is a competitive environment in higher education today. Their responses to interview question 2 supported this idea.

- President 1: “The competitive world out there requires, in my judgment, differentiation and innovation to attract students primarily.... Without them you are going to have a hard time meeting your budget and your needs.”

- President 3: “We all need more money to survive, so we are all in highly competitive environment, most of small colleges like ours have very little endowment so you are not sitting on a ton from generations gone by. It’s a competitive environment.”

This theme confirms much of what was found in the Review of Literature. For example, Freeland (1997, p. 1.) states that college and universities are vigorous competitors a marketplace that is becoming more diversified and dynamic. The competition is for both students and funds. Schapiro (1999) states that private schools have recently seen increased competition for students from other educational providers. Furthermore, both private and public schools are now competing for private funds (Cook, 1997).

5.2.7. Theme 7: Entrepreneurial Activities in Small Independent Colleges and Universities are Geared to Increasing Enrollment

This theme was identified in responses to several of the interview questions. Three of the presidents’ comments indicated that entrepreneurial activities help to increase enrollment. Statements that supported this idea include the following:

- President 1 (replying to interview question 5): “[W]e have tremendous entrepreneurial studies major, finding course work in majors that have great relevance [to entrepreneurship] and in that way helping to attract students. There are lots different ways you can earn money for your institution, primarily through student attraction and secondly through capital support and operating support from third parties or alumni.”
- President 2 (in answer to interview question 2): “[W]e added some more adult sites and some graduate programs that produce revenue that we can use on our home campus to boost our programs. To us it was enhancement and for others it’s been survival. They provide to their students; otherwise we are all going out of business.”

- President 4 (in reply to interview question 2): “Entrepreneurial activities are what you do in addition to your endowments to keep running... You know, my dad used to say, ‘Fat cats don’t chase mice’.... If you get a big endowment you stop chasing the next innovation because you don’t have to.”

In reply to the follow-up question, “So those entrepreneurial activities and programs are primarily designed for developing courses of studies and knowing what the market is?” President 4 also said, “You are driven into it [being entrepreneurial] because you are program driven, you’re enrollment dependent, you have to have degrees that people will want to come [for], they’re willing to spend the money on, and that there is a perceived value, and if you do all of those things and you will hit your enrollment goals, you will exceed your enrollment goals that will ensure the financial stability and sustainability of the school.”

This theme emphasizes the importance of enrollment for the financial well-being of small independent institutions. From 1976 to 1983, there was a 22 percent decline in high school graduates in the United States (Schapiro, 1999). At the same time, greater competition for these students has risen. Much of the competition comes from public universities. Today, almost four of every five students are enrolled in public universities, but at the beginning of the twentieth century, more than four of every five were enrolled in private colleges (Wolfram, 1997). Competition also comes from other sources, such as corporate educational programs (Cook, 1997). This results in the need to develop new ways to attract students and receive the tuition dollars that are a vital source of revenue for small schools. Trachtenberg (1999) notes that the new entrepreneurial university is one in which students can be referred to as customers and that it is a serious business to listen to the customers and give them what they need and want.

5.2.8. Theme 8. Working with Constituencies is Important in the Entrepreneurial Process

This theme was expressed by three of the presidents in their responses to question 3. The following comments support this theme:

- President 2: “Faculty and staff had to buy in [to a leadership program]. It’s very important or you can’t get it done, and secondly the board has to buy it and they have to be willing to help you fund it and they have to be willing to go along having people opening graduate programs when _____ was historically an undergrad school, and they did. In the sense, the board has an entrepreneurial spirit and so does faculty and staff. We all do it together.”
- President 4: In responding to the question 3 follow-up question, “It sounds like you’ve surrounded yourself with good people?” president 4 said, “I have an awesome team. I mean every position is a person of strength. And, this was advice given to me. You can only afford for a little while to have one weak link and after a year, you can’t even afford to have one weak link.”
- President 3: In response to the following question, “What are they [internal battles to be fought]?” which was a follow-up to question 3, president 3 said, “You involve them [others in the institution] in decision making early on, more collaborative if possible. You’ve got to be everywhere at once, like Giuliani before 9/11 when he was trying to change NYC, he was out every night, he was everywhere, preaching his vision, and I did that when I first got here. I just moved around. I did it later about three different times, just trying to meet with every department on campus and in doing that, you are telling them that you value them. They have a chance to thank you and you learn new names, but you also get a new chance over and over again to preach new vision.”

President 3 later said, in reply to the same question, “You can’t over communicate, you just can’t.... Some people just need information, anything I can tell them I tell them. Any new celebration of some great thing, and I try to do better job of celebrating their achievements. You do that and you win some political capital.”

This theme recognizes that for the entrepreneurial activities to be successful in the institution, a number of constituencies must be brought into the process. Clark (1998) emphasizes the importance of teamwork in entrepreneurial endeavors. For maximum effectiveness, the efforts of various constituency groups must be brought together to seek specific objectives. The comments of the three presidents above provide insight into the importance of bringing various groups together to work toward a single goal.

5.2.9. Theme 9. Some Institutional Leaders Have a More Entrepreneurial Orientation than Others

All four of the presidents discussed entrepreneurial leadership in such a way that it was clear that they held that some leaders are more entrepreneurial than others. In doing so, they gave some insight into how they perceived entrepreneurial leadership and how they felt that it differed from non-entrepreneurial leadership or non-entrepreneurial management.

The presidents’ comments supporting this theme were made in reply to several of the questions and include the following:

- President 1: In replying to question 3, president 1 said, “[W]hether 47 presidents possess them all [the 10 entrepreneurial attributes], I would doubt that. Some might have more in abundance and some less. I don’t think anybody is robust in every area. “

In addition, in replying to question 3, president 1 said, “Entrepreneurial spirit is making up capital exclusively from the private sector that is available to most any other school in part or in whole in a more public sector.” In reply to question 5, president 1 said, “Entrepreneurship is a

life style, it's a commitment to ... thinking outside the box and finding every possible hook you can upon which to attach the story of your institution to a potential donor.”

- President 2: In answering question 1, president 2 said, “When I came to _____, they needed somebody who had already gone through some of the entrepreneurship experience, and it's worked out very well. I know schools ... that still haven't quite done that [found someone with entrepreneurship experience], and they keep searching for somebody who can make college pop. I can tell you which ones are in, and which ones are maintenance presidents.

In reply to the follow-up question, “Can you tell me how you describe a maintenance president?” president 2 added, “As long as they can keep things moving along at the decent pace, and that board is not expecting too much, they are okay.” President 2 then went on to describe a former president of another school and then said, “Now they've hired a young guy who came in at 37 years of age and he is trying to be an entrepreneurial guy. He's trying to make it work and I don't know if he is going to make it or not but he is certainly giving it the college try. That would be an example of someone in the board who woke up and said, you know, now that he is retired we've got to have different kind of president.”

- President 3 [in reply to question 5]: “If you truly can't find that power to lead then you are better number two.” He went on to add, “Maybe you are a better vice president or dean. We need good managers.”

Also, in answering the question, “What do you think is the biggest difference between an entrepreneurial leader and regular leader?” which was a follow-up to question 5, president 3 replied, “I guess number of times that they are proactive and relative level of risk that they are able to embrace.” In clarification, he added, “When I say risk I don't mean close your eyes and jump off the cliff. I don't mean stupid. You've got to think it through. God gave you brains, so

use it. You are going to come to the point where you've got to move.... In a lot of big public universities where you have strong faculty's governance and history of huge bureaucracy it is very difficult for them to be entrepreneurial leaders. It is really rare, and if they are it comes from very strong personality and talent or comes from particular giftedness at attracting dollars where they can just use enormous leverage of big gifts coming in, they are moving at direction they want to go."

- President 4: In replying to the question, "How would you describe entrepreneurial orientation?" which was a follow-up to question 2, president 4 said, "I think high risk tolerance, strong intuitive sense as to what will work, a willingness to seize an idea and go as hard as possible to see it fulfilled.... an ability to assess the market and determine how your organization will find a niche in that market."

Also, in reply to the question, "What do you think sets an entrepreneurial leader apart from a leader?" which was a follow-up to question 3, president 4 said, "Well, that's a good question because maybe every leader should be entrepreneurial.... [T]here's an observation by Margaret Thatcher—I won't recall it perfectly—but this is the gist of it, where she said that, 'I need people to manage today so that I can be charting the course for tomorrow.' Your VP's have really got to take an active role in managing today so that you can get focused on charting the course for tomorrow."

Later, in continuing to answer the same question, president 4 also said, "How do you actually quantify what an entrepreneur is? Very difficult. And yet there's a sense in which we know it when we see it, and we know whether we're one or not. And we know deep in our hearts. It's kind of like how do you measure a person if you can't measure their heart. And for an entrepreneur so much of it is that they will figure out a way to succeed no matter what obstacle

they face. When I interviewed people who have started companies, they will tell me these incredible stories of heroic sacrifice by themselves, by their family, where it is required of them every ounce of creative energy to pull off what they wanted and it is this relentless drive to succeed. It's not something that they just sit around waiting to have happen, and it's a unique quality that you just don't find it in everybody.”

This theme agrees with the findings reported in Chapter 4. The survey showed that there was a fairly wide range in summary entrepreneurial orientation scores for the 47 presidents, from 3.10 to 5.00. Although all of the presidents rated themselves to be at least somewhat entrepreneurial overall, some of them rated themselves as very entrepreneurial. These differences may be expected because entrepreneurial orientation includes various characteristics, and as President 1 said, no one will be strong in every area. Corrigan (2002) states that the qualifications for presidents may have shifted over the past few decades, but this may not be true for all schools. Some of the interviewees' comments suggested that schools with large endowments may not need presidents that are as entrepreneurial as presidents of schools with smaller endowments.

5.3. DISCUSSION OF COMBINED SURVEY AND INTERVIEW RESULTS

Some of the most interesting results from the research were closely related to the themes from the interviews. By combining these two aspects, survey results and interviews, several implications of the study that are relevant to entrepreneurship in small private colleges and universities can be identified. In this section, these implications are highlighted and discussed.

5.3.1. Variations in Revenue-generating Activity

The survey results showed that there was considerable revenue-generating activity in the colleges and universities whose presidents were surveyed and that there was a wide range of

such activities among the institutions. This result suggests that many of the small independent colleges and universities whose presidents were surveyed are very active in attempting to generate funds for their institutions. In addition, several of the themes from the interviews indicated that having an entrepreneurial orientation is very important in today's educational climate. Taken together, these findings suggest that many of the small independent colleges and universities whose presidents were interviewed are taking entrepreneurship seriously and are becoming more entrepreneurial in their approach to increasing revenues.

However, the results also showed that there was substantially more activity in some schools than in others, with the highest number of reported activities being 38 and the lowest being 9. The wide variation in activities and the low number of activities for some schools were important findings of the study, and somewhat surprising given the financial challenges faced by both public and private institutions of higher education today. This challenge and the growing entrepreneurial response to the challenge was documented in the literature review (for example in Clark, 1998; Bok, 2000; and Hignite & Larger, 2004). The seriousness of the challenge was further supported by the interviews, with one interview theme focusing on the strong competition among higher education institutions today.

Despite this financial challenge, the low number of revenue-generating activities for some institutions whose presidents took part in the study suggests that the entrepreneurial response to the challenge is considerably less for some private colleges and universities than for others. One possible reason for this is suggested by remarks made by presidents 2 and 4, implying that schools with large endowments are less likely to be involved in entrepreneurial activities because they have less financial need. Supporting this idea, survey results showed that institutions with the largest endowments had lower numbers of revenue-generating activities

overall and in the categories of Educational Programs, Retail Sales, and Small Business Development than schools with smaller endowments, though the differences were not statistically significant. However, endowment size does not fully explain why there was such great variation among schools in number of activities, because the average number of revenue-generating activities in schools with the largest endowments was 19.67, which is near the mean for all of the schools.

Another variable possibly related to fewer activities in some activity areas is size of the school. In particular, some activities require more resources than others do, and smaller schools often have fewer resources than larger ones. This may help explain, for example, why schools with less than 2,000 students were found to have significantly fewer Securities Investment activities and fewer (though not significantly so) Off-campus Real Estate investment activities than larger schools. Yet, smaller schools had more activities (though not significantly more) than larger ones in the areas of Educational Programs and Retail Sales, and their total number of activities were comparable to those of larger schools. Therefore, size of school does not fully explain why there was so much variation among schools among activities.

A third variable that may help explain differences among schools in number of revenue-generating activities is the entrepreneurial orientation of the institution's president. In this study, presidents' entrepreneurial orientation was found to be significantly positively correlated with the total number of institutional revenue-generating activities and with activities in Fundraising, Small Business Development, Intellectual Property, and Off-campus Real Estate. These relationships suggest that the strength of a president's entrepreneurial orientation may be a determinant of the number of revenue-generating activities carried out by his or her institution.

This is supported by interview comments in which presidents indicated that entrepreneurial leaders are more active in developing new avenues for generating revenue.

Whatever the reasons, it appears that those colleges and universities with a low number of revenue-generating activities may be missing opportunities to strengthen their institutions' financial situation. Indeed, many of the schools whose presidents were surveyed may be missing such opportunities. For example, the mean number of activities in Small Business Development was only 2.04, but one of the institutions had a total of 12 activities in that category. This suggests that for many or even most of the colleges and universities whose presidents were surveyed, it might prove valuable to further investigate the revenue-generating activities that might be appropriate for their institutions.

5.3.2. Variations in Presidents' Entrepreneurial Orientation

Though all of the presidents reported that overall, they were at least somewhat entrepreneurial, there were substantial differences in their summary entrepreneurial orientation scores, which ranged from 3.1 to 5.0. This indicates that some presidents viewed themselves as considerably less entrepreneurial than others. That there are variations in degree of entrepreneurial orientation among small college and university presidents is further supported by the comments of several of the interviewed presidents. President 2, for example, mentioned that some small college and university presidents are "maintenance presidents," in contrast with more entrepreneurial presidents.

The wide range in entrepreneurial orientation among the surveyed presidents is a noteworthy finding of the study. As discussed in the previous section, entrepreneurial orientation was found to be positively correlated with number of institutional revenue-generating activities. Given that institutions with high entrepreneurship tend to develop new revenue-generating

activities (Trachtenberg, 1999), this suggests that the degree of entrepreneurship being practiced by schools whose leaders have a lower entrepreneurial orientation may be less than is practiced by others.

Why the degree of entrepreneurship in a small independent college or university would tend to be less when it has a less entrepreneurial president becomes clearer when the 10 characteristics that contribute to an entrepreneurial orientation are considered. In particular, entrepreneurial presidents tend to be innovative, proactive change agents who are willing to take calculated risks in developing new ways of generating revenues, which is a characterization supported by several comments of the interviewed presidents. When leaders are less innovative and proactive, and less willing to take calculated risks to create change, then they are less likely to seek and support new ways of generating revenues.

This suggests that insofar as small private colleges and universities want to develop a more entrepreneurial response to their financial challenges, they would be wise to seek leaders who rate highly on the characteristics of entrepreneurial orientation. This may be especially true if the institution is concerned about its survival. Such institutions must become quicker and more flexible in responding to changing demands (Clark, 1998), and the qualities that contribute to an entrepreneurial orientation, such as being an innovator and being highly competitive, can help strengthen institutions' ability to make rapid responses as it seeks to stay competitive.

5.3.3. The Importance of Being a Team Builder

Of the 10 entrepreneurial characteristics that the presidents rated themselves on, Team Builder turned out to be one of the most notable in this study. This characteristic rose to prominence in several ways. First, in the literature review, the importance of team building in the entrepreneurial university is noted by several researchers, including Kao (1989) and

Trachtenberg (1999). Clark (1998) emphasizes that in a college or university, being entrepreneurial is a characteristic that applies to the entire social system that makes up the institution, including all of its schools, faculties, departments, and research centers. The entrepreneurial response by a university therefore requires many different elements working together as one team. It is the leader's responsibility to help build and unify that team. Second, Team Builder was one of the highest rated of the 10 entrepreneurial characteristics by the presidents surveyed; in addition, the presidents rated themselves highly on two other entrepreneurial characteristics that are important aspects of team building, Persuasive and Proactive. Third, building a team was mentioned by several of the presidents as a very important aspect of their job. President 3, for example, emphasized how, as president, "you've got to be everywhere at once" communicating a vision to various constituencies, and trying to involve others in decision making. Both of these practices are integral parts of building a team.

All of this suggests that in seeking an entrepreneurial president, one of the most important characteristics that search committees should be looking for in candidates is the ability to build a team. Of course, this is something that they would naturally look for in any president because, as several of the interview comments suggested, a college or university president has many constituencies that he or she must attempt to unify. These include faculty, staff, an institutional board, students, parents, alumni, outside contractors, professional organizations, and business interests. However, being a good team builder may be even more important for an entrepreneurial president. This is because the entrepreneurial response usually brings new ideas, and these may take some individuals or groups out their habitual comfort zone. The job of bringing everyone together to work on the same team for the same objectives may become more difficult as a result. It is therefore important for the entrepreneurial president to have unusually

strong skills in bringing constituencies together. For example, Michaud (2003) emphasizes the importance of an institution's academics being kept informed of and made part of their college's or university's program for economic revitalization. President 2 echoed this by saying that unless faculty and staff buy in to an idea, "you can't get it done."

5.3.4. Preparation for an Entrepreneurial Role

Taken together, the survey results and interviews include several implications for the preparation of future small private college and university presidents for an entrepreneurial role. One finding pertinent to this issue was that presidents reported that of several revenue-generating activity areas, they felt least prepared for their role in the area of Fundraising. This result may be partly because fundraising has become such an important and complex function for higher education institutions. Fundraising has become a central concern for presidents (Corrigan, 2002), and several comments made by the interviewed presidents indicated that fundraising was a very demanding and important aspect of their jobs.

The importance of adequate preparation in fundraising is also suggested by the finding that the surveyed presidents who felt sufficiently prepared in that area had a significantly higher entrepreneurial orientation score than those that didn't (4.26 vs. 3.85). This tends to support the view that fundraising has become very entrepreneurial (Cook, 1997). It is possible that sufficient preparation in fundraising helps to strengthen some or all of the 10 entrepreneurial orientation characteristics. Conversely, insufficient preparation may leave presidents with less-developed skills in some of the characteristics that help make up entrepreneurial orientation, such as Team Builder, Proactive, and Persuasive. Taken together, these findings suggest that higher education administration preparation programs should pay close attention to preparing students adequately in the realities of today's fundraising requirements for small colleges and universities.

There were no significant differences in entrepreneurial orientation related to previous position or undergraduate major. Somewhat surprisingly, Business undergraduate majors had the lowest entrepreneurial orientation scores while Arts and Humanities majors had the highest. These differences were not significant, however, and no conclusions can be drawn on the basis of the survey results about what prior positions or undergraduate studies may help foster an entrepreneurial orientation.

The interviews with presidents did suggest two factors that may be important in preparing small independent college and institution leaders for an entrepreneurial role. These were previous experience in an entrepreneurial institution and having entrepreneurial mentors. The theme of mentorship was especially strong in the interviews, with all four of the interviewed presidents mentioning the importance for presidents of being open to advice and help from others with vision and entrepreneurial expertise. Visionary board members, executive presidents, vice presidents, deans, provosts, and, in general, people who “think outside the box” were all suggested by one president or another as being possible mentors for the leader who wants to be more entrepreneurial.

It is important to add that mentorship should go beyond simply learning what others have done in the way of generating revenues. Entrepreneurship in the small independent college or university is very much about developing new, innovative ideas for increasing institutional revenues, and this may require going beyond what has been done before. The truly entrepreneurial leader will not be restricted to copying what others have successfully done. He or she will also keep a creative eye toward seeking out and developing revenue-generating activities that are truly innovative.

5.3.5. Interconnections among the Entrepreneurial Characteristics

In their comments, the interviewed presidents referred to all 10 of entrepreneurial characteristics that were used in this study to determine entrepreneurial orientation. Characteristics directly referred to included risk-taker (presidents 3 and 4), visionary (1 and 3), innovative (1 and 4), proactive (2 and 4), and team builder (2 and 3). Other phrases that the interviewees used to describe entrepreneurial presidents implied several of the other 10 characteristics. These included references to the highly competitive environment (1 and 3), “thinking outside the box” (1 and 4), the importance of being able to “hit the ground running” (3), being able to “make college pop” (2), “having a willingness to seize an idea and go as hard as possible to see it fulfilled” (4), being able to use “every ounce of creative energy,” having a “relentless drive to succeed” (4), and involving others while “preaching” a vision (3). These descriptions implied the importance of an entrepreneurial president being competitive, creative, proactive, persuasive, and a change agent.

It is understandable that the interviewees would refer to all 10 of the entrepreneurial characteristics when discussing entrepreneurial presidents because the characteristics are closely interrelated. For instance, as discussed above, being a team-builder implies being proactive and persuasive. In addition, being creative, innovative, and visionary are closely related. Furthermore, an individual who is competitive also tends to be someone who does not sit on the sidelines but rather is a proactive person who is willing to take some risks and try to make changes when necessary. Even the characteristic of being flexible is implied by several of the other characteristics. For example, in order for an individual to be a successful team builder and change agent, it is necessary to be flexible in his or her approach to problems and people.

Two comments made by president 4 suggested an entrepreneurial characteristic that was not included in the 10 that defined entrepreneurial orientation in this study. These were comments referring to having a “strong intuitive sense as to what will work” and to having “an ability to assess the market and determine how your organization will find a niche in that market.” These comments suggest that having good “business sense” may be an important part of having an entrepreneurial orientation or at least an important part of successful entrepreneurship. Having good business sense may be largely a matter of experience, which is a factor mentioned in some of the presidents’ comments, especially in relation to mentorship and leadership preparation. Having good business sense in a competitive environment is also probably closely related to all or most of the 10 entrepreneurial characteristics. For example, being proactive, flexible, and innovative would seem to important aspects of having a good business sense in a competitive environment. However, educational institutions seeking entrepreneurial leaders should probably consider good business sense or business acumen to be an attribute that candidates should possess in addition to the 10 entrepreneurial characteristics.

5.3.6. The Nature of Entrepreneurship in Small Independent Colleges and Universities

Several of the presidents’ interview comments highlighted the complexities of entrepreneurship in the small independent college or university. They help remind us that higher education institutions are unique kinds of organizations that differ from business organizations in important ways. First, the main goal of colleges and universities is to fulfill their educational and research missions, whereas the primary motivation of businesses is simply to make a profit. Second, small independent institutions of higher education have a very diverse set of stakeholders, including students, faculty, administrators, support staff, a board of governors, alumni, parents, local groups and businesses, and various governmental agencies. Most

businesses have a smaller range of main stakeholders, including owners, workers, management, distributors, suppliers, and local businesses. Third, the revenue-generating activities of small independent colleges and universities cover a very wide range of activities. In the survey of the presidents, a total of 54 activities in 8 areas ranging from educational programs to small business development were listed. In contrast, most businesses generate revenues by producing a specific and limited range of products or services that constitute their economic niche.

These important differences suggest that entrepreneurship may be a more complex undertaking in educational institutions than in the business world. For one thing, making an entrepreneurial response in a small college or university is not just a matter of developing and marketing a new product or service, but rather a matter of finding new ways to generate revenues among a wide range of possible activities. Furthermore, while emphasizing new ways of generating revenues, the entrepreneurial president must balance financial goals with the more fundamental educational and research goals of the institution, which may limit what can be done entrepreneurially.

In addition, because of the great diversity of stakeholders in the small independent institution of higher education, the entrepreneurial leader must typically gain the support of a wider range of constituents than the typical business leader. The head of a university must deal on a daily basis with well-educated individuals who are experts in their fields and who thrive in an academic environment, as well as with business people, alumni, and financial advisors who may have a mainly pragmatic outlook. To do the first successfully, the president must be very well educated and have a well-rounded understanding of the functions and principles that guide various schools and departments of the institution. To do the second, he or she must be knowledgeable in and able to deal with a range of practical matters such as business partnerships,

investment strategies, marketing plans, distance learning opportunities, fundraising strategies, and more. Furthermore, the leader must be able to communicate clearly with and generate enthusiasm among groups ranging from academic departments to local business people.

This all suggests that the demands for effective entrepreneurship may be more stringent for leaders of small independent colleges and universities than they are for most private or public businesses. How these demands may differ and how entrepreneurship in small independent educational institutions compares with entrepreneurship in other kinds of organization is an important subject for future investigation. Research should also be undertaken to help clarify what are the constraints on entrepreneurship in educational institutions and how entrepreneurial objectives relate to educational missions.

5.4. CONCLUSIONS

Several conclusions can be made on the basis of the findings of this study. These are listed below. The main source(s) on which each conclusion is based is stated afterwards in parentheses.

1. All of the presidents in this study reported at least a fairly high entrepreneurial orientation as measured by their self-perceptions of having the 10 entrepreneurial characteristics; however, some presidents reported a considerably higher entrepreneurial orientation than others. Because the sample was not truly random, care should be taken in extrapolating these results to the larger population, but they suggest that most presidents of small independent institutions of higher education have at least a fairly high entrepreneurial orientation and that there are considerable differences in entrepreneurial orientation among those presidents. (survey results and interviews)
2. Given the increased competition for students and funds, becoming more entrepreneurial in developing revenue-generating activities, which Clark (2000) calls the “entrepreneurial

response,” is important to the financial well-being of most small independent colleges and universities. (interviews)

3. Most small independent colleges and universities in this study engaged in a substantial number of revenue generating activities, but there were substantial differences among institutions in the numbers and kinds of activities, with some institutions engaging in far fewer activities than others. This suggests that some small independent colleges and universities may not be taking advantage of revenue-generating activities that could benefit their institutions. (survey results)

4. Based on this study, there is no evidence for a relationship between formerly held position or undergraduate major and the entrepreneurial orientation of college presidents. However, the interviews provided evidence that prior experience in entrepreneurial institutions and working with entrepreneurial mentors can help prepare presidents for conducting entrepreneurial activities. (survey results and interviews)

5. Preparation in the areas of Fundraising and Entrepreneurial Activities may assist presidents of small independent institutions to develop entrepreneurial orientation and skills. (survey results)

6. In this study, small independent colleges and universities led by presidents with higher entrepreneurial orientations engaged in more revenue-generating activities overall, and in more Fundraising, Business Development, and Off-campus Real Estate activities. This suggests that as presidents’ entrepreneurial orientations increase, the number of their institutions’ revenue-generating activities increase. (survey results)

5.5. RECOMMENDATIONS

Based on this study's results, several recommendations to small independent college and universities, their presidents, and higher education administration programs can be made. These include the following:

1. It is recommended that presidents and other administrators of small independent colleges and universities use this study to help stimulate their thoughts about entrepreneurship, entrepreneurial orientation, and entrepreneurial activities as they relate to their institution.
2. It is recommended that in seeking a leader for their institution, search committees for small independent colleges and universities carefully consider the entrepreneurial orientation of candidates and make entrepreneurial orientation an important criterion for selection.
3. Furthermore, it is recommended that in seeking a president with a high entrepreneurial orientation, all entrepreneurial characteristics identified in this study be considered; however, it is recommended that characteristics that indicate and promote innovative ideas and team leadership be of greatest interest.
4. It is also recommended that in seeking a new president, search and hiring committees of small independent colleges and universities carefully consider candidates' prior experience in entrepreneurial educational institutions, as well as their preparation in and understanding of the requirements for fundraising in today's economic climate.
5. It is recommended that small independent colleges and universities and their presidents carefully review their revenue-generating programs to ensure that opportunities for generating new income for their institutions are not being missed.
6. It is recommended that higher education programs incorporate the results of this study in the

higher education administration curriculum and address the issues of the study in presidential and other leadership seminars and continuing education programs.

7. In particular, it is recommended that higher education administration preparation programs ensure that their curricula include a realistic preparation for the fundraising challenges and complexities that face today's small independent college and university leaders.

APPENDIX A

LETTER TO COLLEGE AND UNIVERSITY PRESIDENTS

Diana Riggs
2046 Grandview Farms Court
Bethel Park, PA 15102

Dear President:

As a follow up to Rick Artman's phone conversation with you, let me introduce myself. My name is Diana Riggs and I am a doctoral student in the Administrative and Policy Studies program in the School of Education at the University of Pittsburgh. My dissertation is titled "Entrepreneurial Orientation of Independent College and University Presidents: A View from the Top.

I obtained my MBA (management and marketing emphasis) from the Franciscan University of Steubenville, one of the members of the CIC. I manage my own business and after deciding to pursue a doctorate degree in the school of education, I became interested in the financial management side of higher education, focusing on the independent sector. (Resume on website-www.pitt.edu/~dgrst7)

Rising commercialization, diminished funding and market competition offer a challenge for higher education leadership. I believe an important part of higher education's future is based on how presidents perceive their roles as entrepreneurs as well as educational leaders.

After many discussions with Rick, I became aware of the enormous responsibilities thrust upon a college president. I am extremely pleased and grateful for your willingness to participate in my study.

I have made every effort to construct a concise and resourceful survey for your consideration.

I would ask for your consideration as follows:

Please return the survey within two weeks, if possible.

If you wish, please feel free to add comments.

If it's not too great an imposition on your time, agree to a follow up interview.

Rick and I would like to thank you once again for your generosity.

I can be reached on my cell phone 412-414-7777 or e-mail dianariggs@adelphia.net.

Respectfully Yours,

Diana Riggs

APPENDIX B

LETTER OF INTRODUCTION FROM PRESIDENT ARTMAN

Office of the President

517/264-7100, fax: 517264-7702, web: www.sienahts.edu
1247 E. Siena Heights Drive, Adrian, Michigan 49221-1796 University



Dear President :

During the course of your academic career, I suspect there was a time when you or your mentor/advisor called upon colleagues to help with your research proposal and data collection. When I receive a survey request from a doctoral student, I often remind myself that over twenty years ago I was at that same point, hoping and praying that enough respondents would feel supportive or sympathetic and take some of their valuable time to participate. Thus, I do my best to reciprocate, provided the survey is respectful and not too demanding of my time.

A close family friend, Diana Riggs, is near completion of her doctoral program in Administrative and Policy Studies in the School of Education at the University of Pittsburgh. Her research topic requires participation of college and university presidents at selected CIC member institutions. I've coached her with some of the unique problems facing our type of institutions, reminded her of the demands of our schedules, and volunteered to impose on a sampling of colleagues to participate in her study.

I know too well that your plate is more than full and a task such as this would not ordinarily be among your priorities. As a personal favor, I'm asking for your assistance by completing the attached survey. It does not require looking up data or composing essay answers. Diana took my advice and made it user friendly and expedient for busy executives to complete.

**PLEASE COMPLETE THE WRITTEN QUESTIONNAIRE AND USE THE ENCLOSED POSTAGE PAID ENVELOPE TO RETURN IT TO DIANA.
PLEASE INDICATE ON THE QUESTIONNAIRE IF YOU WISH TO RECEIVE THE FOLLOW UP RESULTS OR PARTICIPATE IN AN INTERVIEW.**

Thank you for considering my request. If you have any questions, feel free to contact me at 517/264-7000 or rantman@sienahts.edu, or you can contact Diana at 412-414-7777 or email dianariggs@adelphia.net.

Cordially,

Richard B. Artman

APPENDIX C

INDEPENDENT COLLEGE AND UNIVERSITY PRESIDENTS' SURVEY

1. Indicate major field of study for your undergraduate earned degree. (Check all that apply)

Agriculture
 Biological sciences
 Business
 Health Sciences
 Arts
 Mathematics
 Education
 Humanities
 Engineering
 Physical/Natural Sciences
 Religion/Theology
 Social Sciences
 Information and technology science

2. Position held prior to assuming your current President/CEO assignment (Check only one)

President/CEO/Chancellor
 Chief Academic Officer or Provost
 Other Senior Executive in Academic Affairs
 Senior Executive in Development or External Affairs
 Senior Executive in Student Affairs
 Chair/Faculty
 K-12 Administrator
 Business Owner
 Corporate Executive
 Religious Counselor/ Member of Religious Order
 Local/State/federal Government
 Military
 Other

3. What is the total enrollment of students in your school as of fall 2004?
- Headcount_____
 - FTE (Full Time Equivalent)_____
4. Please indicate the general range of the market value of your endowment.
- ____ 0-9.9 million dollars
 ____ 10-29.9 million dollars
 ____ 30- 59.9 million dollars
 ____ 60- 99.9 million dollars
 ____ 100 million dollars and up
5. In which of the following areas did you not feel sufficiently prepared for your first presidency? (Check all that apply)
- ____ Academic program management
 ____ Collective bargaining
 ____ Conflict management
 ____ Crisis management
 ____ Federal/state policy issues
 ____ Financial management
 ____ Fundraising
 ____ Intercollegiate activities
 ____ Personnel issues
 ____ Public relations
 ____ Strategic planning
 ____ Student life issues
 ____ Entrepreneurial activities
 ____ I felt prepared in all areas
6. Which of the following revenue generating activities are being carried out in your institution? (Please check all that apply)

Educational programs

- ____ Offers non-traditional programs
 ____ Offers continuing education programs
 ____ Offers educational consulting
 ____ Offers educational seminars
 ____ Offers study abroad programs
 ____ Offers distance education programs
 ____ Offers contract education programs
 ____ Offers degree completion programs
 ____ Offers niche programs
 ____ Offers off campus programs
 ____ Other (please specify)
-

Fundraising

- Planned giving programs
 - Athletics related activities (e.g. summer camps, concessions, booster clubs)
 - Alumni programs
 - Special events
 - Other (please specify)
-

Retail Sales (Business ventures)

- Institutionally operated bookstore
 - Institutionally operated Food service
 - Vendor operated food service
 - Internet
 - Institutionally operated vending and concessions
 - Vendor operated vending and concessions
 - Commissions on sales and services
 - Lease/ rentals of campus facilities
 - vendor operated bookstore
 - Other(please specify)
-

Intellectual Property

- Research and Technology transfer activities
 - Intellectual property licensing and patenting
-

Small Business Development

- Counseling small business firms
 - Coordinating and conducting research into technical and general small business problems
 - Conducting conferences and workshops for businesses
 - Offering specialty and high technology services to the business client
 - Conducting training programs for businesses
 - Providing special assistance to technology oriented firms
 - Assisting business with in product engineering
 - Providing businesses with patent searches
 - Assisting business in technological research
 - Providing plant layout and design
 - Offering product testing
 - Offering businesses feasibility studies
 - Training for businesspersons
 - Establishing incubator businesses with businesses
 - Offering assistance with small business start up
 - Establishing for-profit companies
 - Other (please specify)
-

Securities

- ___ Investment in hedge funds
 - ___ Investment in bonds
 - ___ Investment in equities
 - ___ Other (please specify)
-

Off Campus Real Estate

- ___ Real estate acquisition
 - ___ Real estate leasing
 - ___ Campus real estate management services
 - ___ Real estate maintenance service
 - ___ Construction projects
 - ___ Other (please specify)
-

Partnerships

- ___ Partnerships with other educational institutions
 - ___ Partnerships with outside business
 - ___ Participation in joint ventures
 - ___ Partnership alliances in community projects
 - ___ Investments with outside parties
 - ___ Other (please specify)
-

7. In describing yourself, how characteristic of you is each of the following? Please use the scale below and circle your selection. Please indicate the extent to which each characteristic below is descriptive of you generally.

- 1 = Not at all characteristic
- 2 = Mostly **not** characteristic
- 3 = Somewhat characteristic
- 4 = Mostly characteristic
- 5 = Very characteristic

	Not	Mostly Not	Somewhat	Mostly	Very
innovative	1	2	3	4	5
risk taker	1	2	3	4	5
creative	1	2	3	4	5
change agent	1	2	3	4	5
team builder	1	2	3	4	5
competitive	1	2	3	4	5
opportunist	1	2	3	4	5
visionary	1	2	3	4	5
proactive	1	2	3	4	5
persuasive	1	2	3	4	5

8. Each year as part of the audit of your institution's financial statements, your auditors calculate a financial responsibility ratio for the US Department of Education – sometimes referred to as the viability ratio or financial strength ratio. (The ratio has a range of 0-3) Please indicate your ratio for the most immediate past fiscal year in which you have this information.

Ratio _____
Fiscal Year _____

Personal Information (optional)

Would you be willing to be interviewed for further clarification and/or explanation of your responses? (maximum 30 minutes) _____

Would you like to receive the results of this questionnaire? _____

Name: _____

Phone: _____

Fax _____

E-mail: _____

APPENDIX D

INSTITUTIONS OF PRESIDENTS ASKED TO TAKE PART IN THE STUDY

Adrian College	Madonna University
Albertus Magnus College	Marygrove College
Albright College	McKendree College
Alma College	Molloy College
Aquinas College	Mount Mercy College
Barry University	New England College
Bethany College	Olivet College
Cabrini College	Point Loma Nazarene University
Caldwell College	Point Park University
Calvin College	Regis University
Central Methodist College	Saint Leo University
Chatham College	Saint Thomas Aquinas College
College Misericordia	Saint Vincent College
Cornerstone University	Seton Hill University
Dana College	Siena Heights University
Dean College	Southern Nazarene University
Doane College	Spring Arbor University
Dominican College	Susquehanna University
Dominican University	Thiel College
Dominican University of California	Tri-State University
Edgewood College	Ursuline College
Elmhurst College	University of Evansville
Fontbonne University	University of Indianapolis
Franciscan University	University of New England
Geneva College	Walsh University
Grand View College	Wartburg College
Grove City College	Washington and Jefferson College
Hastings College	Waynesburg College
Hillsdale College	Wesley College
Huntington College	Westminster College
Indiana Wesleyan University	Wheeling Jesuit University
Lees-McRae College	
Luther College	

APPENDIX E

REVENUE-GENERATING ACTIVITIES IN RANK ORDER BY PERCENTAGE OF INSTITUTIONS REPORTING THEM

Question	Institutional activity	Percent reporting	Rank	Area
6b.1	Offers planned-giving programs	98	1	Fundraising
6b.3	Offers alumni programs	94	2	Fundraising
6c.8	Offers lease/rentals of campus facilities	91	3.5	Retail sales
6b.2	Offers athletics-related activities	91	3.5	Fundraising
6c.3	Offers vendor-operated food service	83	6.5	Retail sales
6h.1	Has partnerships with other educational insts.	83	6.5	Partnerships
6f.3	Invests in equities	83	6.5	Investment
6f.2	Invests in bonds	83	6.5	Investment
6b.4	Offers special events	81	9	Fundraising
6a.1	Offers non-traditional programs	74	10	Educational
6a.8	Offers degree completion programs	72	11	Educational
6c.6	Offers vendor-operated vending, concessions	70	12	Retail sales
6a.2	Offers continuing education programs	66	13	Educational
6e.3	Conducts conferences, workshops for business	60	14.5	Small bus. development
6a.5	Offers study abroad programs	60	14.5	Educational
6a.10	Offers off-campus programs	57	16	Educational
6c.9	Offers vendor-operated bookstore	55	17	Retail sales

Appendix E Table (continued).

Question	Institutional activity	Percent reporting	Rank	Area
6h.4	Has partnership alliances in comm. Projects	53	18	Partnerships
6a.4	Offers educational seminars	51	19	Educational
6e.5	Conducts training programs for business	49	20	Small bus. development
6c.1	Offers institutionally operated bookstore	47	21	Retail sales
6a.9	Offers Niche programs	45	22	Educational
6h.2	Has partnerships with outside businesses	40	23.5	Partnerships
6a.6	Offers distance education programs	40	23.5	Educational
6f.1	Invests in hedge funds	38	25	Investment
6g.2	Carries out real estate leasing	36	27	Off-campus real estate
6e.13	Offers training for businesspersons	36	27	Small bus. development
6g.1	Carries out real estate acquisition	36	27	Off-campus real estate
6c.7	Offers commissions on sales, services	32	29	Retail sales
6h.3	Participates in joint ventures	30	30.5	Partnerships
6a.7	Offers contract education programs	30	30.5	Educational
6e.1	Offers counseling to small business	28	32	Small bus. development
6c.4	Offers Internet	23	33	Retail sales
6g.5	Carries out construction projects	21	34	Off-campus real estate
6c.5	Offers institutionally operated vending, concessions	19	35.5	Retail sales
6e.2	Conducts research on small business problems	19	35.5	Small bus. development
6e.12	Offers business feasibility studies	17	37	Small bus. development

Appendix E Table (continued).

Question	Institutional activity	Percent reporting	Rank	Area
6e.15	Offers assistance with small business start-up	15	38	Small bus. development
6d.1	Offers research and technology transfer activities	13	40.5	Intellectual property
6a.3	Offers educational consulting	13	40.5	Educational
6e.4	Offers specialty, high-tech services to business	13	40.5	Small bus. development
6c.2	Offers institutionally operated food service	13	40.5	Retail sales
6e.14	Establishes incubator businesses	11	44	Small bus. development
6e.6	Provides assistance to technology-oriented firms	11	44	Small bus. development
6d.2	Offers intellectual property licensing, patenting	11	44	Intellectual property
6g.4	Offers real estate maintenance service	09	46	Off-campus real estate
6h.5	Holds investments with outside parties	04	47.5	Partnerships
6e.16	Establishes for-profit companies	04	47.5	Small bus. development
6e.11	Offers product testing	02	51	Small bus. development
6e.10	Provides plant layout and design	02	51	Small bus. development
6e.9	Assists business in technological research	02	51	Small bus. development
6e.7	Assists business with product engineering	02	51	Small bus. development
6g.3	Offers campus real estate management services	02	51	Off-campus real estate
6e.8	Provides businesses with patent searches	00	54	Small bus. development

APPENDIX F

INTERVIEW QUESTIONS

Q1. Why do you think all presidents surveyed described themselves as having all of the factors that the literature suggests are characteristic of entrepreneurial leaders?

Q2. How important do you think entrepreneurial orientation is to the success of today's small independent college or university?

Q 3. How important is your entrepreneurial orientation to the success of your institution?

Q4. What in your background (education or experience) has best prepared you for entrepreneurial endeavors in regard to your presidential position?

Q5. What would you recommend to other would-be presidents that would better orient them to the entrepreneurial side of higher education today?

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