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AN ABSTRACT OF THE DISSERTATION OF Johnnie Ray Driessner for the Doctor of Education in Educational Leadership: Postsecondary Education presented October 18, 1993.

Title: Environmental and Institutional Characteristics and Academic Strategic Action Variables in Small Private Colleges, and Their Relationship to Enrollment Changes in the 1980s

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Small private colleges represent a unique and important element of diversity within American higher education. Their small size, heavy dependence on tuition, and

limited resources, have caused them to be repeatedly identified as singularly threatened with enrollment declines. Despite these predictions the evidence indicates that most of these colleges survived the 1980s and many thrived.

This study had two major goals. The first was the characterization of institutions within the population during the 1980s with regards to environmental characteristics, institutional attributes and academic strategic actions. The second was the description of the relationships between these variables and enrollment changes in the 1980s.

The population was composed of Liberal Arts I and II colleges with independent ownership and average Fall, 1980 enrollment between 100 and 1000. This study utilized data from two primary sources; a questionnaire distributed to academic officers, and several self-reported, public domain sources. The survey was distributed to all 294 institutions in the population with 219 returned (74% completion rate).

Basic descriptive statistics were used to characterize the population. A list of statistically and substantively significant variables were identified using a set of criteria for causal inference. Factor analysis was utilized to develop factors from the significant variables and these factors were entered into a multiple regression model to explain variance in enrollment growth.

These colleges were located in highly populated areas shared with many institutions offering two- and four-year degrees. Nearly three-fourths of the academic programs at these institutions were classified as liberal arts in 1989. The 1980s saw an increase in the number and proportion of professional programs and the number of programs for "non-traditional" students. These colleges added Associates and Masters

degrees, and increased the number and proportion of graduate students. The selectivity of nearly 90% of these institutions was minimally or moderately difficult in 1989 and 84% were church-related.

Two categories of environmental characteristics were related to enrollment changes in the 1980s. The first was the size of the immediate community, and the second was the level of local competition. Community size was the only environmental factor which substantively explains any of the variation in 1980s enrollment change.

Four factors were identified which characterized the relationship of institutional attributes and enrollment changes in the 1980s. These factors were; the age of students, the balance of professional and liberal arts programs, and two variables related to institutional image. Collectively, three of the four factors explain ten percent of the variance in 1980s enrollment change.

Eight factors characterized institutional actions influencing enrollments. These factors include adult programs and policies, institutional student selectivity, internal activities focused on traditional student pools, non-traditional student support and recruitment, non-traditional program development, changes in institutional policies (calendar and directed studies), addition of graduate programming, and increase in transfer students. Collectively, factors one, two, three, five, and eight explain over 30% of the variance in 1980s enrollment change.

When all fourteen of these factors were entered into a multiple regression model, the six factors that loaded were; student selectivity, traditional student responses, non-traditional programming, transfer students, average student age, and community size.

These factors explained nearly 35% of the variance in 1980s enrollment change.

These findings indicate that the greatest influences on enrollment change in the 1980s were related to non-traditional students. Those institutions which showed increases in non-traditional programs, non-traditional students, and average student age, showed the greatest increase in enrollments. Those institutions located in rural regions and those which reported the use of more traditional institutional responses to enrollment challenges (e.g. freshman advising programs) showed lower enrollment gains. Finally, higher levels of student selectivity covaried significantly with enrollment rates.

ENVIRONMENTAL AND INSTITUTIONAL CHARACTERISTICS AND ACADEMIC STRATEGIC ACTION VARIABLES IN SMALL PRIVATE COLLEGES, AND THEIR RELATIONSHIP TO ENROLLMENT CHANGES IN THE 1980S

by

JOHNNIE RAY DRIESSNER

A dissertation submitted in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION
in
EDUCATIONAL LEADERSHIP:
POSTSECONDARY EDUCATION

Portland State University
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TO THE OFFICE OF GRADUATE STUDIES:

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DEDICATION

Any errors in content, interpretation and application within this document are solely the responsibility of the author. For any interesting insight, helpful information, or stimulus for action, I give thanks and full credit to my Lord and Savior, Jesus Christ. Without minimizing the role and assistance of others, "to God alone belongs the glory."

Soli Deo Gloria

ACKNOWLEDGEMENTS

I first acknowledge my family for making this possible. My parents, Marvin and Florine, who never doubted me, my wife, Kim, who never abandoned me, and my children, Anna and Kayla, who never forgot me. Without their special support and encouragement this project could never have been completed.

I would next like to acknowledge my friends and colleagues at Concordia College, Portland. President Chuck Schlimpert who provided whatever support was necessary including an environment in which questioning was imperative. Midge Kehoe, who not only typed much of the manuscript but who took up the slack when my efforts were diverted. Bill Balke who swam the swift river with me, stopping only occasionally to fish. Finally, all of the administrators, faculty, staff members and students at Concordia who have convinced me of the singular and priceless gift of the small private college.

Finally, I would like to acknowledge my mentors. Mary Kinnick who kept me looking at the big picture and asking the important questions. Gary Nave who helped me navigate the statistical waters. Doug Robertson who stimulated my interest in adult learning and development. I would also like to recognize the late Dr. Arthur Terry, Dr. Anthony Rufolo and Dr. Carol Burden for their willingness to read intermediate drafts and for their insightful comments and suggestions. Also Dr. George Keller, who taught me that conceptual frameworks help not only in classifying what we see, but framing what we must do.

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CHAPTER I

INTRODUCTION

THE CONTEXT AND THE PROBLEM

General Purpose

This study focused on small, private colleges in America. It characterized the institutions within the population with regards to major external and internal characteristics and dominant academic strategic actions of the institutions during the 1980s. It also described and attempted to explain how the various characteristics and strategic actions relate to enrollment changes between 1980 and 1989.

In this chapter I describe the essential role that institutional and programmatic diversity plays in American higher education. This diversity is in the public interest, and is of significant benefit to the students and other constituents of the system. In addition, I describe how sub-species within this diverse system exhibit variety, not only in their institutional and program design, but in their survivability in the contemporary environment. Finally, the essential role of the small private college within this system is delineated.

Diversity, Student Choice, and Access

American higher education is characterized by a level of diversity that is unrealized in other countries. This diversity has often been identified as one of the

greatest strengths of the system, and the element that generates the envy of other countries. Keller (1983) suggests that "if there is anything that distinguishes American higher education from that of all other countries it is the vast number and variety of institutions of higher learning" (p. 146).

Scholars of American higher education have long encouraged the recognition of this diversity as well as a conscious, concerted effort aimed at retaining and strengthening it. In the 1987 edition of A Classification of Institutions of Higher Education, the Carnegie Foundation for the Advancement of Teaching suggested that America's system of higher education is strong because it has not pursued a "unitary model." Further, it is suggested that the goals of the system must continue to be the promotion of "both excellence and diversity."

Diversity provides a fundamental means by which the system of higher education can adapt to changes in the environment and meet new demands. According to Zammuto (1984), the corollary may also be true. Zammuto stated that "decreased diversity within the institutional population means that the higher education system is becoming more vulnerable to major disruptions caused by changes in the environment" (p. 207). The fundamental benefits of diversity among institutions of higher education include the increased opportunity for choice on the part of the student along with the encouragement of innovation in form and function.

This diversity is particularly important in a period in which there is a threat of decreasing enrollments and declining financial resources. Under these conditions, according to Zammuto (1984), higher education is best served by maintaining as much

diversity among institutions as possible. He proposed that the greater the degree of institutional diversity, the less likely is the probability of rapid decline. The loss of diversity, according to Zammuto, will lead to clustering of institutions around a fixed number of institutional types which will provide for fewer institutional models from which adaptations to changing needs can come. Zammuto, proposed that institutional diversity functions as internal control within a population. Some sub-species will experience growth, while others will experience decline. The effect of diversity is to balance growth and decline, providing the population with an overall degree of stability.

Upon looking at the changes in institutional type during the late 1970s and early 1980s, Zammuto (1984) concluded that the overall diversity had decreased in institutional type. He further suggested that much of that loss was among the less selective liberal arts colleges.

Some researchers and scholars have suggested that the environmental and demographic conditions, and the demand for choice and access in this century have aided the development of the diversity that now characterizes American higher education (Kaufman, 1986; Kramer, 1982; Zammuto, 1984). The diverse constellation of institutions entering the 1980s occurred in large part as a response to student demographic changes and to changing societal demands for increased access to include "new" students, and to provide for more participation by traditional students. While much of this growth has occurred by the introduction of the community college as a new institutional form, other segments also showed significant increase in enrollment and institutional diversity. It is possible that the same demographic and economic factors that

drove this diversity, that is, the shifting nature of the students in higher education, now provide the greatest threat and challenge to it. In addition to the problems associated with the demographic challenges of the 1980s, there is an exceptional opportunity to advance access. This opportunity comes when colleges are motivated to be open to the participation of new students in higher education.

The fundamental importance of diversity in institutional type has become so well recognized as to become a significant issue in the public higher education agenda. Brooks (1980) reported that both public and private higher education have joined in lobbying for increased federal and state resources for the subsidizing of private colleges. More recently, Millard (1991) suggested that "there is a clear state and public interest in encouraging and supporting a real diversity of postsecondary educational institutions designed to serve different educational needs" (p.9). Equity in higher education must involve a diverse system of institutions capable of meeting the variety of educational interests, needs and opportunities presented by a diverse constituency.

The benefits of true diversity in institutional types can only be realized when the system includes, recognizes, encourages and honors true institutional diversity within the realm of essential institutional quality. If the diverse needs of traditional and new students in American higher education are to be appropriately and effectively met, institutional diversity must be assured. As Quehl (1985) maintained, "a choice with no difference is no choice at all" (p. 34).

Private Higher Education

In the fall of 1986, American higher education included about 3,500 institutions in the 50 states and the District of Columbia (Andersen, Carter, & Malizio, 1989). Within this assemblage of institutions are approximately 1,500 public two- and four-year institutions and 2,000 private two- and four-year institutions. The public institutions enrolled some 10,150,000 students (78%) while the private institutions enrolled approximately 2,890,000 students (22%) (The Almanac, 1991).

While both sectors, public and private, grew significantly in number of institutions and enrollment in the 1960s and 1970s, the public sector grew much more rapidly. Slightly less than half (45%) of the institutions of higher education in 1986 were publicly controlled; twenty five years before, the figure was 35 percent (Andersen, Carter, & Malizio, 1989). Likewise, private higher education's share of the total enrollment declined from about 50% in 1960 to 22% in 1977 (Hamlin, 1990).

The private sector has been described as exhibiting a variety of unique characteristics and providing a multiplicity of unique services. As a result of these unique characteristics that follow directly and indirectly from their "privateness," these institutions have been defined as representing a critical component of the overall diversity within the American system of higher education. The Education Commission of the States concluded that "the private sector of higher education in the United States has always been, and is now, a great national asset. It has been a major force in setting the pattern for all of higher education as the best system in the world" ("The Preservation of Excellence," 1990, p. 2).

In 1990, the Education Commission of the States commissioned the Task Force on State Policy and Independent Higher Education to assess the role of private colleges and universities in meeting public goals, to study how state policies influence this role, and to make recommendations based on their findings. Included among the 22 members of the task force were Clark Kerr, Robert Albright, Robert Atwell, William Danforth, John DiBiaggio, David LeShana, and Michael O'Keefe. The analysis and subsequent recommendations were based on a series of commissioned technical reports, regional and national forums, and a review of the pertinent literature. In their 1990 document, "The Preservation of Excellence in American Higher Education," the Education Commission of the States asserted:

> The 1,600 private nonprofit colleges and universities in the United States contribute in concrete, measurable ways to the social, cultural and economic life of the nation and the states in which they are located. Making up 55% of all colleges and universities, these institutions offer diverse opportunities to 2.6 million students. They are a vital contributor to the capacity of higher education system to respond to pressing demands for an educated work force and for research and technology. They stimulate independence, autonomy and diversity in all of higher education. By serving important public purposes, largely with private resources, they provide a valuable and financially prudent service to the state and nation. (p.8)

One of the fundamental characteristics often attributed to private colleges and universities is their ability to respond rapidly to market demands and changes in the external environment. In his description of the uniqueness of American higher education, Derek Bok (1986) explained that private colleges and universities must be responsive, since they are unable to look to state governments for significant support. Instead, they must be concerned with meeting the needs of students and donors or risk decline or closure.

Several researchers (Brooks, 1980; Kerr & Gade, 1988; Thresher, 1989) have concluded that the major marketable characteristic of private colleges is their diversity. Diversity, and adaptability, give them the ability to respond to the unique needs of a diverse student pool. As a result, it has been suggested that the existence of a large private sector provides for much of the diversity and flexibility of the American system. This sector gives the system the ability to respond quickly to changing student clientele, and changing programs of interests.

Closely related to their market responsiveness is the ability, and frequently the necessity, to be innovative in program design and services. The Education Commission of the States submits that private colleges are better able to "challenge the norms, advocate fundamental values abandoned elsewhere and take risks for the sake of improvement" (The Preservation of Excellence, 1990, p.9).

Small Colleges

A significant subset of the private college sector is made up of those institutions that are termed "small." While no single operational definition is available for this group of institutions, the Education Commission of the States reports that of the U.S. colleges that enroll less than 1,000 students, 85% are private ("The preservation of excellence," 1990). Of those institutions that have more than 10,000 students, however, 90% are public. Out of approximately 1,500 private, 4-year institutions, 515 (35%) have enrollments under 500, 810 (56%) have enrollments under 1,000, and 1,264 (87%) have enrollments under 2,500 (The Almanac, 1991, p. 44).

In 1972, Astin and Lee published a comprehensive compendium of their research on small private colleges. They chose to call these institutions "invisible colleges" as a way of describing their relative invisibility in the public, corporate and philanthropic eye. Astin and Lee (1972) determined that "invisibility" is determined by two factors, selectivity and size.

In further delineation of these "invisible colleges," Astin and Lee (1972) found that the least selective institutions are disproportionately represented among small private colleges. According to their research, a substantial enrollment size seems to guarantee a moderate degree of selectivity and visibility. They suggest that large size almost always insures some degree of visibility, if not necessarily high status. Likewise, high selectivity appears to be a sufficient condition for visibility and for status, except in very small institutions.

In addition to exhibiting certain characteristics in size and selectivity, there seems to be a related tendency for the "invisible colleges" to exhibit an explicit affiliation with a religious denomination. A major difference between elite college development and invisible college development is the extent to which invisible colleges retained their church affiliations while elite colleges dropped theirs.

Another classification of small private colleges was presented by Lewis in 1980. He eschewed the traditional public-private dichotomy and categorizes higher education into "the public subsidized sector, the private subsidized sector (heavily endowed independent sector), and the private, non-subsidized sector (under-endowed independent sector)" (pp. 67-68). Lewis' non-subsidized sector is largely representative of Astin and

Lee's "invisible colleges." Further, Lewis suggested that the under-endowed private sector (invisible colleges) continues to survive largely because of its "differentiated product." According to Lewis, no other economic factor can be used to explain the existence of so many small independent colleges.

In a variety of ways, the small private colleges more strongly exhibit several of the unique qualities of private colleges than their larger private counterparts. Research (Brooks, 1980; Pascarella & Terenzini, 1991; Quehl, 1985) suggests that certain students are better served in small colleges than in large ones, in church-related colleges than in secular ones, in less selective rather than highly selective ones, and in predominantly black colleges than predominantly white ones. The context and diversity of demands influencing these colleges requires a high degree of innovation and acceptance of risk. As a result, many hold that the small independent college serves as a major source of innovation and entrepreneurship in higher education.

As with the data on differential effects of type of institutional control on student outcomes, the data related to the overall effect of institutional size on student outcomes is not conclusive. While the research on the effect of college size on educational attainment includes contradictory results, Pascarella and Terenzini (1991) reported, in their comprehensive review of the research, that there is a small negative effect of institutional size on social involvement of students. "Other factors being held equal, attending a large institution tends to inhibit a student's level of social involvement during college, and social involvement is a non-trivial determinant of such outcomes as educational attainment and self-concept" (p. 379).

Threats to Small Private Colleges

The extensive study of these colleges by Astin and Lee (1972) identified these institutions, in comparison to all institutions of higher education, "as most likely to become extinct" (p. 12). They reported that the invisible colleges face similar problems to those faced by all colleges, but always on a more severe scale. Because these colleges are private, they get limited, if any, support from the state, and due to their invisibility, they do not compete well for federal grants. Finally, because of limited financial resources, they cannot always provide students with necessary levels of financial aid.

In his 1980 revisitation of Astin and Lee's (1972) "invisible colleges," Brooks reported that these colleges remained largely unknown. Like Astin and Lee, Brooks suggested that these institutions would vanish from the higher education scene without the development of successful survival strategies. He further stated that "the private colleges are in a dismal position because of declining enrollment and diminishing financial resources" (p. 19). Two-thirds of all colleges and universities were private in 1950. By 1972, however, that figure dropped to 56%. Brooks postulated that, if that rate of decline continues until 1995, it will result in the extinction of the private sector of American higher education.

In describing the decline in enrollment share of private higher education, the Education Commission of the States proposed that any further decline in the size and influence of the private sector would be harmful because it would reduce diversity and innovation in American higher education. It was further suggested that the greatest impact of the declining enrollment share for private higher education has been on the

most diverse segment of all in American higher education; the Liberal Arts II Colleges. These institutions numbered 550 in 1970 and 400 in 1987. The total enrollments in these institutions fell by 30% from 1970 to 1987 (The Preservation of Excellence, 1990).

In their 1982 study, Baldridge, Kemerer, & Green reported that demographic changes will have a significant impact on higher education throughout the 1980s and into the 1990s. They suggested that the 25% decline in 18-to-22-year-old college-aged population would influence enrollments at virtually all colleges and universities. According to these researchers, the private, less selective, liberal arts colleges faced the most adverse impact. These researchers reported that over 98% of these "at-risk" colleges were private, and the vast majority had enrollments of less than 1000.

In a review of the unique financial realities of small private colleges, Lewis (1980) explained that small colleges with enrollments of less than 1000 students have up to 70% fixed and only 30% variable costs. On the other hand, larger universities, with an enrollment of 20,000 students or more may have 40% fixed and 60% variable costs. The primary reason for the reduced flexibility in the small college is the minimum sized academic and support departments. Lewis (1980) concluded that these unique financial characteristics, point to the loss of the non-subsidized private sector of higher education. To save these institutions would require, according to Lewis, either the enrollment of a substantially larger proportion of college bound students or a significant increase in endowment support.

In an analysis of student costs at public and private colleges and universities, the Education Commission of the States reported that issues concerning student affordability

may additionally diminish private higher education's enrollment share and survivability, particularly at the Liberal Arts II Colleges (The Preservation of Excellence, 1990). The analysis of the data suggests that there has been a widening tuition gap between public and private institutions. In 1975-76, the gap was $1,800 (based on the average tuition at four-year private and public institutions), whereas, by 1987-88, it had risen to $5,300. This change represents an increase of 200% in current dollars and 40% (to $2,510) in constant dollars (The Preservation of Excellence, 1990).

Among the recommendations made by the Education Commission of the States is a strong appeal to state governments to recognize the importance of small private colleges to the overall health of the state. It is noted that if the private higher education institutions did not exist, it would cost taxpayers an additional $12-billion a year to educate the 2.6 million students currently served by those institutions (The Preservation of Excellence, 1990, p. 19). The ECS further contended that:

> Too many states are squandering an important resource by not devoting money or attentin to their private colleges . . . Unless governments reorient their policies--especially those affecting student aid--the diversity that those 1,600 private colleges add to the nation's higher education system could be at risk. (p. 19)

In Summary

In Three Thousand Futures (1980), a seminal review of American higher education on the threshold of several challenging decades, the Carnegie Foundation declared that the preservation of private colleges was of almost equal importance to the public institutions for the public good. The reason for this emphasis was the perception that the autonomy of the private colleges helped to maintain the autonomy of the public

colleges. It thereby enhanced academic freedom, the ability to experiment, and the opportunity to grant attention to individual students at public institutions.

In a review of the status and future promise of Liberal Arts higher education in America, Zammuto (1984) asserted that the future of the liberal arts college, particularly the Liberal Arts II colleges, is in question. It was suggested that many of the Liberal Arts II institutions had shifted to a comprehensive program. Zammuto felt that, although this may have been successful for attracting students and finances in the 1970s, it may provide increasing threats in the 1980s and 1990s. In these decades these institutions will compete for students and resources with much larger and healthier institutions that specialize in the areas in which they offer programs. Because of their small size, they will be unlikely to do as well as the more financially sound institutions or the larger comprehensive institutions.

THE PURPOSE OF THE STUDY

It was the purpose of this study to describe the internal and external characteristics along with the dominant academic strategic actions of America's small private college during the 1980s. This study also described the relationships between these characteristics and academic strategies and enrollment changes during that period. This study assesses the external and internal realities experienced by the small private colleges in the 1980s, their response to those realities, and the degree to which they were able to retain or increase their primary funding base, student tuition and enrollment related revenue. This ability was measured by reviewing the enrollment change in these

institutions over the decade of the 1980s. By learning more about the experiences of the small private colleges during this period, as well as the internal, external and academic strategic variables that were related to enrollment, it may be possible to inform a pattern of successful actions for these institutions in the future. Mayhew (1979) suggested that while "the future of any single institutions is indeterminable, . . . the broad characteristics of each type of institution and the central problems they face can be described" (p. 4).

THE SIGNIFICANCE OF THE STUDY

Why and How Did Small Private Colleges Survive

It is clear from the description above that the survival of small private colleges through the 1980s was in serious question. These concerns, that began to be expressed in the 1970s, and continued through the 1980s, are being expressed again for the 1990s. The apparent ability for a significant proportion of these institutions to survive in spite of these major challenges demands a comprehensive analysis. Because of the unique nature of these institutions, studies of growth and survival in public and larger private institutions are not adequate for providing an understanding of these institutions. Lewis (1980) appropriately suggested that "the private subsidized sector behaves more like the public sector than like the other private colleges and universities. . . . The two subsidized sectors react similarly to almost all major economic stimuli, whereas, the private under-endowed sector (small, less-selective colleges) reacts differently" (p. 68).

Breadth of the study

This study reviewed those internal and external institutional realities, and major academic strategic actions that may have been related to small private college success in the 1980s. It was the explicit purpose of this study to investigate many of the factors that other researchers and scholars have suggested are important to institutional health and success as reflected in enrollments.

RESEARCH FOCI AND QUESTIONS

This research had two primary foci. The first focused on describing the population of small, private colleges which were at the center of this study. This descriptive profile included a description of the environmental context, institutional attributes, and major academic strategic actions of these institutions during the 1980s. A fourth area of descriptive analysis included a look at several significant sub-population within the research population. The conceptual framework for organizing these categories of variables and describing their relationships is presented in Chapter III.

The second research focus was aimed at describing the relationships between the various research variables and the percent change in enrollment between 1980 and 1989. This analysis was also completed for each category of variables (environmental, institutional, and strategic action), as well as for all of the variables collectively.

The dependent variable in this study is the percent change in enrollment between the Fall of 1980 and the Fall of 1989. This variable is used as a measure of institutional

health and survivability because of the degree to which the institutions in this population are dependent on tuition and other enrollment related revenue.

ASSUMPTIONS OF THE STUDY

Institutional Survival is Directly Related to Enrollment

One of the fundamental assumptions of this study is that the survival of a small private college is heavily dependent upon student enrollment. This assumption manifests itself in this study in several ways. The primary manifestation is in the selection of enrollment change as the dependent variable. This is based on the assumption that this dependent variable will provide a fundamental reflection of overall institutional health and survivability. The rationale for this assumption includes the degree to which the institutions being studied are "tuition driven," and the relatively small degree to which endowments, gifts and other income sources contribute to the operational and capital expenses of the institutions being studied.

Tuition Driven

A variety of recent studies (Anderson, 1984; Bartell, 1980; Bolda & Mack, 1983; Hossler, Bean & Associates, 1990; Tuckman & Arcady, 1985) have found that small private colleges are heavily dependent on tuition and enrollment related fees for the vast majority of their income. As a result, their income and their overall financial condition is highly sensitive to enrollment levels. In these studies, the reliance of small private colleges upon enrollment related income (tuition and related fees) has been identified as being somewhere between 70 and 80% of Educational and General (E & G)

expenditures. Bolda and Mack (1983) conclude that "the ability of an institution to secure adequate income from tuition is linked to enrollment" (p. 3).

This dependence upon tuition in small private colleges places institutional factors and strategies related to enrollment at the center of the strategic planning process. In the 1983 study, Bolda and Mack ascertained that "institutions with enrollments of 1-499 and 500-999 were not only the weakest in terms of financial viability, but their indices were usually less than 50% of the sample mean" (p. 12). In addition, these researchers suggested that "even if the optimum enrollment (2,500 - 2,999) is unattainable the data indicate an institution should maintain at least a base enrollment of 1,000 to be financially viable" (p. 17).

The only real option to increased enrollments is increased tuition. This option seems, however, to have outlived its usefulness and effectiveness as a means of generating increasing levels of institutional resources for two primary reasons. First, private colleges are rapidly approaching, if they have not already exceeded, the point at which they are pricing themselves out of the market. In a recent article in the Chronicle of Higher Education, Evangelauf (1991) reported that "college officials pointed to retrenchment and competitive pressures to explain why tuition at private four-year colleges had risen 7 per cent--to $10,017--compared with an 8-per-cent increase last year and a 9-per-cent rise the year before that" (p. A30). Students cannot afford to continue to bear the burden of escalating costs.

Second, increasing tuition to students does not generate the margin that might first be assumed. Increases in tuition generate concomitant increases in institutionally funded

financial aid. In a study commissioned by the Education Commission of the States it was discovered that, "in almost one-fifth of the private colleges, 20% or more of educational and general expenditures go to student aid, and 70% of this institutional aid comes from tuition revenues" (The Preservation of Excellence, 1990, pp. 18-19). These figures are probably even higher in smaller colleges. These institutions, then, return to the students a significant proportion of additional revenues generated by tuition increase in the form of institutionally funded financial aid.

In this respect, Mayhew (1979) concluded that the health and, ultimately, survival of small colleges is dependent upon enrollment and the tuition income it generates. "In spite of platitudes to the contrary that say that college students do not pay the full cost of their education, in most small, private liberal arts colleges, they do" (p. 153).

Low Contribution of Endowment

At first glance, it may appear that endowments are gaining significance as a primary contributor to the operating revenues of small private colleges. In a recent review of higher education endowments, Andersen (1991) discovered that:

> The estimated market value of endowments at U.S. colleges and universities totaled $58.2 billion dollars at the end of fiscal year (FY) 1987. Four-fifths (82 percent) of all endowment funds were held by independent colleges and universities. . . . Endowments of independent institutions at the end of FY 1987 had nearly doubled (91 percent increase) in terms of constant dollars since FY 1977. (p.1)

The contribution of endowments to the operational expenses of small private colleges, however, is of secondary, if not negligible import when compared to revenues generated by tuition and other enrollment dependent fees. When the distribution of

endowment dollars was evaluated, Andersen (1991) discovered that the endowments of the 100 most heavily endowed institutions (twenty of which are public) accounted for 70% of all endowment dollars in fiscal year 1987. Andersen concluded that the growth and productivity of endowments are of significance to relatively few institutions. It also implied that for most private institutions, endowments produce little revenue relative to the institution's total operating expenses. This study found that three percent of higher education institutions hold 70 percent of the endowment dollars.

As a result of this unequal distribution of endowment dollars, Andersen concluded that current endowment earnings represent less than 5% of total institutional operating revenues. In the overall independent sector, it represented about 5.2%. Andersen concludes that, "nationally, endowment income cannot be looked upon as a major source of funding to make up for shortfalls from other sources" (p. 1).

Characteristics of an Institution in 1989

Another assumption of this study is that many of the characteristics of an institution in 1989 result from the institutional strategic actions during the 1980s. An example of this would be regional accreditation in 1989. The acquisition and maintenance of regional accreditation indicates significant institutional activities throughout the 1980s. In addition, many of these strategic actions may result in changes in the internal characteristics.

DELIMITATION OF THE STUDY

There are many approaches that could have been used to research the important questions addressed in this study. This study, however, was delimited in that it examined a variety of public domain data on enrollment as well as other environmental and institutional characteristics, along with the responses from the chief academic officers regarding environmental and institutional characteristics and academic strategic actions. The findings of this study should not be generalized to other populations, and any generalizations made within the study is restricted to the population of institutions for which data is available.

Finally, it should be noted that this study focused on the survivability and financial health of the institutions within the population. Other indices of "health" such as faculty morale, institutional climate, program and institutional quality, and the nature of student outcomes are not being addressed.

DEFINITION OF MAJOR TERMS

For the purpose of this study, a variety of terms have been operationally defined. These terms include:

Small, Private College

This is an institution that is classified as a Liberal Arts I or Liberal Arts II College in either or both, the 1976 and 1987 edition of the Classification of Institutions of Higher Education, as compiled by the Carnegie Foundation for the Advancement of

Teaching. In addition, it is an institution that has an average Fall, 1980 total enrollment of 100 to 1000 students as averaged from all available sources including the American Council on Education, 1980-81 Accredited Institutions of Postsecondary Education, the National Beta Club, College Facts Chart 1980-81, Peterson's Guide to Four-Year Colleges 1981, and the College Board, The College Handbook 1981-82. Finally, it is a college that has independent ownership and governance as reported in the above sources. Significant discrepancies in these information obtained from these sources were pursued and corrected with personal calls to appropriate institutional personnel.

The Carnegie Foundation for the Advancement of Teaching defines Liberal Arts I colleges as "highly selective institutions (that are) primarily undergraduate colleges that award more than half of their baccalaureate degrees in arts and science fields" (A Classification, 1987, p. 7). Liberal Arts II colleges are defined as "primarily undergraduate colleges that are less selective and award more than half of their degrees in liberal arts fields. This category also includes a group of colleges that award less than half of their degrees in liberal arts fields but, with fewer than 1,500 students, are too small to be considered comprehensive" (A Classification, 1987, p. 7).

External Variables or Environmental Variables

These are descriptive attributes that reference the environmental context of the institutions in the population. These variables are further classified as, (a) environmental trends; (b) market preferences, perceptions, and directions; and (c) the competitive situation.

Internal Variables or Institutional Attributes

These are descriptive attributes that reference the institutional characteristics of the institutions within the population. These variables are further classified as, (a) traditions, values and aspirations; (b) strengths and weaknesses; and (c) leadership abilities and priorities.

Strategic Actions

This is an action on the part of the institution or a change in the institution over the period being studied that, by definition, required actions on the part of the institution to attain or maintain. Further, these are factors that are considered to influence the health, nature, and direction of the institution.

Academic Program or Program Element

This is an element of the curricular, academic support, or credentialing and accrediting activities and services of the college.

Academic Policy

This is a clearly defined policy or consistently applied precedent of practice that is related to the delivery or use of the academic programs or academic services of the institution.

Enrollment Change

This is the percent change in average total fall enrollment between the Fall of 1980 and the Fall of 1989 at the institution as determined by averaging all available

sources including the American Council on Education, 1980-81 Accredited Institutions of Postsecondary Education, 1990-91 Accredited Institutions of Postsecondary Education, the National Beta Club, College Facts Chart 1980-81, College Facts Chart 1990-91, Peterson's Guide to Four-Year Colleges 1981, Peterson's Guide to Four-Year Colleges 1991, and the College Board's, The College Handbook 1981-82, and The College Handbook 1991-92. Occasionally, if significant discrepancies exist in the data from these sources, enrollment figures are augmented or corrected by figures reported directly to the researcher by the institution.

Strategic Planning

This refers to the intentional institutional assessment of internal and external forces and realities, the formulation of a preferred future institutional direction, and the planning and implementation of institutional actions designed to achieve that institutional direction.

THE AUDIENCE

The primary audience for this study is the group of scholars, administrators, faculties, and others interested in the nature and survival of small private colleges in the United States. A secondary audience is the aggregate of all who share an interest in the current status, future direction and possible future forms and roles of American higher education. As has been stated earlier, the colleges that are the focus of this study are less buffered from external forces and societal changes, and are, thereby, seen by many as a principle source of, and testing grounds for, innovation for all of higher education.

CHAPTER II

REVIEW OF THE LITERATURE

INTRODUCTION AND SCOPE OF THE REVIEW

The primary purpose of this literature review is two-fold. First, it describes and characterizes the context in which the study takes place. This contextualization will help to explain certain decisions and perspectives reflected in the research. Second, this literature review casts a broad net in an attempt to identify and characterize environmental, institutional, and academic strategic action variables which have been identified, from a broad variety of sources, as being related to institutional enrollments, and, therefore, institutional success and survival.

The identification, description, and characterization of variables in this literature review will be divided into three major categories. These categories correspond to the conceptual framework described in greater detail in Chapter III. These categories of variables influencing institutional survival are environmental context, institutional attributes, and major academic strategic actions.

In order to better understand the external factors and trends that influence the population of institutions, a review of the demographic and related external forces on higher education in the 1970s and 1980s and those projected for the 1990's is included. Likewise, in an attempt to better understand and characterize the internal variables of the

population, a review of the literature related to issues of institutional diversity in American higher education, and particularly to the nature of the small private colleges is included. Finally, in order to better describe and characterize institutional strategic actions, a review of the literature related to the major strategic actions associated with institutional enrollments is considered in this review. These strategic action areas include mission review and revision, strategic planning, changes in leaders, new student populations (adults, women, minorities, internationals, part-time students, and community college graduates), new programs and program elements, new or revised academic services and policies, and characteristics of and changes in faculty personnel policies and practices.

THE ENVIRONMENT

The federal government, the state governments and external social and technological changes have driven many of the major developmental changes in American higher education throughout the past two hundred years. Included among these external forces shaping American higher education in the past were the Morrill Land Grant Act, the Cooperative Extension Act, the Smith-Hughes Act, the Vocational-Rehabilitation Act, the Smith-Bankhead Act, the Servicemen's Readjustment Act (G.I. Bill), the National Defense Education Act, the National Science Foundation, the National Institutes of Health, federal initiatives in civil rights, affirmative action, and equal opportunity and state initiatives in coordination of services, funding and access.

James M. Utterback of Massachusetts Institute of Technology has been identified as one of this country's leading authorities on innovation. He has studied thousands of innovations in both process and products. Utterback has found that "market forces appear to be the primary influence on innovation. From 60 to 80 percent of important innovations in a large number of fields have been in response to market demands and needs" (As quoted in Kouzes & Posner, 1990, p. 57). As a result, it seems imperative that external forces be categorized and studied in this, and similar studies.

In addition to the driving force which external factors exert on innovation, external forces also provide a source of considerable threat to the college. As Merante (1987) suggested, "many corporations with good products have succumbed to the pressures of competition and changes in their markets. In the next 10 years, hundreds of colleges with perfectly sound faculties will also succumb" (p. 14).

The 1970s

The context and realities of higher education in the 1970s is of importance to this study because it set the stage for the 1980s, the period under study. This review is presented despite the fact that some have said that "the 1970s are best left unremembered" (Campus Life, 1990, p. xii). During the 1970s higher education was heavily influenced by pressures imposed by a downturn in the economy. In addition, the role of students was ambiguous, at best. Likewise, during this period many have suggested that students became more concerned with the vocational aims of higher education than with the confrontation of new ideas.

A 1974 study by Suddarth exemplifies the types of concerns expressed for private higher education throughout the 1970s. Suddarth suggested that, between 1975 and 1990, the public sector of higher education in the state of Indiana could expect a 14.1 percent decline in enrollment while the independent sector would experience enrollment declines of 41.5 percent. Institutions were warned to prepare for financial hardships, loss of public support, and declining enrollments throughout the decade.

In addition to the predictions of enrollment decline, it was predicted that serious financial problems would plague small private colleges in the 1970s. Krachenberg (1972) suggested that the 1970s would be a decade in which institutions of higher education would experience extreme financial difficulties. Several researchers (Breneman, 1981; Leslie & Conrad 1985) demonstrated, however, that the fear of enrollment decline in the 1970s was unfounded when U.S. college enrollments increased 30 percent between 1970 and 1975.

While higher education as a whole did not fare as poorly as many predicted for the 1970s, Jonsen (1981) noted that the negative impact on the private sector was disproportionate. During the time period of 1970 to 1979, 29 percent of all higher education institutions reported enrollment decline, whereas 39 percent of private institutions reported such declines. It seems that the less selective liberal arts colleges were the most severely impacted by enrollment declines, with 47 percent reporting declines in enrollment from 1970 to 1979.

While higher education enrollments overall may not have experienced the degree of predicted decline, there are a variety of indicators that suggest that overall finances

in small private colleges were not equally strong. Several studies (Hammond, 1983; Mayhew, 1979; Outlooks, 1978) of the small private colleges through the 1970s describe it as a period of economic downturn and student unrest. The small private colleges experienced severe financial difficulty and continued to spend beyond their means. They seemed to be unable to reduce their costs in any effective way. Curricular pruning and down-sizing proved to be very difficult. Many of the institutional problems were related to insufficient revenues attributable primarily to enrollment declines, inflation and rising costs, and the lack of "prompt and effective administrative controls" ("Problems and Outlooks," 1978, p. 5). It was reported that these institutions postponed maintenance, froze wages and salaries, and increased financial aid in hopes of attracting students. The exit from the 1970s as marked by termination of faculty, accumulated operating deficit, and growing lines of credit with public lenders.

In a very different interpretation of the decade of the 1970s, Bowen (1980) reported that the private sector had held a rather stable financial position. He suggested that the assets and net worth of these institutions grew during this period, that debts were being paid off, and that only a few institutions experienced serious, ongoing budget deficits. It is likely that the inclusion of the more selective, larger, private liberal arts college, however, skewed the perspective presented in this assessment.

Many have suggested that the 1970s were plagued by closures and mergers in the private sector. In 1981, Jonsen reported that 141 private institutions closed in the 1970s. These institutions were described as "typically small, church related, and coeducational (p. 29)." According to Jonsen's data, 87 percent of the private institutions that closed had

fewer than 500 students, 55 percent were church related, and 38 percent were single-sex institutions. Hamlin (1990) reported that between 1975 and 1979, 47 private institutions closed, 14 merged, and 5 shifted to public control. Buffington, Hossler and Bean (1987) reported that between 1972 and 1982, 77 private four-year colleges closed. According to Zammuto, Whetten, and Cameron (1983), the closure rate of private colleges doubled in the 1970s as compared to the 1960s. Breneman (1981) reported, however, that the number of small private colleges that closed during the first half of the decade was insignificant. He argued that improved management on campus was bringing operating deficits under control.

According to Mingle (1981a), many institutions began to move to a pattern of adaptation during the 1970s as a result of financial constraints. Mingle's research on responses to retrenchment found that two thirds of all institutions surveyed adopted "stopout policies" allowing easy reentry during this time. Murphy and McGarrity (1978) reported that over 40 percent of the institutions they surveyed reported that these schools had experienced significant modifications in their academic programs in the mid 1970s as a means of attracting different types of students.

The decade of the 1970s sets the stage for the period of time with which this study is occupied. While the predictions for enrollment declines in the 1970s were not fully realized, it seems that the impact on the small private colleges was greater than that experienced by the system as a whole. Even though some disparity exists in the reports of the financial health of the small private colleges at the end of this decade, it is likely that they entered the decade of the 1980s somewhat compromised with regards to

financial vitality. Many of these institutions were carrying both capital and operational indebtedness into the 1980s. It seems that some of the weakest colleges in the small, private sector closed or merged during the 1970s, but there is no indication that those that survived the 1970s would be immune to similar fates in the 1980s. Finally, there is some indication that those small private colleges were entering the 1980s with some degree of adaptability with regards to programs and policies. The fiscal constraints of the 1970s had already wrought some changes in these areas.

The 1980s

Because the decade of the 1980s represents the period under review in this study, the literature related to this time period will be extensively reviewed. A review of the major projections and predictions for the 1980s will come first, focusing particularly on the demographic projections and their predicted impact on small private colleges. Next a review of the literature on the realties of the 1980s will be included, attempting to identify where the projections and predictions were most accurate, as well as where prediction and reality seem to diverge most significantly. Special attention will be paid in this section to the small, private college sector.

Projections and Predictions

. There were two major schools of thought regarding the projections for higher education in the 1980s as informed by the demographic forces with which it was to be faced. Frances (1980) suggested that the debate over the best way for institutions of higher education to prepare for the 1980s was divided into two distinct schools. On the one side, for which F.E. Crossland was a major spokesperson, were those who assumed that a significant decrease in college enrollments was

unavoidable. These scholars argued that college administrators in the decade of the 1980s must prepare for the management of institutional decline. The alternate approach, articulated strongly by C. Frances, suggested that institutions consider more possible outcomes than decline, while still including management of decline among the possibilities. This acceptance of multiple probable outcomes, suggests Frances, cut the risk and cost of being wrong.

Crossland (1980b) and others (Allen, 1983; Anderson, Carter & Malizio, 1989; Keller, 1983; Mingle, 1981b; Three Thousand Futures, 1980) were led, by the demographic predictions for the 1980s, to conclude that declining enrollments were unavoidable, and the role of colleges administrators in the 1980s was the preparation for and effective management of decline. The predictions for enrollment decline range from 10 to 25 percent. These researchers felt that while statisticians and demographers may argue over the specific details, higher education enrollment would undoubtedly decline significantly during the decades of the 1980s and 1990s. Crossland predicted that perhaps hundreds of colleges would close during that time, and went on to predict that the decline will be "fairly steady and not precipitous." A prediction of a 1 to 2 percent annual decline starting in 1982 and continuing until at least the mid-1990s was common. Overall, it was proposed that, between 1981 and 1995 or 1996, this decline in total higher education enrollment would represent approximately 15 percent.

The suggestion that an enrollment decline of 10 to 15 percent could be expected through the 1980s was based on the following computation. The overall decline of the 18-24 year cohort during that period was predicted to be 23.3 percent. This was adjusted

down by 20 percent which was the proportion of participating students outside of the "traditional" cohort, bringing the prospective decline to 19 percent. An additional increase in older cohorts was predicted based on constant participation rates and increasing cohort size. This dropped the overall projected enrollment decline to 10 percent. It was additionally suggested that the possibility of continuing decline in male participation rates due to changes in selective service may provide an additional 5 percent decline resulting in an effective decline of 10 to 15 percent (Three Thousand Futures, 1980, p. 36).

Several researchers and scholars considered the possibility of increase rates of participation of other cohort groups, but discounted the potential impact that these students would have. Fishlow (1982) reported that it seems improbable that higher education would experience substantial increases in participation rates for the 25 to 34 age group. Frankel (1980) held that the influx of 25 year-old-plus students will provide a cushion to the blow caused by the declining number of younger students. It was pointed out, however, that this influx would not fully offset the decline. This later prediction was based on the fact that most older students tended to enroll part-time as opposed to the full-time enrollment of younger students.

While Crossland and others predicted difficult times for all of higher education in the 1980s, for most scholars, researchers, and prognosticators, the small, private college was in the most precarious position. The vast majority of the scholars and researchers who accepted the possibility or strong probability of enrollment declines in the 1980s were convinced of the uniquely perilous position of the small private colleges

(Allen, 1983; Baldridge, Kemerer, & Green, 1982; Breneman, 1981; Brooks, 1980; Carter, 1976; Casteen, 1982; Cohen, 1983; Cross, 1979; Crossland, 1980b; Fishlow, 1982; Frankel, 1980; Green, 1990; Hammond, 1984; Howe, 1979; Jones & Nowotny, 1979; Jonsen, 1984; Keller, 1983; Kerr & Gade, 1981; Lewis, 1980; Mayhew, 1979; McPherson, 1981; O'Neill, 1981; "Private Colleges Headed for Extinction," 1979; "Problems and Outlooks," 1980; Three thousand futures, 1980; Tuckman & Arcady, 1985).

Some of these researchers asserted that the two types of institutions expected to experience the greatest adverse impact of the enrollment declines in the 1980s were the small, private liberal arts colleges, and the private two-year colleges. Others suggested that the non-selective tuition dependent private liberal arts colleges and the public state colleges would experience the greatest enrollment declines in the 1980s.

Breneman (1981) reported predictions that as many as 200 small tuition-dependent private colleges with enrollments of less than 1000 would close during the 1980s. Likewise, Jones and Nowotny (1979) asserted that a large number of institutions that were experiencing financial difficulty, would disappear and others would survive only if they utilized severe reorganizational strategies.

Other researchers predicted emphatically that small private colleges would not be able to utilize new student pools to avoid their inevitable decline. Lewis (1980) stated that "this sector has not, and will not benefit from the vocational, the part-time, or the older student markets that have increased most rapidly" (p. 67).

Very few researchers suggested that the small private college would prosper, or even retain stable enrollments during the 1980s. Howe (1979) did concede that a growing number of small private colleges are seeking "salvation" in serving a perceived expanding market of older students. A few other researchers recommended that the small private colleges begin to seek "non-traditional" roles in post-secondary education.

Frances (1980) was a spokesperson for an alternative to this "single-minded approach." Her projections encompasses the possibility of other outcomes than those projected by Crossland (1980) and others. While Frances acknowledged enrollment contraction as one future scenario, she described situations that could include retrenchment, steady state, programmatic change, and other alternatives. She encouraged the use of strategic planning to shape the outcomes.

Several other researchers (Cundiff, 1982; Henderson and Plummer, 1978; Mangelson, Norris, Poulton, & Seeley, 1973) suggested that colleges could improve recruitment and retention in the 1980s by using student profile data to get a clearer picture of their current and potential clientele. In addition it was suggested that institutions might consider modifying their service to attract older students, foreign students, business employees, and other "non-traditional" students. These researchers suggested that using only the 18-21 year old age cohort as the basis for projections resulted in a significant amount of deception. It was suggested that a broader representation of cohorts be utilized so as to better predict the increased length of time to degree and the increasing rate of participation by older adults. They warned that many of the enrollment projection studies were based on the assumption that the student profile

would not change. They further encouraged different institutional forms and enrollment patterns be considered for the future, as societal demands on and for postsecondary education change. It was suggested that by using enrollments rather than the various underlying factors which influence enrollments, the projections failed to predict the changes in enrollment composition.

Norris (1976) and Cundiff (1982) encouraged that enrollment projections, initially made on the basis of simple demographic trend projections be revised on the basis of new assumptions and information related to the economic returns of education, increased participation on higher education throughout the life span, and changing student expectations. They asserted that increasing enrollments of non-traditional student would offer some relief to declining traditional student populations.

A few, very few, researchers suggested that the small private college may not see serious decline in the 1980s, but may, conversely, retain stable and possibly increasing enrollments. Hoffman (1980) went so far as to suggest the possibility that some small private colleges could maintain enrollments through 1990 in spite of the decrease in the total numbers of 18-year-olds.

McPherson (1981) suggested that the private sector may be better adapted for the stringencies of the 1980s than the highly bureaucratized system of public higher education. According to McPherson, the more bureaucratized a system is, the more difficult it will be for that system to deal with a fixed rather than with a growing resource base. Because public institutions have more layers of bureaucracy and more diverse constituencies to serve than private institutions, it was suggested that the motive

of self-protection may prevent the rapid adaptation of the public sector to the changing needs and demands of the decade of the 1980s. In private institutions, McPherson suggested, necessity "may prove to be the mother of flexibility. The private sector thus may well do better over the next fifteen years than the tuition gap makes us think" (p. 22).

One additional interesting finding in the research on private colleges entering the 1980s lies in a surprising finding of several researchers. Pollock (1987) reported that many institutions still have a last survivor mentality. Pollock's research revealed that one-third of the respondents indicated that they expect their 1994 full-time undergraduate enrollment to be more than 5% greater than their 1984 enrollment. Only 18% of the sample believed that their enrollment would decrease by more than 5%. This view was held even though most of the institutions experienced declines between 1980 and 1984. These results mirrored those that Baldridge, Kemerer, and Green reported in a 1982 study.

The Realities. When the Carnegie Foundation collected its data for the 1987 edition of its listing of colleges and universities in the United States, there were several surprising findings. In compiling the data it was discovered that in the period between the 1976 edition and the 1987 edition, enrollments in higher education had increased by 10 percent. In addition to enrollment increases, during the early 1980s, a period, that had been predicted to be an "era of retrenchment," 484 new colleges were founded while 67 institutions closed. This represents a net gain of 317 institutions. ("A classification," 1987, p. 1). The consistent and sustained increase in college enrollment throughout the

1980s has been well documented (Andersen, 1985; Buffington, Hossler, & Bean, 1987; Brazziel, 1989; Breland, Wilder, & Robertson, 1986; Chabotar & Honan, 1990; "Change Trendlines," 1989; Davis-Van Atta, 1989; El-Khawas, 1986; Exter, 1990; Frances, 1989; Levine, 1989; National Center of Education Statistics, 1989a; National Estimates of Higher Education Statistics, 1987; O'Keefe, 1989; Ottinger, 1991b).

The total number of 18-year-olds decreased by more than half a million between 1979 and 1985, and the number of high school graduates decreased by almost as much. During this period of decline in the traditional pool for higher education, however, enrollment in higher education increased. While there was a slight decline in first-time freshman enrollment, it was much smaller than the decline in high school graduates.

Davis-Van Atta (1989) reported that even though the predicted enrollment declines had not occurred, six primary enrollment trends did occur in the 1980s. These trends include, (a) increase in total enrollments; (b) differential rates of increase in different student groups; (c) replacement of full-time students with part-time students; (d) private institutions out-pacing public competitors; (e) females replacing males; and (f) decline in two-year enrollments.

As with the predictions about general levels of enrollment, most predictions about enrollments in the private sector did not prove to be highly accurate. The Carnegie Foundation for the Advancement of Teaching noted "with satisfaction, that America's independent colleges have shown remarkable resiliency during a period when many observers were predicting their decline" (A Classification, 1987, p. 1).

Several major studies (Anderson, 1985; Frances, 1989; Mooney, 1989; O'Keefe, 1989; Trends in Enrollments, 1986) found that the private sector fared much better than expected. While the specific samples and time frames varied, these studies found that within the independent colleges, 50-70% of the institutions has experienced enrollment increases during the eighties. Between 80 and 90 percent of the independent institutions studied had experienced increasing or stable enrollments. Overall, while private institutions served 22% of the total higher education enrollment in 1980, they accounted for 44% of the enrollment increase between 1980 and 1987.

Several significant studies and reports specifically on the experiences of the small private colleges during the 1980s have been published (Frances, 1989; O'Keefe, 1989; "Trends in enrollments", 1986). These studies demonstrated that the smaller, private, church-related colleges generally negotiated the 1980s fairly successfully with regards to enrollment, sometimes surpassing their larger private counterparts.

In an attempt to explain the disparity between the prediction for enrollment decline in private higher education and the realities of the 1980s, West (1982) suggested that "when one considers institutional prejudice in addition to devaluation and economic market realities, it is possible to understand why small independent colleges are singled out for predictions of disappearance" (p. 16).

In order to more fully understand the realities of enrollment in small private colleges in the 1980s, it is important to look at a variety of student segments within the undergraduate population. The major segments for review are the "traditional" students (18-24 year-old cohort), and the remaining "non-traditional" students. Included among

the "non-traditional" students are older students and part-time students, as well as increasing participation rates of women, internationals, and minorities.

Contrary to the majority of predictions, in 1985 the total undergraduate enrollment of 18 and 19-year-olds had dropped only 1 percent from 1975. In addition, the distribution of enrollment by ethnicity showed no significant change during that time period (Easterlin, 1989). Most researchers had based their predictions of traditional student enrollments in the 1980s on the assumption that college going rates of 18- and 19-year-olds would not change significantly from the level in the 1970s. There was, however, a marked change in attendance rate that largely compensated for declining numbers. Easterlin (1989) proposed that the reasons for the relationship between the size of a student pool and the enrollment rate included the fact that the presence of fewer students increases the return on a college education, that single child families and families with children more spread out are more likely to be able to afford college, and that institutional responses to smaller student pools are likely to increase matriculation and retention rates.

While the enrollment rate of traditional age students increased and the actual enrollment numbers fell minimally, several aspects of the nature of this "traditional" group changed significantly. In 1955 the proportion of students who were full-time, living on campus, and aged eighteen to twenty-two represented over 50% of undergraduates. In 1985, these students made up 17 percent of the undergraduate population (Forrest, 1987). While the number of "traditional" students was dropping slowly, a variety of new student populations were engaging higher education in rapidly

growing numbers. In a look at how colleges cope with potential enrollment declines, Chabotar and Honan (1990), reported many institutions maintained their enrollments as a result of a combination of increased enrollment rates of traditional students as well as a significant increase in enrollment of older, nontraditional students and foreign students.

A number of studies (Forest, 1987; Frances, 1989; Hires, 1991; Shunk, 1990; Trow, 1988) demonstrated that much of the enrollment increase in higher education in the 1980s, and particularly in the small private colleges, was due to increased participation rates of students over 25 years of age, particularly women. Also included as major contributor to enrollment increase was the significant increase in part-time student enrollments.

While enrollments remained stable or increased, the nature of the student body has changed significantly. During the 1980s, the rates of participation in higher education changed in most segments of the student body. The student body became increasingly older, more female, and more part-time. These changes resulted in concomitant changes on the part of the college.

Robertson (1991b) has explored the development of a new type of college termed "the urban small college." This type of college is characterized, at least in part, by providing degree programs for adults. Among the characteristics of these colleges, are systems for recognizing and integrating the student's various learnings--"experiential and formal, current and prior," advising systems based on developmental models, adaptation of instruction and services in terms of "time, place, content, and style," and the development of an interdisciplinary, problem-centered curriculum.

There have been a variety of studies that have looked at changes in the nature of institutional programs and policies during the 1980s (Andersen, 1985; A classification, 1987; Frances, 1989; Mooney, 1989). Among the strategies identified for dealing with perceived enrollment challenges were increased retention and recruitment activities, increased financial aid, staff down-sizing, and modified academic programming. The new programs identified were largely designed to appeal to "non-traditional" students. There was also a general trend to increase the professional emphasis of programs, increase student selectivity, and increase the emphasis on a "values" focus in the programs.

Frances (1989) reported that the for-profit component of the private sector grew faster than any other segment of higher education in the first half of the 1980s. The increase in these institutions accounted for more than two-thirds of the enrollment increase in the private sector and more than one-half of the increase in total enrollment in all institutions of higher education from 1980 to 1985.

While colleges and universities fared the 1980s far better than many scholars and researchers expected, there were still closures and mergers (Chabetar & Honen, 1990; Kaufman, 1986; Leslie and Conrad, 1985; O'Keefe, 1989). Actual college closures were surprisingly few in the 1980s. Within all private institutions, 49 closures occurred between 1975 and 1985. The closures most often occurred in bankrupt institutions, and followed years of financial hardship. Most of the private institutions that closed during that time were young and special purpose institutions.

During the 1980s many institutions aggressively exploited both old and new student markets, primarily through the development of new policies or programs. The extreme projections of 30, 40, or even 50% enrollment declines were not realized because they failed to take institutional initiatives into account. As the Carnegie Foundation for the Advancement of Teaching suggested, "gone is the day when the size of the fall freshman class could be predicted nationwide with great precision based on the number of graduating high school seniors of the June just passed" (Three Thousand Futures, 1980, p. 36). The predictions of college health in the 1980s was tied heavily, if not exclusively to projections for the 18-to-24 year old cohort. This dependence on one aspect of the data resulted in insufficient consideration of other critical demographic elements. These elements include the differential in graduation and attendance rates among the various regions of the country, the increasing number and rate of attendance of adult and part-time students, and the changing gender and ethnic distribution of high school graduates.

New Student Populations

A variety of new student markets were cultivated by colleges around the country during the 1980s. Cartter (1976) proposed that, to a certain extent, supply creates its own demand, that the development of specialized programs and institutions designed to meet the needs of a broader cross section of students tends to result in the development of new demands for educational attainment. Mayhew similarly suggested, in 1979, that the most likely way to maintain enrollment levels in the 1980s would be to identify and serve new kinds of students. These new student groups include minority students, older students,

international students, people working full- or part-time, military personnel, and those with different learning needs from traditional student.

A large number of researchers have identified the necessity for, and encouraged American higher education to actively explore an increasingly diverse group of potential students (Albers & Burns, 1979; Cartter, 1976; Clinton, 1989; Hodgkinson, 1982; Levine & Riedel, 1981; Memorandum to the 41st President, 1988; Millard, 1991; Paulsen, 1990; Smith, 1989). During the 1980s, as traditional pools continued to shrink, colleges began to more actively recruit students from pools that were maintaining their numbers, or growing. These groups include older students, women, part-time students, minorities, and foreign students, and they turned out to be the primary source of increased enrollment in the 1980s.

Researchers (Millard, 1991; Smith, 1984) suggested that the attraction of these new student populations would require significant changes within the institutions. Some have found, however, that these changes are slow in coming. While the percentage of students in these "new" pools is approaching the majority of students in American higher education, many institutions who are experiencing the increased enrollments have been slow to develop the necessary specialized services for these group. Many campuses do not effectively incorporate and serve non-traditional students. Students are confronted with stereotypic attitudes, unfamiliar values, teaching methods that are not appropriate to their needs, and services designed for very different students.

Adults. There is little doubt that the 1980s marks the decade of entry into the learning society. According to Baldridge, Kemerer, and Green (1982), in the Fall of

1980, 91% of all first-time, full-time college freshmen were either 18 or 19 years old. The 18- to 24-year-old cohort comprised 80% of all undergraduates. The student profile changed significantly in ten years. Brazziel (1989) reported that 40 percent (over five million) of all college students in 1988-89 were twenty-five years of age and older. In the Spring of 1988, students in this category received 37 percent of bachelor's degrees. Many researchers and scholars have predicted and characterized the beginning of the learning society and the advent of large numbers of older students returning to higher education (Albers & Burns, 1979; Andersen, 1990; Andersen, Carter & Malizio, 1989; Apps, 1988; Baldridge, Kemerrer, & Green, 1982; Bowen, 1980; Brazziel, 1989; Cross, 1981; Dodge & Evangelauf, 1992; Eurich, 1990; Forrest, 1987; Horowitz, 1989; Knox, 1987; National Center of Education Statistics, 1989a; Perry-Miller, 1991; Spanard, 1990). Research suggested that, due to the impending shortage in the work force of highly skilled and educated workers, and the probability of increasing levels of worker reeducation and retraining, the reentry of adults to formal educational activities was guaranteed.

Researchers (Cross, 1981; Eurich, 1990; Knox, 1987) have determined that the primary factors that influence adults to engage in learning activities include the increasing numbers of adults, a variety of social change (increased educational levels, changing role of women, early retirement, civil rights, increased leisure time, etc.), recent technological changes and the knowledge explosion, the possibility of job advancement, personal interest in the content, compliance with external expectations, increased opportunities for service to others, mental stimulation, and interaction with other adults.

Because over 60% of the work force of the year 2000 are already in the work force today, the majority of adults now working require opportunities for retraining and reeducation in order to maintain their jobs and their productivity.

The increased levels of adult enrollments have been realized at levels hardly imagined in the 1970s and early 1980s. Research (Anderson, 1990; Anderson, Carter, & Malizio, 1989; Harowitz, 1989) has demonstrated that, on many campuses, the older student now represents the majority of the student body. In 1985, 5.1 million students (42 percent) aged 25 and older were attending college This represents a 24 percent increase in the number of 25-and older students attending college as compared to 1975.

Several studies of adult learner participation rates (Andersen, 1990; Bowen, 1980; Brazziel, 1989; Exter, 1990) have concluded that the significant increase in older student enrollments in the 1980s is due primarily to increased numbers in those age ranges, not increased rates of participation. It has been suggested that a small increase in that actual rate of participation of adults can have major impact on higher education enrollments. The decline in enrollment of 18- to 21-years olds from 1979 to 1991 (27%) would have been totally offset by a 3.5% increase in the enrollment rates of older students. Bowen reported that the enrollments of older persons have been growing steadily at a rate that would exceed 3.5% in a decade. Similarly, because the 45-and-over population group is so large, an increase in its enrollment rate of only one-tenth of a percent would bring 75,000 students to higher education.

Between 1977 and 1987 the enrollment rate for the 35 to 44 year old cohort fluctuated between 3.0 and 3.6 percent. In 1988 the participation rate rose to 4.4 percent.

Further, the number of students aged 35 and older are expected to increase by 26 percent between 1988 and 2000.

In summary, Brazziel (1989) suggested that the number of adults aged twenty-five to fifty-five in the United States eligible to attend college will increase throughout this century. He further suggested that, because these older adults are moving into age ranges that have had traditionally lower participation rates, there will be a net decrease in adult participation. According to Brazziel's Older Cohort Participation Matrixes (OCPM) adult participation in higher education would peak in 1988 and drop off after that time. This model for adult participation in higher education, however, assumes a constant rate of participation within the various cohorts.

Women. Many studies (Change trendlines, 1989; Frances, 1989; Iovachini, Hall, & Henstler, 1985; National Center for Education Statistics, 1986; "Trends in fall enrollment", 1986) have demonstrated the significant impact of increasing female enrollments on higher education in the 1980s. The 10-year period of 1976 to 1986 showed an almost exact reversal in the male-female composition of higher education enrollment. From 1976 to 1986 male enrollment went from 52.8 percent to 47.1 percent, while female enrollment went from 47.2 percent to 52.9 percent. Several of these reports concluded that over 90% of the increase in total enrollment during the 1980s occurred among women.

The National Center for Education Statistics (1989b) reported that women in higher education numbered 5 million in 1975, 6.9 million in 1988, and are projected to number 7.3 million in 2000. This represents a proportion of enrollment of 51% in 1980,

and 54% of total enrollment in 1988 and 2000. In these same time periods, male enrollments decreased from 6.1 million in 1975 to 5.9 million in 1988, and are projected to increase back to 6.1 million in 2000. It seems clear that the new student body in higher education in the 1980s and 1990s is more female than in the past.

So significant is this growth in female, and particularly older female, levels of college participation, that the National Center for Education Statistics (1989b) predicted that women students will be awarded the majority of associate, bachelor's, master's and doctor's degrees, as well as 4 out of 10 first professional degrees by 1999-2000.

Minorities. The minority demographics in the United States experienced significant changes during the 1980s. These changes are expected to continue throughout the remainder of this century, and present unique challenges and opportunities to higher education. Hodgkinson (1986) pointed out that one of the reasons for these shifts in the minority populations in the United States lies largely in the fact that minority fertility remains relatively constant while caucasian fertility experiences drastic fluctuations.

Several major studies (Allen, 1990; Gilley, 1991; Kaufman, 1990; Millard, 1991; Ottinger, 1991a) have focused on the shifts in minority representation in the 1980s and 1990s. States such as California and Texas will possibly become minority-majority states by the early part of the next century. The most liberal projections for minority increase suggest that more than half of all Americans will be Hispanics, Asian, or black by the year 2080, while more conservative estimates suggest that racial and ethnic minority groups will represent 25-to-35% of all Americans in the 21st century. Some estimates suggest that half of all American children will be non-Caucasian by the year 2000.

These shifts in the ethnic composition of college student cohorts represent a "double whammy" for colleges and universities. First, the traditional college-age cohort will shrink and become more ethnically diverse. In addition, because of the historically lower high school completion rates and college matriculation rates of Hispanic, Black, and American Indian youth, the effective size of the traditional pool will become even smaller. While the total number of 18-to-24 year olds is expected to hold relatively steady between the 1990 and 2025, the composition of racial and ethnic groups within this population will change dramatically. The data suggests that between 1990 and 2025, the size of the white college-age cohort will decrease 18 percent, while the same cohort among minority youths will increase by 42 percent.

When viewing specific minority groups, research (Andersen, Carter, & Malizio, 1989; Carter, 1990; Escuita & O'Brien, 1991; National Center of Education Statistics, 1989a; O'Hare, 1990; Rainsford, 1990; Waldrop & Exter, 1991) has shown that the proportion of students who were Black fell from 9.4% in 1976 to 8.7% in 1986, resulting from a declining enrollments of black males and slowed increase in black female enrollments. The 30 million Blacks in the United States represent the nation's largest minority, at 12 percent of the total population. During the 1980s Blacks gained somewhat less than 1 percentage point while the caucasian population dropped from 86 percent of the total to 84 percent. There were 2.2 million minority students enrolled in higher education in 1986, 48 percent (1,081,000) of which were Black.

One of the fastest growing minority populations in the United States is the Hispanic population. America's Hispanic population of 21 million, grew at four times

the national rate during the 1980s. However, the age and educational attainment of American Hispanics remains significantly lower than that of similarly affluent whites. Almost half (48 percent) of affluent white households have at least a four-year degree, compared with only 29 percent of affluent Hispanic households.

Another rapidly growing minority population and one of keen interest to postsecondary education is the American Asian population. The number of Asian Americans enrolled in higher education institutions rose from 198,000 in 1976 to 497,000 in 1988. This represented an overall increase in representation of Asian Americans in higher education from 2 percent in 1976 to 4 percent in 1988. In addition, the educational attainment of the Asian American population is relatively high with 80 percent of the population 25 years and older having graduated from high school.

Of significance when viewing the impact of increasing minority populations on higher education is the information on rates of attendance for minority groups (Estrada, 1988; Minorities in Higher Education, 1983). Historically, the matriculation and completion rates in higher education for most minorities has been significantly lower than for the Caucasian population. In 1987, 83% of Caucasian students graduated from high school as compared to 60% of Hispanic students. Further, the proportion of Black and Hispanic high school students who went on to higher education declined between 1975 and 1980. Levels of minority participation in higher education, after showing significant improvement in the 1960s and 1970s, declined at all levels in the 1980s. Suggested reasons for this decline include reduced financial aid, high unemployment, and more stringent entrance requirements.

In conclusion, while the nation's minority population is growing, enrollments of minorities in higher education is falling. Enrolled minority students were less likely in the 1980s than Caucasians to earn an undergraduate degree. The proportion of Black and Hispanic students enrolled in college declined in the 1980s, and, in spite of recent improvements in college placement tests, and gains in enrollment in college preparatory courses that indicate that many minority students are better prepared for college entrance, these gains have not translated into higher college participation rates.

International Students. Another group of students in American colleges that increased significantly in the decade of the 1980s is that of international students. El-Khawas (1991) reported that one-quarter of surveyed institutions reported an increase in the number of international students on their campus in 1990-91. In an article in the Chronicle of Higher Education, Dodge (1991) reported that 407,500 students from foreign countries attended U.S. institutions in 1990. This represented an increase of 5.3% over the 1989 total of 386,900. With regards to the mix of international students, Dodge reported that 56% of the foreign students in the United States in 1990-91 were from Asian countries. The number of international students from Eastern European countries and the Soviet Union grew to 4,800, a 42% increase over 1989-90. El-Khawas (1991) reported that 61% of private colleges and universities increased expenditures in the areas of improved multicultural awareness on their campuses in 1990, while 49% of public four-year institutions did so in the same time period.

Part-Time Students. Part-time enrollment is becoming a dominant model for study in higher education. A variety of studies and reports have focused on the nature and

impact of changing rates of part-time study in higher education ("Change Trendlines," 1989; El-Khawas, 1986; Kuh, Schuh, Whitt, & Associates, 1991; Lynton, 1986). The consensus of these studies is that the part-time student will become the norm rather than the exception in most colleges and universities. In 1990 over 40% of the undergraduates were enrolled part-time. Between 1976 and 1986 part-time student enrollments grew by 31% at private colleges and 25% at public colleges.

As interest in part-time students increases, a number of pertinent findings about the nature of theses students has been reported. Research indicates that, contrary to popular myth, the majority of part-time students had clear goals, were serious in their academic endeavors, and performed as well as full-time students in their studies (Change trendlines, 1986). In addition, this research reported that part-time students had a higher cumulative grade-point average, and exhibit no greater probability than full-time students to repeat one or more courses during their studies.

Breland, Wilder, and Robertson (1986) reported that efforts to recruit adult students and part-time students have increased. In their study, about half of the respondent institutions increased recruitment for adults, and about a third for part-time students.

Community College Transfers. Jacobson (1991), in a review of changes predicted by major higher education leaders, reported that among the changes predicted, was the expectation that an increasing number of students will be forced out of four-year colleges and universities and into community colleges. Naisbitt (1991) recently reported that community colleges were the fastest-growing segment of education. He predicted that

throughout the 1990s an increasing number of American college students will attend community colleges to receive a quality, low-cost education. As the tuition at four-year colleges continues to increase, community colleges will gain strength as an alternative for more students. In 1990, the cost of tuition and fees at a community colleges was $904, while attendance at a four-year public college cost $1,755, and at four-year private colleges the cost was $7,685.

It has been reported that minority students are disproportionately enrolled in community colleges (Carter, 1990; Estrada, 1988). Increases in the enrollment of Black, Hispanic, and American Indian students in the 1980s tended to be concentrated in community colleges. Hispanic students, in particular, have a six times larger probability to be enrolled in a community college than in a four-year college. At a time when these minority groups represent the fastest growing segment of "traditional" college-age students, this represents an important potential pool of transfer students for four-year colleges.

Studies of community college transfer intent and actual completion and transfer rates (Forrest, 1987; Solmon, 1989) indicate that, upon entrance, one-third of the freshmen attending community colleges state a desire to obtain a bachelor's degree. It is further discovered that minorities are more likely to begin their higher education in community colleges. Finally, it was reported that students who begin in community colleges generally have less than a 10% probability of actually continuing to a bachelor's degree. If four-year institutions intend to increase their minority and general "traditional student" enrollments the strategy of encouraging community college students to transfer

after receiving their community college degree is a strategy deserving serious consideration.

The 1990s

As the decade of the 1990s began, researchers, demographers, and prognosticators once again looked ahead. Many have suggested that, for the nation's colleges and universities, the 1990s will prove a troubling end to the century--a time of great uncertainty ("An end to sanctuary," 1991). The descriptions of impending doom have not stopped. A recent newspaper article stated that "colleges and universities are facing financial problems so severe that many may consider mergers or closing" ("Colleges face tough year," 1991, p. A7). There is little anticipation of easier going for the small private colleges in the 1990s. An assessment of the projections and predictions for the 1990s will help in further encouraging this study, and setting the stage for the environment in which it will be interpreted.

Gross Enrollment Projections. The projections for overall enrollment decline in the 1990s continue to dominate (Chabotar & Honan, 1990; Collison, 1991b; Davis-Van Atla, 1989; Hossler & Kemerer, 1986; Trends in Education, 1987). Many forecasts call for as many as 900,000 fewer traditional students by 1995. This represents a drop of 25 percent, added to the 10 percent decline proposed of the 1980s. Many of these researchers suggest that the nontraditional students, who were heavily tapped in the 1980s, are unlikely to rescue enrollments in the 1990s. According to several forecasts, total higher education enrollments were predicted to decrease by 6% between 1985-86

and 1995-96, with private institution (and 4-year institution) enrollments decreasing by 9%.

According to many researchers the current enrollment stability may be coming to an end. Additional challenges include steeper decline in the number of traditional high school students graduating and a potential leveling in the enrollment rates for non-traditional students. Since 1980, the number of returning women has risen by just 3 percent and the number of men by less than 1 percent. Many scholars and college administrators continue to view the current external environment as being hostile to higher education .

In spite of the ongoing predictions of decline, early indications suggest that overall enrollments in the 1990s may fare relatively well (Dodge & Evangelauf, 1992; El-Khawas, 1991; Evangelauf, 1992). Undergraduate enrollments in four-year institutions are proposed to increase by 300,000 between 1988 and 2000. In the same period, undergraduate enrollments in the public sector are predicted to increase by 400,000 and in the private sector by 100,000 students.

In recent articles in the Chronicle of Higher Education it has been reported that, for the first time ever, total U.S. college enrollment topped 14 million in fall 1991, with an increase of 3.2 per cent, to 14,157,000. Enrollment at public and private four-year colleges grew by less than 1 per cent, totaling 5.8 million at public institutions and nearly 2.7 million at private colleges and universities (Dodge & Evangelauf, 1992). Another recent article reported that "the U.S. Department of Education estimates the number of

college students will climb from 14.1 million in 1991 to 16 million in 2002" (Evangelauf, 1992, p. A1).

Private College Enrollments. As with the projections for overall postsecondary enrollments, the projections for the small private college in the 1990s are mixed. In a look at applications at private colleges, Collison (1991a) reported that, many private-college officials reported applications were down, while a majority still reported increases. According to this research, "small colleges seem to be hurting the most." Similarly, it was suggested that private four-year institutions could expect a decline in enrollments from 2.53 million students in 1988 to 2.44 million students in 1997, a decline of about 3.5% ("Fact File," 1988).

Tuckman and Arcady (1985) painted a somewhat more optimistic (or, at least opportunistic) picture. They asserted that the decade of the 1990s will be characterized by great opportunities for, and significant changes in, small colleges in the U.S. They went on to suggest that the way in which presidents of small colleges react to the external environment will determine the performance of their institutions in providing educational services in the future.

Regional Differences. It is becoming more clear that regional differences need to be considered in projections for institutional enrollment. Baldridge, Kemerer, and Green (1982) encouraged researchers and higher education administrators to account for the significant regional differences in the decline in the number of high school graduates between 1979 and 1995. Along these lines, Collison (1991b) reported, with regards to application declines, that private liberal arts colleges in New England experienced

significantly larger declines than in other regions due to the steep decline in the regional economy.

Hodgkinson (1985) reported that the fluctuations in enrollment from state to state and institution to institution are primarily related to three variables. These variables were differential fertility among population groups (e.g. birth rate for white = 1.7; Hispanic = 2.9), differential in various states' ability to retain high school students to graduation (e.g. MN 83%; MS 61%) and high school graduates leaving the state to go to college (e.g. 45.7% leave CT; 6.8% leave TX). Solmon (1989) projected that the decline in the number of eighteen-year-olds between 1979 and 1998 will be greatest in the Northeast, next largest in the South followed by the North Central region, and the smallest decline in the West.

Traditional Student Enrollments. Most of the projections for traditional aged college students predict moderate to significant decreases in the decade of the 1990s (Moore, 1988; "National estimates of higher education statistics," 1987). The early 1990s will represent the period of most rapid decline of high school seniors in this century. From 1979 to 1988 the number of 18 year-olds dropped 12% below its peak level. Four years later, in 1992, it was nearly 25% below the 1979 peak. This significant decline is likely to challenge even the best positioned institutions. The traditional pool of students will be reaching a low point in the early 1990s. Based on current graduation rates, by the year 2,000, 2.8 million students will be graduating from high school compared to just over 3 million in the late 1970s.

In addition to the projected declines in traditional aged students for most of the decade, Hodgkinson (1986) projected that these "traditional" students are not going to be the same students that entered colleges in the 1970s. Hodgkinson looked at the current status of the freshman class of the year 2000. He discovered that these students, now 4 years-old, have the following characteristics: 23% of them are below the poverty line, a higher percent than ever have diagnosed physical and emotional handicaps, and more of them than ever in recent years don't speak English.

Non-Traditional Student Populations. Increasing diversity seems to be a dominant feature of the nature for the student body of the 1990s. It has been widely predicted that the students that faculty teach in the 1990s will no longer be "younger versions of themselves." The residential college and "the cloistered graduate seminar" will no longer dominate the larger world of higher education ("Learning Slope," 1991). The projections for adult learners have increased through the 1980s, but most demographers suggest that this will level off, with a few suggesting that there will be a decrease in the actual numbers of adults in higher education in the decade of the 1990s. Andersen (1990) suggested that additional enrollment pressures are predictable for the early 1990s because the 25-34 year-old age-group will join the 18-24 age group in diminishing in size each year through the mid-decade. Even Frances (1989), the optimist of the 1980s, suggested that American higher education may experience an enrollment decline driven by demographic trends in the mid-1990s. These projections are based on the fact that the 25-to-35-year-old group will go from a 16 percent increase in the 1980s to a 16 percent decrease in the 1990s.

Program, Policy and Institutional Changes. In a review of the implications that the 1990s have in store for higher education, Jacobs (1990) suggested that among the major challenges are (a) the change in the demography of students, with more adults and more minority students entering the system; (b) the change in the age composition of the faculty, with more young faculty replacing the "age-bunched" faculty now in active service; (c) the change in financial aid support for higher education, with greater reliance on loan rather than grant programs; and (d) the increased involvement in educational collaboration, especially with the business community.

One set of suggested changes are those related to retrenchment, or the management of decline. Chabotar and Honan (1990) pointed out that their research indicates that presidents will need to reduce their academic roles in the 1990s in order to focus on pressing activities in public relations and fund-raising, two of the retrenchments strategies that the researchers consider as most effective.

Keller (1991) suggested that colleges and universities will either watch their enrollments decrease, causing forced faculty and staff declines, and perhaps eventually mergers or closures, or they can take steps to increase enrollments. Strategies suggested include making themselves more attractive to the able students and their parents, institute procedures to recruit students more effectively and provide a more satisfactory four years for the undergraduate experience, or substituting new student markets such as adults. Chaffee (1990) warned that unless colleges and universities develop programs that better meet the needs of employers and adults, private colleges and universities will lose a significant portion of the adult market that they gained in the 1970s and 1980s.

Perceived Challenges and Threats. In a frank discussion of the impending confrontation of American higher education with "history," Kerr (1990) identified five major challenges for higher education in the 1990s. Included among these are (a) the struggle for equity, with the debate over "equity of opportunity based on merit versus equality of results based on numerical proportionality" intensifying; (b) an enhanced demand for higher education to contribute to national productivity; (c) immense competition for limited resources for recruitment, plant improvements, assessment and various other activities; and (d) much effort in rebuilding the public trust and resisting increased external control.

In light of these challenges, and the demographic realities of the 1990s, optimism still abounds. A recent survey of college administrators' views of potential enrollment changes in the next five years reports the following results: 36 percent of the four-year college administrators surveyed expect enrollment increased of greater than 10 percent, 42 percent expected increased enrollment from 1 to 10 percent, 17 per cent expected no net change and only 4 percent expected declines ("The almanac," 1991).

Counter-Arguments to the Projected Demographics Induced Decline in the 1990s. According to Frances (1989), the first lesson to be learned from the realities of the 1980s is, "Don't trust demographers. Don't trust planners in demographer's clothing, either. The models they use to predict college enrollments are far too simple or too simple-minded" (p. 149). Frances warned that when you use demographic trend analysis it is essential that you look at all of the relevant population trends. This diversity in trend analysis is not indicative of the projections that are touted by most. Frances ventures that

a significant enrollment decline in the 1990s is unlikely, even in the presence of current demographic trends, and especially when the expanding role of American higher education is taken into consideration.

ATTRIBUTES OF THE INSTITUTIONS

While recognizing the importance of the external environment on the ongoing development of the institution, it is important to consider the critical role of various internal institutional attributes and factors, both historical and contemporary. This study seeks to consider the academic and financial strengths and weaknesses of the institutions within the population. According to Keller's model (1983), the institution must "examine the pros and cons of (its) location, scholarship aid for students, ambience, tuition levels, physical plant, size, alumni loyalty, salary scales, and student achievements. Above all, (it) must evaluate the strengths and weaknesses of the institution's faculty and programs" (p. 154).

The assessment of internal values, traditions, strengths, and weaknesses does not serve as an end in itself, but provides information which is critical in understanding and crafting the survival of the institution. Keller (1983) proposed that strategic planning must place the long-term survival and excellence of the college first. "It cares about traditions, faculty salaries, and programs in Greek, agriculture, and astrophysics. But it cares about institutional survival more, so that there will be places for scholars . . . to teach and do their research" (p.151).

As described in Chapter I, the higher education system is characterized by, and often described in terms of its extensive diversity in institutional form, program design, and constituencies served. In a review of the diverse roles that higher education serves for individuals and society, Casteen (1982) described the development of a massive higher education system that grew out of a period of rapid expansion in which singular, fundamental purposes and goals were never clearly defined. It is from this beginning that the current diversity arose. This diversity includes a plethora of independent institutions with diverse purposes, representing diverse affiliations, serving diverse populations, exhibiting multiple standards of quality, and a variety of governance structures. As a result of this evolving diversity, the system is much more able and willing to serve the diverse needs of students who may not have been traditionally included in the service pool, and is more able to adopt to changes in those needs.

Of great significance within this critical diversity are the private colleges. John Silber (1989) reported that there were 2.8 million students enrolled in independent colleges and universities in 1986-87. Through this enrollment, this sector relieved the taxpayer of a burden of at least $16 billion, the amount it would have cost to educate those students in public institutions. Silber, like to many others, contended that while some of these private institutions will survive the coming decade without serious problems, many more private colleges will close.

Within the private college sector, the population with which this study is occupied are those described as "small, private colleges." As described in greater detail above, the work of Astin and Lee (1972) probably represents the most complete analysis of small,

private four-year colleges to date. They defined these institutions, termed "invisible colleges," by their selectivity and their relative enrollment size. In characterizing these institutions, the researchers determined that fewer than 20 percent were located in or near a major city, and some are hundreds of miles from a city. In addition, while most of the elite private colleges had broken away from the parent church by the early part of the twentieth century, only 2 percent of the originally church-related invisible colleges had broken away completely. According to the researchers, church-relatedness was highly characteristic of these institutions. In further characterizing these institutions, the researchers concluded that twelve percent of the invisible colleges had undergone a name change that reflected a shift from a sectarian to a non-sectarian emphasis.

Several studies have focused on the unique nature of the students enrolled in small private colleges (Astin & Lee, 1972; Kuh, Schuh, Whitt, & Associates, 1991). It has been reported that these students were more likely to attend college close to home and were oriented much more toward vocational goals and the pragmatic outcomes of college. In addition, these studies indicate that student's cognitive development occurs at the same rate regardless of the nature and selectivity of the institution attended. Interestingly, it was determined that attendance at an invisible college increased the likelihood that a student will stay in college and correlates with increased educational aspirations (Astin & Lee, 1972). Familiarity characterizes the relationships between faculty and students, and the emphasis tends to be on the class work, whereas the environment of the very large institution tends to be less "relationship oriented." In summary, these studies suggest that these small colleges have the following characteristics: (a) students more

strongly committed to the institution; (b) students participating at higher levels in out-of-class activities; and, (c) greater recognition of student accomplishments. In addition, a much stronger commitment to, and emphasis on, individual student development was found at these institutions as compared to larger institutions (Astin & Lee, 1972).

Small private colleges have been characterized as being particularly responsive to changing societal demands for services from higher education. In a characterization of small urban colleges as centers for adult learning, Robertson (1991b) asserted that "with its learner-centered, teaching faculty and the manageable scale of its campus and organization, the small liberal arts college is perhaps better suited to fill this niche than any other type of four-year institution" (p. 15). Similarly, Splete and Garth (1990) contended that "many private colleges have been responding to shifting student interests and employer needs for decades; their programs are genuine responses to societal needs, workplace requirements, and family concerns" (p.12). These institutions have used the unique characteristics related to their independence and small size to continually adjust to external demands and changing societal needs.

In a summary of research conducted on the effect of institutional size and relative emphasis on research and teaching on institutional characteristics, Change ("Change Trendlines," 1990, p. 24) reported that the relative amount of time spent on research increases as institutional size increases. This was not a surprising finding, nor was the corollary that was also found to be true. As institutional emphasis on research increases, the amount of time spent in preparation for teaching, formal classroom instruction in undergraduate courses decreases. Other conclusions drawn from this research include the

finding that nearly 90% of the faculty surveyed at small private colleges classify their relationships with undergraduate students as important, but that inclination declines among faculty who serve in larger colleges and universities. In addition, the study found that a "sense of community" is present in small private colleges that is perceived as absent in larger, research institutions. Finally, it was reported that the average undergraduate class size increased significantly as institutions moved from the low to the very high research emphasis.

In reporting the results of their study of the performance of small colleges, Tuckman and Arcady (1985) suggested that size differentiates the small college environment in at least three ways: (a) it effects the total dollars available for and the average costs of providing educational services; (b) it effects the tuitions that small colleges can charge and the importance of the outside financial support they receive; and (c) it effects the style and type of management likely to be effective (p. 16). The researchers went on to explain that increased enrollments result in costs rising at a relatively constant rate. When enrollments decline, however, costs remain fixed below a certain enrollment. As a result, the revenues of small colleges are uniquely sensitive to changes in enrollment.

Many researchers and scholars of American higher education have warned of the trend to homogenization in higher education (Astin & Lee, 1972; Casteen, 1982; Millard, 1991). Severely limited resources and significant internal and external pressures tend to encourage this trend. These studies describe a trend, since the 1940s, of institutional homogenization. As a result of this homogenization, especially in curriculum, Casteen

contends that today's students face fewer real choices in higher education than any American students in the recent past. Trends that result in homogeneity, whether the result of standardized assessment, institutional imitation, or intentional institutional action, obstructs equity, diversity, and quality in American higher education. There is a subtle but real tendency for the invisible college to view their preferred developmental path at being that of becoming a more elite private college. In response to this inclination, many researchers warned against the emulation of the elite colleges as this model may be inappropriate for them in view of the unique nature of their students.

The small private college sector in American higher education tends to be highly church related, and heavily tuition dependent. Many of these institutions are rural in nature and have tended to serve students of traditional age. Small private colleges in urban settings seem to be expanding to serve special needs of adult and other "new" students. These institutions seem to provide a unique, nurturing environment for students, characterized by close student-faculty associations and increase student "engagement" outside the classroom. These institutions are providing a significant service to the approximately 25 percent of undergraduates in the United States. They make a strong commitment to financial aid, most of which comes from the institutional operating budget. While these expenditures are very costly, they don't seem to be diminishing with time.

Private higher education is often attributed with unique orientation with regards to values and the development and support of close, nurturing communities (Breneman, 1990a; The Preservation of Excellence, 1990; Riesman, 1981). The nature of these

colleges allows certain values to inform the institutional mission in a way in that public institutions cannot. It is contended that their small size leads to a strong sense of community among students, faculty and staff. Studies have suggested that these institutions place a greater emphasis on the teaching-learning process and faculty-student relationships. In addition, smaller colleges provide greater personal attention and more dedicated teaching than do the undergraduate classes at major state universities.

The emphasis on the values driven missions and supportive environments for students often results from a religious orientation on the part of these colleges or universities. The Education Commission of the States reported that approximately 800 of the private colleges in America have a religious affiliation (The Preservation of Excellence, 1990). This affiliation is particularly strong among the smaller private institutions.

While the data on overall differential effect of institutions on student learning and development is far from conclusive, Pascarella and Terenzini (1991), in their summary of twenty years of research on the effect of college, concluded that attendance at a private college or university, when compared to a public one, provides net positive influence on the attainment of a bachelor's degree, on plans for attending graduate school, and on overall levels of educational attainment. In addition, the influence of institutional control, according to the researchers, seems to be independent of the selectivity of the institution.

There also seem to be unique program emphases that are exhibited by private colleges and universities. A relatively strong emphasis on certain undergraduate programs

and a disproportionate number of teacher education students characterize these unique programmatic emphases. Blumenstyk (1990) reported that private colleges contribute to preparing more teachers by granting 28% of all bachelors' degrees in education. In addition, 36% of all doctoral degrees are granted by private institutions.

Finally, there appear to be several unique attributes of the students served by private colleges and universities. Riesman (1981) reported that certain private residential institutions have excellent records. Many of these institutions accept students with SAT total scores as low as 700 and rarely as high as the national median of around 900. These institutions, however, prepare as many as a third or more of their students to go on to graduate or professional study. This is an extraordinarily high figure, considering the scores of the students at the point of admission.

While they do appear to serve a unique student body in terms of personal attributes and academic performance, some commonly held assumptions about students at private colleges and universities prove to be less defensible. It is often suggested that students attending private colleges and universities come from families with significantly higher annual incomes, and represent less racial and ethnic diversity than their public counterparts. The Education Commission of the States reported that private and public institutions enroll essentially the same proportion of minority students, although Hispanic students enroll in public institutions (particularly community colleges) at a slightly higher rate (The Preservation of Excellence, 1990). Private institutions historically have led the nation in educating minorities. In 1987, over half of the historically black institutions were private. In addition, the median family income of students at all private colleges in

1986 was very similar to that of students at public institutions. On the average these students' families made $2,000 more per year than those in public institutions (The Preservation of Excellence, 1990).

INSTITUTIONAL ACTIONS

There have been many studies describing and characterizing specific institutional strategic responses throughout the 1980s. Others have focused on specific types of institutions, specific needs, and student populations or specific categories of strategic actions. This review attempts to identify and classify most of the institutional academic strategic actions suggested to influence institutional enrollment and survival identified in the literature.

Mission Review and Revision

One of the institutional strategic actions that has received significant attention in the past decade is the institutional review and revision of the mission or vision statement. This process is considered integral to providing focus and direction to institutional activities and strategies in uncertain and changing times. In a variety of studies of institutional effectiveness, a strong mission statement has been found to be essential (Davis-Van Atta, 1989; Green, 1990; Kuh, Schuh, Whitt, & Associates, 1991; Mayhew, 1979; Millard, 1991; Zammuto, 1986). These studies and reports are similar in that they all suggest that a clear definition and widely held understanding of the institutional mission is an important precondition to institutional survival.

The relationship between and importance of a clearly articulated and broadly accepted mission statement to leadership effectiveness has been extensively studied (Boyer, 1988; Buffington, Hossler, & Bean, 1987; Cross, 1985; Boyer, 1988; Chaffee, 1984b). Leaders regularly report the reason for institutional success as a shared vision of what the institution was seeking to accomplish. Two characteristics found to be referenced frequently in the literature related to institutional success are strong presidential leadership and the existence of a strong mission statement. It was reported that a focus in defining and changing the mission and purpose of the institution is second only to financial concerns for college presidents. According to Chaffee (1984b), institutional survival requires someone to articulate values that can be widely shared within the institution and its constituencies. An effective leader in a small private college "is one who fully perceives the interdependence of values and effectiveness - and who is constantly guided by this knowledge" (p. 130).

The importance of mission review and thoughtful revision has recently received renewed interest as the first step governing the adoption of institutional marketing strategies (Apps, 1988; Caren & Kemerer, 1979; Hintz, 1987; Hodgkinson, 1978; Mayhew, 1979; Pelletier, 1985; Wood, 1990). Wood (1990) pointed out that "the first step, the essential step, the "without which, nothing" step [in developing a marketing plan] is to secure widespread agreement on the mission of the institution" (p. 54).

As with the development of marketing and enrollment management strategies, a number of researchers suggest that a clear and widely accepted sense of mission is of significant benefit to the process of program development ("Breaking the Mold," 1990;

Dominique, 1990; "Learning Slope," 1991; Levine, 1985; Martin, 1985). In order for a college to identify specific program niches, it must have a clear sense of the ways in which its mission differentiates it from its competitors and meets special needs of current or new students. The institution that has a clear mission is able to choose among competing goals and opportunities.

A clear sense of mission will serve as a foundation from which the inevitable changes in private higher education can occur. Research indicates that changes are more effective if governed and informed by a clear sense of mission and purpose. Dominique (1990) suggested that a college should use the mission statement revision process, including broad participation, to provide a new and sharpened sense of direction and priorities, and a powerful mechanism for institutional change. Other researchers and scholars (Caren & Kemerer, 1979; Chabotar & Honan, 1990; Cohen, 1983; Giamatti, 1988b; Keller, 1983; Kuh, Schuh, Whitt and Associates; and Millard, 1991) have agreed that a clearly defined and broadly accepted mission statement is a critical base from which to make effective institutional changes, particularly in a period of external instability.

Among the pool of small, private colleges are a significant number of church-related institutions. Several researchers have looked at the unique mission dimensions of these institutions (Astin & Lee, 1972; Dejong, 1990; Thresher, 1989). The rapid changes in societal expectations, student profiles and program demands has left many of these institutions struggling with the question of where and how their religious values connect and inform the program. As church-related colleges serve a society that is increasingly

secular, they must grapple with the question of retaining or strengthening their affiliation, changing its nature, or breaking with the parent church.

Institutional Planning

A variety of researchers and scholars have concluded, from a variety of different perspectives, that institutional planning is an essential element for institutional survival and success (Baldridge, Kemerer, & Green, 1982; Bowen, 1974; Cameron, 1985; Cundiff, 1982; Dunn, 1990; Frances, 1980a; Frances, 1980b; Frankel & Harrison, 1977; Gilley, 1991; Jones, 1990; Keller, 1983; Keller, 1987; Leslie & Miller, 1974; Mayhew, 1979; Pailthorpe, 1986; Taylor, 1986). As external conditions become more restrictive, planning becomes even more critical.

The type of planning that has received the greatest amount of attention in recent years is an approach called strategic planning. This approach to planning attempts to give serious consideration to the external and internal forces facing an organization in the formulation of a preferred future for the institution. Once this has been achieved, decisions are made as to appropriate actions that will pilot the institution to that future manifestation.

Chaffee's work with strategic planning is particularly important. According to Chaffee (1984a) there are two major approaches to the development of strategic responses. These are classified as adaptive and interpretive. The adaptive strategies are those that are primarily responsive to external realities and forces while interpretive strategies are fundamentally responsive to the internal realities and forces of the institution. The adaptive model involves "attuning the organization to changes in market

demands and reorienting the organization as needed in order to maintain or increase the flow of resources from the market to the organization" (p. 213). Responses framed by the adaptive model include conducting market research, monitoring trends in the college's environment, increasing flexibility, and updating the program offerings. Hossler, Bean, and Associates (1990) described adaptive strategy as an the attempt to match the capabilities of the organization and the opportunities in the environment. Since the environment is constantly changing, the organization must adapt to this change.

The interpretive model is based on the assumption that the institution is made up of a group of individuals who pursue a variety of goals within the college. According to Chaffee (1984a), the successful use of the interpretive model of strategic management requires skillful use of various forms of communications and the use of symbols to construct the institutional reality. Hossler, Bean, and Associates (1990) described the interpretive strategy as that which helps to make the college or university and what it does legitimate. It is used to identify the purpose of the institution, and why it should continue to exist.

Chaffee's (1984a) research suggests that turnaround strategies are most effective when they, (a) assess both internal and external realities and forces giving higher priority to the internal realities; (b) include a strong and clear sense of organizational identity along with a willingness to make decisions based on that identity; (c) have presidents who base their actions on symbolic as well as substantive concerns; (d) have a wide range of strategic moves they might make productively; and (e) define specific components of effective turnaround strategies which have evolved from and are unique to the institution.

The more resilient institutions were more likely to have pursued a combination of adaptive and interpretive strategies. These institutions were responsive to the environment (adaptive), but made choices related to the mission of the institution (interpretive).

It is important, then, that strategic planning involve careful attention to and effort expended on understanding and assessing both external and internal realities and forces. Several studies have focused on the elements of the external environments which are most important (Bergman, 1991; Cohen, 1983; Jonsen, 1986; Keller, 1983). Included among the areas in which the institution must be sensitive to change in the marketplace are: (a) awareness of ones own position in the education marketplace; (b) monitoring the prospective applicant pools; and (c) assessing the academic area of interest of prospective students. They have in common that they view external forces as having a significant, and possibly the dominant force on the future and survival of the institution.

Once an assessment has been completed with regards to the significant internal and external factors, and a preferred direction is identified, strategic actions or initiatives must be defined. Ingersol (1988) challenged the school to "react and not let the marketplace determine in a negative way the fate of the organization" (p. 203).

Jones (1990) studied the factors associated with successful strategic planning activities. It was determined that in situations in which the process is successful, the following factors exist, (a) the effort to initiate strategic planning is spearheaded by the chief executive officer; (b) an experienced consultant is engaged at the beginning of the process; (c) the governing body of the institution publicly places its imprimatur of approval on the strategic planning effort; (d) a realistic timetable for results is set; and

(e) the institution utilizes a proven planning model and modifies it to fit unique circumstances. In addition, Jones discovered that the successful strategic planning process includes the following elements, (a) an environmental scan; (b) an internal evaluation process; and (c) an evaluation of the personal values and primary constituencies of the university campus community.

Institutional Research and Information Management

Krukowski and Kane (1982) and Fonte (1989) suggested that the way to avoid crises in enrollment is to develop an understanding of the institution's present enrollment situation. These researchers suggested that institutional research can play a major role in clarifying an institutions position and suggesting actions that will improve it. Institutional research, according to Glenny and Bowen (1980), should include an emphasis on identifying and tracking external and uncontrollable factors that serve as stress indicators.

Keller (1983) encouraged a strong commitment to ongoing accumulation and assessment of various forms of data. He contended that the day-to-day operation of the campus will be significantly improved by enhancing the management information system of the campus. "Good information," said Keller, "not only facilitates more rational decision making; it also motivates toward more strategic decision making" (p. 133).

Use of Consultants

The use of external consultants has been encouraged by a number of researchers, for a number of purposes. As stated above, Jones (1990) found that the use of an experienced consultant at the beginning of the strategic planning was related to success.

Keller (1983) suggested that the use of consultants can "inject a wealth of fresh and stimulating perspectives" (p. 169), and Taylor (1986) suggested that "if a college is already undergoing a rapid decline, I would propose that it hire a marketing consultant" (p. 50). Several institutions in the experimental population, including Concordia College, Portland, have made extensive use of external consultants in the development of institutional mission statements, strategic plans, long range planning, and programmatic development.

Changes in Institutional Leadership

Many researchers have suggested that the quality of leadership will significantly influence the experience of colleges before, during, and after a major challenge or crisis (Chaffee, 1984b; Hilpert, 1987; Mayhew, Ford, & Hubbard, 1990). Findings indicate that an able and dedicated leader in a small private college is fundamental to the matter of survival. Successful small college solutions to enrollment problems require direction from the president's offices, informed by research, awareness, and aggressive management. These researchers contend that leadership is of critical importance to effective organizational action.

In addition to the central role of the president, several studies suggest that other key administrators also play a role in institutional success in difficult times. According

to Keller (1983), "the president's first priority - the *sine qua non* of effective leadership - (is) to create an "executive constellation" to run the office of the president" (p. 13). By this, Keller referred to the critical nature of the establishment of a strong, top-level administrative team to provide support for presidential leadership. Similarly, Chaffee (1984b) discovered that presidents who were effective surrounded themselves with able administrators. Keller (1983) went on to suggest that the president, provost, and financial vice-president, along with the deans, are expected to set the vision, select the priorities, and develop a plan and an institutional academic strategy.

Several researchers have suggested that the key skills and experiences for leading and managing institutions in the decades of challenge have not yet been developed in existing college administration. In several studies, it became clear that a change in leadership or leadership style was part of the success strategies in some colleges. Mayhew, Ford, and Hubbard (1990) argued that the traditional system of centralized higher education administration is inappropriate for the changing conditions in which these institutions find themselves. They suggest that a new administrative structure is called for that would balance centralization and decentralization.

New Programs and Program Elements

Most researchers and practitioners in higher education would agree that increasing institutional enrollments based on non-traditional student pools requires not only recognition of and marketing to those pools, but some significant attention to the review and modification of academic programs and services. Several studies and reports have

been published which review these changes ("Breaking the Mold", 1990; Buffington, Hossler, & Bean, 1987; Cameron, 1983; Cohen, 1983; Cross, 1985; Levine, 1985).

In general, those institutions that enrolled more in-state commuter students, and expanded the time frame in which courses are offered were more likely to increase their enrollments. Thus, according to the researchers, and in the strategic action terms of Chaffee, institutions that retained a "traditional liberal arts interpretive strategy", were less likely to experience enrollment increases than institutions that adapted their programs to the needs of new student populations. When specifically studying institutional response to declining enrollments, it was discovered that the introduction of new or expanded academic programs was significantly more often employed by the successful institutions than by the unsuccessful ones. As Peter Drucker told the Chronicle of Education in 1981, the "demand for education is actually going up, not down. What is going down, and fairly fast, is demand for traditional education in traditional schools." (cited in Cross, 1985, p. 8)

These studies suggest that one of the major challenges facing colleges today is the offering of educational programs that serve a population that is aging, increasing in minority representation, and experiencing greater mobility. In order to survive, colleges must offer students a practical education that will prepare them for a world where change is constant in jobs, the labor market, and technology.

Adult Programs. Most institutions that are exploring new markets of students will turn quickly to the adult learner. Institutions that want to develop programs serving broader populations need to be increasingly sensitive to adult student's needs and talents.

Many books, studies, and reports have been published which directly and indirectly address the changes in academic programs and policies required if colleges hope to attract more adults (Andersen, 1990; Apps, 1988; Charner, 1980; Hodgkinson, 1983; Iovacchini, Hall, & Henstler, 1985; Jacobs, 1979; Robertson, 1991b; Smith, 1989; Spanard, 1990). Many of these studies suggest that, if these students are going to be actively recruited, colleges must give special attention to identifying and removing barriers to enrollment of older students. This will likely result in significantly modified academic practices, policies and programs.

A significant amount of commonality is found among the various recommendations for institutional academic responses to improve recruitment and retention of adults. Colleges are encouraged to modify the curriculum in ways which will provide academic programs of particular interest to adult students. These programs should meet specific felt needs, and should potentially be tied to a credentialing or certifying role in the related profession. The curriculum must also minimize unnecessary sequencing and pre-requisites, focus on specific competencies, represent relevant fields of study, and incorporate advanced technologies. Credit and non-credit options should be considered. In the same way, modes of instruction should be reviewed, and possibly revised to allow for an active role for the adult learner, to provide practical applications, and to draw upon the students' experience base.

Another area requiring significant analysis and potential revision is the schedule and calendar for academic offerings as well as related services. The institutions must recognize and account for the many concurrent responsibilities which most adults must

juggle. The location of the offerings, as well as the nature of the physical space must also be evaluated.

Various ancillary academic services and policies must also be reviewed. A major consideration is the development of institutional strategies for crediting prior experiential learning and learning acquired in military and informal training programs. Availability and accessibility of academic support services must be reviewed and special consideration should be given to peer study groups. While all academic policies and services should ultimately be reviewed for "adult friendliness," policies related to part-time status, residency, and limitation of access to services must be reviewed immediately. Overall, "red tape" and unnecessary waiting and delay must be minimized.

After reviewing the attributes of adult learners in a formal collegiate program, Robertson (1991b) recommended the following for consideration by colleges operating in the adult learner arena. First, it is important to comprehend the needs of returning women in their 30s and 40s. Of particular focus should be an understanding of women's experience, the unique aspects of the 30s and 40s, and the midlife transition. Second, institutions must "facilitate the integration of previous college work." This includes the need for flexible curricular components and a focus on the desired outcomes rather than the specific course requirements. Third, Robertson encouraged a focus on programs and services that are aimed specifically at students who are "rusty" academically. Fourth, is the need to provide mechanisms for crediting legitimate learning that occurred in non-collegiate setting. Finally, Robertson encouraged the development of programs which "support diverse styles of academic progress." The college must accommodate students

on a fast-track as well as those who proceed more slowly, and must develop services, policies and procedures to insure year-round operation.

Another area of importance addressed in the research is the entire array of related student and support services necessary to support an adult student population (100 Ways, 1990; Apps, 1988; Braus, 1990; Charner, 1980; Gould, 1973; Higgerson, 1988; Iavacchini, Hall, & Henstler, 1985; Lutz, 1978; Millard, 1991; O'Conner & Aalsheim, 1985; Riche, 1989; Schewe, 1990). Institutions will find that the nature of the services required by adult learners is significantly different, and the range broader, than those provided for traditional students. The major themes to be considered when developing services for adults are convenience, service, courtesy, and security.

All institutional services must be reviewed from the perspective of accessibility to adults. The institution must determine whether the times and locations are appropriate, the surroundings inviting, and the providers prepared to work with adults. Some services require specific and careful review. First, admissions requirements and procedures should be reviewed to insure no unintentional barriers exist. Some researchers recommend open or alternative admissions requirements and procedures for adult learners. Very closely related are policies and practices related to orientation, academic advising and placement. These should be reviewed for access and appropriateness.

Special attention should be paid to the student counseling services provided by the college. Adult student demands and expectations for career and placement counseling are likely to be different from younger students. In addition, personal counseling will need to be provided to adult learners at a level comparable to that provided to traditional

students. It should be anticipated, however, that the types of issues will be very different and will probably represent a broader spectrum than those normally represented by younger "traditional" students.

Another area of significant concern for adult learners entering formal higher educational activities relates to pricing, cost structure and financial aid. Colleges should review their current cost structure to insure that cost and services provided are related. In addition, policies related to part-time costs as well as the availability of financial aid for part-time students must be considered.

Finally, a number of ancillary student services may need modification or may need to be provided for the first time. Among these services are child care, expanded health care and a variety of security services including evening student escort services.

Another question receiving some attention in the literature is the question of developing a separate adult learner program as opposed to integrating adult learners in the traditional student population. Millard (1991) warned against the "myth" that includes the assumption that the unique educational needs of adults are always met best with separate programs, and thus avoid or minimize the dilution of "regular" classes by older students. This myth exists because older students are often perceived to require special attention if they are to maintain the pace of traditional students. Millard points out that attention to "the degree and kind of separateness" is of critical importance.

In pointing out problematic trends in adult higher education, Spanard (1990) warned that if nontraditional programs for adults are designed or perceived as temporary measures until the traditional-aged student pool rebounds it will send a message that

adults are second-class students and the programs are inferior. He proposed that this message of inferiority is currently present in many programs. There is a strong perception that evening classes are weaker than day classes, that older students are not as desirable as younger students, that degree completion programs are not as academically challenging as traditional programs, and that the best faculty and staff only serve in traditional programs.

"Traditional" college students constitute an important minority of the students involved in higher education today. It is critical, however, that higher education recognizes its obligation to respond to the changing demography and put forth the necessary energies to more effectively meet the educational needs of various new student pools.

Programs for Women. Several researchers have studied older women as a unique student pool in higher education. In his study of gender differences, Robertson (1991c) found that the women students that he studied showed more interruptions in their academic progress than men in comparable programs. In addition, Robertson discovered that, in his sample, men were significantly more likely to show no breaks in their academic progress while women were more likely to exhibit two or more breaks. Robertson suggested that the differences in rate of completion may be related to the different challenges and strategies that women have with regards to integrating school into their life, and that these differences should not necessarily be interpreted as a problem, but should be recognized, anticipated, and prepared for in program design, policies and practice.

Several studies of barriers to college entry for women (Fox, 1979; Smith, 1989) have reported on the major barriers to the integration and success of women on campus. These barriers include perceived lack of acceptance by faculty and administration, perceived inability to match the performance of traditional aged students, difficulty or impossibility of attending as a part-time student, unhealthy gender attitudes on campus, lack of female role models, and the lack of a supportive peer group on campus.

In reviewing various policies on campus that may serve as impediments to the matriculation of adult female students, Robertson (1991c) suggested that "policies which support a model of full-time, fall-to-spring enrollment, with summers off, tend to discriminate against some large categories of adult learners--either those who progress rapidly or those who progress slowly" (p. 494). In addition, Robertson encouraged the review of financial aid policies to insure that the definition of satisfactory progress does not hinder women who are more likely to stop out or attend part-time.

Part-Time Student Programs. Many of the special needs of part-time students have been addressed above. In addition, in their research on part-time students, Hartmann, Wischropp, Morgan, & Radhol (1986) enumerated a number of accommodations that institutions should consider making for part-time students. This list includes scheduling classes at times that make them accessible to part-time students, convenient classes in the student's neighborhood or work location, the provision of tutors, the provision of child-care, the modification of admission policies and procedures, registrarial services for part-time students, evening enrollment capabilities, the provision of advisors who can give time and attention to the students, providing help to assist the student to plan and develop

goals, listen, and present options, and making service personnel available when part-time students are on campus. In addition, Fox (1979) found that successful recruitment and retention of part-time students requires that a prorated part-time tuition structure be defined.

Minority Student Programs. With the changing racial and ethnic mix of the traditional college age student pool, colleges that hope to continue to recruit similar numbers of "traditional" students should expect increasing diversity. This means, in part, more minority students. Estrada (1988) predicted that colleges that draw largely from local communities will experience rapid change in the ethnic/racial mix of their student populations. If they are unable to accommodate these changes, they will face decreasing enrollment.

Several significant studies inform questions associated with the recruitment, retention and service of an ethnically diverse student pool (Blake, 1982; Breland, Wilder & Robertson, 1986; Estrada, 1988; MacDonald, 1991; "Out of Sorts," 1989; Rainsford, 1990; Smith, 1989). In a 1986, 76% of all institutions surveyed and 93% of all four-year public institutions surveyed were engaged in targeted recruitment of minorities.

Many researchers have suggested that the recruitment, retention and successful graduation of increasing numbers of minorities will require several significant programmatic changes. The effects of ethnic shifts in the elementary and secondary schools have necessitated the introduction of bilingual education, increased remediation, more curricular emphasis on minority contributions, and competency based testing and assessment. Similar levels of change should be anticipated in higher education.

Several researchers (MacDonald, 1991; Rainsford, 1990) have found that among the modifications and services to which colleges should give special consideration, the foremost consideration must be given to the nature of the mission statement. The institutional mission statement should contain a statement of commitment to serving minority students, or to creating an academic environment which includes, values and promotes ethnic diversity. In addition, it is important for these values to be espoused and supported among the board of governors and the top administration.

The recruitment and retention of minority students should be preceded by the development of institutionally appropriate recruitment and retention goals (Blake, 1982; Rainsford, 1990). These goals should reflect the specific nature of the college as well as the resources which the college can bring to bear on insuring student access and success. The recruitment of minority students should be followed closely by the development of an adequate and appropriate orientation program. Researchers suggest that this program should include transitional support for minority students, as well as strong programs for assessment, remediation and placement.

Colleges that intend to recruit more minority students should give special consideration to the ethnic mix of their own faculty, administration and professional staff (Blake, 1982; "Out of Sorts," 1989; Rainsford, 1990; Smith, 1989). Many small private colleges provide significantly less diversity on their staffs than can be found on larger faculties.

Research has found that the successful recruitment of minority students should include special attention to the nature and mix of the financial aid packages provided to

students (MacDonald, 1991). Minority students, particularly Black and Hispanic students, have been shown to be less willing to accept significant loan burdens as part of their financial aid package. Nationally, the average student financial aid package has gone from about 25% loan in 1980 to nearly 60% loan in 1990.

Black and Hispanic students are more likely to attend community colleges than caucasian students. As a result, colleges and universities that intend to recruit more minority students should consider collaborative programs with the community colleges. These programs include "2+2 articulations," block transfer programs, and on campus recruiting activities (MacDonald, 1991; "Out of Sorts," 1989; Rainsford, 1990).

There have been a variety of studies of the major barriers to minority student success on traditionally white campuses. A summary of those studies would suggested that minority students on traditionally white campuses experience isolation, racial insensitivity and sometimes discrimination, a lack of a referent group, insufficient, minority role models, inadequate institutional support structures, and a general lack of understanding of their unique needs among the faculty, students and staff ("Out of sorts," 1989). Minority students often experience racism and subtle or gross forms of discrimination, culture shock, isolation, alienation, lack of support, and a lack of integration into the academic community.

Liberal Arts versus Professional Program Emphases. Several researchers (Breneman, 1990a; Carter, 1986; Linneburger & Vick, 1991) have suggested that the 1980s saw a significant diminution of the liberal arts focus of the traditional "Liberal Arts" colleges. This loss of a Liberal Arts focus has been largely replaced, contend these

researchers, by a professional and vocational emphasis, and has been further diminished by increasing emphasis on graduate programs. These changes have, in large part, been motivated by the changing nature of the students attending these colleges and the social expectation placed upon the college experience. Carter (1986) suggests, however, that those institutions that have implemented these changes with a strong interpretive strategy appear to be most healthy, and have retained the essence of their historic liberal arts mission.

A number of researchers have suggested that the role of higher education in preparing people for their professional life will continue to get increasing pressure and attention (Kerr & Gade, 1981; Millard, 1991; Ottinger, 1990). This is partially due to the fact that between 1900 and 1984 the proportion of jobs classified as technical, managerial, and professional increased from 19% to 26%, and most predictions suggest that this proportion will continue to rise. These researchers have suggested that growth in the job market will continue to be in the areas requiring more education and higher skills, with as many as half of the occupations in highest demand in the next decade requiring some postsecondary education.

Several scholars have encouraged the development of programs that merge the essential elements of professional and liberal studies (Gaff, 1985; Millard, 1991; Splete & Garth, 1990). They contend that, unfortunately, many liberal arts colleges and faculties perpetuate the myth that liberal education and professional education are by nature contradictory. These scholars suggest that the distinction made by Breneman and

others overlooks innovative program designs that merge liberal education and professional studies.

Remediation and Special Assistance Programs. Hodgkinson (1982) reported that a large percentage of the shrinking traditional college student cohort will be from minority backgrounds, from single parent families, multiple earner families, and other groups that may exhibit difficulties in getting prepared for college. In response to variations in fertility rates and the resultant increase in the proportion of minority and lower "social class groups," Hodgkinson suggested that colleges should now develop a renewed dedication to providing remedial programming for entering and reentering college students. The alternative, according to Hodgkinson is to flunk them out in large numbers.

According to Millard (1991), all colleges and universities must provide for adequate and appropriate remediation. The number of students, requiring remediation is considerable, representing about one-third of the entering freshmen class. It has been suggested that, if remedial work for under-prepared students is not provided, it will result in a catastrophic financial impact. Institutions with any dependence on tuition, will find themselves in serious trouble.

Academic Services and Policies

American higher education has been admonished for the persistent presumption that "real" college students are the 18-to-22-years old and full-time residents. Many colleges act as if the "other" students are peripheral to the central administrative and educative function of the college and should not receive the primary attention of the

college (Millard, 1991). Nontraditional education is an attitude that concentrates more on the students' needs than the institution's convenience, one that encourages "diversity of individual opportunity rather than uniform prescription," and one that "deemphasizes time, space and even course requirements in favor of competence and, where applicable, performance" (Gould, 1973,p. xv).

Credit for Untranscripted Learning. A growing number of reports and studies on formal adult education have included a look at various mechanisms for crediting prior, untranscripted learning (Apps, 1988; Berquist, Gould, & Greenbert, 1981; Hodgkinson, 1978; Keeton, 1981; Millard, 1991). These strategies include credit by exam (nationally normed or institutionally designed), portfolio assessment, granting credit for formal, non-collegiate instruction, faculty assessment committees, and personal interviews. Whatever the specific strategies adopted by an individual institution, researchers suggest that they be highly individualized to accommodate students' diverse learning styles, needs, interests, aptitudes, and prior experiences and achievements.

In summary, Millard (1991) stated that "if what we are concerned with is what the students know and can do, with attained skills, experiences and competencies, then the fact of their attainment is far more important than the place or even the method of their attainment" (p. 122).

Flexible Scheduling, Timeframes, and Location. Boyer (1990) characterized higher education as "locked into the "iron vise" of custom." Among these customs is the fact that we have scheduled courses primarily Monday through Friday, from nine to five, we continue to have long semesters, all assuming that the students have no duties other

than their college education to perform. Higher education must be willing to make adjustments which account for increased student mobility, multiple demands on students lives, and the need to move in and out of programs.

The scheduling of classes, sequencing of program requirements, amount and type of student-teacher contact, and nature of the academic calendar have received much attention in development of programs for non-traditional students (Apps, 1988; Berquist, Gould, & Greenberg, 1981). Of particular significance are the times of the day when courses are offered and the number of meetings per week. Programs designed to attract adults and part-time students need to consider schedules with fewer, longer sessions, and offerings at times appropriate for the students, particularly evenings and weekends. Programs which include reduced "seat-time" and greater use of independent study and directed learning activities should be considered.

The academic calendar itself should be reviewed and modifications made or flexibility built into the calendar (Berquist, Gould, & Greenberg, 1981; Coe, Ruberfahl, & Slater, 1984). The academic calendar should provide for program and learning acceleration, increased student flexibility within the curriculum, as well as ability to "step-out," and it should provide for the opportunity to merge work, study and other responsibilities.

Other issues related to program design include the location and access of the program to potential students (Apps, 1988; Gilley & Hawles, 1989). In order to make the program accessible to students, consideration should be given to the location of the course meeting, possibly moving the course to a remote location or utilizing various

strategies for distance learning. Similarly, as various models are considered for locations and schedules of courses, special consideration must be given to student access to other services, including library and other academic support services, registrarial support, advising and counseling, and all other appropriate support services.

Commuter Focused Policies and Services. In researching commuter students, Jacoby (1989) discovered that commuter students have a common set of needs and concerns. Included among these are multiple life roles, the importance of integrating support systems into the college, and the need to develop a sense of belonging on the campus.

According to Apps (1988) the administrative services that should be addressed to assist the successful assimilation of commuter students, include library services that are adapted to the unique needs of students who are not on campus for long periods of time, sufficient and adequate parking, child-care services, uniquely designed financial aid services, placement services, and a central location for information and trouble shooting.

In a comprehensive review of students as commuters, Jacoby (1989) summarized some of the basic elements of a comprehensive response to commuter students. Included among these responses were assurance that the mission statement expresses a commitment to the quality of the educational experience of all its students, including commuters, the provision of strong, on-going support for the "student-as-commuter" from top level administrators, the regular collection of data on the quality of the commuter student experience, sharing accurate information about commuter students in order to dispel inaccurate perceptions, inclusion of the commuter student perspective in decisions

regarding resources, policies and practices, recognition of the relatedness of the commuter student experience outside the classroom with their academic performance, a focus on the classroom experience and student-faculty interaction as the primary determinant of overall quality, assurance that curricular and co-curricular connection are made explicit to all students, in-service training for faculty and staff on the theoretical and practical realities of commuter students, and the use of technology to communicate with students and streamline administrative processes.

In addition to those responses listed above, Jacoby also encouraged additional activities to assist with the integration of commuter students. These include providing beneficial orientation and transition programs, providing class scheduling that accommodates the needs of commuters, providing educational and career counseling, academic advising and counseling in a format that is appropriate to commuter students, insuring that adequate and appropriate on-campus jobs are available for interested commuters, providing special services of particular interest to commuters (e.g., housing referrals, child care, security services, legal referrals, health services, and food services), and, providing adequate special facilities (e.g., parking, study areas, lockers, showers, recreational facilities, message centers, and centers for meeting with peers) for non-residents.

Robertson (1991a) pointed out that critical elements of the physical setting associated with the development of a positive sense of place on the part of commuter students include parking, the physical plant, arrangement of advising and admissions offices, signage, and a myriad of other physical elements that the student confronts. In

addition, he pointed out that critical elements of the social setting include all aspects of the various interactions that the student has with staff, faculty, administrators, and other students and how the student constructs an understanding of their potential role within the institution.

Transfer Student Policies and Services. In a study of the effect of declining enrollment on transfer policies, Masat (1979) identified several policies that need to be considered for possible modification as the numbers of transfer students increase. These policies include transfer admissions policies (e.g. automatic admission based on an earned Associate's degree), removal of quotas or caps on transfer students, acceptance of vocational or technical community college backgrounds, publishing transfer admissions policies and procedures in catalog, removal of transfer credit limitations, block transfer agreements (i.e., students with an A.A. or A.S. degree enter with junior standing), acceptance of lower division courses to meet upper division requirement for substantively equal courses, utilization of strategies to provide credit for prior experiential learning, development of specific curricular elements for transfer students, and, a specialized transfer student orientation.

Forrest (1987) suggested that information shared with potential transfer students should be improved by having a special section of the college catalogs on transfer policy, by training specific admissions staff members to deal with transfers, by holding special orientation programs for transfers, and, by establishing a transfer hotline and special transfer advising office.

With regards to acceptance of transfer credits, Millard (1991) suggested that refusal to review course work from institutions, based solely on the type of accreditation, is particularly unjust. Millard contended that refusal to accept transfer credits from the proprietary sector runs counter to positive role that diversity plays in American higher education. It may, indeed, represent a form of "dogmatic exclusionism." Millard also warned against setting artificially long residency requirements for transfer students that are in effect regardless of the source of transferred credits or the amount of work accomplished on another campus.

Admissions Requirements and Standards. In his comprehensive study of the challenges facing higher education in the coming decade, Millard (1991) contended that many in the academic and political communities feel that it is essential to raise the standards for admissions to college-level work and, also, that appropriate pressures be brought to bear on schools to ensure that students are adequately prepared to meet those standards. Until such time as this can be achieved, remedial work in the school and in the college will need to be provided. Millard further encouraged colleges to develop admissions criteria in relation to the specific educational objectives of the program or institution. These criteria should be sufficiently high to give assurance that accepted students have the ability to benefit from the program and a reasonable chance of succeeding.

Millard finally pointed out that to rely on admissions standards for a definition of quality or equity is to use the resources view of quality, to focus on inputs rather than the results of education. This emphasis fails to recognize that a college's quality is a

function of the results of its programs and how well it uses its resources to achieve its goals. Quality should not be based on the uniformity of inputs, but rather on the nature of the outcomes.

Community College Articulation Policies. With increasing numbers of students attending community colleges, community colleges and four-year colleges must work together to encourage clear articulation and ease of transfer to senior institutions. Stronger ties must be developed between two- and four-year institutions in order to increase the attainment of four-year degrees among minority and other groups over-represented in community colleges. Unless four-year colleges develop closer articulations with high schools and community-colleges they will spiral into no-win competition for traditional students, while large numbers of potential students are neglected (Carter, 1990; Estrada, 1988; Millard, 1991).

Faculty Personnel Issues

Keller (1983) pointed out that "people are becoming more important." This becomes particularly apparent when you realize that two-thirds or more of a small college's operating budget supports academic, staff, and administrative salaries and benefits. In addition, the quality of a college is often judged, directly or indirectly, on the basis of the quality of its people. As a result, many researchers have encouraged special attention be paid to personnel issues in institutions that face significant challenges (Keller, 1983; Marchese, 1988; Pence, 1990; Schuster, 1990). It has been suggested that the revision of faculty personnel policies can provide the impetus for major programmatic redefinition or administrative reorganization.

The realities of faculty roles in the 70s and 80s have included a sharp decline in real income, a dilution of the faculty voice in governance, the influx of numerous part-timers, decline in status, lack of mobility, and general decline in morale. Three important tasks for institutions with regards to academic staffing are the need to facilitate the gathering and analysis of data on faculty, encouraging promising undergraduates to consider academic professions, and the special need to increase the representation of women and minorities.

In a recent study of faculty profiles it was reported that 89% of the total higher education faculty, as opposed to 64% of the faculty at the small institutions have a Ph.D. or Ed.D. degree. In addition, this study reported that faculty at the smaller college and universities show more evidence of commitment to the education of undergraduate students. They spend more hours per week preparing for teaching, in scheduled office hours, and in service with co-curricular student activities. It was finally reported that, in smaller colleges, primary responsibility for academic advising is more often housed with the faculty, and they tend to be more positive about the quality of education being provided to undergraduates at their college ("Change Trendlines," 1990).

Finally, the issue of part-time and full-time faculty collective bargaining is occasionally addressed. Marchese (1988) reported that George Keller asserted that "faculty unions are often against change, and they usually support seniority rather than merit. Quite understandably, they are very protective of faculty privileges, and less interested in the future of their college or university" (p. 6).

Faculty Down-Sizing. Because approximately 70% of educational & general expenditures in small private colleges are in the area of employee compensation, issues of employee down-sizing have received seriously consideration in the research as well as in many small private colleges (Atwell & Green, 1985; El-Khawas, 1991; Gaff, 1985; Mayhew, 1979).

These studies demonstrate that faculty down-sizing was used extensively in the 1980s and continues to be viewed as an important alternative strategy for dealing with fiscal stringencies in the 1990s. Faculty retraining and career exploration programs became more common in the 1980s, and El-Khawas (1991) reported that 24% of all institutions and 38% of public four-year institutions expect to reduce faculty size between 1991 and 1996. These studies contended that down-sizing must be done in ways consistent with future student demands for programs, and not across the board, or along the lines of seniority.

Gaff (1985) reported that over 25% of public and private institutions have imposed tenure limits. He found that nearly two-thirds of private and three-fourths of public institutions reportedly raised standards for achieving tenure within the last five years. Gaff held that institutions adopt these strategies to preserve whatever flexibility in faculty staffing they may possess. Institutions were increasingly employing term contracts and adjunct instructors to permit them to adjust to uncertain future. In addition, Gaff reported that a growing number of institutions are using early retirement as a device that provides faculty and the institution with a means to provide departure of faculty members before the age of 70.

According to the Pew Higher Education Research Program, in order to survive the impending resource constraints that will effect college and universities in the 1990s, institutions must consider a number of actions. Included among these options are planning now to reduce levels of employment, resisting the temptation to make across the board cuts, simplifying the organization and, insuring that last hired cannot mean first fired ("The Other Side of the Mountain," 1991).

Faculty In-Service and Development. Several studies of general as well as specific strategies used by colleges in response to fiscal constraints and enrollment challenges have included a focus on the need for faculty in-service and development (Apps, 1988; Chickering, 1981; Coe, Ruberfahl, & Slater, 1984; Gaff, 1989; Green, 1990; Hodgkinson, 1978; Millard, 1991; Nichols, 1990; Olivier & Mahoney, 1984). As strategies are implemented which demand faculty to take on new and different roles, strategies must be developed which provide time and opportunities for faculty members to develop the necessary skills and attitudes.

Faculty development is seen as an essential prerequisite to curricular change. The faculty can revitalize the education of students and respond to the new student populations if they are willing and able to learn how to do so. Gaff (1989) encouraged colleges to seek to promote the continual development of faculty including assistance in support for the completion of dissertations, various forms of research assistance, sabbatical leaves, and increased travel allowances. An important developmental theme encouraged by Gaff is assisting faculty members in understanding the learning style and other differences in adult learners in an attempt to offer adults an appropriate experience.

Faculty members' work with adults can be enhanced by assisting the faculty in understanding the characteristics and developmental needs of adults, becoming comfortable with a broad range of instructional formats, developing connections in business and industry and other "users" of information, and by increasing interdisciplinary activities. In order to have an orderly transition to serving more older learners, it is important to provide in-service opportunities for faculty and administrators concerning the options and realities of serving these students. Assisting faculty in becoming better teachers of adults can include sharing specific information about the unique characteristics of adults as learners, suggesting guidelines for faculty members in adjusting teaching styles to adult learners, and providing for an on-going faculty dialogue on the topics of adult learning.

Hiring Practices. Keller (1983) contends that contemporary management must focus more intensively on the quality of the people on campus, not merely their credentials. This increased focus on people is occurring in a time when "the number of instructional faculty is projected to increase from 741,000 in 1988 to 771,000 by the year 2000" (National Center for Education Statistics, 1989b, p. vii).

Institutional realities of geographical location, nature of the student body, and institutional size must be seen as making a difference, not only in institutional objectives and the nature of the academic programs, but in the criteria that the institution uses to determine the definition of a high-quality faculty (Millard, 1991). Institutions should determine faculty qualifications, characteristics of quality, appropriateness of faculty

characteristics, preparation, and activities, based on the mission and objectives of the institution itself.

SUMMARY

This review has covered an extremely broad and diverse body of literature. It is possible, however, to synthesize the major findings in these varied areas. This synthesis is not only possible, but essential for the success of the small private college.

The review of the literature on American private higher education in the 1970s paints a picture of a system that has faced serious difficulties and has suffered some, possibly substantial, infrastructural damage. Many of these institutions came out of the 1970s with considerable debt loads, a heavy dependence on enrollment related revenues, programs and staffing patterns that were not fully in line with evolving student needs, and the prospect of a devastating decade with regards to enrollment, financial aid programs and costs. They had, however, begun to demonstrate adaptability in the face of changing environmental demands.

The 1980s were filled with warnings of impending doom across higher education, but particularly for small, private, liberal arts colleges. These predictions were based on the demographic projections of declining traditional age students, and information on traditional participation rates of students in other age cohorts. A large number of researchers, exemplified by Crossland, felt that a decade of decline was inevitable, and the losers would be the small private colleges. Another group of researchers, with Frances as a major spokesperson, suggested that a more proactive approach could lead

to a decade in which these institutions could survive, and possibly thrive. Central to these latter predictions was the need for higher education to adapt to rapidly changing student populations, including more adults, minorities, international student, part-time students, greater amounts of inter-institutional transfer, and more students beginning their program at two-year colleges.

When the 1980s came to an end, it seemed that the more optimistic predictions had won out. Enrollments in higher education continued to climb throughout the 1980s with the private sector experiencing the greatest gains. These gains were not, however, easily won. The face of higher education changed significantly in this decade. The numbers of older students skyrocketed, the numbers of women surpassed men, entirely new program designs and delivery systems emerged, transfer rates increased dramatically, and part-time attendance was no longer the exception. The "traditional" college student, eighteen-to-twenty-one-years-old and living on campus, became less than 10 per cent of the college going population. Concerns were being voiced about the loss of the liberal arts college, professional and vocational emphases abound, and the proprietary sector was growing faster than any other.

Most projections for the 1990s seem to call for "more of the same." The number of eighteen-to-twenty-one-year-olds is continuing to decline, at an accelerated rate. Some researchers and practitioners are projecting that the most useful and readily available strategies in response to general decline have been used and exhausted in the 1980s, and will be of limited usefulness in the 1990s. All of these projections occurred while total college enrollment for the first time exceeded 14 million student in the fall of 1991.

In reviewing potential and proposed institutional strategic actions to these trying times, several major findings stand out. The first is the need for institutions to develop a strong sense of mission and vision that will guide the institution through these trials. Similarly, many scholars and researchers are urging an increased emphasis on strategic planning for the institutions who are facing these challenges. It is encouraged that this planning provide for careful assessment of external and internal realities and the development of institutional actions aimed at achieving a preferred future. In conjunction with planning, institutions are encouraged to develop strong leadership teams and utilize energetic consultants who are capable of visualizing and formulating a variety of potential institutional futures. Finally, institutions are encouraged to develop enhanced systems of institutional and environmental data acquisition and analysis.

The development of "new student populations" continues to be a major emphasis for tuition dependent institutions. Marketing, program design, and institutional services must address the needs of more adult students, older women, minorities, international student, part-time students, and community college transfers.

In developing programs and policies, special attention must be paid to developing programs that provide for a true synthesis of the essential goals of both liberal and professional education. In addition, institutions should consider current policies and programs in the areas of remediation and special assistance, credit for untranscripted learning, course and support scheduling, commuter and residence policies, student and credit transfer policies, admissions requirements and community college articulation.

Finally, in a period of rapid change and heavy demand, colleges must place a premium on careful recruitment and development of faculty. Developing and maintaining a strong faculty who are committed to the institutions mission and capable of assisting in the realization of that mission is essential. In addition, the institutions must provide for the development of necessary skills, knowledge and attitudes among the faculty as they serve different students, with different needs, using different instructional modes.

CHAPTER III

METHODS AND PROCEDURES

RESEARCH QUESTIONS

Development and Organization

This research represents an *ex post facto* study which gathers, analyzes and interprets data from two primary sources. The first data source is a questionnaire which was distributed to chief academic officers at institutions in the population. The second data source is a collection of self-reported, public domain sources, including College Board, Peterson's Guide, Beta Club, and A.C.E. Follow-up phone calls and other sources of data were used to confirm or augment these major sources in a few cases.

This research has two primary foci. Each focus represents an area of substantive void in the current research, and is of importance to a greater understanding of, and future research on, the nature of diversity in American higher education, the characteristics of small private colleges, and the relationships between various internal and external institutional factors and academic strategic actions, and enrollment changes in the 1980s. This research may also inform the future development of predictive models for institutional enrollment trends and institutional survival.

Two major sources informed the development of the research foci and related questions and the selection of the specific variables. First, an extensive review of the

literature identified issues and provided a list of variables related to the environmental context, institutional attributes and changes in, and responses of, American higher education in the 1970s and 1980s, including changing student clienteles, and changing societal expectations. Second, this researcher's eight years of professional experience as a chief academic officer of a small private college and close contact with many others in this role has served to expand, focus and inform the selection of research variables for this study.

This list of critical forces, characteristics and actions was then organized with the help of a taxonomic framework described below. The internal and external variables and the academic strategic action variables have been classified according to this framework. As a result, the questions in each primary area of focus relate to external environmental factors, internal institutional attributes, and academic strategic actions. These questions are further expanded with a list of specific research variables. Many of the external and internal variables have been held constant by the selection of the population, by the operational definitions of other variables, and by the many common external threats and opportunities confronting the research population. Institutional academic strategic actions will be identified and defined in one of two ways. First there are those demonstrable changes during the period being investigated which represent strategic action (e.g. change from a single-sex to coeducational campus between 1980 and 1989). Other strategic actions may be inferred from institutional characteristics at the terminus of the study period (e.g. presence of regional accreditation). This latter means of identifying

institutional strategic actions assumes that there were ongoing activities required to achieve or maintain that characteristic during or throughout the period being investigated.

Listing of Questions

The first research focus treats the description and characterization of the major internal and external characteristics of the institutions within the population and the major academic strategic actions of these institutions during the 1980s. In addition, several discrete sub-populations are described.

- Question 1: What major external forces characterize the environments of the institutions within the population ?
- Question 2: How are institutions within this population characterized with regards to major institutional attributes?
- Question 3: What characterizes the major academic strategic actions of these institutions with regards to leadership changes, the vision and mission of the college, and academic programs, policies, and personnel?
- Question 4: How do the major sub-populations defined by Carnegie classification, accreditation region, 1980 enrollments, church relatedness, location, and Urban Post-Secondary System type, vary with regards to major external, internal and strategic action variables?

The second research focus describes and attempts to explain the relationship between various environmental characteristics, institutional attributes and academic strategic action variables, and enrollment changes at institutions within the population from 1980 and 1989.

- Question 5: In what ways do the environmental characteristics of the college in the population relate to enrollment changes from 1980 to 1989?
- Question 6: In what ways do the institutional attributes of the colleges in the population relate to enrollment changes from 1980 to 1989?
- Question 7: In what ways do the academic strategic actions of the colleges in the population relate to enrollment changes from 1980 to 1989?
- Question 8: In what ways do the environmental, institutional, and strategic action variables of the colleges in the population, taken together, relate to enrollment changes from 1980 to 1989?

THE VARIABLES

The above questions are informed more completely by the identification of a large number of specific research variables. The first of the research questions within each primary research focus (questions 1 and 5) relates to the characterization of environment characteristics of the institutions within the population. These questions look specifically at variable of institutional location as it relates to the size of the city and the region of the country in which the institution is found. In addition, a number of indicators of demographic trends and institutional competitive environments are included. The second question in each focus (questions 2 and 6) deals with institutional attributes and focuses on a variety of institutional characteristics. They relate to the institution's traditions and values, strengths and weakness, and management. The third question within each research focus (questions 3 and 7) relates to academic strategic action variables. They

are informed by a body of action variables categorized within the areas of administrative and management actions, the nature of the college, academic policies, academic programs and program elements, and academic personnel policies and practices. The fourth research question describes the environmental, institutional and strategic action profile of several discrete sub-populations. The eighth and final research question describes the relationship between all of the significant research variables, taken together, and the institutional enrollment changes from 1980 to 1989.

The variables in each of these sub-categories are specified in greater detail in Appendix A, including a list of specific variables, created scales, and coded responses to open-ended survey questions. The specific nature of these variables, the source of data collection, the type of scale, and the correlation with the dependent variable, for each variable can be found in the description of research variables and data sources included as Appendix B.

CONCEPTUAL FRAMEWORK

A central organizing conceptual framework has been identified in order to provide both structure and direction to this study. This framework was developed in conjunction with William Balke who is using the same framework to direct his related research on small private colleges. Bolman and Deal (1988) suggested that a conceptual framework will serve a variety of functions as one conceptualizes a study. These roles include an explanation of current observations, the reduction of the threat of immobilization in confusing situations, and the opportunity to understand a situation and, as a result, to

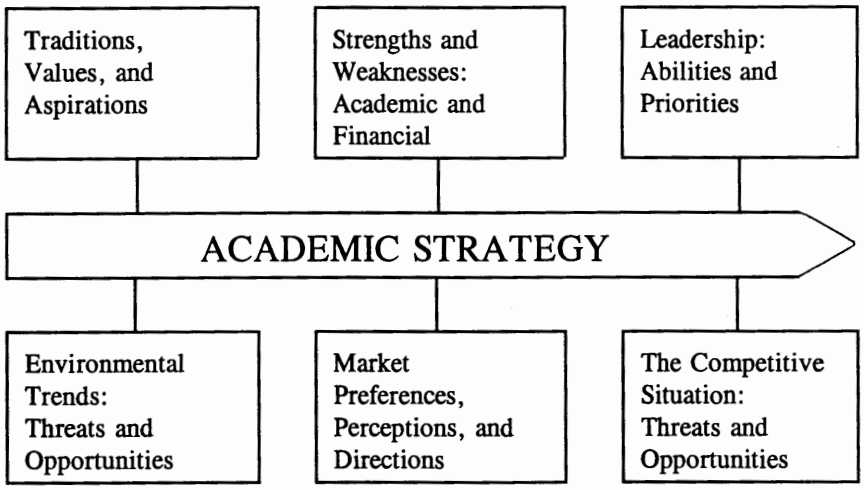
take action. The framework identifies what is important and what can be ignored, and it groups diverse information into patterns or concepts that can be more easily described and studied.

More specifically, the conceptual framework of this study must fill two major roles. First, it must serve as an organizer for the multitude of diverse variables which are being investigated. Second, it must provide a basic description of the relationship between the various variables and between the variable and the percent change in enrollment in the institutions in the population between 1980 and 1989.

Keller's Framework

In a 1987 nationwide poll of college presidents by the New York Times, the book most frequently cited as helping these presidents with their jobs was Academic Strategy: The Management Revolution in American Higher Education (1983), by George Keller (Barton, 1987; Marchese, 1988). In this book Keller presented a summary of the major threats and opportunities confronting American higher education in the remainder of the 1980's. In addition, he described an application of what he termed, "modern management strategies" to higher education that he proposed would "transform American higher education from "garbage can" administration to strategic management" (p. 177). Keller suggested that the adoption of "self-conscious management could conceivably lead universities and colleges into a period of still-greater achievement rather than the expected mass decline" (p. ix). The use and adaptation of the framework in this study is based on Keller's research, his book (1983), several additional works by and about Keller (1985, 1986, 1987, 1991; Marchese, 1988), and a professional working

relationship between this researcher and Keller (1985-present). Keller's framework was originally designed to assist in the development of an institutional strategic plan. It is meant to be used in conjunction with the "political and psychological-behavioral" elements of the institution in the development of such a strategic plan (pp. 152-163). In Keller's words, the framework is designed to assist in "linking the forward direction of (the) organization with the historical forces in the environment" (p. 152). A schematic of the framework is presented in Figure 1. This researcher has utilized Keller's framework, in conjunction with direct consultation with Dr. Keller in successfully developing an institutional strategic plan at a small private college.



Source: Keller, 1983, p. 152.

Figure 1. The Keller framework.

Keller's framework is very closely allied with the general systems theory originally synthesized by biologist, Ludwig von Bertalanffy (1949). In subsequent years that theory was modified, focused and applied by many theorists and researchers in a

variety of different fields (Bier, 1980; Boulding, 1956; Kast & Rosenweig, 1973; Katz & Kahn, 1978; Miller, 1978).

Bolman and Deal (1991) describe a system as being composed of interrelated and interacting parts. Each part effects, and, is in turn effected by all other parts. Additionally, systems are composed of multiple sub-systems and are part of ever expanding super-systems. One critical element of systems theory which is actively incorporated into Keller's framework is the need to define the system in terms of its relationship to its environment. Systems theory has played a significant role in forcing this look "outside" when viewing organizations (Morgan, 1986).

Cybernetics theory (Wiener, 1967) has come to be seen as the fundamental explanation of control, change and adaptation within systems. This theory suggests that organizations will tend to maintain a steady-state, expending resources to balance pressures to disequilibrium. This maintenance of dynamic equilibrium involves sensing and assessing the environment and responding as appropriate. As a result of this focus on equilibrium, one aspect of human organizations which is addressed in only a limited way by systems theory is the dimension of intentionality in institutional change.

Birnbaum (1988) recently published a comprehensive application of cybernetics theory to the operation of and leadership within colleges and universities. According to his analysis, institutional responses are usually the result of actions of interconnected sub-systems within the college and are not necessarily closely linked to leadership behavior or direction. Of critical import to Birnbaum's view of the cybernetic institution are the understanding of multiple negative feedback loops (thermostats) within institutions and

sub-systems (thermostats), the articulation and variation of institutional goals within various sub-systems, and the role of activities aimed at limiting uncertainty. As a result, this model sees institutions as self-regulating systems tending toward equilibrium.

As a way of more fully addressing intentionality, Keller's framework additionally incorporates several important aspects of organizational effectiveness theory. Keller most fully approximates the system-resource model which assesses organizational effectiveness in terms of meeting an ultimate criterion over time. In this model, a penultimate criterion and a variety of subsidiary variables are often defined (Hall, 1991). Keller incorporates these elements by defining a preferred future institutional form and drawing together strategic actions, defined in ways consistent with both environmental and institutional realities, to achieve the preferred future. Hall went further in developing a contradiction model which parallel's Keller in that it recognizes the opportunities and constraints of the environment, recognizes and assesses the multiple internal constituencies, strengths and weaknesses, and acknowledges the need for constant review and revision of institutional goals because of multiple and changing constraints, opportunities, constituents and time frames.

The Keller framework describes a set of critical factors that must be taken into consideration in the development of the institutional strategic actions that constitute the strategic plan. These factors are divided into institutional and environmental factors. In assessing the internal realities of the institution, the framework suggests a focus on the internal traditions, values, and aspirations of the organization; the strengths and weaknesses of its programs, faculty, location and size; and the nature of the president,

provost, trustees, deans, and department chairs. The internal realities of the institution establish the basic parameters within which the institution's strategic actions must develop and function. These elements are represented in the three boxes on the top of the schematic in Figure 1.

The second set of critical factors requiring evaluation includes elements of the external environment that influence the institution's strategies. Included are various environmental trends that represent threats and opportunities to the institution; the realities of the current and potential markets of the institution, their preference, perceptions and directions; and, the competitive situation in which the institution finds itself. While many of the major changes in higher education have been motivated by external forces, they have not been routinely considered in traditional approaches to higher education planning. These external elements are represented in the Keller framework by the three lower boxes (Figure 1).

According to this framework, each institution must develop unique academic strategies that are consistent with and flow from a thorough understanding and analysis of the various internal and external realities. Using this approach, Keller (1983) suggested that institutions will be on their way "toward deciding (their) own academic future--one that is rationally grounded in the internal and external realities yet one that is psychologically and politically convincing to most of the campus principles" (p. 162). It is this framework for defining institutional and environmental factors as well as categorizing strategic actions which will provide the basic taxonomy and conceptual framework for this study.

In addition, this study utilized this framework to describe how the internal and external environment, as well as particular institutional academic strategic actions in small, private, tuition-driven institutions are related to enrollment changes from 1980 to 1989. Enrollment maintenance or increase is viewed as the penultimate goal to the ultimate goal of institutional survival. In this study, the internal characteristics of the institutions are somewhat homogenized by the selection of the population. The range of the values, attitude and traditions of these colleges will be significantly narrower than that of American higher education in general. On the other hand, certain internal characteristics (e.g., church-relatedness, residential nature, selectivity) will serve as independent variables in this study.

Likewise, many of the environmental characteristics will be similar across the population. The same basic environmental trends will influence all of these institutions to some degree (e.g., decline in the traditional 18- to 22-year-old student pool, increased participation rates of adults, women and internationals in higher education). Other environmental factors, however, will result in differential effects, and will become independent variables in this study (e.g., region of the country, size of city, amount and type of competition).

Using the terms from the system-resource model described above, the ultimate goal of institutional effectiveness is survival. For the purpose of this study, the penultimate goal is enrollment increase. The dependent variable for this study, therefore, will be the percent change in student enrollment between fall term 1980 and fall term 1989. Student enrollment is a direct measure of the institution's financial health as a

reflection of the size of the fundamental funding base (i.e. tuition and other enrollment related fees).

POPULATION

Definition of the Population

The population of this study is small private colleges in the United States. By definition, these are institutions which are classified as a Liberal Arts I or Liberal Arts II Colleges in either, or both, the 1976 and 1987 edition of the Classification of Institutions of Higher Education, as compiled by the Carnegie Foundation for the Advancement of Teaching. In addition, they are institutions which had an average Fall, 1980 total enrollment of 100 to 1000 students as averaged from all available sources including the American Council on Education, 1980-81 Accredited Institutions of Postsecondary Education (1980), the National Beta Club, College Facts Chart 1981-82 (1981), Peterson's Annual Guide to Undergraduate Study: 1982 (1981), and the College Boards, The College Handbook 1981-82 (1981). Finally, they are colleges which have independent ownership and governance as reported in the above sources and have continued operation as a discrete institution through the Fall of 1989.

In addition to the institutions listed above, this study briefly reviews those institutions which meet all criteria for inclusion in the population but which have been confirmed as closing or merging within the time period of 1980 to 1989. This group represents less than 7% of the total institutional population in 1980, and is, therefore, not seen as critical for in-depth analysis.

By definition, the selection of the population also excluded institutions which may have "entered" the population during the decade of the 1980s. Among the "excluded" institutions were institutions that had a total enrollment over 1000 students in 1980 but experienced declines in enrollment during the 1980s. Also excluded were two-year colleges which became four-year colleges in the 1980s, those four-year colleges which began operating after 1980, and those four-year institutions which had enrollments of less than 100 in 1980 but saw subsequent enrollment increases to enrollments over 100. In a review of enrollment data associated with these "excluded" institutions, seven institutions occurred in the first category, seven in the second category, eight in the third category, and six in the final category.

Initial Characterization of the Population

A complete list of institutions included within the population is included as Appendix C. There are 294 institutions within the population. Of these 294 institutions, 250 (85%) were classified as Liberal Arts II institutions in 1987. Thirty-one institutions (11%) were classified as Liberal Arts I institutions, 10 (3%) were classified as Religious institutions, and, for a total of less than 1% of the population, 2 institutions were classified as Comprehensive Colleges II, 1 as Business, and 1 as "Other."

The average enrollment at institutions within the population for Fall of 1980 was 619. For the same institutions the average enrollment in the Fall of 1989 was 773. This change in enrollment represents an average of 25% increase in enrollment for institutions within the population. When looking at institutional enrollment changes from 1980 to 1989, 60 institutions within the population experienced an enrollment decline of more

than 10%, representing 20% of the population. Twenty-five percent of the institutions within the population (73 institutions) exhibited slight enrollment changes of between a 10% decrease and a 10% increase. The remaining 162 institutions (55%) exhibited enrollment increases in excess of 10%.

PROCEDURES

Survey

A significant portion of the data for this study comes from the completion of a questionnaire by the chief academic officers at the institutions within the population. This questionnaire is attached as Appendix E.

The Instrument. The questionnaire for this study was designed in such a way as to insure the collection of data for all variables for which data is not available from other sources, or for which perceptual or confirmational data was determined to be important. The survey was designed in such a way as to be professional in appearance and to require little or no research for information on the part of the respondent. The survey was developed to be as brief as possible and still provide the data necessary for the completion of this study.

Development Process and Pilot. The questionnaire for this study consists largely of questions which must be responded to by a several-word answer, and questions which provide for multiple choice responses. Most multiple choice responses include two mutually exclusive options but some provide three or more options. In addition, several open ended questions were included.

After completion of a draft of the survey, an initial pilot test was completed. This pilot test included six academic administrators, though not the chief academic officer, at one small private college included within the population. These administrators were asked to complete the survey in the presence of the researcher. These individuals were asked to complete the survey from start to finish without pausing, noting in writing specific questions, concerns, or areas identified as confusing. The time for completion of the survey was recorded when the survey was completed. The average time for completion was 15 minutes. After completion of the survey, the researcher discussed any major questions, concerns or perceptions of unclarity with the respondent. The survey was modified and a final version of the survey was developed which addressed the concerns expressed and eliminated the ambiguities.

Respondents. This survey was addressed to the chief academic officers of the 294 small private colleges and universities identified as members of the population. The cover letter and the instructions on the survey included a request that, should the survey be in the possession of someone other than the chief academic officer of the institution, it be forwarded to that person.

Cover Page and Motivation to Respond. An introductory letter accompanied the survey instrument. This cover letter is attached as Appendix F. The cover letter included an introductory paragraph which describes the purpose of the study and the important role which it was to play in providing significant information for the study and understanding of small private colleges in the United States. The second paragraph included a specific request for cooperation and assurance of protection for both the

respondent and the institution. The third paragraph in the letter described the importance to the study for each respondent to complete and return the survey. This section of the cover letter identified the population of the study and emphasized the essential role of participation of each institution within the population. The fourth paragraph provided the respondent with the option of requesting a summary of data from the study by completing the separate response card received with the questionnaire.

The primary motivation for the respondent to complete and return the questionnaire, in addition to perceived professional responsibility, is the plea to the respondent's presumed belief that small private colleges represent a critical component of diversity in American higher education, and that institutions of this type have been singled out as facing unique threats in the coming decade.

The first cover letter and survey were mailed during the early summer of 1992. This timing was based on the assumption that the respondents would be available during the summer months, and would be more likely to have discretionary time for the completion and return of the survey at that time. The surveys and envelopes were marked with a randomly selected code which provided tracking of institutional responses and information for follow-up.

Time-Line and Follow-up. A variety of reminders and follow-ups was utilized in order to maximize the return of the questionnaire. After ten days from the initial mailing, a post card was sent to non-responding institutions. This card provided a polite reminder that the questionnaire was sent and encouraged the completion and return of the questionnaire. The card also included additional thanks for participation and a toll-free

phone number from which an additional copy of the questionnaire could be obtained. For institutions from which a response had not been received after three weeks from the original date of mailing, a second letter and another copy of the questionnaire and return envelope were mailed. This letter recapitulated the importance of the study and encourage participation. Included in the cover letter was a statement that encouraged the respondent not to respond a second time if the initial survey has been returned. For all institutions for which a survey had not been returned seven weeks after the initial mailing an additional letter and a third copy of the questionnaire was mailed. The envelope was stamped as important and first class and it included an urgent cover letter similar to that sent with the second follow-up. Copies of the second and third follow-up letters are included in Appendix F.

Response Rate and Representativeness of Respondents. By the end of the survey period, a total of 219 surveys from the 294 institutions within the population had been returned largely completed. This represents a survey response rate of approximately 74%. All of the returned questionnaires were substantially completed by the respondents. The one area which showed variation in rate of completion on the returned surveys was the section of open-ended questions. On the average, 149 of the 219 returned surveys included responses to each of the six open-ended questions.

In an attempt to identify any significant variation between the respondents and non-respondents, an analysis of variance between these groups was completed. Differences between respondents and non-respondents were analyzed on the thirty-four non-survey variables used for analysis of major sub-populations, and representing

internal, external, and strategic action characteristics. The respondents and non-respondents did not vary significantly on any of these variables at $p \leq 0.05$.

Other Data Sources

Data for many of the independent variables as well as for the dependent variable were collected exclusively from several public domain compilations of institutionally reported data. In addition several other independent variables, for which data is collected in the questionnaire, had confirmational data collected through these sources.

ACE. One source of institutional data for the years 1980-81 and 1989-90 are the Accredited Institutions of Post Secondary Education: 1980-81 and Accredited Institutions of Post Secondary Education: 1990-91. These sources represent a directory of accredited institutions and candidates for accreditation compiled annually by the American Council on Education and published for the Council on Post-secondary Accreditation. The majority of the data in this source is provided by individual regional and specialized accrediting bodies with additional opportunities for institutions to verify the information. The enrollment data in this source is obtained from enrollment figures supplied by the National Center For Education Statistics of the U.S. Department of Health, Education and Welfare.

Beta. A second source of general institutional data for the years 1980-81 and 1989-90 is the College Facts Chart 1981-82: For Students, Parents, and Guidance Counselors and College Facts Chart 1990-91: For Students, Parents, and Guidance Counselors. These sources represent a directory of American colleges and universities published by the National Beta Club. This compilation is meant to represent all the

institutions of higher learning in the United States and its territories. The information in these sources is provided by the institutions through the completion of institutional questionnaires addressed to the Director of Admissions.

Peterson's Guide. The third source of general institutional data for the years in question are Peterson's Annual Guide to Undergraduate Study: 1982, and Peterson's Guide to Four-Year Colleges: 1991. Peterson's Guide has been compiling information on institutions of higher education in America for over twenty years. The data published in this source is obtained directly from the colleges and updated annually.

College Board. The fourth source of general institutional data for the years under study are The College Handbook: 1981-82, and The College Handbook, 1991. These resources are published by the College Board. The College Board has been collecting institutional information and publishing synopses for approximately fifty years. Like Peterson's Guide, the information in The College Handbook is collected annually from institutional admissions departments and provides an opportunity for review and collection of data before publication. As with the other three sources of general institutional data, The College Handbook provides a compilation of data which is institutionally reported.

Robertson's U.P.S. and C.M.S.A. classification. In an attempt to more fully characterize the competitive environment of the institutions of the population, data on the classification of institutions within Consolidated Metropolitan Statistical Areas (C.M.S.A.s) and categorization into various Urban Post-Secondary Systems (U.P.S.s) was obtained from the work of Doug Robertson (1992). These classifications provide

opportunity to analyze the relationships of dense competitive environments of institutions in the population.

National Center for Education Statistics. Information on institutional enrollments in 1970 and 1975 was obtained from the reports of the National Center for Educational Statistics (Wade, 1971; Wade, 1976). This information is used to provide a basic historical enrollment context for the population.

Follow-up phone conversations. In cases where data from various sources exhibited extreme diversity or generated questions, follow-up phone calls to the appropriate officer at respective institutions were utilized. These calls provided explanation for the diversity and occasionally provided new data for inclusion, or resulted in exclusion of institutions from the population.

DATA ANALYSIS

Software Package

The data collected through the survey described above, as well as that gathered from the other data sources, were analyzed with the SPSS for Windows© statistical analysis package, version 5.0.1, copyright 1989-92. This package provided the opportunity to explore basic descriptive statistics as well as the completion of correlational statistics, factor analysis, and regression analysis.

Types of Analysis

This study includes two major phases of data analysis. The first include an extensive description of the population being studied. Such a description has not been

reported for this population since Astin and Lee published their comprehensive work in 1972. This descriptive analysis was organized around the elements of Keller's framework, including institutional and environmental characteristics and major academic strategic actions. The second phase of analysis examines the relationships of these various characteristics and actions and to enrollment changes in these institutions from 1980 to 1989.

Descriptive Statistics and Characterization of the Sample. A descriptive profile of the population was developed by analysis of the data provided by the institutions in the questionnaire, from the data collected from other sources, and from scales and dummy variables developed from the available data. This descriptive profile is organized along the lines of the three major elements of the Keller framework. The three areas include: (a) environmental characteristics; (b) institutional attributes, and; (c) a variety of academic strategies utilized by the institution during the 1980s.

Once the data for the original, discrete variables was recorded from the questionnaire and from the various other data sources, a variety of scales and dummy variables were created. Scales and composite scores were created for categories of variables such as faculty development activities, external assessment, etc. The dummy variables fall into two major categories. The first represents the collapsing of multiple value nominal variables (e.g. Northwest - Not Northwest, Southern - Not Southern, etc.). The second was the creation of collapsed categories including quartiles or other appropriate collapsed units.

Responses to the open-ended questions on the survey were categorized into specific categories. The number of categories of responses ranged from 51-79. These responses were later collapsed into 5-8 broader categories for each open-ended question. Both the narrower, initial categories and the broader categories were used in the analysis.

The descriptive analysis of the external characteristics of institutions within this population focuses primarily on institutional location as it relates to the size of the city, the region of the country, and the general competitive situation of the institution. Also included is an extensive list of external factors identified in the open-ended questions of the survey.

The characterization of internal characteristics of these institutions focuses on an assessment of three primary categories of institutional characteristics. The first of these relates to major traditions and values of the institutions within the population, including such values as church and denomination affiliation, the residential nature of the college, average student age, and the age of the college. The second major category of internal variables are those associated with institutional strengths and weaknesses, included such variables as institutional selectivity, costs of attendance, percent of student receiving financial aid, and percent of faculty with terminal degrees. The third and final category of internal institutional variables are those defined as leadership and management variables, focusing particularly on the tenure and frequency of turn-over of the president and the chief academic officer in these institutions.

The academic strategic action variables include actions in the areas of leadership change, administration and management, changes in the fundamental nature of the college, academic policies, academic programs and program elements, and policies and practices related to academic personnel. As stated above, a complete list and description of these variables is included in Appendix A and Appendix B.

In addition, an analysis is provided for several sub-groups within the population to assess the existence of significantly discrete sub-populations. This analysis includes a separate analysis of institutions by Carnegie classification, 1980 institutional size, region of the country, size of the surrounding community (urban, rural, etc.), type of competitive environment, and church affiliation.

Analysis of the relationships between independent variables and institutional enrollment changes from 1980 to 1989. The second phase of data analysis is designed to assess the relationship between various independent variables as characterized by the three categories of the Keller framework, and the percent change in institutional enrollment from 1980 to 1989.

The first step in examining the relationships involved running a series of correlation matrices of the variables utilizing the Pearson product-moment linear correlation coefficient analysis or Spearman correlation analysis. The correlation matrix was run between the appropriate variables and the dependent variable of enrollment change from 1980 to 1989.

Once the correlations matrix was completed, the statistically significant correlations were reviewed. From the list of statistically significant variables it was

necessary to develop a list of substantively significant variables. These variables are those which can reasonably be used in the development of a causal inference. In his treatment of correlation and causality, Kenny (1979) proposes that "correlational inference is indeed possible through the application of standard multivariate statistical methods to a stated structural model." (p.1) The three conditions which Kenny suggests must be met for consideration of this inference included time precedence, relationship, and nonspuriousness. Similarly, Einhorn and Hogarth (1986) list, as their "cues-to-causality," temporal order, covariation, continguity, and congruity. Starting with these basic frameworks, I have identified the seven rules for statistical and substantive significance presented in Table 1. Rule 1 corresponds to Kenny's time precedence and Einhorn and Hogarth's temporal order in which the "cause" must precede the "effect." Rule 2 corresponds to Kenny's relationship and Einhorn and Hogarth's covariation which addresses the need to identify a statistically significant relationship between the "cause" and the "effect." Rules 3 to 7 attempt to control for Kenny's third condition, nonspuriousness and for Einhorn and Hogarth's contiguity and congruity. These conditions, otherwise known as the third variable problem or the co-symptomatic relationship, is the most difficult condition to control for. The complete listing of the rules for inclusion among the substantively significant variables for this research are outlined in Table 1.

Due to the number of discrete substantive variables identified, factor analysis was next applied within the sub-categories of substantively significant variables in order to identify major factors and to determine their consistency with factors identified by the

framework and in the literature (Gorsuch, 1983). In addition, factor analysis of all substantively significant variables was completed in an attempt to identify groups of variables which may extend across the subcategories. Next, factor scores for each case were calculated on each factor. The first factor score is reflective of the variable defining that factor and scores of succeeding factors are reflective of the appropriate variable with that proportion of their variance overlapping with the previous factors removed.

TABLE I

RULES FOR STATISTICAL AND SUBSTANTIVE SIGNIFICANCE

1.	Temporal sequencing
2.	Statistical significance of correlation at $p \leq 0.05$
3.	Reasonable rationale for directionality, substantive nature of the relationship (literature, experience, and logic)
4.	Lack of significant overlap with other variables (collapsed or composite variables)
5.	Visual inspection of correlation and correction or elimination for outliers
6.	Actual, as opposed to perceptual variable
7.	Adequate number of responses and representation in the population

After correlation and factor analysis was completed, factors were analyzed by sub-group and in total by multiple linear regression analysis with percent change in enrollment as the dependent variable. This analysis was completed in order to determine the amount of variation in enrollment change "explained" by each factor. The first series of regression models included the substantively significant internal characteristics, the substantively significant external characteristics, and the substantively significant academic strategic action variables in separate analyses. This informed a final series of

multiple linear regression for the purpose of determining the amount of variance explained by the best fitting factors from all areas. It is recognized as Lipsey (1993) suggests, "it is possible only to approximate the circumstances under which causality can be observed and make informed guesses about causal relations.

THE DEPENDENT VARIABLE

As described above, the dependent variable in this study is percent change in total headcount enrollment between Fall, 1980 and Fall, 1989. Because these institutions are largely tuition-driven, and because endowments and gift income represent a relatively minor portion of institutional operating revenues, this variable represents a necessary, penultimate criterion for institutional survival. The figures used in this study are institutional student head-counts, including full-time and part-time students, and undergraduate as well as graduate enrollments.

The use of the full-time equivalency (FTE) measure was rejected for this study for two reasons. First, while state subsidy is provided to public institutions on the basis of FTE counts, no such direct revenue relationship exists in the colleges in this population. Secondly, the use of the FTE measure suggest that both revenue generated and institutional costs are related to the proportionate load of the part-time student. This is not the case in small private colleges. The head-count measure was selected for this study, then, for several reasons. First, it was determined that head-count data more accurately reflects the net contribution of enrollments to institutional survivability. Generally, part-time students require less institutional investment in terms of support

services and institutional resources. Additionally, part-time students tend to represent proportionately higher income because these institutions provide only limited institutional financial aid to part-time students. Secondly, more accurate sources of head-count data were available. Finally, an analysis of the change in FTE and total headcount measures in this population in the 1980s showed a $+0.8990$ correlation at $p \leq 0.001$.

Similarly, the decision to include graduate enrollments in the dependent variable was based on the comparable contribution to institutional operating revenues made by graduate students. While graduate tuition often differs from undergraduate tuition, the difference generally reflects differences in program costs.

LIMITATIONS OF THE STUDY

The limitations of this study result from both the design and the intentional focus. It is limited in that it represents: (a) those institutions that are classified as Liberal Arts I or Liberal Arts II colleges in the 1976 or 1987 Carnegie Classification of Institutions of Higher Education and that reside in one of the 50 states or the District of Columbia; (b) those institutions that had enrollments between 100 and 1000 in the Fall of 1980; (c) those institutions that responded to the survey instrument (for those data elements obtained from the survey instrument); (d) those institutions that reported information to Peterson's, College Board, ACE and/or BETA either directly or indirectly (for those data elements obtained from these sources); and (e) represents the accuracy of the data reported, and the opinions and interpretation of the Chief Academic Officers who complete the survey and the institutional personnel providing data to Peterson's, College

Board, ACE and BETA. In general, the findings of this research are limited to those institutions for which specific data, relevant to that finding, is available.

Another limitation of this study results from the fact that the population includes only those institutions that remained open throughout the 1980s. The institutions that closed and merged represent approximately 7% of the larger population (the population including closed and merged colleges). In addition, seven institutions had enrollments over 1000 in 1980 and experienced declines in enrollment to levels under 1000 students by 1989. An additional seven 2-year colleges entered the population by becoming 4-year colleges during the 1980s, six institutions that had enrollments of less than 100 in 1980 entered the population by increasing enrollments to over 100, and eight new 4-year colleges entered the population in the 1980s. The 27 colleges in the first two categories (closed and merged, those dropping below 1980 enrollments of over 1000) represent institutions biasing the population toward enrollment decline. The 21 colleges in the remaining three categories (2-year colleges, those growing beyond 1980 enrollments under 100, new 4-year colleges) represent institutions biasing the population toward enrollment increase. The exclusion of these institutions by the operational definition of the population was judged to have minimal impact on the measurement of growth. It should be noted, however, that this definition of the population might result in a small bias towards enrollment increase in the population.

A third limitation of this study is that resulting from the selection of the specific research variables. While they were drawn from a broad analysis of the related literature as well as extensive professional experience, the list can not be considered exhaustive.

It is likely that there are other environmental, institutional, and strategic action variables of importance which were not identified or could not be readily studied with this research protocol. Additionally, the number of strategic action variables far exceeds those associated with the environment or institutional attributes. The limitation of variables in these latter categories is partially due to the operational definition of the population, limiting institutional attributes by narrowly defining the institutions within the population, and limiting environmental diversity by defining similar institutions and by the selection of a time frame in which most of the institutions were experiencing similar environmental forces.

Because the major emphasis in identification and selection of variables was on institutional strategic actions, no conclusions can be drawn concerning the relative amount of variance in the dependent variable explained by environmental, institutional and strategic action variables. The list of variables studied were not exhaustive and many potentially significant variables in all three categories are not included. Potentially significant environmental variables for which no data is available in this study include the specific characteristics of the immediate population (age, ethnicity, socioeconomic status, etc.) and the specific nature of the local economy. Institutional attributes of potential significance for which no data is available in this study include the specific attributes of the major college supporters (e.g. liberal versus conservative), the nature and style of current leadership, and the nature and role of the faculty and administration with regards to institutional change processes.

Additionally, this study focuses on the penultimate variable related to institutional survival. While adequate enrollment seems to be a necessary element of survival for these colleges it should not be interpreted as sufficient for survival. Information on quality of financial management, specific elements of institutional leadership and many other factors will influence an institution's thrival and survival.

Another set of limitations of this study relate to the attempt to construct an initial model from which directional causal inferences can be drawn. In the case of several variables in this study reciprocal relationships with the dependent variable are also a likely interpretation. For example, the correlation between increase in student selectivity and enrollment increase could describe a relationship in which increase selectivity results in increase enrollment which in turn, provides the institution with a resource "buffer" to allow continued increase in selectivity.

Finally, much of the data in this study represents institutional data only at the beginning and the end of the period of study. Very little intermediate information is available for the description of "trends" within the population. It is not known whether the changes in the population between Fall, 1980 and Fall, 1989 were constant or erratic.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

INTRODUCTION

As described above, this research has been directed by two primary research foci, each containing four research questions. The data presentation and analysis will be organized around these two foci and eight questions. The first focus of the research involves the description of the population. The first question in this research focus deals with the description of the environments in which the colleges are located. The second question deals with a description of the attributes of the colleges within the population. The third addresses the description of academic and general strategic actions evident in these institutions from 1980 to 1989. The fourth and final question in this research focus involves the description of several discrete sub-populations within the research population.

The second research focus involves the description and potential explanation of the relationships between the research variables and the dependent variable, percent change in institutional enrollments from Fall, 1980 to Fall, 1989. The first question in this research focus describes and attempts the explain the relationships between significant environmental variables and the dependent variable. The second question in this focus relates to a description and possible explanation of the relationships between

significant institutional attributes and the dependent variable. The third question addresses the description of, and attempt an explanation of relationships between significant institutional strategic actions and the dependent variable. Finally, the fourth question in this research focus describes and assesses the relationship between all of the substantively significant variables taken together, and the dependent variable.

FIRST RESEARCH FOCUS

The first research focus of this study treats the description and characterization of the major institutional attributes and environmental characteristics of the small private college population, as well as the major academic strategic actions of the 1980s. This analysis includes a description of the population as a whole as well as a description of several significant sub-populations. Where data is available for nearly all of the population, i.e. public domain data, the descriptor "the population" will be used. When the data reflects only survey respondents, the descriptor "the respondents" will be used.

Question 1: External Environment

The first research question is, "What characterizes the environment in which the institutions are found?"

The general nature of the external environment for higher education, and particularly for small private colleges was characterized to a large degree in Chapter II. The major social, demographic and technological forces acting upon these colleges were described in great detail. The further characterization of the environment of the institutions within this population in this study includes three major areas.

First, the size of the immediate community in which the college is located. This data, from census data on the city or town in which the college is located, is available as self-reported by the institutions. The results are presented in Figure 2.

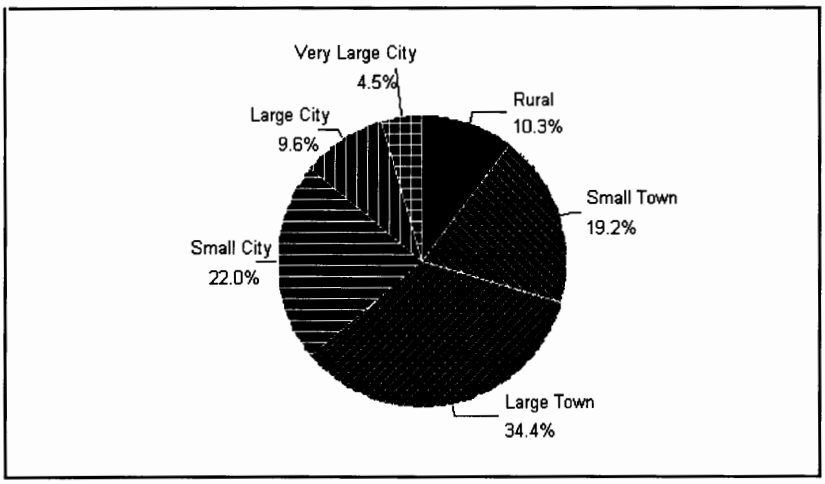


Figure 2. Distribution by size of community, 1989 (from College Board).

In 1989, 85.6% of the population reported that there was no change in the size of the community in which they were located, 7% reported that the community increased in size, and 7.4% reported that the community decreased in size. These reported changes represent actual changes in the size of the community in which the college was located as opposed to a change in physical location of the college.

The second area addresses the specific region of the country in which the institution was located. The accreditation region was used as a classifier for this variable. Of the 294 institutions, 115 (39.1%) were located in the North Central region, 91 (31%) were in the Southern region, 33 (11.2%) were located in the Middle States region, 23 (7.8%) were located in the New England region, 18 (6.1%) were in the Western region,

and 14 (4.8%) were in the Northwest region. All baccalaureate granting institutions were likewise unevenly distributed around the country with 544 (33.6%) in the North Central region, 419 (25.4%) in the Southern region, 335 (20.3%) in the Middle States region, 151 (9.2%) in the New England region, 119 (7.2%) in the Western region, and 72 (4.4%) in the Northwest region. Small private colleges were distributed among the accreditation regions differently than the total population of baccalaureate institutions. ($\chi 2$ (5,N=294) = 19.32, $p \leq 0.01$). The small private colleges were more likely to be found in the North Central and Southern regions and less likely to be found in the Middle States than the larger population of all baccalaureate colleges.

A third aspect of the environment studied was the competitive environment of the colleges. Initial data on the competitive situation comes from survey responses. Of the respondents, 82.8% reported that there was at least one community college serving the community in which the college was located. Similarly, 82.8% reported that there was a large public university (enrollment greater than 5,000) within 50 miles of the institution. Finally, 95% of the respondents reported that there was at least one additional baccalaureate granting institution within 50 miles of the campus. Respondents reported an average of 9 other baccalaureate granting institutions within 50 miles ($\bar{X}$= 8.9, SD = 10.6). Table II more fully characterizes the density of baccalaureate granting institutions within 50 miles of the respondent institutions within the sample.

In an attempt to more fully characterize the competitive or market situation of the colleges within the population, institutions were analyzed in terms of location within Consolidated Metropolitan Statistical Areas (CMSAs). These twenty demographically

defined areas were determined by the U.S. Census Bureau and represent extended metropolitan areas which were grouped around one or more major cities. These areas were used by Robertson (1992) to operationally define environments for Urban Post-Secondary Systems (UPSs). Robertson further characterized these UPSs into bottomless (those that lack public two-year institutions), middleless (those that lack a large public comprehensive college or university), topless (those that lack a large public four year institution), and complete (complete public school array among larger institution and complete private school array among smaller institutions) systems.

TABLE II

NUMBER OF BACCALAUREATE GRANTING INSTITUTIONS WITHIN 50-MILES

Reported Number of Institutions	Percent of Respondents
0	05.0%
1-2	13.6%
3-5	31.1%
6-8	22.2%
9-11	09.5%
12-14	03.5%
Over 14	15.1%

Source: Survey Response

Of the 294 institutions within the population, 52 (17.7%) were found within CMSAs. Of those 52 institutions, 30 (57.7%) were found within complete UPSs, 16 (30.8%) within middleless (UPSs), 4 (7.7%) within bottomless UPSs, and 2 (3.8%) within topless UPSs.

The questionnaire included an open ended question in which the respondents were asked to identify the most important external/environmental factors influencing

enrollments at the institution in the 1980s. A listing of the most frequently included responses is presented in Table III.

TABLE III

MAJOR EXTERNAL FACTORS INFLUENCING ENROLLMENT REPORTED BY CHIEF ACADEMIC OFFICERS

Factor	Percent of Cases
Economy (Recession)	51.1%
Decline in 18-22 Year Olds	43.5%
Increase in Competition with Public Colleges/Universities	22.3%
Decline in Federal Financial Aid	21.2%
Location of the College	13.0%
Increase in Higher Education Costs	12.5%
Decline in State Financial Aid	12.0%
Increase in Private Competition	11.4%
Return of Adults	09.2%
Decline in Interest in Church Professions	04.9%
Increase in Value of Higher Education	03.3%
Increase in Career Interest	03.3%
Decline in Single-Sex College	02.7%
State Enrollment Limits / Tuition	02.7%
Regional Population Growth	02.2%
Closure/Moving of Competitors	02.2%
Job Market	02.2%
Student Academic Preparation	02.2%
External Constituency Changes	02.2%

Source: Survey response

Question 2: Institutional Attributes

The second research question is, "How are institutions within the population characterized with regards to major institutional attributes?"

In a way similar to the external environmental characteristics, the institutional attributes are somewhat limited and defined by the selection of the population. In

addition, many of these attributes have been described in the review of the literature. This research provides additional descriptive information on the values and traditions of these colleges; student enrollment profiles; academic calendar, accreditation, programs and policies; costs; academic personnel; and institutional research and planning.

History, Values, and Traditions. Over half of the colleges in the population were founded before 1900, with 15.5% being founded before 1850, and 42.6% between 1851 and 1900. Colleges founded between 1901 and 1950 made up 25.1% of the population. The youngest colleges, those founded after 1950, constituted 16.8% of the population. On the average the colleges in the population were approximately 100 years old ($\bar{X}$= 97.6, SD = 45.6).

The population, by definition, includes institutions which are classified as Liberal Arts I or Liberal Arts II colleges in 1976 or 1987. The Liberal Arts I colleges are generally the larger, more selective, and more "visible" colleges. Within the population, 11.3% of the institutions were classified as Liberal Arts I in 1987, and 88.7% as Liberal Arts II.

The vast majority of the colleges within the population were co-educational institutions. The distribution by gender status in 1989 is presented in Figure 3.

Another means by which institutions are classified is their student selectivity. Peterson's Guide (Peterson's guide to four-year colleges: 1991, 1990) utilizes admissions requirements, test scores and percent of applicants admitted to determine freshman student selectivity. In 1989, 8.2% of the colleges in this population were classified as non-competitive, 22.1% as minimally difficult, 66.8% as moderately difficult, and 2.9%

as very difficult. None of the institutions within the population were classified in the category of most difficult.

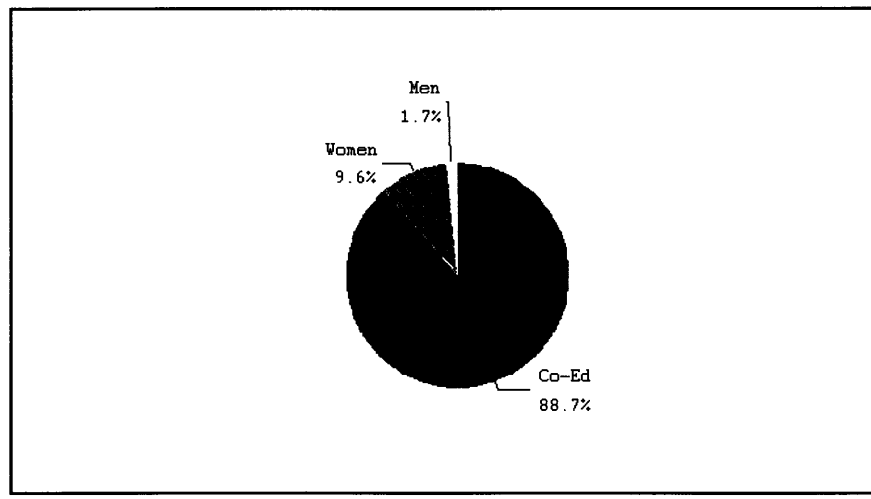


Figure 3. Distribution by gender status, 1989 (College Board)

A final defining characteristic of small private colleges is their church relatedness. From self-reported sources, 80.9% of the population reported being church-related in 1980. This number increased to 83.7% in 1989. A summary of specific affiliations is presented in Table IV.

Overall Student Enrollments. In the questionnaire, Chief Academic Officers were asked to describe institutional enrollment intent during the 1980s. Of the respondents, 85.3% indicated that the institution intended to increase enrollments during the 1980s (34.6% significant increase, 50.7% moderate increase). An additional 12.9% indicated an intent to maintain enrollments, with the remaining 1.8% indicating an intent to decrease enrollments.

The average 1980 enrollment of colleges within the population was 615.6 (SD = 228.0), and the 1989 enrollments averaged 735.9 (SD = 330.2). All overall enrollment figures include undergraduate and graduate enrollments. This decision to include consolidated enrollments reflects a focus on the fundamental tuition generating influence of enrollment. Description and assessment of graduate enrollments is also provided. The enrollments in 1980 ranged from 100 to 1000, with 30.8% of the population having enrollments under 500. In 1989, enrollments ranged from 50 to 2,039 with 32.4% of the population having enrollments under 500 and 20.7% having enrollments over 1000.

TABLE IV

CHURCH AFFILIATION

Affiliation	1980	1989
Non-Church	19.1%	16.3%
Roman Catholic	17.4%	18.0%
Methodist	14.2%	14.5%
Presbyterian	10.3%	11.1%
Baptist	08.9%	08.3%
Church of Christ	04.6%	03.8%
Lutheran	04.3%	04.2%
Non-Denominational	03.9%	06.6%
Friends	02.1%	01.7%
Bretheran	01.8%	00.7%
A.M.E.Z.C.	01.4%	01.4%
Disciples of Christ	01.4%	01.4%
Seventh Day Adventist	01.4%	01.4%
Christian Missionary Alliance	01.1%	01.0%
Mennonites	01.0%	01.0%
Other	07.0%	08.6%

Source: College Board

The average percent change in enrollments in the institutions within the population was 23.7% (SD = 47.3). This represents an average enrollment gain of 122.4 students (SD = 237.3). The percent change ranged from a 66.4% decrease in enrollment to a 306.6% increase. Less than 9% (8.9%) of the institutions in the population had over 900 students in 1980. This figure increased to 32% in 1989. Nearly two-thirds (65%) of the colleges within the population, experienced an enrollment increase and the remaining one-third (35%) experienced enrollment declines. A more complete distribution of enrollment gains and losses is presented in Table V.

TABLE V

PERCENT CHANGE IN ENROLLMENTS, 1980 TO 1989

Change Category	Percent of Population
Lost > 20%	09.2%
Lost 5-20%	16.8%
"No Change" (± 5%)	12.7%
Gained 5-20%	20.9%
Gained 20-50%	19.5%
Gained >50%	20.9%

Source: Averaged from Peterson's, College Board, Beta Club, and A.C.E.

The operational definition of the population leads to a potential growth bias when calculating the effective enrollment growth rate for the population. This potential bias is due to the truncation of the population resulting from the definition of population membership only at the beginning of the study period. If the 23.7% mean enrollment increase calculated above is seen as a "biased upper growth limit, " a "biased lower growth limit" can also be calculated. When growth rate was calculated only on those 231

institutions which had enrollments of 100 to 1000 in both 1980 and 1989, a mean growth rate of 14.7% (SD = 43.2) resulted. These calculations suggest that an effective mean growth rate for the population was between the 14.7% lower limit and the 23.7% upper limit.

By definition, the population of this study does not include those institutions which met the criteria for inclusion, but either closed or merged during the 1980s. Of the institutions that met the criteria for inclusion in 1980 (N = 314), 294 (93.6%) remained intact and are included in the research population. An additional 15 institutions, 4.8% of the 1980 population, closed, and 5 institutions, 1.6% of the 1980 population, merged with another institution outside of the population.

While the data on the closed and merged colleges is limited, it was determined that they did not vary significantly ($p \leq 0.05$) from the research population with regards to Carnegie classification, the accreditation region, or the presence or absence of regional accreditation. The closed and merged colleges did vary significantly ($t(21.25) = -2.64$, $p \leq 0.05$), however, in 1980 enrollments. Those colleges that closed or merged had an average 1980 enrollment of 464.78 (SD = 248.65) while those included in the research population (survived the 1980s) had an average 1980 enrollment of 615.60 (SD = 228.00). In order to provide a picture of the enrollment changes of the entire 1980 population (including those which subsequently closed or merged), an analysis of enrollment change was completed on the research population plus the closed and merged colleges (N = 314). When these institutions were included, the average 1980 enrollment was 605.97 (SD = 231.90), as compared to 615.60 (SD = 228.00) for the research

population. The average 1989 enrollment was calculated with a figure of zero for the closed and merged colleges. The average 1989 enrollment for the expanded population was 689.03 (SD = 366.68), as compared to 735.90 (SD = 330.20) for the research population. These figures represent a 15.78% (SD = 54.93) average increase in enrollments in the expanded population during the 1980s as compared to a 23.70% (SD = 47.30) average increase in the research population. In 1992, 98.6% of the research population continued to exist. The time period between 1989 and 1992 saw the closure of an additional 4 institutions.

In order to provide an historical enrollment context for this study, an analysis of 1970 enrollments was completed for the research population as well as the closed or merged institutions. The mean 1970 enrollment for colleges in the research population was 637.84 (SD = 277.12) and for the merged or closed institutions it was 573.31 (SD = 259.24). While institutions remaining in the research population showed a mean increase in enrollment in the 1970s of 2 students (SD = 198.55), institutions that closed or merged in the 1980s saw a mean enrollment decline of 81.81 students (SD = 181.33) during the 1970s. Of the 20 colleges which closed or merged in the 1980's, five (25%) showed progressive declines through the 1970s as measured at Fall 1970, 1975, and 1980. The remaining 15 colleges (75%) showed stable or fluctuating enrollments.

Student age. In 1989, 85.4% of the institutions in the population reported that the average age of freshmen was less than 20 years of age. An additional 11.3% reported an average freshmen age between 20 and 25 years of age, and 3.3% reported an average frosh age over 25 years of age. In another report, colleges in the population reported

an average of 23.3% (SD = 20.7) of their student body being over the age of 25 in 1989. Table VI summarizes the categories of reported percent of student body over the age of 25.

Student gender. Institutions within the population had an average of 57.16% (SD = 20.35) female students in 1980. In 1989, this figure has risen to 58.47% (SD = 17.82). Table VII presents more specific information on the distribution of colleges by proportion of female students.

TABLE VI

PERCENT OF NEW STUDENTS OVER 25 IN 1989

Percent of Students Over Age 25	Proportion of Population
0-10%	35.9%
11-20%	19.3%
21-30%	12.7%
31-40%	10.5%
41-50%	07.6%
>50	10.9%

Source: Peterson's Guide

Minority. In 1980, the colleges within the population had an average of 16.9% (SD = 25.7) of their students defined as minority students. This proportion increased to 18.6% (SD = 26.5) in 1989. A more detailed description of the minority population in the research population is presented in Table VIII. The profile of students within the category of minority students in the colleges is presented in Table IX .

Approximately two-thirds (66.4%) of the institutions within the population exhibited an increase in the number of minority students on campus. The average number

of minority students on the campuses of the institutions within the population went from 109.13 (SD = 182.84) in 1980 to 135.10 (SD = 221.97) in 1989. This represents an increase from approximately 31,000 minority students served by these institutions in 1980 to approximately 40,000 minority students served in 1989.

TABLE VII

PERCENT FEMALE

Category	1980	1989
0-30%	4.0%	04.7%
31-60%	69.7%	66.8%
61-90%	14.7%	20.7%
91-100%	11.4%	09.0%

Source: Average of Peterson's Guide and College Board

TABLE VIII

PERCENT MINORITY STUDENTS

Percent Minority Students	1980	1989
0-5%	33.1%	28.3%
6-10%	24.0%	28.4%
11-15%	18.2%	14.6%
16-20%	09.0/%	11.3%
21-50%	07.0%	07.3%
>50%	08.7%	10.2%

Source: Average of Peterson's Guide and College Board

Part-Time Students. In 1980 the colleges in the research population had an average of 14.2% (SD = 14.6) of their students attending on a part-time basis. By 1989

this proportion had increased by over one-third to 19.2% (SD = 17.6). A more detailed description of proportion of part-time students in the institutions in the research population is provided in Table X.

TABLE IX

PROFILE OF MINORITY STUDENTS

Ethnic Group	1980		1989	
	$\bar{x}$	SD	$\bar{x}$	SD
Black	13.6%	25.6%	11.8%	23.1%
Black Corrected*	06.1%	05.7%	06.0%	05.9%
Asian American	00.3%	01.3%	01.7%	03.4%
Hispanic	01.5%	02.9%	02.0%	02.9%
Native American	00.8%	02.7%	00.8%	02.5%

*removed colleges with greater than 90% black enrollments Source: Average of Peterson's Guide and College Board

TABLE X

PERCENT PART-TIME STUDENTS

Percent Part-Time	1980	1989
0-10%	54.5%	40.9%
11-20%	25.1%	24.6%
21-30%	07.9%	11.6%
31-40%	06.0%	09.4%
>40%	06.5%	13.4%

Source: Average of Peterson's Guide and College Board

Graduate students. The proportion of graduate students in institutions with graduate programs more than doubled between 1980 and 1989, from 2.4% (SD = 7.8)

to 5.31% (SD = 12.8). Graduate programs were not, however, distributed evenly across the population. In 1980, only 14.5% of the colleges had graduate students on campus. Nearly half (6.3%) of those campuses with graduate students had fewer than 10% of their students among the graduate student ranks. By 1989, the proportion of institutions in the population with graduate students more than doubled to 29.8%.

State and region of origin of students. The institutions within the population represent significant diversity in the breadth of student markets. In response to the questionnaire, 15.0% of the colleges defined themselves as having a local primary student recruitment market, 27.6% a state market, 44.4% a regional market, and 13.1% a national market. In 1989, 17.5% of the institutions had students from 10 or fewer states, 32.7% had students from 11 to 20 states, 24.7% from 21-30 states, and 20.2% from more than 30 states.

International Students. An average of 3.27% (SD = 8.2) of the students at these colleges were from foreign countries in 1980. This figure increased to 3.84% (SD = 4.8) in 1989. In 1989, an average of 9.1 (SD = 7.4) foreign countries were represented in the student body of the colleges. About half (49.3%) of the colleges had more than 6 countries represented.

Transfer Students. In 1980, an average of 16% (SD = 15.2) of the students at the colleges in the population came to the campus as transfer students. By 1989, that figure had risen to 18.3% (SD = 16.4).

Academic Calendar. The proportion of institutions in the population with various types of academic calendars in 1980 and 1989 is presented in Table XI. According to

survey responses, 95.3% of the responding institutions calculated student credits and faculty loads in "semester hours" in 1989 whereas 4.7% calculated these in terms of "quarter hours."

TABLE XI

ACADEMIC CALENDAR

Calendar Type	1980	1989
Quarter	10.1%	05.6%
Semester	59.7%	70.3%
Trimester	05.0%	04.2%
4-1-4	23.0%	18.2%
Other	02.2%	01.7%

Source: A.C.E.

Accreditation. In 1980, 91.8% of the institutions in the population were reported as being regionally accredited, another 0.7% were candidates, and the remaining 7.5% were not regionally accredited. The proportion of regionally accredited institutions increased to 95.9% in 1989, with another 2.0% candidates, and 2.0% not regionally accredited. Slightly more than 4 out of 10 institutions (41.1%) held one or more types of special accreditation (i.e. specialized school or program accreditation) in 1980 with that figure decreasing to 39.6% in 1989. During the 1980s, 7.1% of the institutions in the population added special accreditation while 7.4% dropped it.

Degrees offered. While all of the institutions in the population granted baccalaureate degrees in 1980 and 1989, this study also looked at the other degrees granted by the institutions. In 1980, 21.1% granted associate degrees, 12.5% granted

masters degrees, and none granted doctorates. In 1989, 48.5% granted associate degrees, 30.7% granted masters and 1.4% granted doctorates.

Liberal arts and professional degree programs. The institutions responding to the survey indicated that in 1989 they offered, on the average, 16.3 liberal arts programs (SD = 9.7) and 6.2 professional programs (SD = 6.3). Less than 15% (14.6%) have fewer than 6 liberal arts programs, whereas over half (55.1%) have fewer than six professional programs.

Academic support services. In 1989 the library holdings averaged 101,700 library volumes (SD = 101,400), and colleges had an average of 568 periodical subscriptions (SD = 672.2). In addition, the colleges reported that they had an average of 49.5 (SD = 51.9) computers available for student use. This information was not reported in 1980.

Change in retention rates throughout the 1980s. The survey respondents were asked to characterize the change in retention rates of freshmen as well as overall undergraduate retention rates for the 1980s. While a specific definition was not provided in the questionnaire, it is probable that it was interpreted in a way consistent with the IPEDS reports, namely Fall-to-Fall retention. The results of these responses are included in Table XII.

Costs. In 1980, the average cost of annual tuition and fees at the institutions in the population was $3,328.60 (SD = 1116.80). The tuition ranged from $350.00 to $8,260.00. By 1989, this average figure had risen by 103.9% to $6,787.90 (SD = 2484.80). The tuition in 1989 ranged from $1,670.00 to $17,142.50. Part-time tuition

averages $102.70 (SD = 40.20) per semester hour equivalent, and this figure increased by 93.3% to $198.50 (SD = 75.71) in 1989.

TABLE XII

CHANGE IN RETENTION RATES IN THE 1980's

Category of Change	Proportion of Survey Respondents	
	Freshmen Retention	Overall Retention
Significant Increase	22.5%	18.6%
Slight Increase	31.1%	40.5%
No Change	34.0%	28.1%
Slight Decrease	10.5%	11.4%
Significant Decrease	01.9%	01.4%

Source: Survey response

The faculty. Most of the faculty data gathered in this study was available only for 1989. Colleges within the population had an average of 71.5 (SD = 29.4) total faculty members in 1989. This figure includes full-time and part-time faculty. Full-time faculty at these institutions averaged 43.8 (SD = 18.2). The number of full-time faculty ranged from 4 to 86. The number of faculty with doctorates at these institutions averaged 31.7 (SD = 20.8) which represented an average proportion of 43.4% of the faculty. This figure ranges from 0 to 100 percent of the faculty.

The annual full-time teaching load of a faculty member at an institution within the research population averages 24.8 semester hours (SD = 3.6). Over half (50.9%) have teaching loads of exactly 24 semester hours.

In the institutions within the research population, less than 1 percent (0.5%) have full-time faculty which are unionized. The figure is the same for unionization of part-time faculty.

Institutional memberships. A characterization of institutional membership in major relevant organizations is presented in Table XIII.

TABLE XIII

INSTITUTIONAL MEMBERSHIPS

Organization	Percent of Population
Council of Independent Colleges	62.8%
American Association of Higher Education	60.9%
American Council on Education	47.3%
American Association of Colleges	33.0%
Christian College Coalition	20.3%
Council on Adult and Experiential Learning	20.3%
Association for Institutional Research	07.7%
Society of Colleges and University Planning	04.8%

Source: Survey response

Institutional research. Questionnaire respondents were asked to characterize the change in the amount and quality of institutional information available at the institution through 1980s. In characterizing the change in the amount of information, 40.2% responded with "significant increase," 50.3% responded with "limited increase," and the remaining 7.5% responded with "no increase." In characterizing the change in the quality of the information, 41.4% reported "significant increase," 51.6% reported "limited increase," and 7.0% reported "no increase."

Open Ended Survey Responses. Respondents to the survey were asked to list the most important institutional attributes shaping or influencing enrollments in the institution. The results of the compilation of the most frequent responses is included in Table XIV.

Question 3: Strategic Actions

The third research question is, "What characterizes the major academic strategic actions of these institutions with regards to leadership changes, the mission of the college and academic programs, policies and personnel?"

Church Affiliation. A review of the self-reported affiliation in statements in the Peterson's Guide (Peterson's Guide, 1981; Peterson's Guide, 1990), revealed 6.1% had changed their reported affiliation. Of those changes, 4.3% of the population added church relationship, 1.1% dropped church relationship, and 0.7% changed denominational affiliation. When asked in the questionnaire to about changes in church relatedness, 11.1% of the respondents reported decreased church relatedness, 53.9% reported no change, 19.8% reported increased church relatedness, and 15.2% reported that they where not church related.

College Gender Status. Within the research population, 95.8% of the institutions did not alter their gender status over the 1980s, but 4.2% changed from single-sex institutions to co-educational. No institutions moved from co-educational to single-sex.

Institutional Mission Statements. Over one-half of the respondents (52.3%) reported having undergone a substantial mission review in the 1980s, another 37.0% reported a minor mission review. Slightly over one-third (34.6%) reported a substantial

revision of the institutional mission statement, 41.1% reported a minor change, and nearly one-fourth (24.3%) reported no change in the institutional mission statement between 1980 and 1989. The categorization of types of changes are presented in Table XV.

Student Selectivity. Over one-third (37.1%) of the questionnaire respondents reported increasing institutional student selectivity during the 1980s. Additionally, 9.4% of the respondents reported decreasing student selectivity, and 53.5% reported maintaining student selectivity. Self-reporting of student selectivity, however, undoubtedly has some challenges to validity. Conclusions drawn from this data is, therefore, highly speculative.

Female Students. The colleges in the population report an average increase in the proportion of females in the student population of 1.2% (SD = 9.6). About half (49.1%) reported a decrease in the proportion of female students, while 50.9% reported an increase.

Minority Students. On the average, the institutions in the population reported a change in minority student enrollments of 1% (SD = 7.5). Over one-half (56.6%) of the institutions reported the proportion of their student body made up of minorities increased, with 51.0% reporting increases of 0-10%, and 5.6% reporting increases of over 10%. Of the remaining institutions, 3.2% reported no change in the proportion of minority students, 35.4% reported up to 10% decline, and 2.4% reported a decline in the proportion of minority students of over 10%. The enrollments of Black students dropped

by an average of -0.1% (SD = 4.8), while Asian American student enrollments increased by 1.4% (SD = 2.8), and Hispanic student enrollments increased by 0.5% (SD = 1.9).

TABLE XIV

MAJOR INSTITUTIONAL FACTORS INFLUENCING ENROLLMENT- SELF-REPORTED

Characteristic	Proportion of Cases Reporting
Smallness	21.2%
Academic Programs	17.5%
High Institutional Financial Aid	17.5%
Service Oriented/Responsive	14.8%
Academic Quality	13.2%
Christian Nature of the College	11.1%
Strong, Quality Faculty	11.1%
New/Good Facilities	09.5%
Diverse Student Body	08.5%
Liberal Arts Focus	08.5%
Clear Vision/Mission	07.9%
Low Cost	07.4%
Strong Admissions Program	07.4%
Strong Marketing	07.4%
Co-Curriculars	06.9%
Strong Leadership	06.9%
Location	06.9%
Limited Resources	06.3%
Strong Reputation	05.8%
Strong Student Services Programming	05.3%
Single-Gender Institution	04.8%
High Faculty-Staff Turnover	04.8%
High Cost	04.2%
Lack of Leadership	03.7%
Program Focus on Career	03.7%
Creative / Open to Change	03.2%
Personnel Limitations	02.6%

Source: Survey response

Part-time Students. The average increase in the 1980s in the proportion of part-time students in the 1980s at the institutions within the population was 4.5% (SD = 11.5). Nearly one-third (30%) reported a decline in the proportion of part-time students

while 49% reported increases of up to 10% as a proportion of the student body, and 21% reported increased of over 10% as a proportion of the student body.

Transfer students. The institutions in the population report an average increase in the proportion of the student body which enter as transfers of 2.0% (SD = 13.9). Slightly over half of the institutions (53.5%) reported an increase in that proportion.

TABLE XV

CATEGORIES OF MISSION STATEMENT CHANGES

Change Category	Proportion of Respondents
Changes in Statement Form	45.4%
Academic Programs	25.5%
External Constituency	24.1%
Religious Nature of the College	21.3%
Students Populations and Profiles	19.9%
Institutional Values and Historic Mission	17.0%

Source: Survey response

International Students. On the average, colleges in the population reported a slight increase ($\bar{X}$ = 0.4%, SD = 4.4) in the proportion of the student body made up of international students. About one-third of the institutions (37.5%) reported a decrease in the proportion of international students, while 20.3% reported no change, and 42.2% reported increases.

Graduate Students. As described above, in 1980, 85.5% of the institutions in the population had only undergraduate students. This proportion decreased to 70.2% in 1989. One-fourth of the institutions in the population which had graduate programs in 1989 reported a graduate enrollment decline between 1980 and 1989, while the other three-

fourths (75.0%) reported an increase in enrollment. The average increase in graduate enrollment in those institutions with graduate programs was 136.92% (SD = 194.89). This represented a change in proportion of graduate students of 2.49% (SD = 6.69) at those institutions.

Accreditation. During the 1980s the vast majority (94.2%) of institutions made no change with regards to regional accreditation. The remaining 5.8% were reported as having added regional accreditation, or had moved to candidate status. None of the institutions dropped, or lost regional accreditation. In addition, 85.5% of the institutions in the population showed no change in special accreditation. Of the remaining institutions, 7.1% added a form of special accreditation and 7.4% dropped special accreditation.

Academic Calendar. During the 1980s, 16.7% of the institutions in the population changed their academic calendar. The majority of the changes were from quarter and other calendar types to semester calendars. The proportion of institutions with semester calendars increased by 10.6% while the proportion with 4-1-4 calendars decreased by 4.8%, quarter calendars decreased by 4.5%, and all other calendars decreased by a total of 1.3% of the population.

Academic Degrees. Between 1980 and 1989 27.9% of the institutions in the population reported adding the Associate degree option. During that same time period only 0.4% of the population dropped Associate degree offerings. Similarly, 19.3% of the institutions added Masters degree offerings while only 0.7% dropped those degree

offerings. In 1980, none of the institutions offered doctoral degree programs. In 1989, this figure had increase to 1.4% of the population.

Adult Programs. Of the respondents to the questionnaire, 67.3% reported adding adult programs during the 1980s. Similarly, 32.5% reported adding reduced seat-time programs specifically designed for adults. Finally, 32.5% reported adding programs specifically designed for retired adults.

Professional and Liberal Arts Programs. Respondents to the questionnaire reported changes in both number and proportion of liberal arts and professional programs between 1980 and 1989. Less than one-third (29.6%) reported an increase in the number of liberal arts programs while over one-half (59.0%) reported increase in the number of professional programs. Respondents reporting no change in numbers of programs included 41.7% for liberal arts programs and 36.6% for professional programs. Finally, 28.6% of the respondents reported a decrease in liberal arts program while only 4.4% of the institutions reported a decrease in the number of professional programs.

Based on the reported numbers of professional and liberal arts programs, it was determined that the respondent institutions had an average of 70.6% (SD = 24.1) of their programs in the liberal arts in 1989. A total of 80.4% of the respondents reported that over one-half of their programs were in the liberal arts. It was also reported that nearly half (48.3%) of the institutions increased the proportion of professional programs during the 1980s, while over one-third (36.9%) reported no change in the proportion, and 14.8% reported an increase in the proportion of liberal arts in relation to professional programs.

"Special" Programming. Results of the responses to the questionnaire indicate that 63.0% of the respondent institutions provided academic study abroad programs for their students in 1989. In addition, 33.7% of the institutions had developed international sister school relationships, and 48.1% were offering credits for academic seminars.

Academic Policies. Respondents to the questionnaire were asked to respond to a variety of questions related to changes in or addition to academic policies. Of the respondent institutions, 67.1% had developed block transfer programs with community colleges.

Data was collected about policies related to ease of matriculation and graduation of part-time students. Over 90% of the respondents (93.0%) indicated that part-time students are allowed to matriculate towards a degree. Over one-third (38.3%) had no requirement for full-time residency, allowing students to graduate without ever attending full-time. Few of the institutions (19.2%) reported limits on the age of transfer credits, or on the credit age limit for GPA determination (10.3%). Nearly two-thirds (63.9%) of the institutions reported having developed some form of financial aid program for part-time students.

In regards to policies related specifically to older or returning students, respondent institutions provided an average of 5.2 (SD = 1.9) of the 8 alternative mechanisms listed in the questionnaire for providing academic credit. A more complete presentation of alternate credit mechanisms available at respondent institutions is presented in Table XVI.

General Academic Policies and Procedures. Of the institutions responding to the questionnaire, 12.9% offered registration by phone, 5.2% offered registration at the work-place, and nearly one-fourth (23.1%) offer academic courses at corporate sites.

Academic Remediation Programs and Policies. Of the respondent institutions, 70.3% reported offering academic remediation programs. A more specific characterization of academic remediation programming is included as Table XVII.

Student Retention. Respondents were asked to answer questions about the degree of institutional activity during the 1980s in a variety of areas related to improving student retention. The results of these responses are included in Table XVIII.

Administrative Personnel. On the average, the respondent institutions added one new president during the 1980s (SD = 0.8). 24.0% did not hire a new president in the 1980s, 57.1% hired one new president, and the remaining 18.9% hired 2 or more presidents during that time period. Similarly, respondent institutions added an average of 1.2 (SD = 1.1) chief academic officers (C.A.O.) between 1980 and 1989. No new C.A.O. was hired during the 1980s in 22.7% of the respondent colleges, 48.6% hired one, and 28.7% hired two or more. Finally, respondent institutions reported adding an average of 5.0 (SD = 3.6) new top administrators during the 1980s.

Institutional Planning and Research. Respondents to the questionnaire were asked to answer questions related to institutional planning and research activities during the 1980's. Of those responding, 67.3% indicated that the institution was actively involved in formal planning, and 28.1% reported being somewhat involved. Of those responding 85.6% indicated that the institution was involved in short-range planning, 28.7% in

medium-range planning, and 11.5% in long-range planning. Additionally, 39.1% indicated that planning was closely linked to budget, and another 51.2% reported that planning was somewhat linked to budgeting.

TABLE XVI

ALTERNATIVE CREDIT MECHANISMS

Mechanisms	Proportion of Respondents
C.L.E.P. Exam Credit	94.4%
Credit for Directed Studies	92.9%
Advanced Placement Exam Credit	84.5%
Departmental or Institutional Exams	61.8%
Credit for Prior Experiential Learning	53.3%
Credit for Military Experience	52.3%
A.C.T. - P.E.P. Exam Credit	45.9%
Credit for Informal Training	39.4%

Source: Survey response

Respondents were also asked to respond to activities in areas related to the various aspects of Keller's strategic planning during the 1980s. The results of responses to these questions is included in Table XIX.

When asked to respond to the level of institutional research activity, 13.0% classified it as significant, 36.7% classified it as limited, and over half (50.2%) classified it as none.

Engagement of Institutional Consultants. Respondents were asked to characterize the institutional use of external consultants during the 1980s. Of the respondents, 17.6% characterized their use of consultants as extensive, 32.9% as moderate, 41.7% as

occasional, and 7.9% as none. More specific information related to specific types of consulting activity are included in Table XX.

TABLE XVII

ACADEMIC REMEDIATION PROGRAMMING

Primary Audience For Program	Proportion of Respondents	
	Extensive	Limited
English as a Second Language	17.8%	44.6%
Minority	12.3%	29.9%
Returning Adults	08.9%	37.6%
Women	06.6%	17.5%

Source: Survey response

TABLE XVIII

STUDENT RETENTION ACTIVITIES

Retention Strategy	Proportion of Respondents	
	Extensive	Limited
Frosh Orientation Program	68.4%	27.8%
Freshman Advising Program	57.3%	28.4%
Credited Orientation Course	52.1%	47.4%
Career Placement and Planning	39.9%	46.5%
Modification of Academic Advising	29.7%	49.7%
Transfer Student Orientation Program	19.3%	57.1%

Source: Survey response

Student-Faculty Ratio. Of the respondent institutions, 28.2% made an attempt to intentionally increase the student-to-faculty ratio during the 1980s. In 1989, the mean student-to-total-faculty ratio (including full-time and part-time faculty) was 10.5:1 (SD

= 4.0). When calculated only for full-time faculty, the mean ratio was 17.1:1 (SD = 7.8).

TABLE XIX

STRATEGIC ACTION ACTIVITIES DURING THE 1980s - PER KELLER

Assessment Area	Proportion of Respondents	
	Extensive	Somewhat
External Environment	28.8%	59.5%
Student Market	43.1%	52.3%
Competition	19.1%	62.8%
Internal Strengths and Weaknesses	54.4%	42.3%
Institutional Traditions and Values	44.2%	43.3%
Institutional Leadership Potential	29.6%	49.5%

Source: Survey response

TABLE XX

CONSULTING ACTIVITY DURING THE 1980s

Consulting Area	Proportion of Respondents
Strategic Planning	50.9%
Specific Student Populations	36.9%
Long-Range Planning	34.6%
Assessment	31.8%
Mission	17.8%

Source: Survey response

Inclusion of Church Affiliation in Faculty Hiring Processes. Questionnaire respondents were asked to indicate whether church-affiliation was a consideration in

faculty hiring. About one-half (48.6%) of the institutions indicated that church affiliation was a consideration.

Faculty In-Service and Development. Questionnaire respondents were asked to report the degree to which institutions engaged in specific faculty in-service activities during the 1980s. These results are presented in Table XXI.

Institutional Costs. The average change in annual, full-time tuition and fees from Fall, 1980 to Fall, 1989 at institutions in the population was $3,522.33 (SD = 1,517.60). This represents a mean change in tuition and fees of 108.7% (SD = 54.1). The mean change in part-time tuition at the institutions in the population is 101.8% (SD = 66.3). During this same time-period the Employment Cost Index for civilian workers (ECI) increased by 50% and the Consumer Price index (CPI) on all items increased by 55.3% (U.S. Bureau of the Census, 1992).

TABLE XXI

FACULTY IN-SERVICE ACTIVITY IN THE 1980s

In-Service Area	Proportion of Respondents		
	Significant	Limited	Total
International Students	21.6%	52.8%	74.4
Adult Students	16.2%	39.4%	55.6
Student Diversity	10.1%	47.5%	57.6
Minorities	09.7%	48.6%	58.3
Women's Issues	09.7%	35.6%	45.3
Learning Disabilities	05.6%	32.9%	38.5
Part-Time Students	04.6%	26.3%	30.9

Source: Survey response

Presence of External Sources of Funding. When asked to characterize the existence of external sources of funding specifically aimed at enhancing the institution's capacity to initiate new programs and/or planning processes (exclusive of financial aid or endowment funds), approximately one-third (34.1%) indicated that this figure was significant, another one-third (33.2%) indicated that it was limited, and the final third (32.7%) indicated none was available..

Major Strategic Actions Reported by Chief Academic Officers. In an open ended question on the questionnaire, respondents were asked to identify the most important strategic actions in the areas of academic programs, policies and/or personnel influencing enrollments at the institution. They were, further, asked to classify the institutions actions in the early, middle, and late 1980s. The results of these responses in presented in Table XXII.

Question 4: Major Sub-Populations

The fourth research question is, "How do the major sub-populations defined by Carnegie classification, accreditation region, 1980 enrollment, church relatedness, size of the city/town of college residence, and the type of Urban Post-Secondary System vary with regards to major external, institutional, and strategic action variables?"

Carnegie Classification. Of the 294 institutions in the population, 11.3% were classified as Liberal Arts I (LAI) and 88.7% were classified as Liberal Arts II (LAII). The following describes the significant areas of variance at $p \leq 0.05$.

The Liberal Arts I and II sub-populations did not vary significantly on any of the external variables analyzed. With regards to institutional characteristics, however, there

were several significant areas of variance. First, Liberal Arts II colleges were significantly younger then their Liberal Arts I counterparts (LAI, $\bar{X}$ = 125.94 , SD = 59.51; LAII, $\bar{X}$ = 96.07, SD = 42.78; t(34.1) = 2.71, $p \leq 0.05$). In addition, Liberal Arts II colleges were more likely to be church related in 1989 ($\chi^2(1, N = 270) = 26.44$, $p \leq 0.01$), less likely to be an all women's college ($\chi^2(2, N = 274) = 20.48$, $p \leq 0.01$), and were less selective ($\chi^2(3, N = 262) = 41.26$, $p \leq 0.01$).

TABLE XXII

INSTITUTIONAL STRATEGIES FOR INCREASED ENROLLMENTS IN THE 1980s

Strategic Action	Early	Middle	Late
Undergraduate Program Development	27.8%	23.7%	25.3%
Adult Policies/Programs	12.2%	16.0%	18.8%
Marketing/Recruitment	10.4%	22.1%	16.9%
New Administrative Personnel	08.7%	06.1%	07.8%
Improve Program Quality	07.0%	07.6%	09.7%
Student Services Programming	07.0%	12.2%	12.3%
Improve Faculty Quality	05.2%	07.6%	13.6%
Increase Liberal Arts Emphasis	05.2%	03.8%	01.9%
Graduate Programs	05.2%	06.1%	06.5%
Curricular Modifications	04.3%	07.6%	03.2%
Increased Financial Aid	03.5%	06.9%	11.7%
Mission Revision	03.5%	01.5%	02.6%
Lower or Freeze Tuition	03.5%	03.1%	00.6%
Seek Accreditation	03.5%	00.8%	01.3%
Emphasize Career/Professional	03.5%	00.0%	01.9%
Focus/Narrow Programs	02.6%	05.3%	01.9%
Institutional Planning	02.6%	03.8%	05.2%
Co-Curricular Planning	02.6%	03.1%	01.9%
Increase Church Relatedness	02.6%	00.0%	01.3%
International Programming	02.6%	00.8%	07.8%
Increase Selectivity	02.6%	01.5%	05.8%
Strengthen Leadership	02.6%	00.8%	03.2%
Decrease Selectivity	02.6%	00.0%	00.0%
No Action	02.6%	00.8%	00.0%
Retention Program	01.7%	03.8%	05.2%
Improve Advising	01.7%	03.1%	03.2%
Grant Writing/Capitol Campaign	01.7%	05.3%	03.9%
Program Review	01.7%	03.1%	01.3%

TABLE XXII

INSTITUTIONAL STRATEGIES FOR INCREASED ENROLLMENTS IN THE 1980S (continued)

Strategic Action	Early	Middle	Late
Applications	01.7%	03.8%	01.3%
Off-Site Programming	01.7%	01.5%	02.6%
Facilities Development	00.9%	06.9%	04.5%
Administrative Reorganization	00.9%	03.1%	02.6%
Add Faculty	00.9%	03.1%	05.2%
Consultants	00.9%	00.8%	02.6%
Learning Disabled Programming	00.0%	02.3%	01.3%
Visibility Efforts	00.0%	00.8%	02.6%
Cooperatives with Community Colleges	00.0%	00.0%	02.6%
Special Accreditation	00.0%	00.8%	02.6%

Source: Survey response

The colleges in the LAII sub-population were more likely to hold special accreditation ($\chi^2(1, N = 275) = 4.25, p \leq 0.05$). In addition, LAII colleges are more likely to offer Associates degrees than LAI colleges($\chi^2(1, N = 275) = 20.18, p \leq 0.01$). LAII colleges had a significantly higher proportion of their academic programs in professional areas ($t(37.44) = 6.05, p \leq 0.01$).

In 1980, the LAI colleges had significantly higher enrollments than LAII colleges (LAI, $\bar{X} = 712$, SD = 207; LAII, $\bar{X} = 617$, SD = 220; $t(39.17) = 2.37, p \leq 0.05$) and, in the questionnaire, LAII colleges indicated a stronger intent for enrollment increase in the 1980s ($\chi^2(3, N = 201) = 10.80, p \leq 0.05$). LAII colleges exhibited significantly greater numeric (LAI, $\bar{X} = 47.50$, SD = 136.64; LAII, $\bar{X} = 137.69$, SD = 247.74; $t(54.02) = -3.09, p \leq 0.01$) and percent (LAI, $\bar{X} = 9.26$, SD = 26.80;

LAII, $\bar{X}$ = 26.54, SD = 48.69; t(59.14) = -3.01, $p \leq 0.01$) enrollment increases between 1980 and 1989.

The institutions in the Carnegie sub-populations vary along several lines with regards to the nature of the student bodies. LAII institutions showed higher proportions of transfer students (LAI, $\bar{X}$ = 10.68, SD = 11.86; LAII, $\bar{X}$ = 19.56, SD = 17.14; t(48.91) = -3.69, $p \leq 0.01$), part-time students (LAI, $\bar{X}$ = 10.42, SD = 14.00; LAII, $\bar{X}$ = 20.28, SD = 18.05; t(44.85) = -3.54, $p \leq 0.01$), and minority students (LAI, $\bar{X}$ = 9.18, SD = 6.12; LAII, $\underline{M}$ = 20.45, SD = 28.44; t(54.02) = -5.29, $p \leq 0.01$).

Faculty teaching loads at LAII institutions are higher than those for their colleagues in LAI institutions (LAI, $\bar{X}$ = 22.55, SD = 5.07; LAII, $\bar{X}$ = 25.02, SD = 3.26; t(20.80) = -2.13, $p \leq 0.05$). In addition, LAI institutions reported higher proportions of their faculty holding doctoral degrees (LAI, $\bar{X}$ = 65.33, SD = 23.40; LAII, $\bar{X}$ = 41.25, SD = 16.58; t(31.70) = 5.37, $p \leq 0.01$).

Finally, with regards to costs and institutional resources, two variables show significant variance between the two sub-populations. LAI institutions report significantly higher tuition and fees in 1989 (LAI, $\bar{X}$ = 10,547.56, SD = 2,789.12; LAII, $\bar{X}$ = 6,483.86, SD = 1,974.12; t(33.92) = 7.86, $p \leq 0.01$), and also report significantly larger library holdings (LAI, $\bar{X}$ = 205,910, SD = 267,530; LAII, $\bar{X}$ = 91,270, SD = 39,490; t(30.17) = 2.38, $p \leq 0.05$) than their LAII counterparts.

With regards to institutional strategic actions, these sub-populations vary along several variables. LAII colleges are significantly more likely to offer reduced seat-time programs ($\chi^2(1, N = 193) = 6.49$, $p \leq 0.05$) and are more likely to offer seminars for

academic credit ($\chi^2(1, N = 194) = 7.66, p \leq 0.01$). In addition, LAII colleges exhibit higher composite scores for the provision of alternative credit mechanisms (LAI, $\bar{X} = 3.55$, SD = 1.99; LAII, $\bar{X} = 5.40$, SD = 1.79; $t(25.41) = -4.17, p \leq 0.01$).

With regards to strategic actions associated with changes in the nature of the student bodies at LAI and LAII colleges, several significant differences exist. LAII colleges experienced a greater increase in the proportion of students attending part-time (LAI, $\bar{X} = 1.03$, SD = 6.01; LAII, $\bar{X} = 4.89$, SD = 12.15; $t(67.13) = -2.82, p \leq 0.01$). LAII colleges also reported a significantly higher average age of new students (LAI, $\bar{X} = 18.10$, SD = 0.31; LAII, $\bar{X} = 19.03$, SD = 2.14; $t(254.93) = 6.08, p \leq 0.01$) and a higher average proportion of students over the age of 25 (LAI, $\bar{X} = 12.11$, SD = 15.67; LAII, $\bar{X} = 24.62$, SD = 20.96; $t(41.57) = -3.79, p \leq 0.01$).

Accreditation Region. Colleges in the population are distributed by accreditation region is the following manner: Middle States, N=33, 11.2%; New England, N=23, 7.8%; North Central, N=115, 39.1%; Northwest, N=14, 4.8%; Southern, N=91, 31.0%; and Western, N=18, 6.1%. The distribution of these institutions by size of city demonstrates that colleges in the West and Northwest regions are more likely to be in larger cities ($\chi^2(25, N = 291) = 46.03, p \leq 0.01$). Also, colleges in the Middle States region have more baccalaureate granting institutions within 50 miles than those in the North Central and Southern regions (ANOVA ≤ 0.01, $F = 4.6903$, df = 5,193).

The sub-populations formed by accreditation region vary significantly on a number of internal characteristics. Colleges in the Southern and North Central regions are older than their counterparts in the New England, Western, and Northwest regions

(ANOVA $\leq$ 0.01, F = 6.2135, df = 5,285). In addition, colleges in the Southern and Western regions are more likely to be majority-minority (over 50% of enrolled students are classified as minority) colleges (χ^2(5, N = 279) = 33.02, p $\leq$ 0.01).

Colleges in the Northwest region are more likely to have a quarter academic calendar (χ^2(5, N = 214) = 13.24, p $\leq$ 0.05). Colleges in the Southern and Western regions are less likely to offer Associates degrees (χ^2(5, N = 293) = 19.73, p $\leq$ 0.01). Those institutions in the North Central and Southern regions are less likely to offer Masters degrees than those in other regions (χ^2(5, N = 293) = 18.98, p $\leq$ 0.01).

Colleges in the New England region had lower enrollments in 1980 than those in the Middle States, North Central, and Southern regions. In addition, colleges in the Western region had lower enrollments in 1980 than those in the Southern region (ANOVA $\leq$ 0.01, F = 5.5914, df = 5,286). In 1989, Colleges in the New England region had lower enrollment than those in the Middle States and Southern regions. In addition, colleges in the Western region had lower enrollments in 1989 than those in the Middle States region (ANOVA $\leq$ 0.01, F = 3.9305, df = 5,288).

Colleges in these sub-populations vary with regards to the nature of the student body along several variables. Colleges in the Middle States region had a higher proportion of female students in 1989, than those in the North Central and Southern regions (ANOVA $\leq$ 0.01, F = 6.4091, df = 5,271). In 1989, colleges in the Southern region had significantly lower proportion of transfer students than those in the North Central, Western and Northwestern regions. In addition, colleges in the New England

region had significantly lower proportion of transfer students than those in the Northwest region (ANOVA $\leq$ 0.01, F = 5.4338, df = 5,271).

Colleges in the Southern region in 1989 had significantly lower proportion of part-time students than those in the Middle States and Northwest regions (ANOVA $\leq$ 0.01, F = 4.1884, df = 5,270). In 1989, colleges in the Southern region had significantly higher proportion of minority students than those in the Middle States, New England, and North Central regions (ANOVA $\leq$ 0.01, F = 7.3367, df = 5,287). Colleges in the Western region in 1989 had significantly higher proportion of international students than those in the Middle States, Southern, and North Central regions (ANOVA $\leq$ 0.01, F = 5.7905, df = 5,258). Finally, in 1989, colleges in the Western region had significantly higher proportion of part-time students than those in the Southern and North Central regions (ANOVA $\leq$ 0.01, F = 5.0011, df = 5,276).

In looking at the characteristics of the faculty at sub-population institutions in 1989, it was reported that colleges in the Southern region had a higher proportion of faculty with doctorates than those in the North Central and Northwest regions (ANOVA $\leq$ 0.01, F = 6.9051, df = 5,268).

Finally, when analyzing differences in institutional costs and resources, it was determined that colleges in the Middle States and New England regions had higher tuition and fees in 1980 and 1989 than those in the Northwest, North Central, and Southern regions (1980, ANOVA $\leq$ 0.01, F = 8.8896, df = 5,282; 1989, ANOVA $\leq$ 0.01, F = 10.3532, df = 5,288). In addition, colleges in the Western region had more library

volumes in 1989 than those in any of the other regions (ANOVA $\leq$ 0.01, F = 4.1010, df = 5,282).

When analyzing institutional strategic action variables, institutions in these sub-populations exhibited several significant points of variance. Colleges in the North Central and Middle States regions were more likely to decrease student selectivity during the 1980s (χ^2(5, N = 213) = 12.01, p $\leq$ 0.05). In addition, colleges in the Southern region had smaller proportions of students over the age of 25 than those in the Middle States and Northwest regions (ANOVA $\leq$ 0.01, F = 3.9180, df = 5,242). Colleges in the Middle States region reported higher faculty development activities than those in the Western region (ANOVA $\leq$ 0.01, F = 3.0982, df = 5,212). Finally, colleges in the Middle States Region had greater percent increase in tuition and fees ($\bar{x}$ = 135.9%, SD = 128.6) than those in the North Central ($\bar{x}$ = 103.6%, SD = 30.6) and Southern regions ($\bar{x}$ = 101.1, SD = 34.2) (ANOVA $\leq$ 0.01, F = 2.4663, df = 5,282).

1980 Enrollments. In order to determine the sub-population differences in institutions based on 1980 enrollments, the institutions were divided into four groups based on by quartiles of 1980 total enrollment. The only external variable on which there was significant variance in the sub-populations was accreditation Region. Colleges with larger 1980 enrollments were more likely to be in the Middle States and Southern regions, while those with lower enrollments were more likely to be in the New England, Northwest and Western regions (χ^2(15, N = 292) = 32.53, p $\leq$ 0.01).

There are several internal variables that show significant variance within the sub-populations. With regards to institutional history, values and tradition, the lowest

enrollment quartile colleges in 1980 were the youngest colleges (ANOVA $\leq$ 0.01, F = 7.4723, df = 3,285). Additionally, lower enrollment quartile colleges were less likely to be church related (χ^2(3, N = 287) = 10.72, p $\leq$ 0.05). Finally, higher enrollment quartile colleges exhibited higher freshman selectivity (χ^2(9, N = 278) = 29.31, p $\leq$ 0.01) and were more likely to have special accreditation (χ^2(3, N = 291) = 17.35, p $\leq$ 0.01).

The student body of the institutions in the sub-populations varied along several variables. First, the lowest enrollment quartile colleges had a lower proportion of females than those in the second and third quartiles (ANOVA $\leq$ 0.01, F = 5.3334, df = 3,271). In addition, colleges in the lowest enrollment quartile had higher proportions of transfer students than any other quartile (ANOVA $\leq$ 0.01, F = 5.2498, df = 3,271).

With regards to enrollments, the mean enrollments in 1989 increased corresponding to the quartile enrollments in 1980 (ANOVA $\leq$ 0.01, F = 73.1045, df = 3,288). In addition, colleges in the lowest enrollment quartile in 1980 showed greater percent enrollment increases than those in the highest quartile (ANOVA $\leq$ 0.01, F = 4.3402, df = 3,288).

Colleges in the highest enrollment quartile had higher proportions of faculty holding doctorates than those in the lowest quartile (ANOVA $\leq$ 0.01, F = 3.7380, df = 3,268). Additionally, colleges in the lowest enrollment quartile had lower tuition and fees in 1989 than colleges in any other quartile (ANOVA $\leq$ 0.01, F = 7.4318, df = 3,288). Finally, colleges in the lowest enrollment quartile have fewer library volumes

than those in the third and the highest quartiles (ANOVA $\leq$ 0.01, F = 6.1564, df = 3,282).

With regards to strategic actions, colleges in the highest enrollment quartile were less likely to provide financial aid for part-time students ($\chi^2(3, N = 203) = 9.73, p \leq 0.05$). Colleges in the lowest enrollment quartile in 1980 had a higher average age of new students than any other quartile (ANOVA $\leq$ 0.01, F = 11.2188, df = 3,268). Colleges in the lowest enrollment quartile in 1980 had a higher proportion of students over the age of 25 than any other quartile (ANOVA $\leq$ 0.01, F = 5.8058, df = 3,243).

Colleges in the lowest enrollment quartile in 1980 had a lower composite score for retention activities (ANOVA $\leq$ 0.01, F = 6.9023, df = 3,207), and a lower composite score for faculty development activities (ANOVA $\leq$ 0.01, F = 3.6476, df = 3,212) than colleges in the third and the highest quartile.

Church-Relatedness. The majority of institutions within the population are church-related (83.7%). With regards to environmental factors, these sub-populations varied along two variables. Church related colleges were more likely to be located in the North Central and Southern regions and non-Church Related colleges were more likely to be found in the New England and Western regions ($\chi^2(5, N = 294) = 42.93, p \leq 0.01$). In addition, church related colleges are more likely to be in an area served by a community college ($\chi^2(1, N = 213) = 4.62, p \leq 0.05$).

Significant variance on variables related to institutional values, traditions and history include frosh selectivity. Church related colleges are more likely to have minimal or moderate difficulty and non-church related colleges are more likely to be very difficult

($\chi^2(3, N = 280) = 7.14, p \leq 0.01$). Church related colleges are more likely to hold special accreditation ($\chi^2(1, N = 293) = 8.45, p \leq 0.01$). Additionally, church related colleges are more likely to offer AA degrees ($\chi^2(1, N = 293) = 2.76, p \leq 0.05$). Finally, church related colleges are less likely to be Liberal Arts I colleges ($\chi^2(1, N = 275) = 20.28, p \leq 0.01$).

With regards to institutional enrollment variables, church related colleges had larger enrollments in 1980 (Church-related, $\bar{X} = 635.15$, SD = 219.64; Non-church-related, $\bar{X} = 508.85$, SD = 247.76; $t(59.26) = -3.22, p \leq 0.01$), and in 1989 (Church-related, $\bar{X} = 753.33$, SD = 306.81; Non-church-related, $\bar{X} = 595.16$, SD = 307.77; $t(65.01) = -3.23, p \leq 0.01$). Additionally, church related colleges had a lower proportion of faculty with doctorates (Church-related, $\bar{X} = 42.06$, SD = 16.66; Non-church-related, $\bar{X} = 52.26$, SD = 26.70; $t(65.01) = -3.23, p \leq 0.01$). Finally, church related colleges had lower tuition and fees in 1989 (Church-related, $\bar{X} = 6,434.34$, SD = 1,894.14; Non-church-related, $\bar{X} = 8,897.29$, SD = 3,806.95; $t(50.51) = 4.33, p \leq 0.01$).

Significant variations in strategic actions within the sub-populations include the finding that church related colleges are more likely to offer reduced seat-time programs ($\chi^2(1, N = 209) = 12.77, p \leq 0.01$), experienced a greater increase in part-time student enrollments (Church-related, $\bar{X} = 4.99$, SD = 11.84; Non-church-related, $\bar{X} = 1.72$, SD = 9.27; $t(71.14) = -2.02, p \leq 0.05$), had a higher composite score for retention activities (Church-related, $\bar{X} = 7.57$, SD = 2.48; Non-church-related, $\bar{X} = 6.03$, SD = 2.28; $t(47.06) = -3.50, p \leq 0.01$), and had a higher composite score for alternate credit

mechanisms (Church-related, $\bar{X} = 5.38$, SD = 1.74; Non-church-related, $\bar{X} = 3.94$, SD = 2.35; $t(40.18) = -3.39$, $p \leq 0.01$).

Size of Community. Colleges in the population are distributed by city size in the following manner: Rural, N = 30, 10.3%; Small Town, N = 56, 19.2%; Large town, N = 100, 34.4%; Small city, N = 64, 22.0%; Large and very large city, N = 41, 14.1%. Rural colleges are more likely to be in the Middle States and Southern regions, "Town" colleges in the North Central region, and "City" colleges in the Southern and Western regions ($\chi^2(10, N = 291) = 26.93$, $p \leq 0.01$). In addition, the larger the city, the more likely the institution is to share the area with a community college ($\chi^2(2, N = 210) = 15.12$, $p \leq 0.01$).

With regards to institutional characteristics, the percent of part-time students is higher in large towns, small cities, large cities and very large cities than in rural locations (ANOVA ≤ 0.01, $F = 6.3963$, df = 4, 268). Colleges in large and very large cities had higher proportions of international students than in any other location (ANOVA ≤ 0.05, $F = 2.6380$, df = 4,258). Colleges in large and very large cities had a higher proportion of graduate students than those in rural, small town, or large town locations (ANOVA ≤ 0.01, $F = 3.4212$, df = 4,274). Colleges in rural locations had a higher proportion of faculty with doctorates than those in small cities (ANOVA ≤ 0.05, $F = 2.9539$, df = 4,267). Rural colleges had smaller numeric changes in enrollments than those in large and very large cities (ANOVA ≤ 0.05, $F = 2.4804$, df = 4,284).

The institutions in the sub-population vary significantly on two strategic action variables. Rural and small town colleges had a lower proportion of students over the age

of 25 than colleges in large town, small city, large and very large city location (ANOVA ≤ 0.01, $F = 6.7469$, $df = 4,241$), and colleges in large and very large cities had higher composite scores on alternative credit mechanisms than those in rural and small city locations (ANOVA ≤ 0.05, $F = 2.9984$, $df = 4,206$).

Upon reviewing the data on proximity of colleges in various city sizes to community colleges and major state universities, as well, as their inclusion in Consolidated Metropolitan Statistical Areas (CMSAs), it was determined that a more discerning analysis should be completed, separating institutions in "true" rural areas from those in "true" urban areas. In order to complete this analysis, the two populations compared were those institutions located in one of the nation's twenty CMSAs, the "true urban" colleges ($N = 52$), and those institutions defined as located in a rural setting, and not part of a CMSA ($N = 30$). These latter institutions are classified as "true rural."

The "true rural" and "true urban" colleges varied significantly on three major external variables. "True urban" institutions were more likely to be found in the Middle States, Northwest and Western regions, whereas the "true rural" institutions were more likely to be found in the North Central and Southern regions ($\chi^2(5, N = 82) = 29.87$, $p \leq 0.01$). "True urban" colleges were more likely to be present in an area served by a community college ($\chi^2(1, N = 56) = 4.38$, $p \leq 0.05$). Finally, "true urban" colleges had significantly more baccalaureate granting institutions within 50 miles of the campus ("True urban", $\bar{X} = 18.97$, $SD = 14.07$; "True rural", $\bar{X} = 6.94$, $SD = 3.58$; $t(39.30) = -4.63$, $p \leq 0.01$).

With regards to internal characteristics, "true urban" institutions were significantly younger than "true rural" institutions ("True urban", $\bar{X}$ = 73.73, SD = 37.75; "True rural", $\bar{X}$ = 105.90, SD = 44.33; t(51.00) = 3.29, $p \leq 0.01$). In addition, "true urban" institutions were more likely to offer Masters degrees ("True urban", $\bar{X}$ = 46.20, SD = 53.80; "True rural", $\bar{X}$ = 20.00, SD = 80.00; t(1.82) = 5.61, $p \leq 0.05$). A higher proportion of the faculty in "true rural" colleges had doctoral degrees ("True urban", $\bar{X}$ = 42.88, SD = 18.95; "True rural", $\bar{X}$ = 53.67, SD = 21.41; t(51.50) = 2.20, $p \leq 0.05$).

Significant differences in the nature of the student body of these institutions include the finding that "true urban" institutions had a larger proportion of transfer ("True urban", $\bar{X}$ = 23.37, SD = 23.57; "True rural", $\bar{X}$ = 14.86, SD = 11.03; t(71.48) = -3.40, $p \leq 0.01$), part-time ("True urban", $\bar{X}$ = 24.54, SD = 21.97; "True rural", $\bar{X}$ = 7.41, SD = 6.56; t(59.72) = -5.04, $p \leq 0.01$), and graduate students ("True urban", $\bar{X}$ = 10.46, SD = 18.01; "True rural", $\bar{X}$ = 1.82, SD = 4.54; t(59.09) = -3.22, $p \leq 0.01$).

These populations varied significantly on two primary strategic actions. "True urban" institutions saw more growth in graduate student enrollments ("True urban", $\bar{X}$ = 5.09, SD = 9.10; "True rural", $\bar{X}$ = 1.58, SD = 4.80; t(73.94) = 2.20, $p \leq 0.05$), and had more students over the age of 25 ("True urban", $\bar{X}$ = 32.72, SD = 23.14; "True rural", $\bar{X}$ = 9.92, SD = 12.03; t(70.82) = -5.54, $p \leq 0.01$).

Robertson's U.P.S. Classification. Colleges in the population are distributed by Robertson's Urban Post-Secondary System classification in the following manner: Type

I - Complete, N=30, 57.5%; Type II - Middleless, N=16, 30.8%; Type III - Bottomless, N=4, 7.7%; and, Type IV - Topless, N=2, 3.8%. These sub-populations varied on only one major variable. Complete systems were more likely to be found in the Middle States and Western regions, middleless systems were more likely to be found in the Northwestern region, bottomless systems were more likely to be found in the New England region, and topless systems were more likely to be found in the Southern region ($\chi^2(15, N = 52) = 101.68, p \leq 0.01$).

SECOND RESEARCH FOCUS

The second research focus is an examination of the relationship between the research variables and the dependent variable, percent change in enrollment between 1980 and 1989. The research variables are again categorized according to the theoretical framework of the study. They are divided into environmental, institutional and strategic action variables.

This research focus includes both a description of the relationships between the variables as well as their potential explanation. Research questions 5,6, and 7 focus on each of these major categories of variables; environmental (Question 5), institutional (Questions 6), and strategic actions (Question 7). Question 8 characterizes and will attempt to explain the relationships of all of the significant variables, taken together, and the dependent variable.

The Analysis Process

In all of the questions in this research focus the first step of analysis involves the description of the relationships between the variables and the dependent variable, percent change in enrollment from 1980 to 1989. Initially, correlations were determined by using the appropriate test, either the Spearman's correlation for ordinal variables, or Pearson Product-Moment correlation for interval and ratio variables. Of the 854 variables, scales, and dummy variables, 117 correlated with the dependent variable, at $p \leq 0.05$. The total list of variables and the correlations are listed in Appendix B.

Next, the statistically significant variables were subjected to the rules for substantive significance outlined in Table I. The purpose of this step of analysis was to develop a list of substantive variables for each category which could reasonably be used in the development of an explanatory model based on causal inference. If the variable was determined to lack compliance with one or more of the rules it was judged to be non-substantive for this application. If the variable was judged to be in compliance with all of the rules it was included as substantive. If the variable showed questionable compliance with one or more of the rules, judgements on inclusion as a substantive variable was made on an individual basis. A compilation of the application of the rules for substantive significance to all 117 statistically significant variables and the decision on their inclusion in the explanatory model is included in Appendix C.

Finally, the substantively significant variables were subjected to factor analysis in an attempt to summarize the inter-relationships among the variables in a concise manner. Each factor created represents an area of generalization that is substantively

distinct from that represented by other factors. The factors are then characterized and described, and factor scores are calculated on each factor for each case.

The second major step of analysis in this research focus involves the development of tentative explanatory models for the relationships between the identified substantive variables and the dependent variable, percent change in enrollment from 1980 to 1989. This step includes an attempt to explain the variance in the dependent variable by completing multiple regression analysis with the three categories of factors, as well as all of the factors taken together. A summary of the number of variables and factors identified in each category, at each step of the analysis is included as Appendix D.

Question 5

The fifth research question is, "In what ways do the external environmental characteristics of the colleges in the population relate to enrollment changes from 1980 to 1989?"

A complete listing of the 95 variables, scales and dummy variables associated with the institutional environments, and divided into major sub-categories, is included in Appendix B. Of those variables, nine correlate with percent change in enrollment at $p \leq 0.05$. These variables are included in Table XXIII.

The correlations represent either a Pearson's Product-Moment correlation or a Spearman's correlation dependent upon the nature of the variables. The direction of the correlation is signified by the sign preceding the value. The collapsed variable labeled "Keller's Market" represents a composite variable composed of self-reported external

factors related to market preferences, perceptions and directions as defined by Keller (1983).

After applying the rules for statistical and substantive significance (Table I), three substantively significant variables remained. These variables are marked (†) in Table XXIII. The variables associated with increased rate of attendance of adults, state tuition increase or enrollment limits, increased rate of attendance of 18-22 year-olds, regional population growth, and declining 18-22 year old population, were eliminated as perceptual data (rule 6). The collapsed variable, "Keller's Market" was eliminated due to significant overlap with other variables (rule 4). Of the three remaining variables, rural location in 1989, and number of local baccalaureate colleges were judged to meet all of the rules for statistical and substantive significance. Finally, while it is difficult to be certain about the timing of increase in local population (questionable compliance with rule 1), it is probable that the increase occured over an extended period during the 1980s. As a result, this variable was also included as a substantive variable (Appendix C)

When the three remaining variables were subjected to factor analysis, two factors with eigenvalues greater than 1.0 were extracted. These factors are described in Table XXIV.

Multiple linear regression was used to determine the degree to which the factor scores on these external factors explained the variance in the percent change in enrollment from 1980 to 1989, in the institutions in the population. The PIN was set at

0.050 and the POUT at 0.100. Stepwise entry was utilized along with listwise deletion. The results of the multiple linear regression is presented in Table XXV.

TABLE XXIII

STATISTICALLY SIGNIFICANT EXTERNAL VARIABLES

Category Variable	Correlation
Environmental Trends	
Increase in Rate of Attendance of Adults - Survey	0.1995**
State Tuition Increase or Enrollment Limits - Survey	0.1774*
Increase in Rate of Attendance of 18-22 Year-olds	0.1615*
Regional Population Growth - Survey	0.1525*
Decline in 18-22 Year-Old Population - Survey	0.1501*
†Increase in Local Population	0.1317*
†Rural, 1989	-0.1156*
The Market	
Collapsed Variable - Keller's Market	0.1610*
Competition	
†Number of Local Baccalaureate Colleges	-0.1424*

* - $p \leq 0.05$
** - $p \leq 0.01$
† - meets requirements for statistical and substantive significance

TABLE XXIV

EXTERNAL FACTORS - SUBSTANTIVELY SIGNIFICANT EXTERNAL VARIABLES

Factor	Variables
Factor I - Community Size	Increase in Size of Local Population Rural Location in 1989
Factor II - Competition	Number of Baccalaureate Colleges Within 50 Miles

TABLE XXV

MULTIPLE LINEAR REGRESSION - EXTERNAL FACTORS

(Number of cases in analysis = 188)

Step	R^2	Δ R	FACTOR ENTERED	T	PROB.
1	0.024	-	External Factor 1	2.120	0.035
Total model F = 4.494, Prob. = 0.035					

According to this model, only External Factor 1, Community Size, significantly explained variance in the dependent variable. Taken by itself, this factor explained 2.41% of the variance in percent change in enrollment from 1980 to 1989. Factor 2, competition, did not significantly explain any additional variance and, therefore, was not entered into the model.

Question 6

The sixth research question is, "In what ways do the internal institutional characteristics of the colleges in the population relate to enrollment changes from 1980 to 1989?"

A complete listing of the 284 variables, scales and dummy variables associated with the internal institutional characteristics, divided into the major sub-categories, is included in Appendix B. Of those variables, 50 correlate with percent change in enrollment at $p \leq 0.05$. These variables are included in Table XXVI.

After applying the rules for statistical and substantive significance (Table I), three of the variables, age of the college, men's college, and majority minority, were judged

to meet all of the rules of substantive significance. Five variables were judged to have questionable compliance with the rule on temporal sequencing. These were percent of programs in the Liberal Arts, regional accreditation in 1989, number of professional programs, average age of students, and percent of students over the age of 25. The nature of all of these variables, imply however, that a significant amount of time was required to achieve or acquire the attribute. They were, therefore, included among the substantive variables. A ninth variable, Carnegie classification, likely includes overlap with other included and non-tested variables. Because a portion of the variable reflects features of the institutions unique from other substantive variables, it was added to the list of substantive variables. All other variables were eliminated based on one or more of the rules for inclusion (Appendix C). When the nine remaining variables were subjected to factor analysis by principle components analysis, four factors with eigenvalues greater than 1.0 were extracted. These factors are described in Table XXVII.

TABLE XXVI

STATISTICALLY SIGNIFICANT INTERNAL VARIABLES

Category Variable	Correlation
Traditions, Values and Aspirations	
†Age of the College	-0.1560**
Catholic	0.1349*
Presbyterian	0.1216*
"European Enclave" Colleges	0.1893**
"African American" Colleges	-0.1538*
†Mens' College, 1989	0.3462*
Enrollment Intent	0.2203**
Intend Increase	0.1768**
Intend Decrease	-0.1802**
Minimal Difficulty	-0.1375*

TABLE XXVI

STATISTICALLY SIGNIFICANT INTERNAL VARIABLES
(continued)

Category Variable	Correlation
Traditions, Values and Aspirations (continued)	
†Percent of Programs in the Liberal Arts	-0.1403*
Internal Strengths and Weaknesses	
Regionally Accredited, 1980	0.1175*
†Regionally Accredited, 1989	0.1674*
Total Enrollment, 1980	-0.2196**
Total Enrollment, 1989	0.4666**
†Carnegie Classification	0.1234*
Number of Full-Time Faculty	0.1458*
Total Number of Faculty	0.2923**
Tuition and Fees, 1989	0.1232*
Undergraduate F-T enrollment, 1980	-0.2415**
Undergraduate F-T enrollment, 1989	0.2711**
Undergraduate F-T male enrollment, 1980	-0.1274*
Undergraduate F-T male enrollment, 1989	0.1344*
Undergraduate F-T female enrollment, 1980	-0.2120**
Undergraduate F-T female enrollment, 1989	0.2845**
Change in Enrollment, Number	0.8603**
Undergraduate P-T enrollment, 1989	0.4401**
Undergraduate P-T male enrollment, 1989	0.3836**
Undergraduate P-T female enrollment, 1989	0.4162**
Percent Part-Time, 1980	0.1541**
Percent Part-Time, 1989	0.2927**
Percent Part-Time, 1989 Quartiles	0.2942**
Percent Female, 1989	0.2008**
†Majority-Minority College	-0.1709**
Percent Transfer, 1989	0.1763**
†Number of Professional Programs	0.1714*
National Recruitment Market	-0.1637*
Change in Frosh Retention	0.1422*
Change in Overall Retention	0.1412*
CAEL Membership	0.1471*
"Other" Memberships - National - General	-0.3170*
Low Morale - Survey	-0.1632*
Weak Marketing - Survey	0.1670*
†Average Age of New Students	0.1438*
†Percent of Students Over the Age of 25	0.2677**
Student:Full-Time Faculty Ratio	0.4769**
Student:Full-Time Faculty Ratio - Quartile	0.3760**
Student:Total Faculty Ratio	0.2781**

TABLE XXVI

STATISTICALLY SIGNIFICANT INTERNAL VARIABLES
(continued)

Category Variable	Correlation
Internal Strengths and Weaknesses (continued)	
Student:Total Faculty Ratio - Quartile	0.2925**
Leadership	
President's First Year	-0.1182*

* - $p \leq 0.05$
** - $p \leq 0.0$
† -meets requirements for statistical and substantive significance

TABLE XXVII

INTERNAL FACTORS - SUBSTANTIVELY SIGNIFICANT INTERNAL VARIABLES

Factor	Variables
Factor 1 - Age of Students	Percent of Students Over the Age of 25 Average Age of New Students Year College Founded‡
Factor 2 - Professional Versus Liberal Arts Programs	Number of Professional Programs Percent of Programs in the Liberal Arts
Factor 3 - Image Factor 1	Majority-Minority Carnegie Classification
Factor 4 - Image Factor 2	Regionally Accredited in 1989 Men-Only College in 1989

‡ - It was determined that younger colleges have significantly older students and significantly more students over the age of 25 (Average Age: ANOVA ≤ 0.01, $F = 6.634$, $df = 3, 244$; Pearson product-moment correlation $= 0.2745$, $p \leq 0.01$; Percent of Students Over 25: ANOVA ≤ 0.01, $F = 7.370$, $df = 3, 267$ Pearson product-moment correlation $= 0.2749$, $p \leq 0.01$)

Multiple linear regression was used to determine the degree to which the factor scores on the internal factors listed in Table 30 explained the variance in the percent change in enrollment in the institutions in the population from 1980 to 1989. The PIN was set at 0.050 and the POUT at 0.100. Stepwise entry was utilized along with listwise deletion. The results of the multiple linear regression are presented in Table XXVIII.

TABLE XXVIII

MULTIPLE LINEAR REGRESSION - INTERNAL FACTORS

(Number of cases in analysis = 288)

Step	R^2	Δ R	FACTOR ENTERED	T	PROB.
1	0.068	-	Internal Factor 1	4.585	0.000
2	0.087	0.019	Internal Factor 4	2.504	0.012
3	0.100	0.013	Internal Factor 2	-1.986	0.048

Total model F = 10.635, prob. = 0.000

According to this model, three of the four internal factors (factors 1,2, and 4) significantly explain variance in the dependent variable. The first factor entered into the model is internal factor 1, age of students. This factor explained 6.8% of the variance in the dependent variable. The second factor entered was factor 4, a group of variables effecting institutional image. Factor 4 explained an additional 1.9% of the variance in the dependent variable. The last factor to be entered into this model was factor 2, professional versus liberal arts programs. This factor explained the last 1.3% of the variance in the dependent variable explained in the model. The complete model explained a total of 10.0% of the variance in percent change in enrollment from 1980 to 1989 in

institutions within the population. Factor 3, image factor 1, did not significantly explain any additional variance and, therefore, was not entered into the model.

Question 7

The seventh research question is, "In what ways do the academic strategic actions of the colleges in the population relate to enrollment changes from 1980 to 1989?"

A complete listing of the 483 variables, scales and dummy variables associated with the institutional strategic actions is included in Appendix B. Of those variables, fifty-eight correlate with percent change in enrollment at $p \leq 0.05$. These variables are included in Table XXIX.

After applying the rules for statistical and substantive significance (Table I), eighteen significant variables were judged to be substantive. Four of the variables were judged to meet all of the rules. These were change in proportion of professional programs, change in percent part-time students, change in percent female students, and change in percent transfer students. Six additional variables exhibited questionable compliance with the time sequence rule but met all other rules. Included among these were adult programs, reduced seat-time programs, seminars, special freshman advising programs, financial aid for part-time students, and assessment of institutional strengths and weaknesses. Due to the fact that these variables describe characteristics which require some time for development and implementation, they were included among the substantive variables. Another six variables were judged to have questionable compliance with the rule on reasonable directionality, i.e. the existance of reasonable rationale for alternative directional relationships can be constructed. The variables in this category

were the addition of Masters degree programming, credit for prior experiential learning, credit for military experience, credit for informal training, credit for directed studies, and change in academic calendar. Because a strong case for directionality as predicted by the model could be constructed, these variables were included among the substantive variables. The two remaining variables were directly related to one another and exhibited questionable compliance with two of the rules, that of the perceptual nature of the variables, and the reasonable directionality of the relationships. These two variables related to student selectivity, both maintenance and increase. Further analysis of these variables showed that responses to the specific question on change in selectivity covaried positively ($+0.2000$, $p \leq 0.05$) with listing the use of increasing selectivity as a strategic action for enrollment increase in the open-ended questions on the survey. Additionally, increasing or maintaining selectivity did not correlate significantly with 1980 enrollments, but did with 1989 enrollments ($p \leq 0.01$). This indicates that the use of the strategy was not dependent on the initial size of the institution, i.e. it is not supported that only larger institutions increased selectivity. Because of these findings, and because a reasonable case could be made for the directionality predicted by the model, these two variables were included as substantive variables. It is possible, however, that these variables may reflect a reciprocal relationship with the dependent variable, i.e. increased selectivity both causes and is caused by increasing enrollments. Thus, caution in interpretation must be exercised. All other variables in this category were eliminated on the basis of one or more of the rules of inclusion. When the eighteen remaining variables were subjected to

factor analysis, eight factors with eigenvalues greater than 1.0 were extracted. These factors are described in Table XXX.

TABLE XXIX

STATISTICALLY SIGNIFICANT STRATEGIC ACTION VARIABLES

Category Variable	Correlation
Mission and Values	
†Increase in Proportion of Professional Programs	0.1780*
Change in Selectivity	0.1455*
†Maintain Level of Selectivity	-0.1682*
†Increase in Selectivity	0.1726*
†Assess Institutional Strengths and Weaknesses	0.1582*
New Student Populations	
Percent Change in Undergrad F-T Enrollment	0.7342**
Percent Change in Undergrad F-T Female Enrollment	0.7023**
Percent Change in Undergrad P-T Enrollment	0.4251**
Percent Change in Undergrad P-T Male Enrollment	0.3143**
Percent Change in Undergrad P-T Female Enrollment	0.3088**
†Change in Percent Part-Time Students	0.2637**
Change in Percent Part-Time Students - Quartiles	0.2000**
†Financial Aid for Part-Time Students	0.1517*
Change in Percent Black Students	-0.2320**
Change in Percent Black - Quartiles	-0.1751**
Change in Percent Minority	-0.1539*
Change in Percent Minority - Quartiles	-0.2269**
†Change in Percent Female - Quartile	0.1553*
Remediation for Females	-0.1957**
†Change in Percent Transfer	0.1568*
Change in Percent Transfer - Quartile	0.1520*
New Programs and Program Elements	
†Add Masters Degree	0.1501*
Graduate Enrollment Percent Change	0.4279**
Undergraduate Enrollment Percent Change	0.9098**
Change in Proportion of Graduate Students	0.1426*
Change in Proportion of Undergraduate Students	-0.1426*
†Adult Program Development	0.2546**
†Reduced Seat-Time Program Development	0.1866**
†Seminars for Credit	0.2391**
Academic Services and Policies	
†Credit for Prior Experiential Learning	0.2311**
†Credit for Military Training	0.1953**
†Credit for Informal Training	0.1567*
†Credit for Directed Studies	0.1569*

TABLE XXIX

STRATEGICALLY SIGNIFICANT STRATEGIC ACTION VARIABLES
(continued)

Category Variable	Correlatio
Academic Services and Policies (continued)	
Total Alternate Credit Mechanisms	0.2476**
†Change in Academic Calendar	0.1557*
Faculty	
Faculty In-Service on Diversity	0.1831
Costs	
Dollar Amount change in Tuition and Fees - Quartile	0.1362*
Percent Change in Total Costs	0.1395*
Percent Change in Tuition and Fees	0.1383*
Retention Activities	
†Frosh Advising Program	
Early 1980's Strategies	-0.1530
Early Strategy - New Administrative Personnel	-0.1874*
Early Strategy - Adult Program and Policy	0.1893*
Early Strategy - Staff Down-sizing	-0.2190*
Middle 1980's Strategies	
Middle Strategy - New Administrative Personnel	-0.2589**
Middle Strategy - Adult Program and Policy	0.2792**
Middle Strategy - Financial Controls	0.1892**
Middle Strategy - Collapsed - New Student Pools	0.2017*
Late 1980's Strategies	
Late Strategy - Institutional Planning	-0.1803*
Late Strategy - Graduate Program Development	0.1923*
Late Strategy - Student Outcomes Focus	-0.1803*
Late Strategy - Co-Curricular Program Development	0.1870*
Late Strategy - Collapsed - Management and Administration	-0.1793*
Total 1980's Strategies	
Total Strategy - New Administrative Personnel	-0.2249*
Total Strategy - Adult Program and Policy	0.3487**
Total Strategy - Staff Down-sizing	-0.2190*
Total Strategy - Collapsed - Management & Administration	0.1801*
Total Strategy - Collapsed - New Student Pools	0.1801*
Total Strategy - Collapsed - New Admin. Personnel	-0.1585*

* - $p \leq 0.05$
** - $p \leq 0.01$
† - meets requirements for statistical and substantive significance

Multiple linear regression was used to determine the degree to which these strategic action factors explain the variance in the percent change in enrollment in the institutions in the population from 1980 to 1989. The PIN was set at 0.050 and the POUT at 0.100. Stepwise entry was utilized along with listwise deletion. The results of the multiple linear regression is presented in Table XXXI.

TABLE XXX

STRATEGIC ACTION FACTORS - SUBSTANTIVELY SIGNIFICANT STRATEGIC ACTION VARIABLES

Factor	Variables
Factor 1 - Adult Programs and Policies	Adult Program Development Credit for Informal Training Programs Reduced Seat-Time Programs Credit for Military Activities Credit for P.L.E.
Factor 2 - Student Selectivity	Increase Selectivity Maintain Selectivity
Factor 3 - Internal Institutional Response	Implement Freshmen Advising Program Assess Institutional Strengths and Weaknesses
Factor 4 - Non-Traditional Student Strategies	Change in Percent Female Offering Seminars for Academic Credit Financial Aid for Part-Time Students
Factor 5 - Non-Traditional Programs	Change in Percent Part-Time Students Increase Proportion of Professional Programs
Factor 6 - Institutional Policy Changes	Calendar Change Credit for Directed Study
Factor 7 - Graduate Programming	Add Master's Degree
Factor 8 - Transfer Students	Change in Percent Transfer Students

According to this model, five of the eight strategic action factors (factors 1,2,3,5, and 8) significantly explain variance in the dependent variable. The first factor entered into the model is strategic action factor 5, non-traditional programs. This factor explains 15.9% of the variance in the dependent variable. The second factor entered was factor 2, student selectivity. This factor explained an additional 5.2% of variance. The next factor entered was factor 3, internal institutional response. Factor 3 explained an additional 5.0% of the variance in the dependent variable in this model. The fourth factor entered was factor 8, change in percent transfer students. This factor explained another 4.5% of the variance. The final factor entered was factor 1, adult programs and policies in the dependent variable. The complete model explained a total of 32.6% of the variance in the percent change in enrollment from 1980 to 1989 in institutions within the population. Factor 4, non-traditional student strategies, factor 6, institutional policy changes, and factor 7, graduate programming did not significantly explain any additional variance and, therefore, were not included in this model.

TABLE XXXI

MULTIPLE LINEAR REGRESSION - STRATEGIC ACTION FACTORS

(Number of cases in analysis = 123)

STEP	R^2	ΔR	FACTOR ENTERED	T	PROB.
1	0.159	-	Strat. Action Factor 5	3.643	0.000
2	0.211	0.052	Strat. Action Factor 2	-3.359	0.001
3	0.261	0.050	Strat. Action Factor 3	2.744	0.007
4	0.306	0.045	Strat. Action Factor 8	2.767	0.007
5	0.326	0.020	Strat. Action Factor 1	-1.894	0.061

Total Model F = 13.448, Prob. = 0.000

Question 8

The eighth research question is, "In what ways do the external, internal, and strategic action variables of the colleges in the population, taken together, relate to enrollment changes from 1980 to 1989?"

When taken together, the external, internal and strategic action variables in this study constitute 854 variables, scales and dummy variables. The entire list is included in Appendix B. Of those variables, 117 correlate with percent change in enrollment at $p \leq 0.05$. These variables are listed above in Tables XXIII, XXVI, and XXIX.

As described above, after applying the rules for statistical and substantive significance (Table 1), three significant external variables remained, ten significant internal variables remained, and eighteen significant strategic action variables remained.

When these variables were factored, two external factors, five internal factors, and eight strategic action factors were extracted for a total of fifteen factors. These factors are listed and described in Tables XXIV, XXVII, and XXX.

Multiple linear regression was used to determine the degree to which all of these factors explained the variance in the percent change in enrollment in the institutions in the population from 1980 to 1989. The PIN was set at 0.050 and the POUT at 0.100. Stepwise entry was utilized along with listwise deletion. The results of the multiple linear regression is presented in Table XXXII.

According to this model, six of the fifteen significant factors, when taken as a total group, significantly explain variance in the dependent variable. The first factor entered into this model is strategic action factor 5, non-traditional programs. In this

model this factor explains 15.1% of the variance in the dependent variable. The second factor entered was strategic action factor 2, student selectivity. This factor explains an additional 5.1% of the variance explained by this model. The third factor entered is strategic action factor 3, internal institutional response. This factor explains an additional 4.9% of the variance. The next factor entered is strategic action factor 8, transfer students. This factor explains an additional 4.3% of the variance in the dependent variable. The fifth factor entered is external factor 1, community size. This factor explains an additional 2.6% of the variance. The last factor entered in this model is internal factor 1, age of students. This factor explains the remaining 2.9% of the total of 34.9% of the variance in the dependent variable explained by this model. The remaining nine factors (one external, four internal and four strategic action) did not significantly explain any additional variance and, therefore, were not included in this model.

TABLE XXXII

MULTIPLE LINEAR REGRESSION - ALL SIGNIFICANT FACTORS

(Number of cases in analysis = 113)

STEP	R^2	ΔR	FACTOR ENTERED	T	PROB.
1	0.151	-	Strat. Action Factor 5	3.187	0.002
2	0.202	0.051	Strat. Action Factor 2	-3.422	0.001
3	0.251	0.049	Strat. Action Factor 3	2.069	0.041
4	0.294	0.043	Strat. Action Factor 8	2.722	0.008
5	0.320	0.026	External Factor 1	2.387	0.019
6	0.349	0.029	Internal Factor 1	2.236	0.027

Total model F = 10.005, Prob. = 0.000

CHAPTER V

FINDINGS, CONCLUSIONS AND IMPLICATIONS

INTRODUCTION

This chapter presents and characterizes the major findings of the study and synthesizes them, along with the results of the literature review and the researcher's professional experience, in an attempt to draw conclusions and create meaning. The first goal of this synthesis is descriptive. It involves characterizing the institutions within the population, summarizing the major changes in the population during the 1980s, characterizing the major sub-populations studies, and describing the relationship of student enrollment to institutional survival. The second goal of this synthesis is the articulation of the major conclusions concerning the relationship of the various institutional, environmental and strategic action variables studied, and enrollment change in the 1980s. With regards to each of these goals, findings are described within specific categories, and followed by an articulation of the major conclusions drawn within each category of findings.

DESCRIPTIVE FINDINGS AND CONCLUSIONS

Category 1: The Characterization of Small Private Colleges

Finding 1. Small private colleges were predominantly church-related. This research confirms the strong dominance of church-related colleges among small, private colleges which was reported by Astin and Lee (1972) and various other sources. With 84% of the population reporting "church-relatedness" in 1989, this population might well be characterized as a church-related sector. This is particularly true of the Liberal Arts II colleges which are 88% church-related.

An additional indication of the church-relatedness of this population came from the questionnaire. About one-half of the respondents indicated that church affiliation is considered in faculty hiring decisions.

Finding 2. Small private colleges continued to define their academic programs in terms of the liberal arts. Institutions responding to the survey reported an average of 16 ($\bar{x}$ = 16.3, SD = 9.7) liberal arts programs on campus and 6 ($\bar{x}$ = 6.2, SD = 6.3) professional programs. The number of both the liberal arts and the professional programs correlated positively ($p \leq 0.01$) with both the 1980 and 1989 enrollments (i.e. larger institutions reported larger numbers of programs). Over 85% of the respondent institutions reported six or more liberal arts programs while fewer than half (44.9%) reported six or more professional programs. In addition, respondents reported that nearly three-fourths ($\bar{x}$ = 70.6, SD = 24.1) of their programs were classified in the Liberal Arts in 1989.

Finding 3. Small private colleges generally had minimal to moderate levels of student selectivity. When reviewing the nature of the values and traditions of the colleges within the population, it was interesting to note the dominance of Liberal Arts II colleges within the population, at 89%. This observation confirms Astin and Lee's (1972) characterization of the population as being relatively low in student selectivity.

More specifically, the Peterson's Guide (Peterson's guide to four-year colleges: 1991, 1990) utilizes a variety of information to classify institutional selectivity. In 1989, 88.9% of the institutions in the research population were classified as minimally difficult (22.1%) or moderately difficult (66.8%).

Finding 4. Small private colleges were primarily found in areas near large population centers, and experience significant local competition. The dominant perception of small private colleges as being primarily rural colleges in pastoral and relatively non-competitive environments proved to be highly inaccurate. First, the institutions within the population were fairly evenly distributed among towns and cities of different size. It is important to note, however, that few were truly separated by any great distance from more heavily populated areas. Less than 20% of the population indicated that they are more than fifty miles from a major public university. Similarly, less than 20% were in an area unserved by a community college, and over 95% indicated that there was at least one other baccalaureate institution within fifty miles with an average of 9 such institutions within that radius ($\bar{x} = 8.9$, $SD = 10.6$). This information indicates that most of the colleges within this population were relatively near urban areas and experienced more immediate competition for students than might otherwise be expected.

Finding 5. Small private colleges were not evenly distributed around the country. The institutions within the population were found largely in the North Central and Southern regions of the country (70.1%) and very few were located in the Northwestern and Western regions (10.9%). In addition, the distribution of the institutions in the population showed significant differences in their distribution when compared to the distribution of all baccalaureate granting institutions in the United States. Small private colleges were more likely to be located in the North Central and Southern regions and less likely to be found in the Middle States than were larger baccalaureate institutions.

Finding 6. Small private colleges showed a great deal of diversity with regards to their student body profile in the 1980s. A common perception and frequent characterization of small private colleges is their homogenous, traditional student body. Several researchers went so far as to predict an inability for these institutions to serve a more diverse student population. While over 85% of the colleges in the research population had an average age of freshmen less than 20 in 1989, over 10% had an average freshman age of 20-25 years, and over 3% had an average freshman age of over 25 years. The colleges in the population reported nearly 25% of their students were over the age of 25 in 1989 and nearly a third (29%) of the institutions reported that over 30% of their student body was made up of students over the age of 25 years. These colleges also showed increasing diversity with regards to part-time, transfer, minority, female, international and graduate students.

Finding 7. During the 1980s, small private colleges exhibited a propensity to short-range and strategic planning, emphasized internal institutional over external

environmental assessment, and engaged consultants in a variety of institutional planning and development activities. Of the questionnaire respondents, 95.4% reported involvement in formal planning, with 67.3% reporting active involvement and 28.1% reporting lesser involvement. Within these institutions, 85.6% reported an involvement in short-range planning, 28.7% an involvement in medium-range planning, and 11.5% in long-range planning. In addition, 90.3% indicated that the planning was linked to budgeting, with 39.1% reporting a close link, and 51.2% reporting that the two are somewhat linked.

When asked to respond to degree of institutional activity in the six areas of Keller's framework for strategic planning, a higher degree of activity in assessing internal institutional activities was reported as compared to environmental assessment. The area receiving the greatest degree of assessment by respondent institutions was the assessment of internal strengths and weaknesses (54.4% extensive and 43.3% somewhat) while the area receiving the least emphasis was the assessment of competition (19.1% extensive and 62.8% somewhat).

With regards to the use of consultants, only 7.9% of the respondent institutions reported no engagement of institutional consultants in the 1980s. Of the respondents, 17.6% characterized their use of consultants as extensive, 32.9% as moderate, and 41.7% as occasional. Over one-half of the respondent institutions (50.9%) indicated that they had engaged a consultant in strategic planning. In addition, over one-third engaged consultants to assist with serving specific student populations (36.9%), and long-range planning (34.6%).

Finding 8. The Yeshiva decision was "alive and well" in private colleges. In 1980, the U.S. Supreme Court, in NLRB v. Yeshiva University, 100 S. Ct 856 (1980), held that the full-time faculty of Yeshiva University were accurately classified as "managerial employees," and, therefore, were not covered by the Taft-Hartley Act, and were unable to form collective bargaining units. While this decision did not automatically extend to all private colleges and universities, the decision served to prevent a move to collective bargaining in private higher education at the level seen in public higher education in the 1980s. This proved to be particularly true of the small private colleges where only one respondent institution, 0.5% of the respondents, reported a unionized full-time and part-time faculty.

Conclusions concerning institutional characterizations. In many ways the overall institutional profiles and the values which they described were largely anticipated. The colleges were characterized largely by the values described as "smallness" by many of the respondents to the questionnaire. These institutions exhibited small class size, a strong emphasis on faculty-student relationships, and a major institutional focus on the teaching-learning process. Teaching loads of full-time faculty support a view of the faculty member as teacher first. These institutions were largely church-related, and, as a group, their perceived church-relatedness increased over the decade of the 1980s. Over half of the respondent institutions indicated that they considered church affiliation in the faculty hiring process.

Contrary to a growing perception, the institutions in this population continue to define their academic programs in Liberal Arts terms. While the number and proportion

of professional programs increased in these institutions throughout the 1980s, on the average, nearly three-fourths of the academic programs at respondent institutions were classified as liberal arts programs in 1989.

Student selectivity at the institutions in the population approximates that described by Astin and Lee (1972). The selectivity of nearly 90% of the institutions in the population was classified as minimally or moderately difficult in 1989.

Small private colleges in the 1980s were generally located in highly populated areas. These environments were usually shared with a variety of other institutions of higher education offering two-year and four-year degrees. The institutions were not distributed evenly among the various regions on the country, nor were they distributed in the same way as other baccalaureate granting institutions. They were located disproportionately in the North Central and Southern regions.

Institutions in the population exhibited significantly greater diversity in the student body than might be anticipated from the descriptions in the literature and from common perceptions of the sector. These colleges served a population of students which showed considerable diversity in age, nationality and ethnicity. In addition, the institutions in the population served large and growing numbers of women, part-time and transfer students.

The institutions within the population showed significant engagement in various planning activities. The reported planning activities were largely focused on short-range planning with less emphasis on medium-range, and almost no activity in the area of long-range planning. Assessment activities associated with short-range and strategic planning tended to be more inwardly focused than outwardly focused. There was a significant

amount of consulting being contracted by these colleges, largely in the area of strategic planning, long-range planning, and assistance with new student populations.

While not a lot of information on the faculty was obtained in this study, several interesting conclusions can be drawn. The faculty at these colleges had teaching loads which reflected the heavy emphasis on the teaching-learning process. Both the full-time and part-time faculty in small private colleges were almost entirely non-unionized. Finally, in 1989, slightly less than half of the faculty at these colleges held earned doctorates. A summary of the conclusions regarding institutional characterization is presented in Table XXXIII.

TABLE XXXIII

CONCLUSIONS CONCERNING INSTITUTIONAL CHARACTERIZATION

- Largely church-related
- Strong emphasis on the teaching-learning process.
- Programs defined primarily in the Liberal Arts
- Minimally or moderately difficult student selectivity
- Located in highly populated areas
- Extensive local 2- & 4-year competition
- Disproportionately located in Southern & North Central regions
- Diverse student body (age, nationality, ethnicity, and part-time, transfer and women students)
- Significant levels of short-range planning and use of consultants

Category 2: Changes in Small Private Colleges in the 1980s

Finding 9. Small private colleges slightly increased their church-relatedness in the 1980s. Several researchers predicted that during the stringent decade of the 1980s there would be a tendency for small private colleges to reduce their church-relatedness in an attempt to increase their recruitment potential. In 1980, 80.9% of the colleges in the

research population reported themselves as being church-related. In 1989 this proportion had increased by 2.8% to 83.7%. This represents an increase in the reported affiliation of the college not necessarily a formal change in ownership. It does indicate, however, an increase in institutional willingness or desire to reflect church-relatedness. In addition, when asked on the questionnaire to characterize the change in church-relatedness in the 1980s, 11.1% of the respondents reported a decrease in church-relatedness while almost twice as many (19.8%) reported an increase in church-relatedness.

Finding 10. Small private colleges moved from single-sex to co-educational status in the 1980s. It is important to note that, while the vast majority of colleges in the population were co-educational, over 10% (11.3%) were single-sex colleges in 1989. Of these institutions, 85% were women-only colleges. The number of single-sex colleges decreased, however, from 15.1% of the research population in 1980. This represents a total of 12 institutions changing from single-sex to co-educational institutions during the 1980s. During that same time period, no co-educational institutions moved to single-sex status.

Finding 11. Small private colleges exhibited a significant amount of review and revision of institutional mission statements in the 1980s. According to responses on the questionnaire, 92.2% of the respondent institutions engaged in some degree of mission review in the 1980s. Substantial review was reported in 52.3% of the institutions and minor review in 37% of respondent institutions. Over three-fourths (75.7%) of the respondents reported changes in their mission statement in the 1980s with over one-third (34.6%) reporting major revisions.

Nearly half (45.4%) of the survey respondents reported changes in the form of the mission statement, while over one-fourth (25.5%) reported changes in the mission statement reflecting changes in the institutions' academic programs. Additionally, 24.1% reported mission statement changes in the external constituency (student and other college constituency), 21.3% reported changes reflecting the religious nature of the colleges, 19.9% reflecting changes in student populations and profiles, and 17% reported changes related to statements of institutional values and historic mission.

Finding 12. Small private colleges exhibited a slight increase in regional accreditation while special accreditation showed no significant change. Over 90% (92.5%) of the institutions in the research population were regionally accredited or were candidates for accreditation in 1980. This figure increased to 98% in 1989. During the same time period, however, the proportion of institutions holding at least one form of "special"accreditation remained almost unchanged, with 41.1% in 1980 and 39.6% in 1989. The actual change in special accreditation is significantly more than reflected in these figures, however, with 7.1% of the institutions in the population adding special accreditation, and 7.4% dropping it.

Finding 13. Small private colleges exhibited a moderate increase in part-time and transfer students during the 1980s. Part-time and transfer students were two of the groups of students which were identified as having a great potential for providing additional students to small private colleges to compensate for the decline in traditional student pools. The proportion of the student body at these institutions attending on a part-time basis increased on the average, five percent, from 14.2% to 19.2%. The proportion of

institutions with fewer than 10% of their students attending part-time declined by nearly 15%, from 54.5% to 40.9%. Additionally, the proportion of institutions in the population with over 40% of their students attending part-time more than doubled, from 6.5% to 13.4%. During the same time period, the proportion of students entering these colleges as transfer students increased from 16% to 18.3%.

Finding 14. The overall change in the proportion of female, minority and international students at small private colleges during the 1980s was positive but minimal. Three of the populations which were identified as showing the greatest potential increase, and, therefore, the greatest hope for increased enrollments, were females, minorities, and international students. It was suggested that these might serve as the primary source of maintained, and possibly increased enrollments in small private colleges. The average proportion of females in the student body in the colleges in the population in 1980 was 57.2%. This figure increased by slightly over one percent to 58.5% in 1989. Nearly one-half (49.1%) of the institutions within the research population reported a decline in the proportion of female students while 50.9% reported an increase. This figure somewhat underestimates the overall increase in females because it reflects a loss in the proportion of women-only colleges, from 11.4% to 9%, in the 1980s. The proportion of colleges in the population with 61-90% female enrollments increased by 6% during that same time period.

During the same time, the average proportion of the student body made up of minority students increased from 16.9% to 18.6%. The average proportion of Black students during that same time period dropped by 1.8% at institutions within the

population. This figure is influenced by the fact that majority-minority colleges were more likely than other colleges to experience larger enrollment declines in the 1980s. The proportion of Asian American and Hispanic students increased by nearly one percent each during that time period. Approximately two-thirds of the institutions experienced an increase in overall minority student enrollments.

Finding 15. During the 1980s, small private colleges increased the offering of academic programs aimed at adult markets as well as those defined as "professional." Of the respondents to the survey, over two-thirds (67.3%) indicated that they had added academic programs in the 1980s aimed at specifically serving adult populations. Nearly one-third (32.5%) of the respondents reported adding reduced seat-time programs, and a similar number (32.5%) reported adding programs specifically aimed at retired adults.

The survey respondents also indicated that there was a tendency to increase the number and proportion of professional programs in relation to liberal arts programs. Less than one-third (29.6%) of the respondent institutions reported an increase in the number of liberal arts programs, while well over one-half (59%) of the institutions indicated an increase in the number of professional programs. Nearly one-half of the respondent institutions (48.3%) indicated an increase in the proportion of professional programs in relation to Liberal Arts programs, while 36.9% reported no change in proportion, and only 14.8% reported an increase in the proportion of liberal arts in relation to professional programs.

Finding 16. In the 1980s, small private colleges exhibited a tendency to develop academic policies aimed at improving the recruitment and retention of non-traditional

students. Over two-thirds (67.1%) of the respondent institutions indicated the development of community college block transfer students during the 1980s. In addition, over 90% provided the opportunity for part-time students to matriculate towards a degree and over one-third (38.3%) reported no full-time residency requirement for the baccalaureate degree. Over three-fourths of the respondent institutions indicated that they provided academic credit through C.L.E.P. exams (94.4%), credit for directed studies (92.9%), and Advanced Placement exam (84.5%). Another three strategies were reported by over one-half of the respondent institutions. These include departmental or institutional exams (61.8%), credit for prior experiential learning (52.2%), and credit for military experience (52.3%). Nearly one-fourth (23.1%) of the questionnaire respondent institutions reported offering academic courses on corporate sites, 12.9% offered registration by phone, and 5.2% offered registration at the work-place.

Finding 17. In the 1980s, small private colleges exhibited an increase in the offering of graduate programs and increased the proportion of their student body in graduate programs. In 1980, small private colleges were almost exclusively baccalaureate-only institutions with only 14.5% of the colleges offering graduate programs. This proportion more than doubled and approached one-third of the colleges in 1989 with 29.8% of the institutions offering graduate programs. Three-fourths of the institutions with graduate programs reported increased graduate enrollments over the 1980s. Specifically, the proportion of colleges in the population offering a Master's degree more than doubled from 12.5% to 30.7%. A total of 19.3% of the institutions in the population added the Master's degree and 0.7% dropped the degree. The proportion

offering doctoral programs went from zero to 1.4%. In addition, the proportion of the graduate student body in colleges which offered graduate programs also more than doubled during the 1980s, from 2.4% to 5.3%.

Finding 18. Small private colleges exhibited a strong tendency to move to a semester calendar, and experience significant homogenization with regards to academic calendar. Between 1980 and 1989 all academic calendar types, with the exception of the semester calendar, saw a decline. In 1980, 59.7% of the colleges in the research population were utilizing the semester calendar. This figure increased to 70.3% of the population in 1989. Overall, 16.7% of the institutions within the research population changed their academic calendar, with most changing from quarter and other calendars to semester calendars. In excess of 95% of the survey respondents reported that the institution utilizes semester credits for determining student loads and faculty weightload distribution.

Finding 19. Small private colleges exhibited a tendency to add Associate degree offerings in the 1980s. In 1980, 21.1% of the institutions in the population were reported as offering Associate degrees. This figure more than doubled to nearly one-half (48.5%) of the institutions in 1989. A total of 27.9% of the institutions in this population added an Associate degree and 0.4% dropped the degree. This move tends to suggest an attempt to increase the institutions' flexibility in program offerings, probably in an attempt to reach a broader base of students.

Finding 20. Chief academic officers of small private colleges reported a changing profile of strategic actions in the early, middle and late 1980s. The chief academic

officers of small private colleges were asked to describe the major strategic actions undertaken by the institution in the early, middle, and late 1980s, for the purpose of increasing student enrollment. The single category of strategies was used most often in the early, middle, and late 1980s, was the development of new undergraduate academic programs. In the early 1980s, 27.8% of the respondents reported using this strategy, 23.7% in the mid-1980s, and 25.3% in the late 1980s. Another category of strategies which remained fairly constant throughout the 1980s was the hiring of new administrative personnel. This strategy was utilized by 8.7% of the respondent institutions in the early 1980s, 6.1% in the middle 1980s, and 7.8% in the late 1980s. While it is unclear whether this level of turnover is unusual for these institutions, these figures represent self-reported responses related to strategies aimed at increasing institutional enrollments

The use of a number of strategies seemed to peak in the early 1980s and declined in the middle and late 1980s. An increased emphasis on the liberal arts was used by 5.2% of the respondent institutions in the early 1980s, but this strategy declined in use to 3.8% in the middle 1980s, and 1.9% in the late 1980s. Similarly, mission statement revision, freezing or lowering tuition, accreditation activities, and increased emphasis on professional programming was highest in the early 1980s and declined after that.

Several strategies seemed to peak in use in the middle 1980s. Marketing and recruitment strategies more than doubled in use between the early (10.4%) and the middle (22.1%) 1980s. The use of these strategies declined to 16.9% of the respondents in the late 1980s. Another category of strategies, student services programming, increased from 7.0% in the early 1980s to 12.2% in the middle 1980s. The use of these

strategies remained relatively constant, at 12.3%, in the late 1980s. The use of curricular modifications within existing programs more than doubled from 2.6% in the early 1980s to 5.3% in the middle 1980s and decreased to 1.9% of the respondents in the late 1980s. The use of grant writing and capitol campaign development also peaked in the middle 1980s with 1.7% reporting the use of these strategies in the early 1980s, 5.3% in the middle 1980s, and 3.9% in the late 1980s. Likewise, facilities development also peaked in the middle 1980s with 6.9% reporting utilization. This strategy was reported by 0.9% in the early 1980s and 4.5% in the late 1980s.

Another group of strategy categories saw continual increase over the 1980s peaking in the late 1980s. One example is the development of adult policies and programs, with 12.2% of the respondents utilizing it in the early 1980s, 16% in the middle 1980s, and 18.8% in the late 1980s. Emphases on program quality improvement and faculty quality improvement showed a similar pattern in increases utilization in the 1980s with 7% and 5.2% reporting utilization of these strategy respectively in the early 1980s, 7.6% for each in the middle 1980s, and 9.7% and 13.6% respectively in the late 1980s. The use of strategies focusing on increasing financial aid more than tripled, from 3.5% to 11.7%, among the respondents between the early and late 1980s. International programming tripled, from 2.6% to 7.8%, between the early and late 1980s, and increased in utilization almost ten-fold between the middle and late 1980s. Finally, increased selectivity and the development of retention programs saw significant increase in the late 1980s over their utilization in the early and middle 1980s.

Finding 21. Small private colleges weathered the 1980s far better than expected. In the fall of 1980 the average institutional enrollment was approximately 616 students. Contrary to the vast majority of enrollment predictions for small private colleges in the 1980s, by the fall of 1989 this figure had increased to an average enrollment of approximately 736 students, and average increase of 23.7%.

Of particular interest is the fact that over 85% of the institutions within the population expressed an intent to increase enrollments in the 1980s. This expressed intent corresponds to the research findings reported in the literature which indicate a high degree of intent and confidence for enrollment increase among small private colleges, despite the predictions of decline and demise. The average percent change in enrollment during the 1980s was nearly 25%, an average of 120 students, with 65% of the institutions in the population reporting an enrollment gain between 1980 and 1989. A significant proportion of the population (20.9%) experienced enrollment increases in excess of 50% of their 1980 enrollments, while less than 10% of the population lost more than 20% of their 1980 enrollments. This data, along with much of that present in the literature, confirms the fact that this sector performed much better than expected in the 1980s.

Even when the colleges that would have been in the population had they not closed or merged were included in the overall numbers, there was an average enrollment increase in the population of nearly 16%. Even including these "biggest losers" in the 1980s, the population as a whole did quite well.

Conclusions concerning institutional changes in the 1980s. Much energy was expended by the institutions in the population in the review, reaffirmation, and update of basic institutional values. For the most part, these activities served to affirm and strengthen institutional values which were already dominant in the population. Small private colleges reported a significant amount of energy expended on review and revision of institutional mission statements. A major set of mission statement revisions focused on changes in the students and external constituencies, as well as changes in academic programs and policies to serve those students. Another major set of mission statement revisions focused on a reassertion of institutional values and historical mission. Both the questionnaire responses and the institutional affiliation reported in Peterson's Guide indicate an increase in the reported church-relatedness of small-private colleges. The commitment to regional accreditation remained strong and experienced a slight increase.

The one major institutional value which showed decline in the population during the 1980s was the number of institutions committed to serving a single-sex student population. The number of single sex institutions in the population experienced a 33.6% decline between 1980 and 1989.

The composition of the student body of the institutions within the population showed marked increase in diversity over the decade of the 1980s. The proportion of both part-time and transfer students increased significantly in the student population. Also increasing, though not to the same degree, were the proportion of female, minority and international students. In the case of female and minority students, the overall proportion

increased during a time in which the number of institutions exclusively (or largely) serving these students declined.

As described above, Liberal Arts programs continued to predominate in small private colleges throughout the 1980s. There was a trend, however, to increase the number and proportion of professional programs and to increase the development and offering of programs specifically designed for adult, part-time, and other "non-traditional" student populations. There was also a tendency for these colleges to add both Associates and Masters degrees, and to increase the number and proportion of students in graduate programs.

The colleges in the population modified existing policies and implemented new policies and support programs which were specifically aimed at attracting and serving and increasing variety of students. New mechanisms for crediting non-transcripted college level learning, revised financial aid policies, and modified academic delivery systems were included in these changes. These colleges also tended to modify their academic calendars during the 1980s, with a strong tendency to move toward a semester calendar.

The academic strategies in the early, middle, and late 1980s, as reported by the chief academic officers, closely parallel the changes summarized above. The strategy most often reported was the development of new undergraduate programs. This strategy was reported as being used by approximately one-fourth of the institutions in the early, middle , and late 1980s. Other strategies used in the 1980s support the basic observation that colleges within the population were reaffirming basic institutional values and

attributes, but were modifying programs and policies to accommodate an increasing variety of students.

Overall, the institutions within this population seemed to fare much better than expected with regards to enrollments. Nearly two-thirds of the colleges in the population reported enrollment gains in the 1980s, with an average enrollment increase for the entire population of nearly 25%.

In summary, the changes in the 1980s indicate that many of the institutions in the population were attempting to more clearly define their niche in the marketplace. They were delineating their unique attributes (e.g. smallness, focus on teaching, church-relatedness, regionally accredited), modifying attributes which may put them at a disadvantage (e.g. single-sex status), and developing and strengthening programs to meet specific needs in the service population. A summary of the major findings with regards to institutional changes in the 1980s is presented in Table XXXIV.

TABLE XXXIV

CHANGES IN SMALL PRIVATE COLLEGES OVER THE 1980S

- Increase in church-relatedness
- Significant level of mission review and revision
- Decline in single-sex colleges
- Increase in part-time, transfer, female, minority, and international students
- Increase in number and proportion of professional programs and programs specific to adult, Part-time, and other "non-traditional" students
- Addition of Associate and Master's Degrees
- New and modified programs and policies aimed at serving "non-traditional" students
- Increase in regional accreditation status

Category 3: Major Sub-Populations of Small Private Colleges

Finding 23. Small private colleges classified as Liberal Arts I were substantively different from those classified as Liberal Arts II. When analyzed along a variety of internal, external and strategic action lines, small private colleges categorized as Liberal Arts I showed significant differences when compared to those classified as Liberal Arts II. Liberal Arts I colleges were older, by 30 years, than Liberal Arts II Colleges. Additionally, Liberal Arts I colleges were significantly less likely to be church-related, were more likely to be a women's college, and had higher student selectivity on the average. These Liberal Arts I colleges were less likely to hold "special" accreditation, and to offer Associate degrees, and had a significantly higher proportion of their programs classified as liberal arts

While Liberal Arts I colleges showed significantly higher enrollments in 1980, they showed significantly lower numeric and percent increases in students between 1980 and 1989 when compared to the Liberal Arts II colleges. This parallels a greater proportion of Liberal Arts II colleges indicating an intent to significantly increase enrollments during the 1980s. Paralleling these greater increases in enrollment in Liberal Arts II colleges were higher proportions of transfer, part-time, and minority students in these colleges.

Several significant differences in resources were identified between Liberal Arts I and Liberal Arts II colleges. Liberal Arts I colleges showed lower faculty teaching loads, a higher proportion of faculty members with doctoral degrees, significantly higher

tuition and fees, and significantly larger library holdings, than the Liberal Arts II institutions.

With regards to strategic actions, Liberal Arts I colleges were less likely to have reduced seat-time programs, seminars for academic credit, and alternative mechanisms for providing academic credit. Liberal Arts I colleges showed significantly lower increases in part-time students, and older students, and had younger students on the average than their Liberal Arts II counterparts.

Finding 24. Small private colleges which were church-related were substantively different from those that were not church-related. Church-related colleges were more likely to be located in the North Central and the Southern regions while non-church-related colleges are more likely to be located in the Middle States, New England, and Western regions. Church-related colleges were more likely to have moderate selectively while non-church-related colleges were more likely to have higher (very difficult) or lower (minimal difficulty to non-competitive) levels of student selectivity. Church-related colleges were more likely to hold "special" accreditation (i.e program specific accreditation), were more likely to offer Associate degrees, and were more often Liberal Arts II colleges than are non-church-related colleges. Church-related colleges reported higher enrollments in 1980 and in 1989. These colleges also had a lower proportion of faculty members with terminal degrees and significantly lower average tuition and fees. Church-related colleges were far more likely to add reduced seat-time programs in the 1980s, and showed a significantly greater increase in the proportion of part-time students.

Finding 25. Small private colleges in the lower half of enrollment size in 1980 were substantively different from those which were in the upper half of enrollments. Institutions in the lower half of 1980 enrollments were more likely to be located in New England, Northwest and Western regions, whereas those in the upper half were more likely to be located in the Middle States and Southern regions. In addition, as a general rule, the lower the enrollment in 1980, the younger the college, and the lower selectivity in 1989. Similarly, the lower the enrollment, the less likely the college was to have some form of special accreditation, and the lower the proportion of female students. It is interesting to note, however, that colleges in the lowest 1980 enrollment quartile had a significantly higher proportion of transfer students than any other quartile in 1989. In the analysis of institutional resources, it was determined that colleges in the lowest enrollment quartile showed significantly lower tuition and fees in 1989, and had significantly lower numbers of library volumes. Those institutions in the lowest 1980 quartile showed a significantly higher percent change in enrollment in the 1980s and a significantly higher proportion of students over the age of 25 years in 1989.

Finding 26. Small private colleges differed substantively by the region of the country in which they were found. Institutions in the Middle States region were more likely than those in other regions to be in communities classified as rural, small towns, or large towns. In addition, institutions in this region reported significantly more baccalaureate colleges within a 50 mile radius than those in the North Central and Southern regions. Colleges in this region were significantly more likely to be women-only colleges, with over one-fourth (27.3%) in this category. Middle States colleges had

significantly larger enrollments in 1989 than institutions in the New England and Western regions, and showed significantly higher levels of tuition and fees, as well as higher rates of change in tuition and fees in the 1980s, when compared to colleges in the North Central and Southern regions. Colleges in this region were much more likely to decrease student selectivity during the 1980s than those in any other region.

Institutions in the New England region were much less likely to be church-related than colleges in any other region. They were also more likely to offer an associates degree than colleges in any other region. Colleges in the New England region showed the lowest average 1980 and 1989 enrollments of all regions, and were significantly lower than average enrollments in the Middle States, North Central and Southern regions. They also showed significantly higher tuition and fees in 1989 than institutions in the North Central, Northwest and Southern regions.

Colleges in the North Central region had fewer baccalaureate colleges within 50 miles than those in the Middle States region. They were also considerable older than those in the western region. These colleges were also much more likely to be church related than those in the New England region. The colleges in this region also showed the lowest proportionate enrollment of female students in comparison to all other regions.

Institutions in the Northwest region were much less likely to be single-sex, as no single-sex colleges were found among the research population institutions in the Northwest. Colleges in this region showed the highest proportion, by far (23.1%), of colleges on a quarter calendar. These colleges were also much more likely than those in the Southern and Western regions to offer Associate degrees. Colleges in the Northwest

showed the highest proportion of transfer students with significantly more than colleges in the New England and Southern regions.

Colleges in the Southern region had the least number of baccalaureate colleges within 50 miles, with three times fewer than experienced by colleges in the Middle States region. The colleges in the Southern region were oldest and were significantly older than those in the New England, Northwest, and Western regions. Similarly, these colleges were more likely to church-related and majority-minority, and less likely to offer a Masters degree than those in any other region. These institutions showed the lowest proportion of transfer students of all regions, with significantly fewer than found in colleges in North Central, Northwest and Southern regions. Likewise, these colleges had significantly fewer part-time students, and fewer students over the age of 25 years than those in the Middle States and Northwest regions. Interestingly, Southern region colleges reported the largest proportion of faculty with terminal degrees, and significantly more than colleges in North Central and Northwest regions.

Colleges in the Western region are significantly more likely to be found in small, large, or very large cities than those in any other region. These colleges are also the youngest colleges, and are significantly younger than those in Southern and North Central regions. Colleges in the Western region were the least likely to offer Associates degrees and the most likely to offer Masters degrees. These institutions had the highest proportion of international and graduate students of colleges in any other region, with significantly more than colleges in the North Central, and Southern regions. Interestingly, these colleges showed significantly larger library holdings than colleges in any other

region, with almost twice as many volumes, on the average, as on the next-highest region.

Finding 27. Small private colleges showed substantive variation by size of the community in which they were found. When analyzed by the size of the immediate community in which the college is located, colleges in smaller communities are more likely to be located in the Middle States and North Central regions and those in larger communities are more likely to be in the Western region. In general, colleges in larger communities are younger than those in smaller communities. The larger the size of the immediate community, the larger the average number of baccalaureate colleges within 50 miles. Similarly, colleges located in small cities, large cities, and very large cities are more likely to be in the service area of a community college. The larger the immediate community in which the college is located, the higher the average proportion of part-time, international, and graduate students. Colleges located in rural areas gained significantly fewer students in the 1980s than those in large and very large cities, and they showed significantly fewer part-time students and students over the age of 25 years.

When a more focused analysis was completed comparing institutions in rural areas with those located in consolidated metropolitan statistical areas (CMSAs), similar trends were discovered. Colleges in CMSAs were more likely to be found in the Middle States, Northwest, and Western regions while those in rural areas were more likely to be found in the North Central and Southern regions. Colleges in CMSAs were more likely to be in an area served by a community college, even though nearly 90% (88.9%) located in rural regions are also served by community colleges. CMSA colleges report significantly

more baccalaureate granting institutions within 50 miles than those in rural areas. The CMSA colleges were, on the average, more than 30 years younger than the rural colleges. These colleges are also more than twice as likely to offer a Masters degree. In analyzing the characteristics of the student body, CMSA colleges had significantly more transfer, part-time, over 25 year-old, and graduate students than rural colleges. Finally, CMSA colleges with graduate programs saw significantly greater increases in the proportion of graduate students than those with graduate programs in rural areas.

Conclusions concerning major institutional sub-populations. In addition to the characterization of the population as a whole, it was evident that there were several discrete and unique sub-populations among small private colleges. Church-related colleges were significantly different from non-church-related colleges, Liberal Arts I colleges were significantly different from Liberal Arts II colleges, and colleges varied significantly by the region of the country in which they were found, the size of community in which they were located, and their enrollment in 1980.

The differences between Liberal Arts I and Liberal Arts II colleges result directly or indirectly from the operational definition imposed on these categories by the Carnegie classification. Liberal Arts I colleges were, by definition, more selective institutions. They fit a relatively narrow, conservative and traditional definition for private liberal arts colleges and tend to serve as the conventional archetype for liberal arts colleges even though they represent less than 12% of the population. Liberal Arts I institutions were less likely to exhibit strategies, programs, and policies aimed at attracting and serving "non-traditional" students and had experienced smaller overall enrollment gains, as well

as smaller increases in transfer, part-time, and minority students. These institutions were more heavily endowed and, therefore, less tuition dependent.

The research population can also be divided into church-related and non-church-related institutions. These sub-populations exhibited significant differences which may result, to some degree, from the fact that church related colleges were more likely to be Liberal Arts II colleges. Church-related colleges had lower student selectivity and showed more strategic actions aimed at recruiting non-traditional student populations.

Institutions in different regions of the country showed significant differences in environment, attributes, and strategic actions. Small private colleges in the Middle States region were more likely to be located in an area with low population levels, but exhibited greater baccalaureate competition within 50 miles than in other regions. Colleges in the New England region were smaller, more expensive, and more likely to be non-church-related. Colleges in the North Central region had lower levels of competition within 50 miles and where more likely to be church-related. Institutions in the Northwest region showed significantly larger numbers of transfer students than in other regions. Institutions in the Southern region were the oldest colleges, were more likely to be church-related and majority-minority, and were less likely to offer graduate programs. These colleges also showed more traditional student body profiles, with fewer transfers, part-time students, and fewer older students. Colleges in the Western region were located in more concentrated population areas, were younger, and had more international and graduate students.

Finally, there were significant differences in the sub-populations of institutions located in small and large population areas. Colleges in smaller communities tend to be older than those located in more highly populated areas. Colleges in more heavily populated areas showed greater diversity in their student body, with more part-time, older, international and graduate students. They also showed more baccalaureate and community colleges in the immediate vicinity. Finally, institutions in rural areas showed significantly lower rates of enrollment increase than those in larger population centers.

Category 4: Relationship of Institutional Survival to Enrollments

Finding 27. The survival of small private colleges in the 1980s was related to enrollment. The institutions which would have been in the research population had they not closed or merged during the 1980s had approximately 25% fewer students in 1980 than those that survived to 1989. While some of these institutions showed progressive enrollment declines through the 1970s, the majority showed stable or fluctuating enrollments in the 1970s. Most of these institutions, therefore, were not experiencing long term, continual declines in enrollment. This information supports the contention that the institutions in this population were heavily tuition driven, and that the survival of these institutions depended, to some degree, on adequate enrollments levels.

Conclusions concerning the relationships of institutional enrollments and survival. Despite the dominant predictions concerning the decline and possible demise of the small private college sector, the evidence indicates that most of the colleges in this sector survived and many of the colleges thrived. While not an explicit purpose of this research, there was evidence to support the assumption that the survival of the colleges in this

population was related to enrollments. In addition, indirect evidence, from the actions and responses of many of the institutions confirms a belief on the part of the institution that enrollment increase was an extremely high priority.

CONCLUSIONS CONCERNING RELATIONSHIPS

As described above, one goal of this research was the development of models of relationships from which initial causal inferences could be drawn. While conservative criteria were applied to the selection of variables to be included in the construction of these models, care must continue to be utilized in making and applying these causal inferences. In several cases the relationships of the selected independent variables to the dependent variable may well be reciprocal as opposed to simple causal. These findings and conclusions, then, represent a first step in describing the relationships and drawing initial causal inferences.

Category 5: Relationships Between Environmental Variables and Institutional Enrollment Change

Finding 28. The size of the local student pool and the number of local baccalaureate competitors correlated with enrollment changes in the 1980s. Three substantively significant variables remained after all of the statistically significant variables were subjected to the adopted rules for statistical and substantive significance. The remaining variables were increase in size of local population, rural location in 1989, and the number of baccalaureate colleges within 50 miles. An increase in the size of local population showed significant positive correlation with enrollment increase. The location

of institution in a rural setting, and the number of baccalaureate institutions within 50 miles correlated negatively with enrollment increase.

Finding 29. Two major factors, community size and level of competition, characterized the substantively significant external variables identified in this study. When the three significant external variables were subjected to factor analysis, two factors were created. The first factor was "Community Size," including local population increase and rural location, and the second factor was "Competition," containing the variable on the number of local baccalaureate colleges. This suggests that the size of the potential student pool in the immediate area and the amount of closely situated baccalaureate competition is closely related to enrollment increases.

Finding 30. The "Community Size" factor explained a small amount of the variance in the dependent variable, percent change in enrollment. When the created factor scores for the two external factors were used to create a multiple linear regression model, only the first factor, "Community Size," was entered. This model explained a total of 2.4% of the variance in the dependent variable. Of all of the substantively significant environmental variables studied, only community size is able to explain any differential enrollment growths in the population.

Finding 31. The major external factors perceived to influence enrollments in small private colleges closely parallel those reported in the literature. The major external factors perceived to influence enrollments in the 1980s, as reported by the chief academic officers, seem to confirm many of the major factors discovered in the literature review. The only external factor identified by more than half of the respondent institutions was

that of poor economy (51.1%). Only slightly fewer of the respondents (43.5%) reported that the declining number of 18-22 year-olds was a major environmental factor influencing enrollments. The next two most frequently listed factors, increased public competition (22.3%) and declining federal financial aid (21.2 %), were both reported by more than one in five of the respondents as being important, and were identified in the literature as being fundamental challenges to private higher education.

Of the next four factors, the first, location of the college (13.0%), was not explicitly identified in the literature as an issue but makes implicit sense as an important factor. The three remaining factors which were listed by more than 10% of the respondents, increased higher education costs (12.5 %), declining levels of state financial aid (12.0%), and increased competition from private colleges (11.4%), were all represented among the challenges and opportunities outlined in the literature.

Conclusions concerning the relationships between environmental variables and enrollment change. This research has identified two major categories of environmental characteristics which are significantly related to enrollment changes in small private colleges in the 1980s. The first of these was the size of the immediate community within which the college was located. Colleges located in rural areas showed significantly lower enrollment increases. The second category of characteristics were those related to the level of competition in the immediate area. The more baccalaureate colleges within fifty miles, the lower the rate of enrollment growth in the 1980s. The first factor, community size, is the only environmental factor which substantively explains any of the variation

in the dependent variable, and then, only a very small percent of the variance was explained. These findings are summarized in Table XXXV.

While differential impact of a variety of environmental variables could not be readily measured in this research, several were identified by respondents to the questionnaire as major influences on institutional enrollment. These included variables related to the economy, financial aid, demographic challenges, and competition.

TABLE XXXV

ENVIRONMENTAL VARIABLES AND ENROLLMENT CHANGES

Substantively Significant Variables:

- Larger size of population
- Rural location (negative correlation)
- Number of baccalaureate institutions within 50 miles (negative correlation)

Factors:

- Community size
- Competition (negative correlation)

Explanatory Model:

- "Community size" explains 2.4% of the variance in the dependent variable

Category 6: Relationships Between Institutional Attributes and Enrollment Change

Finding 32. Institutions which saw enrollment declines in the 1980s were also those institutions that were more likely to identify low campus morale and weak marketing as major institutional attributes. Survey respondents which identified low campus morale and weak institutional marketing as major institutional attributes

influencing enrollments in the 1980s were also those that were more likely to have enrollment declines than those which did not identify these factors.

Finding 33. Several aspects of institutional church affiliation were related to enrollment changes in the 1980s. While church-relatedness in itself did not correlate significantly with the dependent variable, several sub-categories of church affiliation did correlate at a significant level. Colleges associated with the Catholic and Presbyterian churches, as with those associated with the broader category of "European Enclave" churches were more likely to see enrollment gains than those not. Colleges having denominational affiliations categorized as "African American" were less likely to see enrollment growth in the 1980s.

Finding 34. More narrowly and traditionally defined colleges showed lower levels of enrollment increases than those which were less-traditionally and more broadly defined. Those institutions which had a larger proportion of their academic programs classified as liberal arts also showed a greater probability of experiencing enrollment declines, while the number of professional programs at institutions in the population showed a significant positive correlation with percent enrollment increase. Colleges classified as Liberal Arts II, the more diverse and less "traditional" classification, were more likely to experience enrollment increases in the 1980s. Similarly, institutions which reported memberships in the Council on Adult and Experiential Learning (C.A.E.L.), a professional organization supporting the development of institutional strategies for serving adult learners, showed higher proportions of their students over the age of 25 years, and a higher average age for new students, were more likely to experience larger

enrollment increases in the 1980s. The narrow institutional classification as a Men-only college in 1989, or as a majority-minority college in 1989, showed a significant negative correlation with enrollment increase in the 1980s.

Finding 35. Stated enrollment intent correlated strongly with experienced enrollment change in the 1980s. The colleges which expressed an intent to increase enrollments in the 1980s were significantly more likely to experience enrollment increases. Similarly, those institutions which expressed an intent to decrease enrollments showed a negative correlation with enrollment gains in the 1980s.

Finding 36. Regional accreditation showed a significant positive correlation with enrollment increase in the 1980s. Those institutions which were regionally accredited in 1980 and those regionally accredited in 1989 were more likely to experience enrollment increases than those not regionally accredited. The presence of special accreditation did not, however, correlate with enrollment gains.

Finding 37. Colleges with a more "non-traditional" student profile showed greater increases in student enrollments during the 1980s. The colleges in the population which had higher proportions of part-time students in 1980 and in 1989 showed greater enrollment increases during the 1980s. Similarly, those institutions which had a higher proportion of transfer and female students in 1989 also experienced greater enrollment increases in the 1980s.

Finding 38. Four major factors characterized the substantively significant institutional attributes identified in this study. They were (1) age of the students, (2) professional versus liberal arts programs, (3) institutional image 1, and (4) institutional

image 2. Nine substantively significant variables remained after all of the statistically significant variables were subjected to the adopted rules for statistical and substantive significance. When subjected to factor analysis, four factors were created. The first factor was "age of students," and included the variables of percent of students over the age of 25 years, the average age of new students, and the year the college was founded. The third variable in the list correlated with the other two at a level of nearly 0.3 at $p \leq 0.01$. The second factor was "professional versus liberal arts programs" and contains the variables: (1) number of professional programs, and (2) percent of programs in the liberal arts. The third factor was a broader categorization of variables titled "Institutional Image 1," and contains two variables which relate to or significantly influence the external and internal image of the institution. These variables are majority-minority status, and the Carnegie classification. The fourth factor was also a broader category of variables related to institutional image, titled "Institutional Image 2."

Finding 39. Three of the internal factors collectively explained over 10% of the variance in the dependant variable. When the created factor scores for the four internal factors were used to create a multiple linear regression model, three factors were entered. These entered factors were: (1) age of students, professional versus liberal arts programs, and (3) institutional image 2. This model explained a total of 10.0% of the variance in the dependent variable.

Finding 40. Chief academic officers in small private colleges perceived several institutional attributes which influenced institutional enrollments in the 1980s. The internal characteristics of the institutions within the research population were controlled,

to some degree by the definition and selection of the population. The population was somewhat homogenized by the inclusion of institutions between 100 and 1000 students in the fall of 1980, as well as by the selection of institutions which were privately controlled. Even within this fairly narrow operational definition of the research population, however, there remains a significant degree of institutional diversity with regards to internal institutional attributes.

The responses to the open ended question in the questionnaire concerning attributes of the colleges which influenced enrollments in the 1980s were categorized into several general categories. The most common set of responses dealt with the attribute of "smallness" as a critical institutional attribute. Over one-fifth (21.2%) of the respondents referenced this attribute as important. The next two most frequently listed attributes were the nature of academic programs (17.5%), and high levels of institutional financial aid (17.5%). Additionally, reported by more than 10% of the respondents, were the service oriented, responsive nature of the college (14.8%), high levels of academic quality (13.2%), the Christian nature of the college (11.1%), and the presence of a strong, quality faculty (11.1%).

Conclusions concerning the relationships between institutional attributes and enrollment change. A variety of correlations were discovered between institutional attributes and enrollment change in the 1980s. While there is some questions as to the "direction" of many of these relationship, several, when interpreted in light of other research findings, the related literature, and professional experience, are of particular interest. Several of these variables were likely to have directly or indirectly influenced

institutional enrollment changes in the 1980s. When taken as a whole, they suggest that institutions which were more narrowly focused and had programs and policies more concentrated on traditional student markets saw lower enrollment increases (or greater enrollment declines). Those schools with more adult learners, more part-time students, more transfer students, more female students, and more professional programs saw greater enrollment gains. Similarly, institutions which served narrow student populations (i.e. minority, single sex) saw lower enrollment increases.

The "direction" of other relationships is more difficult to infer. It is hard to know whether low faculty morale resulted in or from enrollment decline. Similarly, equally sound models could be made for low student selectivity and weak institutional marketing as causes for and effects of low enrollments.

When a more formal and conservative causal inference model was developed, four major factors were identified which characterize the institutional attributes which are substantively related to enrollment changes in the 1980s. The first is the age of the students. Colleges which saw greater enrollment increases had older students and more adult learners than those with smaller gains or enrollment losses. The second major factor was the balance of professional and liberal arts programs. The institutions with a higher proportion and larger number of professional programs experienced greater enrollment gains. The next factor includes two elements which affect institutional image. This is a broad factor which includes minority-majority status, and Carnegie classification. Institutions with predominantly minority students, those with minimally difficult student selectivity, and those classified as Liberal Arts I colleges showed smaller

gains in enrollment. All of these variables related to institutional image. The fourth factor also related to institutional image. These variables were regional accreditation and men-only status. Colleges which were not regionally accredited, and those which were male-only, saw smaller enrollment increases. Collectively, the first, second, and last factors explain ten percent of the variance in the dependent variable. In large part, these findings show that institutions with more diverse and less traditional students and programs saw greater enrollment increases. A summary of these findings is presented in Table XXXVI.

TABLE XXXVI

INSTITUTIONAL ATTRIBUTE VARIABLES AND ENROLLMENT CHANGES

Substantively Significant Variables:

- Age of college (negative correlation)
- Men's college (negative correlation)
- Percent of programs in the liberal arts
- Number of professional programs
- Regional accreditation
- Carnegie classification
- Majority-minority (negative correlation)
- Average age of students
- Percent of students over 25

Factors:

- Age of students
- Professional-liberal arts program balance
- Selectivity and quality (institutional image 1)
- Special purpose (institutional image 2)

Explanatory Model:

- Age of students, professional-liberal arts balance, and special purpose factors explain 10% of the variance in the dependent variable.

Category 7: Relationships Between Strategic Actions and Enrollment Change

Finding 41. Colleges which utilized strategies associated with the development of new and non-traditional programs saw greater enrollment increases in the 1980s. Institutions that increased in the number of professional programs, as well as those that increased the development of adult programs, reduced seat-time programs, and academic seminars for credit, experienced larger enrollment increases in the 1980s. In addition, those institutions which added Masters degree programs, saw increases in graduate school enrollments and experienced an increase in the proportion of graduate students in the student body were also those which were more likely to experience greater enrollment increases.

Finding 42. Increase in student selectivity correlated positively with enrollment gains in the 1980s. Those institutions that reported increasing student selectivity in the 1980s were more likely to experience an increase in enrollment. Those that reported maintaining selectivity, however, were more likely to experience enrollment declines.

Finding 43. Those institutions that reported increases in new and non-traditional student populations were more likely to experience enrollment gains in the 1980s. Increase in the percent of part-time, female, transfer, and graduate students at institutions within the population showed a significant positive correlation with enrollment gains.

Finding 44. The development of academic policies and support programs aimed new and non-traditional student populations showed significant positive correlation with enrollment gains in the 1980s. Institutions that reported offering financial aid for part-time students were more likely to experience enrollment gains in the 1980s. Similarly,

colleges that reported providing mechanisms for providing academic credit for prior experiential learning, military training, information training, and directed study, were more likely to show greater enrollment gains in the 1980s. When the composite score for the number of alternative mechanisms for crediting was analyzed, a strong positive correlation was found with enrollment gains. Finally, those colleges that reported offering faculty development activities aimed at assisting the faculty members to deal with diversity on campus were also more likely to have experienced enrollment gains in the 1980s. On the contrary, the development of freshman advising programs, largely aimed at traditional students correlated negatively with enrollment increase.

Finding 45. Institutions which had lower enrollment gains in the 1980s were more likely to report using the acquisition of new administrative personnel as a strategy to increase enrollments. Those institutions that reported utilizing the hiring of new administrative personnel in the early and the middle 1980s to influence enrollments were more likely to have experienced lower enrollment gains, or greater enrollment losses than those that did not. There were similar negative correlations between enrollment gains and the overall use of hiring new administrative personnel, as well as other management and administrative interventions.

Finding 46. Institutions that reported the use of strategies aimed at recruiting adults and other new students were more likely to experience enrollment growth in the 1980s. A significant positive correlation exists between enrollment increases in the 1980s and the reporting of a variety of strategies aimed at recruiting adults and other non-traditional students. The use of strategies in the area of adult programs and policies in

the early and middle 1980s, as well as the overall collapsed strategies for new student pools, showed the strongest, statistically significant positive correlations with enrollment gains of any reported strategies.

Finding 47. Eight major factors characterized the substantively significant strategic action variables identified in this study. They were (1) adult programs and policies, (2) student selectivity increase, (3) internal responses, (4) non-traditional student strategies, (5) non-traditional programs, (6) policy changes, (7) graduate programming, and (8) transfer students. Eighteen substantively significant variables remained after all of the statistically significant variables in this category were subjected to the adopted rules for statistical and substantive significance. When subjected to factor analysis, eight factors were created.

The first factor was "adult programs and policies," and included the variables of credit for informal training programs, reduced seat-time program development, and credit for military activities. The second factor was "student selectivity," and contains the variables of increasing and maintaining student selectivity. The third factor was a broader categorization of variables titled "internal institutional responses," and contains two variables which relate to internal institution responses. These variables are the implementation of freshman advising programs, and the assessment of institutional strengths and weaknesses, both of which correlated negatively with the dependent variable. The fourth factor is "non-traditional student strategies," and includes the variables of change in percent female students, the offering of seminars for academic credit, and the providing of financial aid for part-time students. The fifth factor is "non-

traditional programs," and includes the variables of change in percent part-time students and increase proportion of professional programs. The sixth factor, "institutional policy changes," includes a change in academic calendar and the addition of mechanisms to provide academic credit for directed studies. The seventh and eighth factors each represent one variable. The "graduate programming" factor represents the addition of Masters degree programs, and the "transfer student" factor represents the change in percent of the student body entering as transfer students.

Finding 48. Five of the Strategic action factors collectively explained over 30% of the variance in the dependent variable. When the created factor scores for the eight strategic action factors were used to create a multiple linear regression model, five factors were entered. Those entered factors were: (1) non-traditional programs, (2) student selectivity, (3) internal institutional response, (4) transfer students, and (5) adult programs and policies. This model explained a total of 32.6% of the variance in the dependent variable.

Conclusions concerning the relationships between strategic actions and enrollment change. The majority of variables for which causal inferences can be made based on correlational data, the literature, and professional experience, relate to the institutional response to non-traditional student pools. Strategic action associated with the development of new graduate and undergraduate programs designed to serve non-traditional students, specific strategies to recruit and increase the population of adult and other non-traditional students, and policies aimed at better serving those students were strongly related to

increased institutional enrollments. Similarly, increases in student selectivity accompanied enrollment increases in the institutions within the population.

The "direction" of the other relationships discovered is more difficult to infer. It is difficult to ascertain whether the acquisition of new administrative personnel was a response to low enrollments or whether personnel turnover resulted in lower rates of growth.

When the substantive strategic action variables were subjected to factor analysis, eight discrete factors were identified which characterize the spectrum of substantively significant strategic actions. The first factor related to adult programs and policies and included mechanisms for crediting student experiential learning along with specialized, reduced seat-time programs. Those institutions which utilized these strategies were more likely to experience significant enrollment increases. The second factor was related to institutional student selectivity. Institutions which exhibited increased student selectivity also experienced increasing levels of enrollment while those that maintained or decreased selectivity experienced lower rates of growth. The third factor, internal institutional response includes activities focused on more traditional student pools and traditional institutional responses, including freshman advising programs and the assessment of institutional strengths and weaknesses. In this case, use of these traditional internal responses correlated negatively with enrollment increases. Both of these relate to traditional internal programming changes in response to external challenges. The next factor included a variety of non-traditional student strategies including recruitment of more females, financial aid for part-time students, and academic credit for seminars. The

fifth factor relates to non-traditional programs and includes two changes in institutional policies. The sixth factor includes two changes in institutional policies. These policy changes related to a change in academic calendar, and an addition of credit for directed study. The seventh and eighth factors related to the addition of graduate programming and increase in percent transfer students respectively. Collectively, factors one, two, three, five, and eight explain over 30% of the variance in the dependent variable. Four of these factors relate to the recruitment and service of non-traditional students. The fifth factor relates to changes in student selectivity. A summary of these findings is presented in Table XXXVII.

Category 8: Relationships Between All Significant Factors and Enrollment Change

Finding 49. Four of the strategic action factors, one external factor, and one internal factor collectively explained nearly 35% of the variance in the dependent variable. When the two created factor scores for the internal factors, the four created factor scores for external factors, and the eight created factor scores for strategic action factors were all used simultaneously to create a multiple linear regression model, four strategic action factors, one external factor and one internal factor were entered. The strategic factors entered were: (1) non-traditional programs, (2) student selectivity, (3) internal institutional response, and (4) transfer students. The external factor entered was community size, and the internal factor entered was age of students. This model explained a total of 34.9% of the variance in the dependent variable.

Conclusions Concerning the Relationships Between all Significant Factors and Enrollment Change. When all fourteen substantive factors (environmental, institutional,

and strategic action factors) were entered into a multiple regression model, six of the factors loaded. These most significant explanatory factors included changes in student selectivity, internal institutional responses, non-traditional programming, transfer students, and community size. These factors collectively explained nearly 35% of the variance in the dependent variable.

TABLE XXXVII

STRATEGIC ACTIONS AND ENROLLMENT CHANGES

Substantively Significant Variables:

- Increase proportion of professional programs
- Maintain selectivity (negative correlation)
- Increase selectivity
- Assess institutional strengths and weaknesses (negative correlation)
- Increase in percent part-time students
- Increased financial aid for part-time students
- Increase in percent female students
- Increase in percent transfer students
- Add Masters degree
- Adult program development
- Reduced seat-time program development
- Add seminars for credit
- Credit for PLE
- Credit for military
- Credit for informal training
- Credit for Directed Study
- Change in academic calendar
- Frosh advising program (negative correlation)

Factors:

- Adult programs and policies
- Student selectivity
- Traditional institutional responses
- Non-traditional student strategies
- Non-traditional programs
- Institutional policy changes
- Graduate programming
- Transfer students

Explanatory Model:

- Non-traditional programs, student selectivity, traditional institutional response, transfer students, and adult programs and policies explained 32.6% of the variance in the dependent variable.

These findings indicate that the most significant factors influencing enrollment change in small private colleges in the 1980s were directly related to the recruitment of increasing numbers of non-traditional students. Those institutions which showed increasing activities in the development of non-traditional programs, the increase in the proportion of non-traditional students, and increasing average student age, were those that showed greater increase in enrollments in the 1980s. The location of school in "true rural" regions represented significant challenges to enrollment increases, probably because of the increased difficulty imposed on the recruitment of non-traditional students. In addition, those institutions which reported the use of more traditional institutional responses to enrollment challenges (e.g. freshman advising programs) were less likely to show enrollment gains. Finally, increases in student selectivity correlated positively with enrollment rates while maintenance or decreasing selectivity had a negative correlation. A summary of these findings is presented in Table XXXVIII

RECOMMENDATIONS FOR ADDITIONAL RESEARCH

The review of this research suggests several lines of future research. First, a more thorough analysis of how different strategic actions relate to different internal and external institutional characteristics is called for. There is little doubt that common and successful strategies will be influenced by the internal attributes of the institution as well as the environmental context in which the institutions are found. More focused study on specific sub-populations (church-related, rural, etc.) may help to delineate the most common and beneficial strategies.

TABLE XXXVIII

RELATIONSHIP OF ALL SIGNIFICANT FACTORS TO ENROLLMENT CHANGES

All Significant Factors:

- Size of local population
- Rural location
- Number of baccalaureate institutions within 50 miles
- Age of students
- Professional - liberal arts program balance
- Perceived quality - institutional image 1
- Special purpose - institutional image 2
- Adult programs and policies
- Student selectivity
- Traditional institutional response
- Non-traditional student strategies
- Non-traditional programs
- Institutional policy changes
- Graduate programming
- Transfer students

Explanatory Model:

- Non-traditional programs, student selectivity, traditional institutional response, transfer students, community size, and age of students, explain 34.9% of the variance in the dependent variable.

Additional information should be collected and analysis completed in order to determine the differential utilization and effectiveness of various strategic actions within specific sub-populations. It is likely that the effectiveness of specific strategic actions influencing enrollment change at a given institution will be influenced significantly by the nature of specific environmental and institutional attributes of the institution. Because the sub-populations identified and characterized in this study represent discrete groupings of environmental and institutional attributes, further analysis of causal inferences drawn within specific sub-populations should help to make possible more appropriate interpretation and meaningful application of the findings of this study. For example, it

should be possible to draw inferences concerning the most effective strategies for Liberal Arts I as opposed to Liberal Arts II colleges, or rural versus urban colleges. The Keller model can help to frame an understanding of the relationships between the institutional and environmental variables as framers and influencers, and strategic actions as forces acting directly on institutional enrollments.

Additionally, more advanced statistical analysis of the data collected in this research and augmented by additional data can further clarify and explain the relationships of the various environmental, institutional, and strategic action variables to enrollment change. Path analysis could help to clarify specific directional relationships between the significant variables and factors, and enrollment change.

Second, there is a need for qualitative analysis of specific institutions to construct a more complete understanding of the interaction of the various internal, external and strategic action variables and factors and enrollment change. A set of focused case studies of representative institutions would help to more clearly delineate institutional and environmental attributes as well as strategic actions associated with enrollment changes. This research should contain an analysis of external, internal and strategic action variables by sub-populations of institutions to determine preferential academic characteristics and strategies related to rural versus urban colleges, church-related versus non-church-related, Liberal Arts I versus Liberal Arts II, and other major sub-populations.

A more focused study of specific strategies and groups of strategies should be undertaken. This should include an emphasis on the determination of the effectiveness

of the studied variables as intervenors in institutional enrollment change. One option would be to look at a more detailed analysis of closed and merged colleges to determine critical and significant differences in strategic action when compared to those that remain intact.

A final area deserving some considerable study is the role of small private colleges as incubators for innovation. It has often been suggested that small private colleges, due to their lack of buffer from environmental change, and the need to respond more rapidly to environmental challenges, serve as sources of innovation in higher education. A description of innovation and change in higher education should specifically identify and track sources of innovation, and chronicle the role of small private colleges in this process.

REVISITATION AND REFLECTION ON THE KELLER MODEL

As described in Chapter II, this research was informed and framed by the Keller framework for institutional strategic actions (Figure 1). The Keller framework provided a means by which environmental and institutional attributes and institutional strategic actions could be categorized. In addition, it provided a framework for describing the relationship of institutional strategic actions to environmental and institutional attributes, and institutional change. This taxonomy was very useful and served to organize large numbers of discrete variables.

In the future, the Keller framework can serve to frame further research in this area. As described above, one critical area of future research involves the careful

description of the relationships between a more complete list of environmental and institutional attributes and appropriate and successful strategic actions aimed at increasing enrollments. The Keller framework can be used to describe and elucidate the relationship between institutional and environmental attributes and the effectiveness of various strategic actions. Keller's framework can serve as a research frame which will describe internal and external attributes as drivers, shapers, and limiters of institutional strategic actions which serve to move the institution in the direction of desired institutional change.

Finally, the Keller model can provide a useful framework for administrators at individual colleges as they consider the applicability of specific strategic actions within their own institutions. Individual institutional strategic actions must be framed within an institution by a clear understanding of the institution's environmental context as well as the internal strengths, weaknesses, and opportunities.

IMPLICATIONS AND RECOMMENDATIONS FOR ACTION

The goal of this research was to assess a broad spectrum of environmental, institutional and strategic action variables which were suggested by the literature and from the personal experience of the researcher as being of importance in gaining a better understanding of small private colleges in the decade of the 1980s. While not conclusive, several implications can tentatively be drawn from this research, and recommendations constructed.

First, those institutions which saw the greatest enrollment increases in the 1980s tended to revisit and strengthen the traditional values of the institution. They strengthened their church-relatedness, increased student selectivity, reviewed and revised their mission statements, focusing on traditional institutional values, and retained or added regional accreditation.

Second, the institutions which increased their enrollments in the 1980s were those that increased the base of students which they served and expanded their programs into new areas and formats. They were the institutions which adapted their policies and services to serve a variety of non-traditional students, including adults, part-time and transfer students, and more female, minority, international, and graduate students. They added professional programs and programs specifically designed to serve adults.

The two conclusions, taken together, provide strong endorsement for Chaffee's (1984a) conclusion that effective institutional survival strategies include a mixture of both interpretive and adaptive responses. Chaffee suggested that actions which are responsive to external needs and realities, and defined within and responsive to the values and culture of the institution are most effective. This research suggests that those institutions that saw the greatest enrollment increases were those that did traditional things in non-traditional ways.

The findings of this study report generalized relationships. The application of specific strategies to individual institutions, however, must be viewed carefully in the context of the environmental and institutional attributes of that institution. This research

suggests that institutions, by developing and implementing intentional strategies appropriate to the institution and its environment, can significantly impact its enrollment.

Of the variables studied, the greatest amount of variance in the enrollment gains are explained by the strategic actions of the institutions. Among institutional attributes studied, the only factor to explain any significant proportion of the variance in the dependent variable was the age of the student body. This factor is directly related to a variety of the strategic action variables related to non-traditional students, programs, and policies. Of the environmental factors studied, the only significant factor related to enrollment change was the size of the immediate community in which the college was located. This was specifically associated with the negative correlation with a rural setting. The majority of the variance explained in the models constructed in this research, was explained by the various strategic action factors studied.

There are undoubtedly significant institutional attributes and environmental characteristics not assessed by this research which might have had a significant impact on enrollment changes in the 1980s. This research indicates, rather, that institutional strategic actions exert a significant influence on institutional enrollments, and, therefore, on institutional survival within this population. An implication here, is that institutions cannot blame their success or failure strictly on environmental factors or institutional attributes beyond their control. Institutions should, however, take the responsibility for the selection and implementation of appropriate institutional strategic actions aimed at increasing enrollments. This should include the use of Keller's framework, or another appropriate framework, by which careful assessment of institutional attributes and

environmental forces, constraints, and opportunities can be identified. These internal and external attributes should be used in the selection and framing of the most appropriate institutional strategic actions aimed at achieving a predetermined institutional future. This research indicates that strategies involving changes in "product" form, delivery style, and service population, are effective, particularly when tied to attention given to contextualizing the strategic actions within the mission, values, and traditions of the institution.

Additionally, several implications of this research are suggested for higher education in general. First, small private colleges represent a unique and valuable sub-population within American higher education. Because of their lack of fiscal and bureaucratic buffers from the environment, these institutions should be viewed and studied as potential sources of innovation and rapid change in higher education. Many of the challenges identified as being critical for the small private colleges in the 1980s will likely have growing impact on other sectors of higher education throughout the remainder of this century and beyond. Among these are more adult, part-time, minority, and international students, growing demands for professional and continuing education, and the impact of increasing concurrent responsibilities (e.g. full-time or part-time employment, family) for students engaged in higher education.

Similarly, the tendency for scholars and others to view and describe this sector of higher education in narrow, conservative, and highly traditional terms should be revised. The changes experienced and embraced by these institutions in the 1980s tend to suggest a more flexible, responsive, and highly adaptable institutional type than is

normally recognized. All institutions of higher education must recognize that they hold the ability to construct successful institutional strategies which are both shaped by and responsive to the environment and institutional attributes peculiar to their institutions. In doing so, it is possible to significantly shape the institution's future.

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APPENDIX A

LISTING AND ORGANIZATION

OF RESEARCH VARIABLES

LISTING AND ORGANIZATION OF RESEARCH VARIABLE CATEGORIES

- External Characteristic Variables
  - Size of the City
  - Region of the Country
  - Nature of the Competitive Environment
  - Type of Urban Post-Secondary System
  - Self-Reported External Variables
- Internal Characteristic Variables
  - Traditions and Values
    - Gender Status
    - Church and Denominational Affiliation
    - Residential
    - Student Age
    - Church Membership Consideration in Hiring
    - Student Male:Famale
    - Age of the College
    - Enrollment Intent
    - Liberal Arts v/s Professional Emphasis
    - Carnegie Classification
  - Strengths and Weaknesses
    - Selectivity
    - Costs
    - Part-time Tuition
    - Percent of Students Receiving Financial Aid
    - Percent of Faculty with Terminal Degree
    - Faculty Unionization
    - Academic Programs
    - Accreditation Status
    - Academic Calendar
    - Academic Degrees Offered
    - Library and Learning Resources
    - Profile of the Students (age, gender, minority, part-time, etc.)
    - Institutional Research and Planning
    - Memberships
  - Leadership and Management
    - Tenure of the President
    - Tenure of the Chief Academic Officer
  - Self-Reported Internal Variables
- Academic Strategic Action Variables
  - Leadership and Management

- Formal Planning Mechanism
- Mission Review and Revision
- Appointment of New President, Chief Academic Officer or Other Cabinet Officers
- Hiring Consultants (strategic planning, mission review, etc.)

Nature of the College

- Change from Single-Sex or Co-Ed
- Change in Selectivity
- Management Information System
- Change in Costs
- Change in Church-Relatedness
- Change in Carnegie Classification

Academic Policies

- Residency Requirments
- Crediting Non-Transcripted Learning (e.g. PLE, Military credit)
- Academic Calendar Change
- Directed or Independent Studies
- Part-Time Matriculation
- Block Transfer Arrangements
- Study Abroad and Sister School Relationships
- Time Limits on Transfer of Credits (acceptance, impact on cum GPA)
- Alternate Registration (e.g., phone, work-site)
- Financial Aid for Part-Time Students

Academic Programs and Program Elements

- Special Programs for "Adult Learners"
- Special Programs for Retired Adults
- Short-Term Seminars
- Liberal Arts and Professional Program Mix
- Change in Regional and Special Accreditation
- Remediation and Special Assistance Programs
- Courses at Corporate Sites
- Undergraduate and Graduate Student Mix

Academic Personnel

- Student-Faculty Ratio
- Number of Full-Time Faculty
- Ratio of Full-Time to Part-Time Faculty
- Faculty Development Opportunities
- Average Teaching Load
- Faculty Down-Sizing

Self-Reported Strategic Action Variables

APPENDIX B

DESCRIPTION OF RESEARCH VARIABLES

AND DATA SOURCES

DESCRIPTION OF THE RESEARCH VARIABLES AND DATA SOURCES

Categories:

DV = Dependent Variables
EX = External Variables
IN = Internal Variables
SA = Strategic Action Variables

Sources:

A = American Council on Education
B = Beta Club
C = College Board
P = Peterson's Guide
D = Created Dummy Variable
S = Survey Questionnaire
R = Robertson's U.P.S. Classification

Variable Type:

N = Nominal
O = Ordinal
I = Interval
R = Ratio

Tests:

S = Spearman's Correlation
P = Pearson Product-Moment Correlation

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Dependent Variables						
DV	Collapsed GRNTTLPC - 3 categories	-	O	-	-	-
DV	Collapsed GRNTTLPC - 6 categories	-	O	-	-	-
DV	Average Enrollment Change (A,B,C, & P) - Percent	-	R	-	-	-
DV	Enrollment Percent ChangeA	R	-	-	-	-
DV	Enrollment Percent Change	B	R	-	-	-
DV	Change in Total Enrollment - Percent	C	R	-	-	-
DV	Enrollment Percent Change	P	R	-	-	-
External Variables *Environmental Trends*						
EX	Accreditation Region	A	N	-	-	-
EX	Middle States	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
External Variables *Environmental Trends Cont.*						
EX	Western	D	N	S	X	X
EX	Change in Population Size of Area	C	N	-	-	-
EX	Increase in Population Size	D	N	S	0.132	0.05
EX	Decrease in Population Size	D	N	S	X	X
EX	Population Size of Surrounding Area, 1980	C	O	S	X	X
EX	Rural, 1980	D	N	S	X	X
EX	Small Town, 1980	D	N	S	X	X
EX	Large Town, 1980	D	N	S	X	X
EX	Small City, 1980	D	N	S	X	X
EX	Large City, 1980	D	N	S	X	X
EX	Very Large City, 1980	D	N	S	X	X
EX	Population Size of Surrounding Area, 1989	C	O	S	X	X
EX	Rural, 1989	D	N	S	-0.116	0.05
EX	Small Town, 1989	D	N	S	X	X
EX	Large Town, 1989	D	N	S	X	X
EX	Small City, 1989	D	N	S	X	X
EX	Large City, 1989	D	N	S	X	X
EX	Very large City, 1989	D	N	S	X	X
EX	Collapsed 1 - Finances - Survey - External	D	N	S	X	X
EX	Collapsed 2 - Demographics-Survey-External	D	N	S	X	X
EX	Collapsed 4 -Personnel -Survey -External	D	N	S	X	X
EX	Collapsed 6 - Sponsor- Survey- External	D	N	S	X	X
EX	Collapsed 7 - Location- Survey- External	D	N	S	X	X
EX	Collapsed 8 - Legal - Survey - External	D	N	S	X	X
EX	Economy / Recession - Survey - External	D	N	S	X	X
EX	State Financial Aid - Survey - External	D	N	S	X	X
EX	Increase in Adults Students - Survey-External	D	N	S	0.200	0.01
EX	State Enrollment Lmts./Tuitn. Incr.-Survey-Ext	D	N	S	0.177	0.05
EX	Limits in Personnel Availability -Survey-Ext	D	N	S	X	X
EX	Implications of Accred.Standards-Survey-Ext	D	N	S	X	X
EX	Regional Population Growth -Survey-External	D	N	S	0.152	0.05
EX	Declining 18-22 Year-Old Popul. -Survey--Ext	D	N	S	-0.150	0.05
EX	Changes in the Nat'l I Church Body-Srvy-Ext	D	N	S	X	X
EX	Inc. Rate of Attndnc. of 18-22 Y-O's Srvy-Ext	D	N	S	X	X
EX	Location of the College - Survey-External	D	N	S	0.1615	0.05
EX	Changes in Race Relations - Survey-External	D	N	S	X	X
EX	Changes in External Legal Context-S rv y-Ext	D	N	S	X	X
EX	Out-Migration from the Local Area-Srvy-Ext	D	N	S	X	X
EX	State Tuition Vouchers/Stipends-Survey-Ext	D	N	S	X	X
EX	Increased Higher Education Costs-Srvy-Ext	D	N	S	X	X
EX	Aging of the Population - Survey-External	D	N	S	X	X
EX	Changes in the Job Market - Survey-External	D	N	S	X	X
EX	Academic Prep of Incoming Stdnts-Srvy-Ext	D	N	S	X	X
EX	Decline in International Students-Survey-Ext	D	N	S	X	X
EX	Increase in Incarcerations-Survey-External	D	N	S	X	X
EX	Improved Levels of Access-Survey-External	D	N	S	X	X
EX	Increased Crime in the Area-Survey-External	D	N	S	X	X
EX	Increased Female Rate of Attendnce-Srvy-Ext	D	N	S	X	X
EX	Availability of External Grants-Survey-Ext	D	N	S	X	X
EX	Changes in Ext. Constit./Community-Srvy-Ext	D	N	S	X	X
EX	High Minority Dropouts - Survey-External	D	N	S	X	X
EX	Changing Roles of Women-Survey-External	D	N	S	X	X
EX	Changing Government Regulations-Srvy-Ext	D	N	S	X	X
EX	Poor Job Opportun. for H.S. Grad-Srvy-Ext	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
External Variables *Environmental Trends Cont.*						
EX	Incr. Attndnc at Coll. Near home-Srvy-Ext	D	N	S	X	X
EX	Collapsed - Keller's External Trends	D	N	S	X	X
EX	New England	D	N	S	X	X
EX	North Central	D	N	S	X	X
EX	Northwest	D	N	S	X	X
EX	Southern	D	N	S	X	X
EX	Western	D	N	S	X	X
EX	Change in Population Size of Area	C	N	-	-	-
EX	Increase in Population Size	D	N	S	0.132	0.05
EX	Decrease in Population Size	D	N	S	X	X
EX	Population Size of Surrounding Area, 1980	C	O	S	X	X
EX	Rural, 1980	D	N	S	X	X
EX	Small Town, 1980	D	N	S	X	X
EX	Large Town, 1980	D	N	S	X	X
EX	Small City, 1980	D	N	S	X	X
EX	Large City, 1980	D	N	S	X	X
EX	Very Large City, 1980	D	N	S	X	X
EX	Population Size of Surrounding Area, 1989	C	O	S	X	X
EX	Rural, 1989	D	N	S	-0.116	0.05
EX	Small Town, 1989	D	N	S	X	X
EX	Large Town, 1989	D	N	S	X	X
EX	Small City, 1989	D	N	S	X	X
EX	Large City, 1989	D	N	S	X	X
EX	Very Large City, 1989	D	N	S	X	X
EX	Collapsed 1 - Finances-Survey-External	D	N	S	X	X
EX	Collapsed 2 -Demographics-Survey-Ext	D	N	S	X	X
EX	Collapsed 4 - Personnel-Survey-External	D	N	S	X	X
EX	Collapsed 6 - Sponsor-Survey-External	D	N	S	X	X
EX	Collapsed 7 - Location-Survey-External	D	N	S	X	X
EX	Collapsed 8 - Legal-Survey-External	D	N	S	X	X
EX	Economy / Recession-Survey-External	D	N	S	X	X
EX	State Financial Aid - Survey-External	D	N	S	X	X
EX	Increase In Adult Students-Survey-External	D	N	S	0.200	0.01
EX	State Enrollment Lmts. / Tuitn. Incr.-Srvy-Ext	D	N	S	0.177	0.05
EX	Limits in Personnel Availability - Survey-Ext	D	N	S	X	X
EX	Implications of Accred. Standards-Srvy-Ext	D	N	S	X	X
EX	Regional Population Growth-Survey-External	D	N	S	0.152	0.05
EX	Declining 18-22 Year-Old Population-Srvy-Ext	D	N	S	-0.150	0.05
EX	Changes in National Church Body-Srvy-Ext	D	N	S	X	X
EX	Increased Public Competition-Srvy-Ext	D	N	S	X	X
EX	Inc. Rate of Attndnc. of 18-22 Y-O's-Srvy-Ext	D	N	S	0.1615	0.05
EX	Federal Financial Aid-Survey-External	D	N	S	X	X
EX	Location of the College-Survey-External	D	N	S	X	X
EX	Change in External Legal Context-Srvy-Ext	D	N	S	X	X
EX	Out-Migration from the Local Area-Srvy-Ext	D	N	S	X	X
EX	State Tuition Vouchers/Stipends - Srvy-Ext	D	N	S	X	X
EX	Increased Higher Edu Costs - Survey-Ext	D	N	S	X	X
EX	Aging of the Population - Survey-External	D	N	S	X	X
EX	Changing of the Job Market - Survey-Ext	D	N	S	X	X
EX	Academic Prep. of Incoming Stdnts - Srvy-Ext	D	N	S	X	X
EX	Decline in Internat'l Students-Survey-External	D	N	S	X	X
EX	Increase in Incarcerations - Survey-External	D	N	S	X	X
EX	Improved Levels of Access-Survey-External	D	N	S	X	X
EX	Increased Crime in the Area-Survey-External	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
External Variables *Environmental Trends Cont.*						
EX	Increased Female Rate of Attend. Survey-Ext	D	N	S	X	X
EX	Availability of External Grants - Survey-Ext	D	N	S	X	X
EX	Changes in Ext. Constit/Community-Srvy-Ext	D	N	S	X	X
EX	High Minority Dropouts-Survey-External	D	N	S	X	X
EX	Changing Roles of Women-Survey-Ext	D	N	S	X	X
EX	Changing Governm't Regulations-Srvy-Ext	D	N	S	X	X
EX	Poor Job Opportun. for H.S. Grad.-Srvy-Ext	D	N	S	X	X
EX	Incr. Attndnc. At Coll. Near Home-Srvy-Ext	D	N	S	X	X
EX	Collapsed - Keller's External Trends	D	N	S	X	X
Market Preferences, Perceptions and Directions						
EX	Collapsed 5 - Image Percept.-Survey-External	D	N	S	X	X
EX	Collapsed 9 - The Market - Survey-External	D	N	S	X	X
EX	Ext. Perceptions of the Institution-Srvy-Ext	D	N	S	X	X
EX	Declining Interest in Church Profess.-Srvy-Ext	D	N	S	X	X
EX	Increased Interest in Career Prep.-Survey-Ext	D	N	S	X	X
EX	Declining Support of the Liberal Arts-Srvy-Ext	D	N	S	X	X
EX	Increased Value of Higher Edu. - Survey-Ext	D	N	S	X	X
EX	Growing Intrst in Coll's Prgrm Areas-Srvy-Ext	D	N	S	X	X
EX	Decline in Spprt of Single-Sex Instit.-Srvy-Ext	D	N	S	X	X
EX	Incr. Interest Multicult./Globel. Issue-Srvy-Ext	D	N	S	X	X
EX	Poor Reputation of Priv. Colleges-Srvy-Ext	D	N	S	X	X
EX	Perception of Incr. Value of L.A. - Srvy-Ext	D	N	S	X	X
EX	Incr. Interest by Sponsor Church-Srvy-Ext	D	N	S	X	X
EX	Collapsed - Keller's Market - Survey-External	D	N	S	0.1610	0.05
Competition						
EX	Number of Local Baccal. Colleges (50 miles)	S	R	P	-0.1424	0.05
EX	Area Community College	S	N	S	X	X
EX	Area Large Public University (>5,000)	S	N	S	X	X
EX	Collapsed 3 - Competition-Survey-External	D	N	S	X	X
EX	Increased Private Competition-Survey-Ext	D	N	S	X	X
EX	Closure/Moving of Competitors-Survey-Ext	D	N	S	X	X
EX	Lack of Competition - Survey-External	D	N	S	X	X
EX	Decline in Availability of Lib. Arts - Survey-Ext	D	N	S	X	X
EX	Collapsed - Keller's Competition-Survey-Ext	D	N	S	X	X
EX	U.P.S. Type	R	N	-	-	-
EX	UPS 1 - Complete	D	N	S	X	X
EX	UPS 2 - Middleless	D	N	S	X	X
EX	UPS 3 - Bottomless	D	N	S	X	X
EX	UPS 4 - Topless	D	N	S	X	X
EX	Consolidated Metropolitan Stat. Area (CMSA)	R	N	S	X	X
EX	CMSA v/s Rural	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Internal Variables *Traditions, Values and Aspirations*						
IN	Year Founded (corrected for "out-lying")	C	I	P	0.1560	0.01
IN	Collapsed into 30 Year Increm'ts-Yr. Founded	C	O	S	X	X
IN	Colleges 0-30 Years	D	N	S	X	X
IN	Colleges 31-60 Years	D	N	S	X	X
IN	Colleges 61-90 Years	D	N	S	X	X
IN	Colleges 91-120 Years	D	N	S	X	X
IN	Colleges 121-150 Years	D	N	S	X	X
IN	Colleges >150 Years	D	N	S	X	X
IN	Affiliation, 1989	C	N	-	-	-
IN	Non-Church Related	D	N	-	X	X
IN	African Methodist Episcopal Zion	D	N	S	X	X
IN	Assemblies of God	D	N	S	X	X
IN	Baptist	D	N	S	X	X
IN	Catholic	D	N	S	0.1349	0.05
IN	Church of Christ	D	N	S	X	X
IN	Christian Evangelical Churches of America	D	N	S	X	X
IN	Christian Missionary Alliance	D	N	S	X	X
IN	Church of God	D	N	S	X	X
IN	Christian Science	D	N	S	X	X
IN	Disciples of Christ	D	N	S	X	X
IN	Evangelical Free Church in America	D	N	S	X	X
IN	Episcopal	D	N	S	X	X
IN	Friends	D	N	S	X	X
IN	Greek Orthodox	D	N	S	X	X
IN	Non-Denominational	D	N	S	X	X
IN	Jewish	D	N	S	X	X
IN	Lutheran	D	N	S	X	X
IN	Moravian	D	N	S	X	X
IN	Methodist	D	N	S	X	X
IN	Missionary Church	D	N	S	X	X
IN	Church of the Nazarene	D	N	S	X	X
IN	Presbyterian	D	N	S	0.125	0.05
IN	Reformed Church	D	N	S	X	X
IN	Seventh Day Adventist	D	N	S	X	X
IN	Swedenborgian	D	N	S	X	X
IN	United Christian Missionary Society	D	N	S	X	X
IN	Weslyan	D	N	S	X	X
IN	Mennonite	D	N	S	X	X
IN	Congregational Christian Church	D	N	S	X	X
IN	Christian Reformed Church	D	N	S	X	X
IN	Bretheran	D	N	S	X	X
IN	Collapsed - Mainstream Protestant	D	N	S	X	X
IN	Collapsed - European Enclave	D	N	S	0.1893	0.01
IN	Collapsed - American - Sects & Cults	D	N	S	X	X
IN	Collapsed - American- Penticostal & Holiness	D	N	S	X	X
IN	Collapsed - African American	D	N	S	-0.1538	0.05
IN	Collapsed - New Age / Other	D	N	S	X	X
IN	Church Related Status, 1980	C	N	S	X	X
IN	Church Related Status. 1989	C	N	-	-	-
IN	Gender Status, 1980	C	N	S	X	X
IN	Co-Ed in 1980	D	N	S	X	X
IN	Women's College in 1980	D	N	S	X	X
IN	Men's College in 1980	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Internal Variables (continued) *Traditions, Values and Aspirations (continued)*						
IN	Gender Status, 1989	C	N	-	-	-
IN	Co-Ed in 1989	D	N	S	X	X
IN	Women's College in 1989	D	N	S	X	X
IN	Men's College in 1989	D	N	S	-0.3462	0.05
IN	Institution's Enrollment Intent for the 1980s	S	O	S	0.2203	0.01
IN	Intend Significant Increase	D	N	S	0.1768	0.01
IN	Intend Moderate increase	D	N	S	X	X
IN	Intend Constant Enrollment	D	N	S	X	X
IN	Intend Decreased Enrollment	D	N	S	-0.1802	0.01
IN	No Intention	D	N	S	X	X
IN	Freshman Selectivity, 1989	P	O	-	-	-
IN	Non-Competitive	D	N	S	X	X
IN	Minimal Difficulty	D	N	S	-0.1375X	0.05
IN	Moderate Difficulty	D	N	S	X	X
IN	Very Difficult	D	N	S	X	X
IN	Most Difficult	D	N	S	X	X
IN	Percent of Programs in the Lib. Arts	S	R	P	-0.1403	0.05
IN	Christian Nature of the Coll-Survey-Internal	D	N	S	X	X
IN	Serv. Posture/Responsive to Needs-Srvy-Int.	D	N	S	X	X
IN	Liberal Arts Focus - Survey - Internal	D	N	S	X	X
IN	Single-Gender Nature of Coll.-Survey-Internal	D	N	S	X	X
IN	Clear Vision/Mission - Survey - Internal	D	N	S	X	X
IN	High Selectivity - Service - Internal	D	N	S	X	X
IN	Creative / Open to Change - Survey - Internal	D	N	S	X	X
IN	Global Focus - Survey - Internal	D	N	S	X	X
IN	Quality Publications - Survey - Internal	D	N	S	X	X
IN	Resistance to Change - Survey - Internal	D	N	S	X	X
IN	Focus on "Traditional" Students-Survey-Int.	D	N	S	X	X
IN	Poor Sense of Mission - Survey - Internal	D	N	S	X	X
Strengths and Weaknesses						
IN	Regionally Accredited in 1980	A	N	S	0.1175	0.05
IN	Regionally Accredited in 1989	A	N	S	0.1674	0.05
IN	"Other" Accreditation, 1980	A	N	S	X	X
IN	"Other" Accreditation, 1989	A	N	S	X	X
IN	Academic Calendar, 1980	A	N	-	-	-
IN	Quarter Calendar, 1980	D	N	S	X	X
IN	Semester Calendar, 1980	D	N	S	X	X
IN	"Other" Calendar, 1980	D	N	S	X	X
IN	Academic Calendar, 1989	A	N	-	-	-
IN	Quarter Calendar, 1989	D	N	S	X	X
IN	Semester Calendar, 1989	D	N	S	X	X
IN	"Other" Calendar, 1989	D	N	S	X	X
IN	Load in Quarter/Semester Hours	S	N	S	X	X
IN	Offer Associate's Degree, 1980	A	N	S	X	X
IN	Offer Associate's Degree, 1989	A	N	S	X	X
IN	Offer Master's Degree, 1980	A	N	S	X	X
IN	Offer Master's Degree, 1989	A	N	S	X	X
IN	Offer Doctorate, 1980	A	N	S	X	X
IN	Offer Doctorate, 1989	A	N	S	X	X
IN	Average Total Enrollment, 1980 (A,B,C,P)	D	R	P	-0.2196	0.01
IN	Average Total Enrollment, 1989 (A,B,C,P)	D	R	P	0.4666	0.01
IN	Carnegie Classification	CC	N	S	0.1234	0.05

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig
Internal Variables (continued) *Strengths and Weaknesses (continued)*						
IN	Number of Faculty With Doctorates, 1989	C	R	P	X	X
IN	Percent of Faculty With Doctorates, 1989	C	R	P	X	X
IN	Number of Faculty - Full-Time, 1989	C	R	P	X	X
IN	Collapsed to Quartiles - No. of FT Fac., 1989	D	O	S	0.1458	0.05
IN	Number of Faculty - Total, 1989	C	R	P	0.2923	0.01
IN	Collapsed to Quartiles - Total Faculty, 1989	D	O	S	X	X
IN	Unionization of the Full-Time Faculty	S	O	S	X	X
IN	Unionization of the Part-Time Faculty	S	O	S	X	X
IN	F-T Teaching Load, 1989 - Semester Equiv.	S	R	P	X	X
IN	Student: Full-Time Faculty Ratio, 1989	C	R	P	0.4769	0.01
IN	Collapsed to Quart-Stu: F-T Fac Ratio, 1989	D	O	S	0.3760	0.01
IN	Student: Total Faculty Ratio, 1989	C	R	P	0.2781	0.01
IN	Collapsed to Quart - Stu: Ttl Fac Ratio, 1989	D	O	S	0.2925	0.01
IN	Library Volumes (in Thousands)-(C & P),1989	D	R	P	X	X
IN	Collapsed to Quart - Library Volumes,1989	D	O	S	X	X
IN	Periodical Subscriptions (C&P), 1989	D	R	P	X	X
IN	Microform Volumes, 1989 (in Thousands)	P	R	P	X	X
IN	Records and Tapes, 1989	P	R			
IN	Computers Available to Students	C	R	P	X	X
IN	Average Percent International (C & P), 1980	D	R	P	X	X
IN	Average Percent International (C & P), 1989	D	R	P	X	X
IN	Collapsed to Quartiles - Prcnt Intern'l, 1989	D	O	S	X	X
IN	Average Total Costs (T.F.R.&B),1980-(C&P)	D	R	P	X	X
IN	Average Total Costs (T,F,R,&B),1989-(C&P)	D	R	P	X	X
IN	Average Tuition and Fees (C & P), 1980	D	R	P	X	X
IN	Average Tuition and Fees (C & P), 1989	D	R	P	X	X
IN	Collapsed to Quartiles - 1989 Tuition & Fees	D	O	S	0.1232	0.05
IN	Semester Equiv. Part-Time Tuition, 1980	P	R	P	X	X
IN	Semester Equiv. Part-Time Tuition, 1989	P	R	P	X	X
IN	Undergraduate Full-Time Students, 1980	C	R	P	-0.2415	0.01
IN	Undergraduate Full-Time Students, 1989	C	R	P	0.2711	0.01
IN	Undergrad. Male Full-Time Students, 1980	C	R	P	-0.1274	0.05
IN	Undergrad. Male Full-Time Students, 1989	C	R	P	0.1344	0.05
IN	Undergrad. Female Full-Time Students, 1980	C	R	P	-0.212	0.01
IN	Undergrad. Female Full-Time Students, 1989	C	R	P	0.2845	0.01
IN	Average Enroll. Change (A,B,C,&P)-Number	D	R	-	0.8603	0.01
IN	Undergraduate Part-Time Students, 1980	C	R	P	X	X
IN	Undergraduate Part-Time Students, 1989	C	R	P	0.4401	0.01
IN	Undergrad. Male Part-Time Students, 1980	C	R	P	X	X
IN	Undergrad. Male Part-Time Students, 1989	C	R	P	0.3836	0.01
IN	Undergrad. Female Part-Time Students, 1980	C	R	P	X	X
IN	Undergrad. Female Part-Time Students, 1989	C	R	P	0.4162	0.01
IN	Percent Part-Time Students, 1980	P	R	P	0.1541	0.01
IN	Percent Part-Time Student, 1989	P	R	P	0.2927	0.01
IN	Collapsed to Quart-Percent Part-Time, 1989	D	O	S	0.2942	0.01
IN	Still in Existance in Fall, 1992	A	N	P	X	X
IN	Percent Graduate, 1980	P	R	P	X	X
IN	Percent Graduate, 1989	P	R	P	X	X
IN	Percent Undergraduate, 1980	P	R	P	X	X
IN	Percent Undergraduate, 1989	P	R	P	X	X
IN	Percent Female Students, 1980	P	R	P	X	X
IN	Percent Female Students, 1989	P	R	P	X	X
IN	Collapsed to Quart. - Percent Female, 1989	D	O	S	0.2008	0.01

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Internal Variables (continued) *Strengths and Weaknesses (continued)*						
IN	Percent Male Students, 1980	P	R	P	X	X
IN	Percent Male Students, 1989	P	R	P	X	X
IN	Percent Asian American Student, 1980	P	R	P	X	X
IN	Percent Asian American Student, 1989	P	R	P	X	X
IN	Percent Black Student, 1980	P	R	P	*	*
IN	Percent Black Student, 1989	P	R	P	*	*
IN	Collapsed to Quartiles - Percent Black, 1989	D	O	S	X	X
IN	Percent Hispanic Student, 1980	P	R	P	X	X
IN	Percent Hispanic Student, 1989	P	R	P	X	X
IN	Percent Native American Student, 1980	P	R	P	X	X
IN	Percent Native American Student, 1989	P	R	P	*	*
IN	Average Percent Minority (P&C), 1980	C	R	P	*	*
IN	Average Percent minority (P&C), 1989	C	R	P	*	*
IN	Collapsed to Quart. - Percent Minority, 1989	D	O	S	*	*
IN	Majority-Minority College	D	N	S	-0.1709	0.01
IN	Percent of Students Over 21, 1980	P	R	P	X	X
IN	Average Age of New Students, 1989	C	R	P	0.1438	0.05
IN	Collapsed to Quart-Avg Age of New Stu,1989	D	O	S	X	X
IN	Percent of Students Over 25, 1989	P	R	P	0.2677	0.01
IN	Percent Transfer Student, 1980	P	R	P	X	X
IN	Percent Transfer Student 1989	P	R	P	0.1763	0.01
IN	Institutional Research Office	S	O	S	X	X
IN	Amount of Information Available	S	O	S	X	X
IN	Quality of Information Available	S	O	S	X	X
IN	Number of Liberal Arts Programs	S	R	P	X	X
IN	Number of Professional Programs	S	R	P	0.714	0.05
IN	Academic Remediation/Assistance Programs	S	N	S	X	X
IN	Breadth of Student Recruitment Market	S	N	-	-	-
IN	Local Market	D	N	S	X	X
IN	State Market	D	N	S	X	X
IN	Regional Market	D	N	S	X	X
IN	National Market	D	N	S	-0.1637	0.05
IN	Change in Freshman Retention	S	O	S	0.1422	0.05
IN	Change in Overall Undergraduate Retention	S	O	S	0.1412	0.05
IN	AAC Membership	S	N	S	X	X
IN	AAHE Membership	S	N	S	X	X
IN	ACE Membership	S	N	S	X	X
IN	AIR Membership	S	N	S	X	X
IN	CCC Membership	S	N	S	X	X
IN	CAEL Membership	S	N	S	0.1471	0.05
IN	CIC Membership	S	N	S	X	X
IN	SCUP Membership	S	N	S	X	X
IN	Number of Professional Organiz. Listed	S	R	P	X	X
IN	Add. Significant Memberships (open-ended)	S	N	-	-	-
IN	"Other" Member. -Denominational Affiliation	D	N	S	X	X
IN	"Other"Member.-Nast Ass Priv.Non-Prof.S&C.	D	N	S	X	X
IN	"Other"Member.-Christian College Consortium	D	N	S	X	X
IN	"Other" Memberships - NAFEO	D	N	S	X	X
IN	"Other" Memberships - Women's Coll. Assoc.	D	N	S	X	X
IN	"Other" Memberships - AACTE	D	N	S	X	X
IN	"Other" Memberships - AAUW	D	N	S	X	X
IN	"Other" Memberships - UNCF	D	N	S	X	X
IN	"Other" Member.-Stt/Lcl / Reg Priv.Col.Assoc	D	N	S	X	X
IN	"Other" Memberships - NACABA	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Internal Variables (continued) *Strengths and Weaknesses (continued)*						
IN	"Other" Memberships - ACT	D	N	S	X	X
IN	"Other" Memberships - Reg. Accred.	D	N	S	X	X
IN	"Other" Memberships - CASE	D	N	S	X	X
IN	"Other" Memberships - ETS	D	N	S	X	X
IN	"Other" Memberships - NAICU	D	N	S	X	X
IN	"Other" Membverships - NCATE	D	N	S	X	X
IN	"Other" Memberships - NACAC	D	N	S	X	X
IN	"Other" Memberships - AABC	D	N	S	X	X
IN	"Other" Memberships - ACAD	D	N	S	X	X
IN	"Other" Memberships - NASFA	D	N	S	X	X
IN	"Other" Memberships - AGLS	D	N	S	X	X
IN	"Other" Memberships - Spec. Accred.	D	N	S	X	X
IN	"Other" Memberships - ASHE	D	N	S	X	X
IN	"Other" Memberships - AILAC	D	N	S	X	X
IN	"Other" Memberships - NABSE	D	N	S	X	X
IN	"Other" Memberships - WCC	D	N	S	X	X
IN	"Other" Memberships - AACRAO	D	N	S	X	X
IN	"Other" Memberships - AACCS	D	N	S	X	X
IN	"Other" Memberships - AGBUC	D	N	S	X	X
IN	"Other" Memberships - NAEOHE	D	N	S	X	X
IN	Grouped -"Other" Memberships - Church/Rel	D	N	S	X	X
IN	Grouped - "Other" Memberships - Accredit.	D	N	S	X	X
IN	Grouped - "Other" Memberships - Regional	D	N	S	X	X
IN	Grouped -"Other" Memberships-National-Gen	D	N	S	-0.3170	0.05
IN	Grouped -"Other" Memberships-Nat'l-Prog.	D	N	S	X	X
IN	Academic Quality - Survey - International	D	N	S	X	X
IN	Smallness - Survey - Internal	D	N	S	X	X
IN	Low Cost - Survey - Internal	D	N	S	X	X
IN	Nature of Specific Programs - Survey-Internal	D	N	S	X	X
IN	Low Visability - Survey-Internal	D	N	S	X	X
IN	Personnel Limitations - Survey-Internal	D	N	S	X	X
IN	Co-Curricular Activities - Survey - Internal	D	N	S	X	X
IN	Diverse Student Body - Survey - Internal	D	N	S	X	X
IN	Lack of Accreditation - Survey - Internal	D	N	S	X	X
IN	Deferred Maintenance - Survey - Internal	D	N	S	X	X
IN	Liberal Admissions - Survey - Internal	D	N	S	X	X
IN	High Cost - Survey - Internal	D	N	S	X	X
IN	Limited Resources - Survey - Internal	D	N	S	S	X
IN	Low Morale - Survey - Internal	D	N	S	-0.1632	0.05
IN	High Faculty-Staff Turnover -Survey - Internal	D	N	S	X	X
IN	Low Finanacial Aid - Survey - Internal	D	N	S	X	X
IN	Strong Reputation - Survey - Internal	D	N	S	X	X
IN	New/Good Facilities - Survey - Internal	D	N	S	X	X
IN	Aging of the Faculty - Survey - Internal	D	N	S	X	X
IN	Strong, Quality Faculty - Survey - Internal	D	N	S	X	X
IN	High Financial Aid - Survey - Internal	D	N	S	X	X
IN	Focus on Profess/Career - Survey-Internal	D	N	S	X	X
IN	Strong Advising Program - Survey - Internal	D	N	S	X	X
IN	Strong Admissions Program -Survey -Internal	D	N	S	X	X
IN	Strong Orientation Program -Survey - Internal	D	N	S	X	X
IN	Strong Policies and Proced.-Survey-Internal	D	N	S	X	X
IN	Location - Survey - Internal	D	N	S	X	X
IN	Financial Stability - Survey- Internal	D	N	S	X	X
IN	Strong Student Services-Survey-Internal	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Internal Variables (continued) *Strengths and Weaknesses (continued)*						
IN	High Student Satisfaction -Survey-Internal	D	N	S	X	X
IN	Change to University Status-Survey-Internal	D	N	S	X	X
IN	Stable Tuition-Survey-Internal	D	N	S	X	X
IN	High Computer Use - Survey - Internal	D	N	S	X	X
IN	Strong Marketing - Survey - Internal	D	N	S	X	X
IN	Poor Reputation--Survey-Internal	D	N	S	X	X
IN	Move to Merit Based Fin. Aid - Survey-Int.	D	N	S	X	X
IN	Weak Marketing - Survey - Internal	D	N	S	-0.1670	0.05
IN	Focus on Retention - Survey - Internal	D	N	S	X	X
IN	Strong External Funding - Survey - Internal	D	N	S	X	X
IN	Branch Campus(es) - Survey - Internal	D	N	S	X	X
IN	Poor Institutional Research/Inform-Srvy-Int.	D	N	S	X	X
IN	Strong Alumnio Loyalty - Survey - Internal	D	N	S	X	X
IN	Presence of Accreditation - Survey-Internal	D	N	S	X	X
IN	Poorly Executed Curr.Change-Survey-Internal	D	N	S	X	X
Leadership						
IN	1989 President's First Year	B	O	P	-0.1182	0.05
IN	Year(s) New Pres.(s) Arrived During 1980s	S	I	-	-	-
IN	Year(s) New C.A.O.(s) Arrived in 1980's	S	I	-	-	-
IN	YEar "Other" New Admin.(s) Arrived in 1980s	S	I	-	-	-
IN	Strong Leadership - Survey - Internal	D	N	S	X	X
IN	Lack of Leadership - survey - Internal	D	N	S	X	X
IN	Focus on Planning - Survey - Internal	D	N	S	X	X
IN	Lack of Planning - Survey - Internal	D	N	S	X	X
Strategic Actions *Mission and Values*						
SA	Change in Affiliation	C	N	S	X	X
SA	Change in Church Related Status	C	N	-	-	-
SA	Change in Gender Status	C	N	-	-	-
SA	Conducted A Mission Review	S	O	S	X	X
SA	Completed a Mission Statement Revision	S	O	S	X	X
SA	Type of Mission State. Change (open-ended)	S	N	-	-	-
SA	Collapsed - Mission State. Changes-Values	D	N	S	X	X
SA	Collapsed-Mission State. Changes-Students	D	N	S	X	X
SA	Collapsed-Mission State.Changes-Acad.Prog	D	N	S	X	X
SA	Collapsed-Mission State.Changes-Constit.	D	N	S	X	X
SA	Collapsed-Mission State.Change-Chnge Form	D	N	S	X	X
SA	Collapsed-Mission State Change-Rel/Church	D	N	S	X	X
SA	Change in Church Relatedness	S	O	S	X	X
SA	Change in Lib Arts: Prof. Program Ratio	S	N	-	-	-
SA	Increase Proportion of Lib Arts Program	D	N	S	X	X
SA	Increase Proportion of Prof. Programs	D	N	S	0.1780	0.05
SA	Maintain Proportion of LA to Prof. Programs	D	N	S	X	X
SA	Change in Number of Lib. Arts Programs	S	N	S	X	X
SA	Change in the Number of Prof. Programs	S	N	S	X	X
SA	Change in Student Selectivity	S	O	S	0.1455	0.05
SA	No Change in Student Selectivity	D	N	S	-01682	0.05
SA	Increase Selectivity	D	N	S	0.1726	0.05
SA	Decrease Selectivity	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Institutional Planning						
SA	External Assessment-Composite Score	S	O	S	X	X
SA	Intetnal Assessment - Composite Score	S	O	S	X	X
SA	Total Assessment - Composite Score	S	O	S	X	X
SA	Conduct External Environmental Assessment	S	O	S	X	X
SA	Conduct Student Market Assessment	S	O	S	X	X
SA	Conduct Competition Assessment	S	O	S	X	X
SA	Conduct Instit Strgths&Weaknesses Assmnt	S	O	S	0.1582	0.05
SA	Conduct Instit Traditions&Values Assessment	S	O	S	X	X
SA	Conduct instit. Leadership Assessment	S	O	S	X	X
SA	Formal Planning Activities	S	O	S	X	X
SA	Connect Planning to Budget	S	O	S	X	X
SA	Conduct Short-Range Planning (1-5 years)	S	O	S	X	X
SA	Conduct Medium-Range {lanning (5-10 years)	S	O	S	X	X
SA	Conduct Long-Range Planning (>10 years)	S	O	S	X	X
Changing Administration						
SA	Total # of new Presidents in 1980s	S	R	P	X	X
SA	Total # of New Chief Acad Off. in 1980s	S	R	P	X	X
SA	Total # of "Other" New Adm. in 1980s	S	R	P	X	X
SA	Total # of All New Administrators in 1980s	S	R	P	X	X
New Student Populations						
SA	Composite Score - Remediation/Assis Prog	S	O	S	X	X
SA	Returning Adult Remediation/Assis Program	S	O	S	X	X
SA	Retired Adult Program	S	N	S	X	X
SA	Change in Percent International	C	R	P	X	X
SA	Change in Percent International	P	R	P	X	X
SA	Collapsed to Quartiles-Change in % Intern'l	D	D	S	X	X
SA	Number of Countries Represented in 1989	P	R	P	X	X
SA	English as a 2nd Lang.Remed/Assis Prgrm	S	O	S	X	X
SA	% Change in Undergraduate F-T Students	C	R	P	0.7342	0.01
SA	% Change in Undergrad. Male F-T Students	C	R	P	X	X
SA	% Change in Undergrad. Female FT Studnts	C	R	P	0.7022	0.01
SA	% Change in Undergrad . PT Stdnts (crrctd)	C	R	P	0.4251	0.01
SA	% Change in Undrgrd. Male PT Stdnts (crrtd)	C	R	P	0.3143	0.01
SA	% Change in Undrgrd Fml. PT Stdnts (crrtd)	C	R	P	0.3088	0.01
SA	Change in % Part-Time	P	R	P	0.2637	0.01
SA	Collapsed to Quartiles-% Chnge in Part-Time	D	O	S	0.2000	0.01
SA	% Change in Part-Time Tuition (Sem.Equiv)	P	R	P	X	X
SA	Dollar Change in P-Time Tuition (Sem Equiv)	P	R	P	X	X
SA	Financial Aid for Part-Time Students	S	N	S	0.1517	0.05
SA	Change in Percent Asian American	P	R	P	X	X
SA	Change in Percent Black	P	R	P	-0.2320	0.01
SA	Collapsed to Quartiles - change in % Black	D	O	S	-0.1751	0.01
SA	Change in Percent Hispanic	P	R	P	X	X
SA	Change in Percent Native American	P	R	P	X	X
SA	Collap. to Quartiles - % Change in Nat.Amer.	D	O	S	X	X
SA	Change in Percent Minority	P	R	P	-0.1539	0.05
SA	Collapsed to Quartiles-Change in % Minority	D	O	S	-0.2269	0.01
SA	Remediation/Assist. Prog. for Minority Studnts	S	O	S	X	X
SA	Change in Percent Female Students	P	R	P	X	X
SA	Collapsed to Quartiles-Chng in % Female	D	O	S	0.1553	0.05

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Strategic Actions (continued) *New Student Populations (continued)*						
SA	Change in Percent Male Students	P	R	P	X	X
SA	Remediation/Assis. Prog for Women Students	S	O	P	-0.1957	0.01
SA	Change in Percent Transfer	P	R	P	0.1568	0.05
SA	Collapsed to Quart.-Change in % Transfers	D	O	S	0.1520	0.05
New Programs, Program Elements and Accreditation						
SA	Change in Regional Accreditation	A	N	-	-	-
SA	Drop Regional Accreditation	D	N	S	X	X
SA	Add Regional Accreditation	D	N	S	X	X
SA	Change in "Other" Accreditation	A	N	-	-	-
SA	Add "Other" Accreditation	D	N	S	X	X
SA	Drop "Other" Accreditation	D	N	S	X	X
SA	Add Associate's Degree	D	N	S	X	X
SA	Drop Associate's Degree	D	N	S	X	X
SA	Add Master's Degree	D	N	S	0.1501	0.05
SA	Drop Master's Degree	D	N	S	X	X
SA	Add Doctorate	D	N	S	X	X
SA	Drop Doctorate	D	N	S	X	X
SA	Graduate Enrollment Percent Change	P	R	P	0.4279	0.01
SA	Undergrad. Enrollment Percent Change	P	R	P	0.9098	0.01
SA	Change in Proportion of Graduates	P	R	P	0.1426	0.05
SA	Change in Proportion of Undergraduates	P	R	P	-0.1426	0.05
SA	Adult Program Development	S	N	S	0.2546	0.01
SA	Reduced Seat Time Programs	S	N	S	0.1866	0.01
SA	Seminars for Academic Credit	S	N	S	0.2391	0.01
SA	Courses at Corporate Site	S	N	S	X	X
Academic Services and Policies						
SA	Credit for Prior Experiential Learning	S	N	S	0.2311	0.01
SA	Credit for Military Activities	S	N	S	0.1953	0.01
SA	Credit for Informal Training Programs	S	N	S	0.1567	0.05
SA	Credit for CLEP	S	N	S	X	X
SA	Credit for ACT-PEP	S	N	S	X	X
SA	Credit for AP	S	N	S	X	X
SA	Credit for Departmental Exams	S	N	S	X	X
SA	Credit for Directed Studies	S	N	S	0.1569	0.05
SA	Total Altern. Credit Mechanisms-Comp.Score	S	O	S	0.2476	0.01
SA	Residency Requirement	S	R	P	X	X
SA	Age Limit on Transfer Credits (Y/N)	S	N	S	X	X
SA	Age Limit on Transfer Credits (Years)	S	R	P	X	X
SA	Age Limit on Credits for GPA Determ. (Y/N)	S	N	S	X	X
SA	Age limit on Credits for GPA Determ. (Years)	S	R	P	X	X
SA	Phone Registration	S	N	S	X	X
SA	Work-Place Registration	S	N	S	X	X
SA	Part-Time Matriculation	S	N	S	X	X
SA	Full-time Residency Requirement	S	N	S	X	X
SA	Change in Academic Calendar	A	N	S	0.1557	0.05
SA	Form of Credits/Hours (Quarter/Semester)	S	N	S	X	X
SA	Block Transfer Programs with Comm. Coll.	S	N	S	X	X
SA	Study Abroad Programs	S	N	S	X	X
SA	International Sister School Relationships	S	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Personnel Policies and Practices						
SA	Intent to Increase Student:Faculty Ratio	S	O	S	X	X
SA	Faculty In-Service on Adult Learners	S	O	S	X	X
SA	Faculty In-Service on Diversity	S	O	S	0.1831	0.01
SA	Faculty In-Service on Minorities	S	O	S	X	X
SA	Faculty In-Service on Learning Disabilities	S	O	S	X	X
SA	Faculty in-Service on Part-Time Students	S	O	S	X	X
SA	Faculty in-Service on Women's Issues	S	O	S	X	X
SA	Faculty In-Service on Intern'l Students	S	O	S	X	X
SA	Total Faculty in-Service-Composite Score	S	O	S	X	X
SA	Consid. of Rel Affil. or Practice in Hiring	S	N	S	X	X
Costs						
SA	Avg Dollar chnge in Tot Costs (T,F,R,&B)C&P	C	R	P	X	X
SA	Avg Dollar chnge in Tuition&Fees - C&P	C	R	P	X	X
SA	Collapsed to Quartiles-$Chng in Tuition&Fees	D	O	S	0.1362	0.05
SA	Avg % Change in Total Costs (T,F,R,&B)C&P	C	R	P	0.1395	0.05
SA	Avg % Change in Tuition&Fees C&B (crrctd)	C	R	P	0.1383	0.05
Consultants						
SA	Engage Consultants - Overall	S	O	S	X	X
SA	Engage Consultants - Strategic Planning	S	O	S	X	X
SA	Engage Consultants - Mission	S	O	S	X	X
SA	Engage Consultants - Long-Range Planning	S	O	S	X	X
SA	Engage Consultants - Assessment	S	O	S	X	X
SA	Engage Consultants - Spec. Student Popul.	S	O	S	X	X
SA	Total Consultants - Composite Score	S	O	S	X	X
External Funding						
SA	External Funding for Institution. Improvement	S	O	S	X	X
Retention						
SA	Composite Score - Retention Activities	S	O	S	X	X
SA	Freshman Orientation Program	S	O	S	X	X
SA	Transfer Orientation Program	S	O	S	X	X
SA	Special Freshman Advising Program	S	O	S	0.1530	0.05
SA	Credited Orientation Course	S	O	S	X	X
SA	Career Placement/Planning Program	S	O	S	X	X
SA	Modified Academic Advising Program	S	O	S	X	X
Self-Reported Early S.A.						
SA	Increase Church Relatedness	D	N	S	X	X
SA	Increase Liberal Arts Emphasis	D	N	S	X	X
SA	Mission Review	D	N	S	X	X
SA	Go Co-Ed	D	N	S	X	X
SA	Re-emphasis of Vision / Mission	D	N	S	X	X
SA	Change Institution's Name	D	N	S	X	X
SA	Increase Professional / Career Emphasis	D	N	S	X	X
SA	Change Ownership	D	N	S	X	X
SA	Institutional Planning	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Self-Reported Early S.A. (Continued)						
SA	Assessment Program Development	D	N	S	X	X
SA	Administrative Reorganization	D	N	S	X	X
SA	New Administrative Personnel	D	N	S	-0.1874	0.05
SA	Strengthen Leadership	D	N	S	X	X
SA	Enhance Board Effectiveness	D	N	S	X	X
SA	Recognition of Crisis	D	N	S	X	X
SA	Adult Policies/Program	D	N	S	0.1893	0.05
SA	Minority Programs	D	N	S	X	X
SA	I mprove Race Relations	D	N	S	X	X
SA	International Program Development	D	N	S	X	X
SA	Focus on Traditional Students	D	N	S	X	X
SA	Graduate Program Development	D	N	S	X	X
SA	Improve Program Quality	D	N	S	X	X
SA	Focus / Narrow Programs	D	N	S	X	X
SA	Undergraduate Program Development	D	N	S	X	X
SA	Curricular Changes	D	N	S	X	X
SA	Conduct Program Reviews	D	N	S	X	X
SA	Off-Site Programs	D	N	S	X	X
SA	Internship Program Development	D	N	S	X	X
SA	Develop Summer Sessions	D	N	S	X	X
SA	Reduce Curricular Electivity	D	N	S	X	X
SA	Calendar Change	D	N	S	X	X
SA	Focus on Student Outcomes	D	N	S	X	X
SA	Increase Selectivity	D	N	S	X	X
SA	Accreditation	D	N	S	X	X
SA	Professional Organizations	D	N	S	X	X
SA	Special Accreditation	D	N	S	X	X
SA	Develop Policy Manual	D	N	S	X	X
SA	Improve Faculty Quality	D	N	S	X	X
SA	Add Faculty	D	N	S	X	X
SA	Reduce Staff Size	D	N	S	-0.2190	0.05
SA	Increase Salaries	D	N	S	X	X
SA	Improved Personnel Policy	D	N	S	X	X
SA	Increase in Institutional Financial Aid	D	N	S	X	X
SA	Increase Tuition	D	N	S	X	X
SA	Decrease Financial Aid	D	N	S	X	X
SA	Lower / Freeze Tuition	D	N	S	X	X
SA	Consultants	D	N	S	X	X
SA	Grant Writing	D	N	S	X	X
SA	Retention Program	D	N	S	X	X
SA	Marketing and Recruitment Activities	D	N	S	X	X
SA	Visibility Efforts	D	N	S	X	X
SA	Expand Constituencies	D	N	S	X	X
SA	Tie Activities to Commuinity Needs	D	N	S	X	X
SA	Develop Alumni Connections	D	N	S	X	X
SA	Involve Faculty in Recruitment	D	N	S	X	X
SA	Decrease Selectivity	D	N	S	X	X
SA	Facilities Development	D	N	S	X	X
SA	Computer Applications	D	N	S	X	X
SA	Financial Controls	D	N	S	X	X
SA	Co-Curricular Planning/Development	D	N	S	X	X
SA	Eliminate Co-Curriculars	D	N	S	X	X
SA	Improving Housing	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Self-Reported Early S.A. (continued)						
SA	Programming for Learn. Disabled Students	D	N	S	X	X
SA	Improve Academic Advising	D	N	S	X	X
SA	Student Services Programming	D	N	S	X	X
SA	Retrenchment	D	N	S	X	X
SA	Cooperative Activities with local Comm. Coll.	D	N	S	X	X
SA	Co-Op Programming with other Colleges	D	N	S	X	X
SA	Natural Disaster	D	N	S	X	X
SA	No Action	D	N	S	X	X
SA	Change Location	D	N	S	X	X
SA	Make Classes Smaller	D	N	S	X	X
SA	Collapsed Early Strats.-Mission/Value/Vision	D	N	S	X	X
SA	Collapsed Early Strats.-Mgmt/Adm/Leadershp	D	N	S	X	X
SA	Collapsed Early Strats.-New Student Pools	D	N	S	X	X
SA	Collapsed Early Strategies -Acad. Programs	D	N	S	X	X
SA	Collapsed Early Strategies -Personnel	D	N	S	X	X
SA	Collapsed Early Strats-Marketing & Recruit.	D	N	S	X	X
SA	Collapsed Early Strats - Financ/Resourc/plnt	D	N	S	X	X
SA	Collapsed Early Strats-Stdnt Serv Programm.	D	N	S	X	X
SA	Collapsed Early Strats-Accred & Organization	D	N	S	X	X
SA	Collapsed Early Stats-Off-Site & Lctn Change	D	N	S	X	X
Self-Reported Middle S.A.						
SA	Increase Church Relatedness	D	N	S	X	X
SA	Increase Liberal Arts Emphasis	D	N	S	X	X
SA	Mission Review	D	N	S	X	X
SA	Go Co-Ed	D	N	S	X	X
SA	Re-emphasis of Vision/Mission	D	N	S	X	X
SA	Change Institution's Name	D	N	S	X	X
SA	Increase Professional / Career Emphasis	D	N	S	X	X
SA	Change Ownership	D	N	S	X	X
SA	Institutional Planning	D	N	S	X	X
SA	Assessment Program Development	D	N	S	X	X
SA	Administrative Reorganization	D	N	S	X	X
SA	New Administrative Personnel	D	N	S	-0.2589	0.01
SA	Strengthen Leadership	D	N	S	X	X
SA	Enhance Board Effectiveness	D	N	S	X	X
SA	Recognition of Crisis	D	N	S	X	X
SA	Adult Policies / Program	D	N	S	0.2792	0.01
SA	Minority Programs	D	N	S	X	X
SA	Improve Race Relations	D	N	S	X	X
SA	International Program Development	D	N	S	X	X
SA	Focus on Traditional Students	D	N	S	X	X
SA	Graduate Program Development	D	N	S	X	X
SA	Improve Program Quality	D	N	S	X	X
SA	Focus / Narrow Programs	D	N	S	X	X
SA	Undergraduate Program Development	D	N	S	X	X
SA	Curricular Changes	D	N	S	X	X
SA	Conduct Program Reviews	D	N	S	X	X
SA	Off-Site Programs	D	N	S	X	X
SA	Internahip Program Development	D	N	S	X	X
SA	Develop Summer Sessions	D	N	S	X	X
SA	Reduce Curricular Electivity	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Self-Reported Middle S.A. (continued)						
SA	Calendar Change	D	N	S	X	X
SA	Focus on Student Outcomes	D	N	S	X	X
SA	Increase Selectivity	D	N	S	X	X
SA	Accreditation	D	N	S	X	X
SA	Professional Organizations	D	N	S	X	X
SA	Special Accreditation	D	N	S	X	X
SA	Develop Policy Manual	D	N	S	X	X
SA	Improve Faculty Quality	D	N	S	X	X
SA	Add Faculty	D	N	S	X	X
SA	Reduce Staff Size	D	N	S	X	X
SA	Increase Salaries	D	N	S	X	X
SA	Improved Personnel Policy	D	N	S	X	X
SA	Increase in Institutional Financial Aid	D	N	S	X	X
SA	Increase Tutition	D	N	S	X	X
SA	Decrease Financial Aid	D	N	S	X	X
SA	Lower/Freeze Tuition	D	N	S	X	X
SA	Consultants	D	N	S	X	X
SA	Grant Writing / Capitol Campaign	D	N	S	X	X
SA	Retention Program	D	N	S	X	X
SA	Marketing and Recruitment Activities	D	N	S	X	X
SA	Visibility Efforts	D	N	S	X	X
SA	Expand Constituencies	D	N	S	X	X
SA	Tie Activities to Community Needs	D	N	S	X	X
SA	Develop Alumni Connections	D	N	S	X	X
SA	Involve Faculty in Recruitment	D	N	S	X	X
SA	Decrease Selectivity	D	N	S	X	X
SA	Facilities Development	D	N	S	X	X
SA	Computer Applications	D	N	S	X	X
SA	Financial Controls	D	N	S	0.1892	0.05
SA	Co-Curricular Planning / Development	D	N	S	X	X
SA	Eliminate Co-Curriculars	D	N	S	X	X
SA	Improving Housing	D	N	S	X	X
SA	Programming for Learning Disabled Students	D	N	S	X	X
SA	Improve Academic Advising	D	N	S	X	X
SA	Student Services Programming	D	N	S	X	X
SA	Retrenchment	D	N	S	X	X
SA	Cooperative Activities with Local Comm Coll	D	N	S	X	X
SA	Co-Op Programming with Other Colleges	D	N	S	X	X
SA	Natural Disaster	D	N	S	X	X
SA	No Action	D	N	S	X	X
SA	Change Location	D	N	S	X	X
SA	Make Classes Smaller	D	N	S	X	X
SA	Collapsed Mid Strategie-Mission/Value/Vision	D	N	S	X	X
SA	Collapsed Mid Strats-Mgmnt/Admin/Leadship	D	N	S	X	X
SA	Collapsed mid Strategies-New Student Pools	D	N	S	0.2071	0.05
SA	Collapsed Mid Strategies-Academic Programs	D	N	S	X	X
SA	Collapsed mid Strategies-Personnel	D	N	S	X	X
SA	Collapsed Mid Strategies-Marketng & Recruit	D	N	S	X	X
SA	Collapsed Mid Strats-Fincs/Resrcs/Phys Plant	D	N	S	X	X
SA	Collapsed Mid Strats-Student Serv Program	D	N	S	X	X
SA	Collapsed Mid Strategies-Accred & Organiz.	D	N	S	X	X
SA	Collapsed Mid Strats-Off-Site & Lctn Changes	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Self-Reported Late S.A.						
SA	Increase Church Relatedness	D	N	S	X	X
SA	Increase Liberal Arts Emphasis	D	N	S	X	X
SA	Mission Review	D	N	S	X	X
SA	Go Co-Ed	D	N	S	X	X
SA	Re-emphasis of Vision / Mission	D	N	S	X	X
SA	Change Institution's Name	D	N	S	X	X
SA	Increase Professional / Career Emphsis	D	N	S	X	X
SA	Change Ownership	D	N	S	X	X
SA	Institutional Planning	D	N	S	-0.1803	0.05
SA	Assessment Program Development	D	N	S	X	X
SA	Administrative Reorganization	D	N	S	X	X
SA	New Administrative Personnel	D	N	S	X	X
SA	Strengthen Leadership	D	N	S	X	X
SA	Enhance Board Effectiveness	D	N	S	X	X
SA	Recognition of Crisis	D	N	S	X	X
SA	Adult Policies / Program	D	N	S	X	X
SA	Minority Programs	D	N	S	X	X
SA	Improve Race Relations	D	N	S	X	X
SA	International Program Development	D	N	S	X	X
SA	Focus on Traditional Students	D	N	S	X	X
SA	Graduate Program Development	D	N	S	0.1923	0.05
SA	Improve Program Quality	D	N	S	X	X
SA	Focus / Narrow Programs	D	N	S	X	X
SA	Undergraduate Program Development	D	N	S	X	X
SA	Curricular Changes	D	N	S	X	X
SA	Conduct Program Reviews	D	N	S	X	X
SA	Off-Site Programs	D	N	S	X	X
SA	Internship Program Development	D	N	S	X	X
SA	Develop Summer Sessions	D	N	S	X	X
SA	Reduce Curricular Electivity	D	N	S	X	X
SA	Calendar Change	D	N	S	X	X
SA	Focus on Student Outcomes	D	N	S	-0.1803	0.05
SA	Increase Selectivity	D	N	S	X	X
SA	Accreditation	D	N	S	X	X
SA	Professional Organizations	D	N	S	X	X
SA	Special Accreditation	D	N	S	X	X
SA	Develop Policy Manual	D	N	S	X	X
SA	Improve Faculty Quality	D	N	S	X	X
SA	Add Faculty	D	N	S	X	X
SA	Reduce Staff Size	D	N	S	X	X
SA	Increase Salaries	D	N	S	X	X
SA	Improved Personnel Policy	D	N	S	X	X
SA	Increase in Institutional Financial Aid	D	N	S	X	X
SA	Increase Tuition	D	N	S	X	X
SA	Decrease Financial Aid	D	N	S	X	X
SA	Lower / Freeze Tuition	D	N	S	X	X
SA	Consultants	D	N	S	X	X
SA	Grant Writing / Capitol Campaign	D	N	S	X	X
SA	Retention Program	D	N	S	X	X
SA	Marketing and Recruitment Activities	D	N	S	X	X
SA	Visibility Efforts	D	N	S	X	X
SA	Expand Constituencies	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Self-Reported Late S.A. (continued)						
SA	Tie Activities to Community Needs	D	N	S	X	X
SA	Develop Alumni Connections	D	N	S	X	X
SA	Involve Faculty in Recruitment	D	N	S	X	X
SA	Decrease Selectivity	D	N	S	X	X
SA	Facilities Development	D	N	S	X	X
SA	Computer Applications	D	N	S	X	X
SA	Financial Controls	D	N	S	X	X
SA	Co-Curricular Planning / Development	D	N	S	0.1870	0.05
SA	Eliminate Co-Curriculars	D	N	S	X	X
SA	Improving Housing	D	N	S	X	X
SA	Programming for Learn. Disabled Students	D	N	S	X	X
SA	Improve Academic Advising	D	N	S	X	X
SA	Student Services Programming	D	N	S	X	X
SA	Retrenchment	D	N	S	X	X
SA	Cooperative Activities with Local Comm Coll	D	N	S	X	X
SA	Co-Op Programming with Other Colleges	D	N	S	X	X
SA	Natural Disaster	D	N	S	X	X
SA	No Action	D	N	S	X	X
SA	Change Location	D	N	S	X	X
SA	Make Classes Smaller	D	N	S	X	X
SA	Collapsed Late Strats-Mission/Values/Vision	D	N	S	X	X
SA	Collapsed Late Strats-Mangmnt/Admin/Lead	D	N	S	-0.1796	0.05
SA	Collapsed Late Strats-New Student Pools	D	N	S	X	X
SA	Collapsed Late Strats-Academic Programs	D	N	S	X	X
SA	Collapsed Late Strats - Personnel	D	N	S	X	X
SA	Collapsed Late Strats-Marketing & Recruit.	D	N	S	X	X
SA	Collapsed Late Strats-Finan/Rxrces/Phys Plnt	D	N	S	X	X
SA	Collapsed Late Strats-Student Serv.Program	D	N	S	X	X
SA	Collapsed Late Strats-Accred & Organization	D	N	S	X	X
SA	Collapsed Late Strats-Off-Site & Lctn Change	D	N	S	X	X
Self-Reported Total S.A.						
SA	Increase Church Relatedness	D	N	S	X	X
SA	Increase Liberal Arts Emphasis	D	N	S	X	X
SA	Mission Review	D	N	S	X	X
SA	Go Co-Ed	D	N	S	X	X
SA	Re-emphasis of Vision / Mission	D	N	S	X	X
SA	Change Institution's Name	D	N	S	X	X
SA	Increase Professional / Career Emphasis	D	N	S	X	X
SA	Change Ownership	D	N	S	X	X
SA	Institutional Planning	D	N	S	X	X
SA	Assessment Program Development	D	N	S	X	X
SA	Administrative Reorganization	D	N	S	X	X
SA	New Administrative Personnel	D	N	S	-0.2249	0.05
SA	Strengthen Leadership	D	N	S	X	X
SA	Enhance Board Effectiveness	D	N	S	X	X
SA	Recognition of Crisis	D	N	S	X	X
SA	Adult Policies / Program	D	N	S	0.3487	0.01
SA	Minority Programs	D	N	S	X	X
SA	Improve Race Relations	D	N	S	X	X
SA	International Program Development	D	N	S	X	X
SA	Focus on Traditional Students	D	N	S	X	X
SA	Graduate Program Development	D	N	S	X	X

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Self-Reported Total S.A. (continued)						
SA	Improve Program Quality	D	N	S	X	X
SA	Focus / Narrow Programs	D	N	S	X	X
SA	Undergraduate Program Development	D	N	S	X	X
SA	Curricular Changes	D	N	S	X	X
SA	Conduct Program Reviews	D	N	S	X	X
SA	Off-Site Programs	D	N	S	X	X
SA	Internship Program Development	D	N	S	X	X
SA	Develop Summer Sessions	D	N	S	X	X
SA	Reduce Curricular Electivity	D	N	S	X	X
SA	Calendar Change	D	N	S	X	X
SA	Focus on Student Outcomes	D	N	S	X	X
SA	Increase Selectivity	D	N	S	X	X
SA	Accreditation	D	N	S	X	X
SA	Professional Organizations	D	N	S	X	X
SA	Special Accreditation	D	N	S	X	X
SA	Develop Policy Manual	D	N	S	X	X
SA	Improve Faculty Quality	D	N	S	X	X
SA	Add Faculty	D	N	S	X	X
SA	Reduce Staff Size	D	N	S	-0.2190	0.05
SA	Increase Salaries	D	N	S	X	X
SA	Improved Personnel Policy	D	N	S	X	X
SA	Increase in Institutional Financial Aid	D	N	S	X	X
SA	Increase Tuition	D	N	S	X	X
SA	Decrease Financial Aid	D	N	S	X	X
SA	Lower / Freeze Tution	D	N	S	X	X
SA	Consultants	D	N	S	X	X
SA	Grant Writing / Capitol Campaign	D	N	S	X	X
SA	Retention Program	D	N	S	X	X
SA	Marketing and Recruitment Activities	D	N	S	X	X
SA	Visibility Efforts	D	N	S	X	X
SA	Expand Contituencies	D	N	S	X	X
SA	Tie Activities to Community Needs	D	N	S	X	X
SA	Develop Alumni Connections	D	N	S	X	X
SA	Involve Faculty in Recruitment	D	N	S	X	X
SA	Decrease Selectivity	D	N	S	X	X
SA	Facilities Development	D	N	S	X	X
SA	Computer Applications	D	N	S	X	X
SA	Financial Controls	D	N	S	X	X
SA	Co-Curricular Planning / Development	D	N	S	X	X
SA	Eliminate Co-Curriculars	D	N	S	X	X
SA	Improving Housing	D	N	S	X	X
SA	Programming for Learning Disabled Students	D	N	S	X	X
SA	Improve Academic Advising	D	N	S	X	X
SA	Student Services Programming	D	N	S	X	X
SA	Retrenchment	D	N	S	X	X
SA	Cooperative Activities with Local Comm Coll	D	N	S	X	X
SA	Co-Op Programming with other Colleges	D	N	S	X	X
SA	Natural Disaster	D	N	S	X	X
SA	No Action	D	N	S	X	X
SA	Change Location	D	N	S	X	X
SA	Make Classes Smaller	D	N	S	X	X
SA	Collapsed Total Strats-Mission/Values/Vision	D	N	S	X	X
SA	Collapsed Total Strats-Mangmnt/Admin/Lead	D	N	S	-0.2311	0.01

Cat.	Description	Src.	Correlation w/ Enrollment Change			
			Type	Test	Corr.	Sig.
Self-Reported Total S.A. (continued)						
SA	Collapsed Total Strats-New Student Pools	D	N	S	0.1801	0.05
SA	Collapsed Total Strats-Academic Programs	D	N	S	X	X
SA	Collapsed Total Strategies - Personnel	D	N	S	-0.1585	0.05
SA	Collapsed Total Stat.-Marketing & Recruit.	D	N	S	X	X
SA	Collapsed Total Strats-Fnces/Resrcs/Phy Plnt	D	N	S	X	X
SA	Collapsed Total Strats-Student Serv. Program	D	N	S	X	X
SA	Collapsed Total Strats-Accred & Organization	D	N	S	X	X
SA	Collapsed Total Strats-Off-Site & Lctn Chnge	D	N	S	X	X

APPENDIX C

DETERMINATION OF SUBSTANTIVE VARIABLES

Determination of Substantive Variables

X=Does not comply with rule: ?=Questionable compliance with rule

Cat	Description	1	3	4	5	6	7	Subst
External Variables - Environmental Trends								
EX	Increase in Population Size	?						Y
EX	Rural, 1989							Y
EX	Increase in Adults Students - Survey -External					X	X	N
EX	State Enrollment Limits / Tuition Increase-External					X	X	N
EX	Regional Population Growth - Survey - External			X		X	X	N
EX	Declining 18-22 Year-Old Population - Survey-External					X	X	N
EX	Increased Rate of Attndnc. of 18-22 Y-Os-Survey External					X	X	N
External-Market Preferences, Perceptions and Directions								
EX	Collapsed - Keller's Market - Survey - External	?		X		X	X	N
External - Competition								
EX	Number of Local Baccalaureate Colleges (50 mile)							Y
Internal - Traditions, Values and Aspirations								
IN	Year Founded (corrected for "out-lying							Y
IN	Catholic						X	N
IN	Presbyterian						X	N
IN	Collapsed - European Enclave			X			X	N
IN	Collapsed - African American			X			X	N
IN	Men's College in 1989							Y
IN	Institution's Enrollment Intent for the 1980s	?	?			X		N
IN	Intend Significant Increase		?	X		?		N
IN	Intend Decreased Enrollment		?	X		?		N
IN	Minimal Difficulty	X	?					N
IN	Percent of Programs in the Liberal Arts	?						Y
Internal - Strengths and Weaknesses								
IN	Regionally Accredited in 1980			X				N
IN	Regionally Accredited in 1989	?		X				Y
IN	Average total Enrollment, 1980 (A,B,C,P)							N
IN	Average total Enrollment, 1989 (A,B,C,P)	X	X	X				N
IN	Carnegie Classification			?				Y
IN	Quartiles - Number of Full-Time Faculty, 1989		X					N
IN	Number of Faculty - Total, 1989		X	X				N
IN	Student : Full-Time Faculty Ratio, 1989		X					N
IN	Collapsed to Quartiles - Student:Full-Time Fac.Ratio, 1989		X					N
IN	Student : Total Faculty Ratio, 1989		X					N
IN	Collapsed to Quartiles - Student:Total Faculty Ratio, 1989		X					N
IN	Quartiles - 1989 Tuition & Fees	?	X					N
IN	Undergraduate Full-Time Students, 1980	X	?	X				N
IN	Undergraduate Full-Time Students, 1989		?	X				N
IN	Undergrad. Male Full-Time Students, 1980	X	?	X				N
IN	Undergrad. Male Full-Time Students, 1989		?	X				N
IN	Undergrad. Female Full-Time Students, 1980		?	X				N
IN	Undergrad. Female Full-Time Students, 1989		?	X				N
IN	Average Enrollment Change (A,B,C, & P)-Number		X	X				N
IN	Undergraduate Part-Time Students, 1989		?	X				N
IN	Undergrad. Male Part-Time Students, 1989		?	X				N
IN	Undergrad. Female Part-Time Students, 1989		?	X				N

Cat	Description Internal - Strengths and Weaknesses (continued)	1	3	4	5	6	7	Subst
IN	Percent Part-Time Student, 1980	X	?	X				N
IN	Percent Part-Time Student, 1989		?	X				N
IN	Quartiles - Percent Part-Time, 1989		?	X				N
IN	Quartiles - Percent Female, 1989			X				N
IN	Majority-Minority College							Y
IN	Percent Transfer Student, 1989			X				N
IN	Number of Professional Programs	?						Y
IN	National Market	X	?			?		N
IN	Change in Freshman Retention	X	?			?		N
IN	Change in Overall Undergraduate Retention	X	?			?		N
IN	Average Age of New Students, 1989	?						Y
IN	Percent of Students Over 25, 1989	?						Y
IN	CAEL Membership	?	X					N
IN	Grouped - "Other" Memberships - National-General	?	X					N
IN	Low Morale - Survey - Internal	?	X			X		N
IN	Weak Marketing - Survey - Internal	?	X			X		N
Internal - Leadership								
IN	1989 President's First Year		X					N
Strategic Actions								
SA	Increase Proportion of Professional Programs							Y
SA	Change in Student Selectivity		?	X				N
SA	No Change in Student Selectivity		?			?		Y
SA	Increase Selectivity		?			?		Y
SA	Conduct Institutional Strengths & Weaknesses Assessment	?						Y
SA	Percent Change in Undergraduate F-T Students			X				N
SA	Percent Change in Undergrad. Female F-T Students			X				N
SA	Percent Change in Undergraduate P-T Students (corrected)			X				N
SA	Percent Chnge in Undergrad Male P-T Students (corrected)			X				N
SA	Percent Change in Undergrad. Fml. P-T Stdnts (corrected)			X				N
SA	Change in Percent Part-Time			X				Y
SA	Quartiles - Percent Change in Part-Time							N
SA	Financial Aid for Part-Time Students	?						Y
SA	Change in Percent Black				X			N
SA	Quartiles - Change in Percent Black				X			N
SA	Change in Percent Minority				X			N
SA	Quartiles - Change in Percent Minority				X			N
SA	Quartiles - change in Percent Female							Y
SA	Remediation/Assistance Program for Women Students	?	?				?	N
SA	Change in Percent Transfer							Y
SA	Quartiles - Change in Percent Transfers			X				N
SA	Add Master's Degree		?					Y
SA	Graduate Enrollment Percent Change			X			?	N
SA	Undergraduate Enrollment Percent Change			X				N
SA	Change in Proportion of Graduates	?		?	X			N
SA	Change in Proportion of Undergraduates	?		?	X			N
SA	Adult Program Development	?						Y
SA	Reduced Seat Time Programs							Y
SA	Seminars for Academic Credit	?						Y
SA	Credit for Prior Experiential Learning		?					Y
SA	Credit for Military Activities		?					Y
SA	Credit for Informal Training Programs		?					Y
SA	Credit for Directed Studies		?					Y
SA	Total Alternative Credit Mechanisms-Composite Score		?	X				N
SA	Change in Academic Calendar		?					Y

Cat	Description **Strategic Actions (continued)**	1	3	4	5	6	7	Subst
SA	Faculty In-Service on Diversity		X					N
SA	Quartile - Dollar Change in Tuition and Fees		X					N
SA	Average Percent Change in Total Costs		X					N
SA	Average Percent Change in Tuition and Fees (corrected)		X					N
SA	Special Freshman Advising Program	?						Y
SA	Early-New Administrative Personnel					X		N
SA	Early-Adult Policies/Programs					X		N
SA	Early-Reduced Staff Size					X		N
SA	Middle-New Administrative Personnel					X		N
SA	Middle-Adult Policies/Programs					X		N
SA	Middle-Financial Controls					X		N
SA	Middle-Collapsed-New Student Pools					X		N
SA	Late-Institutional Planning	X				X		N
SA	Late-Graduate Program Development	X				X		N
SA	Late-Focus on Student Outcomes	X				X		N
SA	Late-Collapsed-Mgmnt/Admin/Leadership	X				X		N
SA	Total-New Administrative Personnel					X		N
SA	Total-Adult Policies/Programs					X		N
SA	Total-Reduced Staff Size					X		N
SA	Total-Collapsed-Mgmt/Admin/Leadership					X		N
SA	Total-Collapsed-New Student Pools					X		N
SA	Total-Collapsed-Personnel					X		N

APPENDIX D

VARIABLES, SIGNIFICANT VARIABLES, SUBSTANTIVE VARIABLES, AND FACTORS

VARIABLES, SIGNIFICANT VARIABLES, SUBSTANTIVE VARIABLES AND FACTORS

Environmental Characteristics:	
95	Variables (initial, collapsed and dummies)
9	Correlate with dependent variable at $p \leq 0.05$ (9%)
3	Judged substantively significant (33%)
2	Factors formed
1	Factor loaded into L.M.R. model (50%)
Institutional Characteristics:	
284	Variables (initial, collapsed and dummies)
50	Correlate with dependent variable at $p \leq 0.05$ (18%)
9	Judged substantively significant (18%)
4	Factors formed
3	Factor loaded into L.M.R. model (75%)
Academic Strategic Actions:	
483	Variables (initial, collapsed and dummies)
58	Correlate with dependent variable at $p \leq 0.05$ (12%)
18	Judged substantively significant (31%)
8	Factors formed
5	Factor loaded into L.M.R. model (63%)
Totals:	
862	Variables (initial, collapsed and dummies)
117	Correlate with dependent variable ≤ 0.05 (14%)
30	Judged substantively significant (26%)
14	Factors formed
6	Factor loaded into L.M.R. model (43%)

APPENDIX E

LIST OF INSTITUTIONS IN POPULATION

LIST OF INSTITUTIONS IN POPULATION

NAME	ST.
Alaska Pacific U. (ALASKA METH.)	AK
Huntingdon College	AL
Judson College	AL
Spring Hill College	AL
Stillman College	AL
Talladega College	AL
Arkansas Baptist College	AR
Arkansas College	AR
Central Baptist College	AR
John Brown University	AR
Philander Smith College	AR
University of the Ozarks	AR
Bethany College, Scotts Valley	CA
California Baptist College	CA
Christ College Irvine	CA
Christian Heritage College	CA
Dominican College of San Rafael	CA
Fresno Pacific C. (PACIFIC C.)	CA
Holy Names College	CA
Lincoln University	CA
L.A. Bapt. Coll. (THE MASTER'S C.)	CA
Mills College	CA
New College of California	CA
Pacific Christian University	CA
Patten Bible College	CA
Pitzer College	CA
Scripps College	CA
Simpson College	CA
Southern California College	CA
Colorado Christian U. (ROCKMONT)	CO
Naropa Institute	CO
Albertus Magnus College	CT
Holy Apostles College & Sem.	CT
Mount Vernon College	DC
Wilmington College	DE
Clearwater Christian College	FL
Edward Waters College	FL
Flagler College	FL
Florida Memorial College	FL
Miami Christian College	FL
Palm Beach Atlantic College	FL
Warner Southern College	FL
Agnes Scott College	GA
Covenant College	GA
LaGrange College	GA
Paine College	GA
Piedmont College	GA
Shorter College	GA
Wesleyan College	GA
Hawaii Loa College	HI
Clark College	IA
Cornell College	IA
Iowa Wesleyan College	IA
Maharishi International University	IA
Northwestern College	IA
Simpson College, IA	IA
Westmar College (TEIKYO-WESTMAR)	IA
William Penn College	IA
College of Idaho	ID
Barat College	IL
Blackburn College	IL
Eureka College	IL
Greenville College	IL
Hebrew Theological College	IL
Illinois College	IL
Judson College, IL	IL
Kendall College	IL
Knox College	IL
MacMurray College	IL
McKendree College	IL
Monmouth College	IL
Principia College	IL
Shimer College	IL
Spertus College of Judaica	IL
Trinity Christian College	IL
Trinity College	IL
Bethel College	IN
Franklin College of Indiana	IN
Grace College	IN
Huntington College	IN
Marian College	IN
Oakland City College	IN
Saint Joseph's College	IN
Saint Mary-of-the-Woods College	IN
Saint Meinrad College	IN
Wabash College	IN
Baker University	KS
Bethany College	KS
Bethel College, KS	KS
Friends University	KS
Kansas Newman College	KS
Kansas Wesleyan University	KS
Manhattan Christian College	KS
McPherson College	KS
Ottawa College	KS
Saint Mary College	KS
Saint Mary of the Plains	KS
Southwestern College	KS
Sterling College	KS
Tabor College	KS
Alice Lloyd College	KY
Brescia College	KY
Campbellsville College	KY
Centre College of Kentucky	KY
Kentucky Wesleyan College	KY
Pikeville College	KY
Spalding University	KY
Transylvania University	KY

NAME	ST.
Union College	KY
Centenary College, LA	LA
Atlantic Union College	MA
Bradford College	MA
College of Our Lady of the Elms	MA
Eastern Nazarine College	MA
Hellenic College	MA
Pine Manor College	MA
Simon's Rock of Bard College	MA
Columbia Union College	MD
Saint John's College	MD
Washington College	MD
College of the Atlantic	ME
Saint Joseph's College	ME
Unity College	ME
U.of New England (ST.FRANCIS C.)	ME
Westbrook College	ME
Concordia College, MI	MI
Jordan College	MI
Nazareth College	MI
Olivet College	MI
Sacred Heart Major Seminary	MI
Saint Mary's College, MI	MI
Spring Arbor College	MI
William Tyndale C. (DETROIT BIBLE)	MI
Concordia College, MN	MN
Northwestern College, MN	MN
Saint Paul Bible College	MN
Central Methodist College	MO
Culver-Stockton College	MO
Fontbonne College	MO
Hannibal-Lagrange College	MO
Missouri Baptist College	MO
Missouri Valley College	MO
Saint Louis Christian College	MO
Tarkio College	MO
Westminster College	MO
Belhaven College	MS
Blue Mountain College	MS
Rust College	MS
Tougaloo College	MS
Rocky Mountain College	MT
Barber-Scotia College	NC
Belmont Abbey College	NC
Bennett College	NC
Catawba College	NC
Greensboro College	NC
Livingstone College	NC
Methodist College	NC
North Carolina Wesleyan College	NC
Pfeiffer College	NC
Queens College	NC
Saint Andrews Presbyterian College	NC
Salem College	NC
Warren Wilson College	NC
Jamestown College	ND
University of Mary (Mary College)	ND
College of St. Mary	NE
Dana College	NE
Doane College	NE
Hastings College	NE
Midland Lutheran College	NE
Union College, NE	NE
Colby-Sawyer College	NH
Notre Dame College	NH
Caldwell College	NJ
Centenary College, NJ	NJ
College of St. Elizabeth	NJ
Felician College	NJ
College of the Southwest	NM
Saint John's College at Santa Fe	NM
Sierra Nevada College	NV
Bard College	NY
Boricua College (UNIVERSIDAD BORIC)	NY
Concordia College, NY	NY
Friends World College	NY
Keuka College	NY
King's College	NY
Nyack College	NY
Roberts Wesleyan College	NY
Wells College	NY
Bluffton College	OH
Borromeo College of Ohio	OH
Defiance College	OH
Heidelberg College	OH
Lourdes College	OH
Malone College	OH
Muskingum College	OH
Notre Dame College, OH	OH
Ohio Dominican College	OH
Pontifical College Josephinum	OH
Urbana University	OH
Walsh College	OH
Wilmington College, OH	OH
Bartlesville Weslyan College	OK
Flaming Rainbow University	OK
Columbia Christian College	OR
Concordia College, OR	OR
George Fox College	OR
Marylhurst College	OR
Northwest Christian College	OR
Warner Pacific College	OR
Western Baptist College	OR
Allentown College of St. Francis De	PA
Alvernia College	PA
Cabrini College	PA
Carlow College	PA
Chatham College	PA
Chestnut Hill College	PA
Eastern College	PA
Gratz College	PA
Neumann Coll. (OUR LADY OF ANGELS)	PA
Rosemont College	PA
Saint Vincent College	PA
Seton Hill College	PA
Thiel College	PA

NAME	ST.
Waynesburg College	PA
Wilson College	PA
Allen University	SC
Central Wesleyan College	SC
Claflin College	SC
Coker College	SC
Erskine College	SC
Morris College	SC
Newberry College	SC
Presbyterian College	SC
Voorhees College	SC
Dakota Wesleyan University	SD
Huron University	SD
Mount Marty College	SD
Sioux Falls College	SD
Bethel College, TN	TN
Bryan College	TN
Free Will Baptist Bible College	TN
King College	TN
Knoxville College	TN
Lambuth College	TN
Lane College	TN
Lemoyne-Owen College	TN
Maryville College	TN
Mid-South Bible College	TN
Milligan College	TN
Tennessee Wesleyan College	TN
Trevecca Nazarene College	TN
Tusculum College	TN
Concordia Lutheran College	TX
Dallas Christian College	TX
East Texas Baptist University	TX
Huston-Tillotson College	TX
Jarvis Christian College	TX
Paul Quinn College (BISHOP C.)	TX
Southwestern Advntst C.(SW UNION C)	TX
Texas College	TX
Wiley College	TX
Bluefield College	VA
Bridgewater College	VA
Emory & Henry College	VA
Hampden-Sydney College	VA
Hollins College	VA
Mary Baldwin College	VA
Randolph-Macon College	VA
Randolph-Macon Woman's College	VA
Saint Paul's College	VA
Shenandoah College & Cons.	VA
Sweet Briar College	VA
Virginia Intermont College	VA
Virginia Wesleyan College	VA
Bennington College	VT
Burlington C.(VRM.INST.CMNTY INVLV)	VT
College of St. Joseph	VT
Green Mountain College	VT
Marlboro College	VT
Southern Vermont College	VT
Trinity College of Vermont	VT

NAME	ST.
Fort Wright/Heritage College	WA
Northwest College of Assem. of God	WA
Saint Martin's College	WA
Concordia University	WI
Edgewood College	WI
Lakeland College	WI
Marian College of Fond Du Lac	WI
Mount Senario College	WI
Northland College	WI
Ripon College	WI
Silver Lake College	WI
Alderson-Broaddus College	WV
Bethany College, WV	WV

APPENDIX F

INSTITUTIONS CONFIRMED AS CLOSING OR MERGING DURING THE PERIOD OF THE STUDY

INSTITUTIONS CONFIRMED AS CLOSING OR MERGING DURING THE PERIOD OF STUDY

NAME	ST.	1980 ENROLL	STATUS	ACCRED
Ambassador College	CA	499	CLOSED	WASC
Holy Family College	CA	116	CLOSED	WASC
Colorado Women's College	CO	493	MERGED	NCACS
Loretto Heights College	CO	881	CLOSED	NCACS
Washington International College	DC	323	CLOSED	MSACS
Tift College	GA	605	MERGED	SACS
Marymount College	KS	828	CLOSED	NCACS
Saint Mary's Dominican	LA	798	CLOSED	SACS
Nasson College	ME	577	CLOSED	NEASC
Baltimore Hebrew	MA	198	CLOSED	NEASC
College of Saint Theresa	MN	682	CLOSED	NCACS
Mississippi Industrial College	MS	233	MERGED	SACS
Cathedral College of Immac. Conc.	NY	124	CLOSED	MSACS
Sacred Heart College	NC	463	CLOSED	SACS
Alliance College	PA	254	CLOSED	MSACS
Villa Maria College	PA	689	MERGED	MSACS
Barrington College	RI	483	MERGED	NEASC
Yankton College	SD	278	CLOSED	NCACS
Scarritt College	TN	110	CLOSED	SACS
Milton College	WI	661	CLOSED	NCACS

APPENDIX G

THE QUESTIONNAIRE

Small Private Colleges and Universities

- Academic Services -

SURVEY

SMALL PRIVATE COLLEGE AND UNIVERSITY SURVEY: *ACADEMIC SERVICES*

INSTRUCTIONS:

This survey should be completed by the Chief Academic officer of the college. If you are not that person, please forward this survey and accompanying materials to the most appropriate individual. **Completion of the questionnaire will take approximately 10-15 minutes.**

Most of the items in the survey require you to circle one or more of the numbers that are most appropriate for your institution. Where numbers are requested, please provide estimated figures if exact numbers are not readily available.

Your response will be treated as confidential. Neither you nor your institution will be individually linked to your responses. No information specific to institutions will be released in any report of the survey findings. Only aggregate data will be reported.

When you have completed the survey, please return it in the enclosed postage paid envelope by **August 15, 1992**. If you would like to receive a summary of the results of this study, please complete the enclosed request card and include it with the completed survey.

Thank You

INSTITUTIONAL HISTORY, TRADITIONS, AND VALUES:

1. In what year(s), since 1980, has your institution received a new president?

   _____

   _____

2. In what year(s), since 1980, has your institution received a new Chief Academic Officer?

   _____

3. In what year(s), since 1980, has your institution received other new Presidential Cabinet level officer(s)?_____

   _____

   If you have, how many?_____

4. During the 1980s, did your institution undergo a review of its mission statement?

   1 YES, substantial
   2 YES, minor
   3 NO

5. During the 1980s, did the mission statement of your institution undergo revision?

   1 YES, significant
   2 YES, minor
   3 NO

   If yes, briefly summarize the changes

   _____

   _____

   _____

6. In your opinion, how did the "church relatedness" for your institution change in the 1980s?

1 Decreased
2 Remained the same
3 Increased
4 This institution is not church-related

INSTITUTIONAL MANAGEMENT AND ADMINISTRATION:

7. Did your institution engage in a formal planning process during the 1980s?

1 YES, actively
2 YES, somewhat
3 No

8. If yes, is the planning process articulated with the budgeting process?

1 YES, closely
2 YES, somewhat
3 NO

9. If yes, what is the specific planning emphasis? (circle all that apply):

1 short-range planning (1-5 yrs)
2 middle-range planning (6-10 yrs)
3 long-range planning (more than 10 yrs)

During the 1980s, did your institution engage in an assessment of:

10. external environmental trends impacting the institution?

1 YES, extensive
2 YES, somewhat
3 NO

11. institutional student markets?

1 YES, extensive
2 YES, somewhat
3 NO

12. institutional competitors?

1 YES, extensive
2 YES, somewhat
3 NO

13. institutional strengths and weaknesses?

1 YES, extensive
2 YES, somewhat
3 NO

14. institutional traditions and values?

1 YES, extensive
2 YES, somewhat
3 NO

15. leadership strengths, abilities and priorities?

1 YES, extensive
2 YES, somewhat
3 NO

16. During the 1980's did your institution engage a consultant(s)?

1 YES, extensively
2 YES, moderately
3 YES, occasionally
4 NO

During the 1980s, did your institution engage a consultant(s) in:

17. strategic planning?

1 YES 2 NO

18. mission/vision review or revision?

1 YES 2 NO

19. long-range planning?

1 YES 2 NO

20. assessment?

1 YES 2 NO

21. serving special student populations (e.g. adults, women, special learners, minorities, internationals)?

1 YES 2 NO

During the 1980's, did your institution:

22. operate an institutional research office?

1 YES, significant
2 YES, limited
3 NO

During the 1980s, did your institution:

23. increase the amount of information available for administrative decision making?

1 YES, significant
2 YES, limited
3 NO

24. increase the quality of information available for administrative decision making?

1 YES, significant
2 YES, limited
3 NO

25. In the 1980s, did funding from an external agency(ies) enhance your institution's capacity to initiate new programs and/or planning processes?

1 YES, significantly
2 YES, somewhat
3 NO

26. Which statement best characterizes the intention of your institution during the 1980s?

1 Significantly increase enrollment
2 Moderately increase enrollment
3 Maintain enrollment
4 Decrease enrollment
5 No specific intention existed regarding enrollment

FACULTY PERSONNEL ISSUES:

27. Was your full-time faculty unionized at any time during the 1980s?

1 YES 2 NO

28. Was your part-time faculty unionized at any time during the 1980s?

1 YES 2 NO

29. In 1989, if a faculty member was assigned a full-time load in teaching, how many credit hours were taught per year? _____

During the 1980s, did your institution provide specific faculty development opportunities (on site or off) in the area of:

30. adult development and education:

1 YES, significant
2 YES, limited
3 NO

31. diversity?

1 YES, significant
2 YES, limited
3 NO

32. minority issues?

1 YES, significant
2 YES, limited
3 NO

33. learning disabilities?

1 YES, significant
2 YES, limited
3 NO

34. part-time students?

1 YES, significant
2 YES, limited
3 NO

35. women's issues?

1 YES, significant
2 YES, limited
3 NO

36. international/intercultural issues?

1 YES, significant
2 YES, limited
3 NO

37. At any time during the 1980s, did your institution intentionally increase the student-faculty ratio?

1 YES 2 NO

38. At a ny time during the 1980s, was church membership or religious belief considered in any way in faculty hiring decisions?

1 YES 2 NO

ACADEMIC POLICIES:
(as applied specifically to undergraduate students)

39. What is the minimum number of hours which a student must COMPLETE AT YOUR INSTITUTION in order to earn a bachelors degree from your institution? _____

(check one):

_____quarter hrs _____semester hrs

During the 1980s, did your institution provide mechanisms for granting academic credit for:

40. portfolio assessment of prior learning?

1 YES 2 NO

41. military experience?

1 YES 2 NO

42. formal, non-collegiate training programs?

1 YES 2 NO

43. College-level Entrance Placement (CLEP) tests?

1 YES 2 NO

44. ACT - PEP test?

1 YES 2 NO

45. Advance Placement (AP) tests?

1 YES 2 NO

46. Institutional or departmental exams?

1 YES 2 NO

47. directed/independent studies?

1 YES 2 NO

48. At your institution, could part-time students matriculate towards a degree in the 1980s?

1 YES 2 NO

49. In 1989, did your institution have a minimum residency requirement for full-time attendance for graduation?

1 YES 2 NO

50. During the 1980s, did your institution develop specific block transfer or articulation agreements with other institutions?

1 YES 2 NO

51. Did your institution offer formal "study abroad" opportunities for students during the 1980s?

1 YES 2 NO

52. During the 1980s did your institution have any formal "sister school" relationships with institutions in other countries?

1 YES 2 NO

53. Did your institution have a limit on the "age" of credits which could be accepted for transfer into the institution during the 1980s?

1 YES 2 NO

54. If yes, what was the limit in 1989?

_____

55. During the 1980s, did your institution have a limit on the "age" of credits which were used for calculating student GPA in any programs?

1 YES 2 NO

57. Did your institution offer formal student registration by phone during the 1980s?

1 YES 2 NO

58. During the 1980s, did your institution provide for registration at the student's workplace?

1 YES 2 NO

59. Did your institution provide any form of financial aid for part-time students during the 1980s?

1 YES 2 NO

ACADEMIC PROGRAMS:

During the 1980s, did your institution offer any academic programs which were specifically designed:

60. for adult learners (e.g. continuing education, degree completion programs, evening or weekend programs?

1 YES 2 NO

61. to include "reduced seat-time" for adult learners (e.g. accelerated format programs)?

1 YES 2 NO

62. During the 1980s, did your institution offer "short-term seminars" (weekend, week-long, etc.) for academic credit?

1 YES 2 NO

How many academic majors (programs, degrees) did you offer in 1989 in:

63. Liberal arts areas? _____

64. Professional and pre-professional areas? _____

65. What changes occurred in the ratio of liberal arts to professional/pre-professional majors at your institution during the 1980s?

1 Increased proportion of Liberal Arts programs
2 Increased proportion of Professional/Pre-professional
3 No change

66. What changes occurred in the number of Liberal Arts Majors (programs, degrees) at your institution during the 1980s?

1 Increased
2 No Change
3 Decreased

67. What changes occurred in the number of Professional/pre-Professional (programs, degrees) at your institution?

1 Increased
2 No Change
3 Decreased

68. Do you currently offer specialized programs for academic remediation?

1 YES 2 NO

During the 1980s, did your institution offer specific academic assistance programs (tutoring, mentoring, special coursework, or others) for:

69. English as a second language students?

1 YES, extensive
2 YES, limited
3 NO

70. returning adults?

1 YES, extensive
2 YES, limited
3 NO

71. women students?

1 YES, extensive
2 YES, limited
3 NO

72. minority students?

1 YES, extensive
2 YES, limited
3 NO

73. During the 1980s, did your institution offer any programs (credit or non-credit) which were specifically designed for retired adults?

1 YES 2 NO

74. During the 1980s, did your institution offer any courses for credit at corporate sites (excluding practicums)?

1 YES 2 NO

During the 1980s, did your institution offer/utilize:

75. a freshman orientation program?

1 YES, extensive
2 YES, limited
3 NO

76. a transfer orientation program?

1 YES, extensive
2 YES, limited
3 NO

77. a special freshman advising program?

1 YES, extensive
2 YES, limited
3 NO

78. a credit-granting course for student orientation to college?

1 YES 2 NO

79. a formal career planning/placement center or program?

1 YES, extensive
2 YES, limited
3 NO

80. a modified academic advising system/approach?

1 YES, extensive
2 YES, limited
3 NO

81. During the 1980s, did the selectivity of your institution's admissions requirements:

1 Decrease
2 Remain the same
3 Increase

INSTITUTIONAL ENVIRONMENTAL CONTEXT

82. How would you characterize your primary student recruitment market? (circle one)

1 Local
2 State
3 Regional
4 National

83. How many baccalaureate granting institutions are within 50 miles of your institution (excluding your own)?

_____

84. Is your local community served by one or more community college?

1 YES 2 NO

85. Is there a large public university (enrollment greater than 5,000) within 50 miles of your institution?

1 YES 2 NO

GENERAL INFORMATION:

86. During the 1980s, Freshman student retention rates at your institution:

1 increased significantly
2 increased slightly
3 remained the same
4 decreased slightly
5 decreased significantly

87. During the 1980s, overall undergraduate student retention rates at your institution:

1 increased significantly
2 increased slightly
3 remained the same
4 decreased slightly
5 decreased significantly

88. In your opinion, what were the three most important **external/environmental factors** influencing enrollments at your institution in the 1980s?

_____

_____

_____

89. In your opinion, what were the three most important **institutional characteristics** shaping or influencing enrollments at your institution in the 1980s?

_____

_____

_____

_____

90. In your opinion, what were the most important **strategies or actions** in the areas of academic programs, policies and/or personnel (those covered above or others), influencing enrollment at your institution in the:

early 1980s? _____

_____

_____

_____

middle 1980s? _____

_____

_____

_____

late 1980s? _____

_____

_____

_____

91. In which of the following organization do you, or your institution hold membership?

1 American Association of Colleges (AAC)
2 American Association of Higher Education (AAHE)
3 American Council on Education (ACE)
4 Association For Institutional Research (AIR)
5 Christian College Coalition (CCC)
6 Council on Adult and Experiential Learning (CAEL)
7 Council of Independent Colleges (CIC)
8 Society for College and University Planning (SCUP)

9 Other_____

10 Other_____

THANK YOU

Please return the completed survey in the enclosed postage paid envelope by August 15, 1992.

APPENDIX H

THE COVER LETTERS

Concordia College

2811 NE Holman
Portland, OR 97211-6099
503-288-9371

May 24, 1992

Chief Academic Officer
XYZ College
123 SW 1st
Hoboken, HI 12345-6789

Dear Colleague:

Like you, I am the Chief Academic officer of a small private college. As you are aware, small, private colleges represent a critical component of diversity within higher education in America. Unfortunately, despite the clear recognition that our institutions are facing unique threats and challenges, little research has been done in recent years on this specific segment of institutions. As part of a doctoral dissertation, I am conducting a national study of small, private, four-year, colleges and universities. Your institution has been identified as a major participant in this study.

I would like to ask you to participate in this important study by completing the enclosed questionnaire and returning it in the enclosed self-addressed envelope. The average time for completion of the questionnaire is 10 minutes. Your response to the questionnaire will be treated as confidential. Neither you, nor your institution will be linked to your responses. No information specific to your institution will be released or published in any report of the survey findings. Only aggregate data will be reported.

Because of the limited size of this population, each response is critical. Please consider assisting me in furthering understanding of our unique institutions.

If you would like to receive a summary of the results, please complete the enclosed summary reply request card and return it with your completed questionnaire.

Again, thank you very much for your assistance in this vital study.

Sincerely,

Johnnie Driessner
Academic Vice President

Concordia College

2811 NE Holman
Portland, OR 97211-6099
503-288-9371

July 20, 1992

Chief Academic Officer
XYZ College
123 SW 1st
Hoboken, HI 12345-6789

Dear Colleague:

Approximately four weeks ago you received an initial copy of the enclosed survey. I have not yet received your reply. Because of the limited size of the population and the critical role which each response plays in the study, I would like to ask you to once again consider completing the enclosed survey. If you have completed a previous copy of the survey, please disregard this letter.

As you are undoubtedly aware, small, private colleges represent a critical component of diversity within higher education. Despite the clear recognition that our institutions are facing unique challenges and opportunities, little research has been done in recent years on these institutions. As part of a doctoral dissertation, I am conducting a national study of small, private, four-year, colleges and universities. Your institution has been identified as a major participant in this study.

Please consider participating in this important study by completing the enclosed questionnaire and returning it in the enclosed self-addressed envelope. The average time for completion of the questionnaire is **10-15 minutes.** Your response to the questionnaire will be treated as confidential. Neither you, nor your institution will be linked to your responses. No information specific to your institution will be released or published in any report of the survey findings. Only aggregate data will be reported.

Because of the limited size of this population, each response is critical. Please consider assisting me in furthering understanding of our unique institutions.

If you would like to receive a summary of the results, please complete the enclosed summary reply request card and return it with your completed questionnaire.

Thank you very much for your assistance in this vital study.

Sincerely,

Johnnie Driessner
Academic Vice President

Concordia College

2811 NE Holman
Portland, OR 97211-6099
503-288-9371

August 20, 1992

Chief Academic Officer
XYZ College
123 SW 1st
Hoboken, HI 12345-6789

Dear Colleague:

Approximately eight weeks ago you received an initial copy of the enclosed survey, and a second copy was mailed to you approximately four weeks later. I have not yet received your reply. I recognize that your position is very demanding and your time is precious. I would ask that you reconsider this opportunity to make a contribution to the knowledge about our institutions.

Because the population is limited and each response is critical, I would like to strongly encourage you to take this last opportunity to complete the survey. If you have completed a previous copy of the survey, please disregard this letter.

Please complete the enclosed questionnaire and return it in the enclosed self-addressed envelope. The average time for completion of the questionnaire is **10-15 minutes.** Your response to the questionnaire will be treated as confidential. Neither you, nor your institution will be linked to your responses. No information specific to your institution will be released or published in any report of the survey findings. Only aggregate data will be reported.

If you would like to receive a summary of the results, please complete the enclosed summary reply request card and return it with your completed questionnaire.

Thank you very much for your time and assistance in this vital study.

Sincerely,

Johnnie Driessner
Academic Vice President