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A STUDY OF INSTITUTIONAL MANAGEMENT DURING A PERIOD OF DECLINE

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee, Knoxville

Wayne Morris Chaffin

June 1978

1361740

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DEDICATION

Without the constant understanding, support, and love given to the writer by two special people, his formal education would not have reached its present level. As our lives moved in different directions, they sensed the need for this occurrence. When there were obstacles to overcome, they were a source of comfort. Their uninterrupted devotion has caused them to make numerous sacrifices. Thus, this dissertation is dedicated to my parents, Hugh and Lorene Chaffin.

ABSTRACT

The research was a case study conducted at a time when American higher education was experiencing a period of decline due to: a slowdown in enrollment growth, the effects of inflation, the loss of public confidence, a decrease in federal support, and trends in state support. The researcher compared suggested theoretical higher education management techniques with actual management methods employed by three public institutions: one experiencing financial difficulty, one stable after experiencing financial difficulty, and one which had remained stable. Additionally, the study addressed the manner in which the actual techniques had been employed, institutional managers' perceptions of the effectiveness of the actual methods, and whether a technique was implemented by more than one of the selected institutions.

The research yielded various findings.

1. Institution A, the university experiencing financial difficulty, had implemented 114 management methods. Institution B, the university stable after experiencing financial difficulty, had used 129 techniques. Institution C, the school remaining stable, had employed 141 methods. The majority of these techniques were found in the literature examined. However, 112 of the methods were idiosyncratic to the universities: 33 to Institution A, 37 to Institution B, and 42 to Institution C.

2. The three participating institutions used a total of 112 techniques which did not appear in the literature studied. The methods

represented all facets of university operation with particular attention focused on plant operation and maintenance. The managers did not initiate the use of 107 of the theoretical methods as a response to the period of decline, but various directors indicated that several of these had been implemented prior to the decline.

3. A number of the implemented methods were employed as both a preventive and a remedial action while others were utilized only as a preventive measure or only as a remedial action. Twelve techniques were initiated by all three universities and were used as a preventive action only. Additionally, three methods were applied as a remedial action only by the three universities.

4. Similarities and differences did exist in institutional managers' perceptions of the effectiveness of the techniques which they or staff members employed. Seven methods had been used by all participating institutions and were unanimously endorsed as being "effective." Several techniques received the similar rating of "effective" by managers at different institutions; various ones were given the rating of "most effective" by different institutional managers. "Most effective" and "effective" were the contrasting ratings given a selection of the methods. Other techniques were given mixed ratings; that is, they were rated "ineffective" by one manager while another indicated them to be "most effective" or "effective."

5. More than one of the participating institutions implemented 77 of the theoretical techniques. Twenty-eight of the 77 had been utilized by all three of the institutions while 49 were employed by two of the universities.

Some 250 suggested theoretical higher education management techniques were identified in the literature reviewed. However, it appeared that only a minority of the methods used by all institutions of higher education had been reported for the participating schools employed 112 techniques not contained in the literature studied.

The areas of instruction, academic support, and institutional support produced the majority of methods utilized by the institutions. Seemingly, the operation and maintenance of physical facilities was one of the first areas to receive the attention of institutional managers.

The directors had utilized the same method as a preventive action, as a remedial measure, or as both. Thus, it appeared that any of the techniques could have been used as a different action.

The managers believed that they were using sound methods to make their institutions more cost effective because six methods were rated only as "ineffective." A group of techniques had mixed ratings of "ineffective" and "most effective" or "effective"; thus, directors should consider the factor of applicability before implementing a method.

A selection of the theoretical techniques was implemented at more than one of the selected institutions. However, it did not appear that there existed a particular group of methods which were more applicable to either university.

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CHAPTER I

FORMULATION AND DEFINITION OF THE PROBLEM

I. GENERAL INTRODUCTION

American higher education experienced a period of prosperity and advancement during the fifteen years prior to 1970.[1] The time was characterized by substantial enrollment growth which created an increased demand for new faculty members. Academic salary increases exceeded rises in national levels for salaries and wages and in the cost of living. The percentage of the gross national product spent on higher education doubled. The federal government invested millions of dollars in research projects that were conducted at colleges and universities. Additional federal monies were received for construction projects. New colleges, especially during the 1960's, were added at the rate of one per week.[2]

During the early 1970's, the developments of the previous years abruptly came to an end.[3] The growth rate of American higher education ceased, then began to decline. The rapidly increasing enrollment growth which occurred during the 1960's began to slow down.

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[1]William W. Jellema, Efficient College Management (San Francisco: Jossey-Bass Publishers, 1972), p. 79.

[2]The Carnegie Foundation for the Advancement of Teaching, More Than Survival (San Francisco: Jossey-Bass Publishers, 1975), pp. 1-2.

[3]Jellema, p. 79.

The demand for faculty members peaked during the late 1960's. Faculty salary increases failed to keep up with the cost of living. The percentage of the gross national product spent on higher education fell slightly. Federal research funds became static in amount in constant dollars, and federal expenditures for construction were reduced drastically.[4] These events caused educators who had previously devoted their energies to building, strengthening, and improving their institutions to turn their thoughts toward retrenchment and cost cutting.[5]

A number of college and university presidents, representing both private and public institutions, became concerned about the downward direction of their campuses' fiscal situations and saw reason for alarm when the current trends were projected. Reacting to this concern, the Carnegie Commission on Higher Education and the Ford Foundation jointly sponsored a study of the financial conditions of 41 colleges and universities in order to determine how general the problem was and what institutions of various types were doing in response.[6] The study revealed that the difficult experiences of the presidents were not isolated fiscal events but were part of a general erosion of the financial position of most colleges and universities.[7] Two other

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[4]The Carnegie Foundation for the Advancement of Teaching, pp. 1-2.

[5]Jellema, p. 79.

[6]Earl F. Cheit, The New Depression in Higher Education--Two Years Later (Berkeley: The Carnegie Commission on Higher Education, 1973), p. 1.

[7]Cheit, The New Depression in Higher Education--Two Years Later, p. 1.

studies, one by William W. Jellema and one by Hans H. Jenny and G. Richard Wynn, attested to the fact that American higher education was confronted with the problem of a growing gap between expenditures and income.[8]

Since the previously mentioned studies, much has been written about the past and the present financial plight of American higher education. A number of these writings focused attention on what were believed to be the causes of the financial difficulties plaguing colleges and universities. Within these writings, at least three factors were identified as contributors to the development of the period of decline: a leveling of enrollments, a high rate of inflation, and a general loss of confidence in higher education.

Leveling enrollments have a stabilizing effect upon institutional income for several reasons. Many states utilize an enrollment-oriented formula for determining the amount of money to be appropriated to an individual institution. Thus, if the enrollment of the institution does not continue to grow, institutional income stabilizes as the student full-time-equivalency becomes static. Institutions located in states which do not employ an enrollment-oriented formula prefer to depend upon enrollment growth rather than tuition increases to produce additional income. Thus, if enrollment does not increase, institutional income stabilizes. Leveling enrollments coupled with a high rate of inflation contribute to the development of a period of decline in higher education. The effects of inflation can be noted on both

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[8]Cheit, The New Depression in Higher Education--Two Years Later, p. 2.

the expenditure and the revenue side of higher education budgets. On the cost side of the budget, two items which have increased significantly in price are food and fuel. Not only did the cost of these items increase significantly, but the prices rose sharply over short periods of time, leaving a shortage or a deficit in the funds to be spent for these items. On the income side of the budget, some states have been cutting their higher education appropriations in mid-year while federal expenditures for higher education have been under serious pressure and have not come close to keeping up with the rate of inflation.[9] Also, a general loss of confidence in American higher education contributes to the development of a period of decline in the field; as citizens express criticisms aimed at various institutions, legislators become less willing to increase state appropriations and fund new programs. College-age individuals express their loss of confidence in higher education by pursuing jobs or by entering a vocational or a trade school which requires less time to prepare for an occupation.

While institutions have been more concerned with expansion than the need for efficient and effective management during the past several years, college and university managers, conscious of the period of decline, recognized that good management techniques were essential to institutional solvency. However, the task of identifying these methods remains; higher education institutions have been unwilling or unable to invest large resources in organizational and management

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[9]William G. Bowen, "Higher Education and the National Economy," Planning for Higher Education, IV (June, 1975), p. 3.

research. Additionally, past attempts by colleges and universities to emulate the management techniques of business and industry produced less than satisfactory results.[10] Thus, a key issue to the survival of financially troubled institutions is the development of a system of management relevant to higher education.[11]

II. STATEMENT OF THE PROBLEM

American higher education began experiencing a period of decline during the early 1970's created, in part, by a reduction in the enrollment growth, a high rate of inflation, and a general loss of confidence in institutions of higher learning. The period of decline gave birth to a new management problem for colleges and universities. Heretofore, public higher education institutions had been experiencing tremendous growth; but suddenly fiscal stringency became a major management problem. Confronted with the problem of an increasing scarcity of funds, institutional managers sought to identify and use management techniques essential to institutional solvency.

Management methods identified and utilized by institutional managers to maintain solvency during a period of decline in American higher education have been reported in professional literature. These techniques, considered theoretical management methods, provide insight

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[10]Alexander M. Mood and others, Papers on Efficiency in the Management of Higher Education (Berkeley: The Carnegie Commission on Higher Education, 1972), pp. 6-7.

[11]Paul Moorman, "Many Nations' Universities Said to Face Bleak Future," The Chronicle of Higher Education, XIII (October 4, 1976), p. 4.

into the adjustments managers made in response to the period of decline. However, a penetrating study of the actual management techniques of selected public institutions is needed to complement existing understandings of managerial responses to a period of decline. Thus, this dissertation considered the actual management methods of selected public institutions in order to enrich understanding of the techniques managers utilized during a period of decline.

III. PURPOSE OF THE STUDY

The purposes of this study were to:

1. Identify suggested theoretical higher education management techniques that may be employed during a period of decline.

2. Identify the management methods selected public institutions of higher education actually implemented during a period of decline.

3. Determine if selected public institutions implemented management techniques which differed from those suggested within the literature.

4. Determine whether the implemented management methods were employed as preventive or remedial techniques.

5. Obtain from institutional managers in the selected public institutions a rating of the effectiveness of various management methods used during a period of decline.

6. Determine if an actual management technique was implemented by more than one of the selected public institutions.

To accomplish the purposes of the study, the researcher used the following questions as a guide:

1. What theoretical management methods have been suggested for use in institutions of higher education during the period of decline?

2. What management techniques were implemented during a period of decline to insure institutional solvency by three public higher education institutions: one which was experiencing financial difficulty, one which is stable after experiencing financial difficulty, and one which has remained stable?

3. Did the selected public institutions utilize management techniques which differed from those suggested in the literature?

4. Were the implemented management methods employed as preventive or remedial techniques?

5. How do institutional managers within selected public institutions view the effectiveness of certain actual management methods?

6. Was the same actual management technique implemented by more than one of the three selected institutions?

IV. IMPORTANCE OF THE STUDY

The United States has enjoyed growth in almost all aspects of social life during the past several years. The population, per capita real income, productivity of the overall society, and the gross national product have experienced almost continuous growth. Education is no exception; it has grown from over 2 percent to almost

7 percent of the gross national product.[12]

Economist Kenneth E. Boulding indicated that if this age of rapid growth is coming to an end, adjustments will have to be made in our habits and standards of decision making, and perhaps even in our institutions.[13] Education, in particular higher education, has experienced the slowdown Boulding describes. The enrollment growth has slowed at a number of institutions, while other public colleges and universities have experienced a decrease in enrollment. Extraordinary increases in costs of goods and services have made it most difficult for institutions of higher education to operate within their budgets. State legislatures have become increasingly resistant to the enormous annual increases in appropriations requested by public institutions.[14] The federal government has reduced its support of institutional research and is placing emphasis on student aid and programs for disadvantaged youth.[15] A decline in growth creates an acute financial crisis that threatens the solvency of many institutions of higher learning.

The major effect of this serious financial crisis upon the system of higher education is the period of readjustment that is

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[12]Kenneth E. Boulding, "The Management of Decline," Change VII (June, 1975), p. 8.

[13]Boulding, p. 8.

[14]Howard R. Bowen and Gordon K. Douglass, Efficiency in Liberal Education (New York: McGraw-Hill Book Company, 1971), pp. 1-2.

[15]John Folger, "Financing Higher Education in the 'Crisis' Period," The Prospects for Higher Education, ed. Nicholas Hobbs (Atlanta: Southern Newspaper Publishers Association Foundation, 1972), p. 11.

created. The scope and significance of this readjustment are difficult to determine;[16] however, one can study a facet of this process by identifying the management techniques employed during a period of decline to maintain institutional solvency.

Some theoretical management methods which may be implemented during a financial crisis in higher education can be named from the literature. Through a study of selected institutions, the actual management techniques implemented during a period of decline can be identified. The two groups can be compared to determine if theoretical management methods and actual management techniques differ. Once this determination has been made institutional managers may become apprised of the fact. A study of three institutions, one which was experiencing financial difficulty, one which is stable after experiencing financial difficulty, and one which has remained stable, provided sufficient data to determine whether or not a particular management method was employed as a preventive or remedial technique. Knowing whether the implemented management methods were employed as preventive or remedial techniques would help institutional directors determine the applicability of the methods to their institutions. Institutional managers can indicate their perceptions as to the effectiveness of actual management techniques. A reported rating of the effectiveness of various management methods provides institutional managers with an indication of the value of certain managerial techniques to which they might give consideration during readjustment.

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[16]Earl F. Cheit, The New Depression in Higher Education (New York: McGraw-Hill Book Company, 1971), p. 2.

Knowledge of the frequency with which various management methods have been implemented among selected public institutions provides greater insight into the usefulness of the techniques.

V. ASSUMPTIONS

In conducting the study the following assumptions were made:

1. Public institutions of higher education will experience a total enrollment decline or stabilization during the remainder of the 1970's and early 1980's.

2. Sufficient indicators do not exist to conclude that drastic improvements will be made in the economy within a short period of time.

3. The public's general loss of confidence in American higher education will not be reversed in a brief span of time.

4. The respondents provided authentic data relative to their institutions' actions.

5. The three participating institutions have been appropriately placed in three classifications.

VI. LIMITATIONS AND DELIMITATIONS

The following limitations were recognized in this study:

1. The management of decline is a relatively new experience for higher education; consequently, few reported studies are available for obtaining data.

2. Institutional managers are sometimes hesitant to disclose

information relative to the management of the institution; therefore, various desired data may not be made available.

The following delimitations were recognized in this study:

1. A review of selected materials was utilized to identify theoretical management techniques.

2. Institutional directors were not required to do extensive research prior to rating management methods as to effectiveness.

3. Institutional managers at the Dean's level or above (or a designee) were selected as respondents.

4. Three categories--experiencing financial difficulty, stable after experiencing financial difficulty, and remaining stable--used for classifying the participating institutions were subjectively selected by the researcher.

5. The three public institutions were selected from a group of universities geographically convenient to the researcher.

VII. DEFINITION OF TERMS

1. Experiencing financial difficulty: The current financial status of the institution is such that revenues are not keeping pace with expenditures, necessitating program cutbacks and/or the use of reserve or endowment funds to meet expenses.

2. Stable after experiencing financial difficulty: As a result of employing selected higher education management techniques, the current financial status of the institution is such that revenues are keeping pace with expenditures.

3. Remaining stable: During the past three to five years,

the financial status of the institution has been such that expenditures have not exceeded revenues; no services regarded as a part of the school's program have been terminated or cut back; the level of the reserve or endowment fund has not been decreased in order to meet costs.

VIII. DESIGN OF THE STUDY

The case study method was chosen to guide the research. More specifically, the research was a comparative case study. The researcher perceived a period of decline in American higher education and then substantiated the perceptions through a review of selected literature. Further inquiry led to an identification of theoretical higher education management techniques suggested for use during a period of decline. The actual higher education management methods used by three public institutions to adjust to a period of decline were identified through a survey instrument and the comments of institutional managers at the Dean's level or above (or a designee) who served as respondents. Suggested theoretical higher education management techniques and actual higher education management methods were studied to determine differences and similarities. The actual management methods employed by the three public institutions were identified. An analysis of the management techniques implemented by the institutions, enabled the researcher to determine if an actual management method was employed by more than one of the selected institutions. Institutional administrators indicated whether the implemented management techniques were applied as preventive or remedial

methods to enable the researcher to determine if the same technique was used in differing contexts. Institutional managers rated the effectiveness of various management techniques used during a period of decline. These ratings were analyzed to determine similarities and differences in the managers' perceptions of the effectiveness of the management methods.

IX. ANALYSIS

Data obtained from the participating institutions were analyzed to accomplish the purposes of the study. Two types of analysis were used: comparative analysis and frequency analysis.

Comparative analysis was utilized to determine if selected institutions implemented management techniques which differed from those suggested in the literature, to determine if the actual management methods had been employed as different measures, and to determine similarities and differences in the institutional managers' perceptions of the effectiveness of the technique which they or staff members had initiated. Frequency analysis was employed to determine how many institutions implemented particular management techniques.

X. ORGANIZATION OF THE STUDY

Chapter I contains a general introduction, a statement of the problem, the purpose of the study, the importance of the study, assumptions, limitations and delimitations, the definition of terms, design of the study, analysis, and the organization of the study.

Chapter II is a review of selected related literature.

Chapter III presents the research design and the procedures employed in the study.

Chapter IV presents selected descriptive data relative to the institutions included in the study.

Chapter V contains the data and an analysis of the data.

Chapter VI presents a summary, conclusions, and recommendations.

CHAPTER II

REVIEW OF SELECTED LITERATURE

I. GENERAL INTRODUCTION

American higher education experienced unprecedented growth during the late 1950's and the major portion of the 1960's.[1] Total enrollment increase was stimulated by the maturity of postwar babies who had reached college age, resulting in an unparalled number of young adults seeking higher education opportunities.[2] Institutions responded to the social demands for new services, increased research productivity, and improved educational opportunity by expanding programs and increasing their functions.[3] In those post-Sputnik years there was a heightened appreciation of the contributions of higher education to national growth and scientific development.[4] Higher education was regarded by the public as essential to economic growth, national defense, social gain, and equality of opportunity in employment and in fulfilling individual, cultural, and social aspirations.[5] Heightened public appreciation encouraged rising state government

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[1]David D. Henry, Challenges Past, Challenges Present (San Francisco: Jossey-Bass Publishers, 1975), p. 134.

[2]Cheit, The New Depression in Higher Education, p. vii.

[3]Henry, p. 134.

[4]Cheit, The New Depression in Higher Education, p. vii.

[5]Henry, p. 134.

appropriations, massive federal aid programs, expanded private gifts, and increased student fees; thus, institutions were equipped to absorb the swelling enrollment of students[6] and make available expanded and new programs.

Toward the end of the 1960's, signs of financial stress became apparent in American higher education.[7] Cheit indicated, "No one can fix the exact date that marks the beginning of the depression now settling on American colleges and universities."[8] However, Henry stated, "About 1968, it became apparent that the cost trend induced by the growth period exceeded income prospects."[9] By 1970 increasing numbers of institutions were confronted with financial difficulties when the flow of funds from various sources ceased to rise at the rapid rate experienced from the late 1950's to the late 1960's. A clear connection existed between the extraordinary growth occurring during the major portion of the 1960's and the financial stringency that began to emerge toward the end of the decade. Enrollment at both undergraduate and graduate levels had mushroomed. Institutions had increased the quality and variety of opportunity by elevating their expenditures on student aid and by developing special programs to facilitate participation. Rising costs were accentuated by the increase of graduate students as a proportion of the total enrollment and by

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[6]Cheit, The New Depression in Higher Education, p. vii.

[7]Cheit, The New Depression in Higher Education, p. vii.

[8]Cheit, The New Depression in Higher Education, p. 1.

[9]Henry, p. 134.

inflation in the economy.[10] In short, costs were increasing, but income was not.[11]

The years from 1970 to 1978 have seen little relief from rising costs and decreasing income growth in American higher education. The cost income squeeze threatens the solvency and growth of many institutions. Among institutions experiencing financial difficulty, the problem ranges from a small deficit to a fight for survival.[12] However, not all institutional managers are receptive to the concept that American higher education is experiencing a period of decline which is predicted to become more severe. Thus, a review of selected literature was conducted to:

1. Develop an explanation which substantiated the existence of a period of decline.

2. Identify the higher education theoretical management techniques which may be utilized to maintain institutional solvency during a period of decline.

II. FACTORS SUBSTANTIATING A PERIOD OF DECLINE IN AMERICAN HIGHER EDUCATION

To recognize the authenticity of the period of decline in American higher education, one must identify and understand the select forces which have economic impact upon the field. Numerous factors

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[10]Cheit, The New Depression in Higher Education, p. vii.

[11]Cheit, The New Depression in Higher Education, p. 1.

[12]D. Kent Halstead, Statewide Planning in Higher Education (Washington, D. C.: U. S. Government Printing Office, 1974), p. 525.

which influence the financial health of American higher education have been identified and discussed in the professional literature. A slowdown in enrollment growth, the effects of inflation, and a general loss of public confidence in the field are three examples that have been presented. These forces, along with others, are addressed to substantiate a period of decline in American higher education.

Slowdown in Enrollment Growth

When Boulding identified the great problem facing the whole education system over the next twenty years as being the high probability of declining enrollment, he was accurate in his perceptions. The decline has occurred in the grade schools. As a result, the decline will move into high schools shortly and then into colleges and universities. Boulding projected that the decline would appear at the college level in the 1980's.[13]

Within this nation's colleges and universities, some controversy existed about the reality of decline in total enrollment during the 1976-77 school year. Data released by the federal government's National Center for Education Statistics revealed that the 1976 opening fall total enrollment for all institutions decreased for the first time since 1951.[14] Caution must be exercised as this point is considered

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[13]Boulding, "The Management of Decline," p. 8.

[14]Jack Magarrell, "Number of Students Declines for First Time since 1951," The Chronicle of Higher Education, XIII (February 22, 1977), p. 6.

because five of the 3,074 known institutions of higher education had not provided enrollment data and some institutions had presented preliminary figures.[15]

During early February 1977, Parker, Executive Director of Enrollment Policy and Educational Research at the University of Cincinnati, estimated the total enrollment decline for the 1976-77 school year at 0.1 percent. The estimate was based on data from 1,593 institutions. In a statement following the announced estimate, Parker said, "The decline provided an agonizing preview of what the implications may be of future losses."[16]

The 1976-77 school year may or may not have been the first time since 1951 that total enrollment in American higher education declined; but, the preceding discussion confirms that most public colleges and universities began to experience a slowdown in enrollment growth. This point is demonstrated by the fall 1975 and 1976 enrollments of the same approximate total of 11,290,000 students in America's higher education institutions.[17]

The slowdown in enrollment growth occurred after five consecutive years of substantial increases in the number enrolled in America's colleges and universities. The increases were: 1971, 2.6 percent; 1972, 2 percent; 1973, 1.8 percent; 1974, 3.7 percent; and 1975, 4.3 percent.[18]

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[15]Magarrell, p. 7.

[16]Magarrell, p. 7.

[17]Magarrell, p. 7.

[18]Garland G. Parker, Collegiate Enrollments in the U. S., 1975-76: Statistics, Interpretation, and Trends in 4-Year and

Puzzled by the apparent slowdown in enrollment growth, institutional managers concerned themselves with identifying the factors which led to the experience. Jacobson reported, "The enrollment of veterans in institutions has declined severely this fall--by some 375,000 students."[19] Parker attested to this fact and cited three additional elements:

1. Nationally the unemployment rate was high, but a greater number of people were working than ever before; thus, high school seniors may have been more attracted to the job market than in recent years.

2. Tuition increases were combined with inadequate programs of financial aid.

3. Quotas were placed on enrollments at some public institutions.[20]

The abolition of the draft, the rising cost of college attendance associated with accelerated inflation rates, changes in the job market for college graduates, and a leveling off of the high school graduation rate since the late 1960's were indicated by the Carnegie Foundation for Advancement of Teaching as reasons for the decline.[21] In

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Related Institutions, ACT Special Report Seventeen (Iowa City, Iowa: The American College Testing Program, 1976), p. 2.

[19]Robert L. Jacobson, "Enrollment of Veterans Nosedived This Fall," The Chronicle of Higher Education, XV (October 18, 1976), p. 1.

[20]"If Enrollments Are Down, It's First Drop Since 1951," The Chronicle of Higher Education, XV (October 25, 1976), p. 3.

[21]The Carnegie Foundation for the Advancement of Teaching, More Than Survival, p. 31.

response to the apparent slowdown, Glenny stated:

> Perhaps the most important of the major trends largely ignored is the increasing tendency for those who want training in a great variety of skills and in career education to attend the proprietary and industrial schools rather than the traditional college and university--including the community college.[22]

In 1973 projections prepared for the Carnegie Commission depicted a sharp slowdown in enrollment growth in the collegiate sector through the 1970's, followed by an absolute decline in enrollment for the 1980's.[23] Numerous forces, identified in the following paragraphs, will influence a continued slowdown of total enrollment growth during the remainder of the 1970's and a decline in total enrollment during the 1980's.

In the early 1970's, university administrators became cognizant that expansion was coming to an end. The exponential growth curve was moving into a sigmoidal curve. Nationally, a decline in the absolute number of births had been in effect since 1957. Thus, college administrators noted with dismay that after 1975 the number of students entering the college-age pool would decline.[24] Any hope that the decline in birthrate would be reversed has not been realized. In 1960 the rate stood at about 120 per 1000 women 15 to 44 years old, in 1970 about 88,

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[22]Lyman A. Glenny, "Pressures on Higher Education," College and University Journal, XII (September, 1973), p. 7.

[23]The National Commission on the Financing of Post Secondary Education, Financing Post Secondary Education in the United States (Washington, D. C.: U. S. Government Printing Office, 1973), p. 23.

[24]George J. Mauer, Crisis in Campus Management (New York: Praeger Publishers, 1976), p. 21.

and by 1973 the rate had dropped to less than 70,[25] which resulted in 3.2 million live births, down from a 1959 peak of 4.3 million.[26] Beginning in 1978, total enrollment in American colleges and universities will experience the results of the declining birthrates of the 1960's. Also important to future enrollment is the actual number of babies born alive. This number has dropped 23 percent in the past three years.[27]

Noted frequently is the belief that the high school graduation rate, which rose rapidly over the past two decades, will continue an upward trend resulting in the availability of a continued healthy pool of college-age students. A close analysis of this projection revealed that the high school graduation rate will have slowed considerably by 1990, when approximately 90 percent of those in the 17-18 age group are expected to be high school graduates.[28] A graduation rate closely approaching 100 percent will not offset the decline in numbers brought about by decreased birthrates. Parker substantiated this point when he wrote:

> If institutions of higher education rely primarily upon secondary school graduates for their incoming students,

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[25]Lyman A. Glenny, "The Illusions of the Steady State," Change, VI (Winter, 1974-75), p. 25.

[26]H. Thomas James, "Education: A Declining or Rising Sun," Educational Leadership and Declining Enrollments, ed. Lewis B. Mayhew (Berkeley: McCutchan Publishing Corporation, 1974), p. 118.

[27]Glenny, "Illusions," p. 26.

[28]National Commission, p. 23.

> it is almost inevitable that enrollments will decelerate in the remaining 1970's, decline slowly in the early 1980's, and then fall off more precipitately in the later 1980's.[29]

Additionally, each year approximately 300,000 to 500,000 qualified high school graduates fail to enter college.[30]

The percentage of youths entering post-secondary institutions is a key guideline to predicting university attendance rates. As the portion of youths entering universities becomes greater, the potential for increasing that percentage decreases because the level of maximum development of human resources is approached.[31]

Various institutional managers feel that adults in extension or off-campus classes will solve enrollment and financial problems, but little evidence exists to substantiate that adults are offsetting the loss of enrollments of the 18 to 21 year olds in colleges and universities.[32] Related to the concept that adults can be recruited to offset declining enrollments is the belief that new constituencies can be recruited. Regarding this point, Cross stated:

> The democratic expansionist era is ending, not so much because of today's declining birthrate, but because higher education, for the first time in its history, is running out of new constituencies to recruit.[33]

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[29]Parker, p. 11.

[30]Halstead, p. 136.

[31]Halstead, p. 538.

[32]Glenny, "Illusions," p. 28.

[33]K. Patricia Cross, "The Instructional Revolution," Individualizing the System, ed. Dyckman W. Vermilye (San Francisco: Jossey-Bass Publishers, 1976), p. 49.

Graduate school enrollments might be expected to prevent a total enrollment decline; however, the evidence is mounting that both applications and enrollments in graduate programs are declining. In December 1976, the Council of Graduate Schools reported that overall enrollments in graduate school had fallen by 2.3 percent between 1975 and 1976.[34] This loss was preceded by a 6.6 percent increase in the 1975-76 school year.[35] Cost is a factor significant to graduate enrollment growth. Traditionally, graduate programs have a higher per pupil cost than undergraduate programs; thus, various institutions have placed enrollment quotas on these programs to reduce operating costs.

The Effects of Inflation

In 1971, Cheit brought attention to cost increases being experienced by American higher education. He noted that the wave of inflation engulfing college and universities was affecting salaries of faculty and employees and everything else.[36] In 1973, the National Commission on the Financing of Postsecondary Education, while identifying factors having impact upon institutional operating costs, cited continuing inflation and periodic economic recession.[37]

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[34]Malcolm G. Scully, "Fewer Jobs for Humanities Ph.D.'s: Should the Market Be Left Alone?", The Chronicle of Higher Education, XIV (April 25, 1977), p. 1.

[35]Parker, p. 18.

[36]Cheit, The New Depression in Higher Education, p. 8.

[37]National Commission, p. 191.

Society has supported the distribution of a greater share of national resources to higher education, but the commitment is proving to be a challenge because per student costs are rising. Increased unit costs are basically the result of educational productivity not keeping pace with national economic growth. As the economy grows, teacher salaries are raised; and, in the absence of improved efficiency in providing instruction, the result is a rise in the cost of education per student. In 1974, as a follow-up to the above thoughts, Halstead said:

> Inflation, or the cost of money, has further increased costs. The combined result has been an estimated 5.5 percent yearly decrease in the true purchasing power of each dollar invested in higher education. College and university budgets would have to be increased annually by this amount simply to offset rising prices.[38]

Few would question the seriousness of the overall financial problem faced by American higher education as a direct consequence of the state of the economy. Major private universities and small private colleges have long experienced financial problems; the public sector has not been immune. For example, public institutions have been cutting back on hiring, limiting purchases of equipment, deferring maintenance, and delaying new projects and programs as a response to the economic situation.[39]

Numerous institutional managers have identified the culprit to be inflation. "Inflation can smother a university, since it is even

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[38]Halstead, p. 520.

[39]William G. Bowen, "Higher Education and the National Economy," p. 1.

more of a threat to a university than loss of academic freedom," remarked Boling, President of The University of Tennessee, as he discussed the future of the institution.[40]

Inflation has affected both the revenue and expenditure sides of educational budgets. The most visible and significant pressure exerted by inflation has occurred on the expenditure side of higher education budgets.[41]

The effects of inflation are dependent upon the rates of increases in the prices of the particular combination of goods and services purchased by higher education institutions. At least five price indexes have been developed for all or part of higher education. The higher education price index (HEPI) constructed by Halstead is most often cited because it contains a detailed breakdown of expenditure categories and is the least dependent on ad hoc weighting systems. The HEPI has risen at a faster rate over the last twelve years, about 5.3 percent average per year, than either the consumer price index, about 3.6 percent per year, or the gross national product deflator, about 3.5 percent per year. The only exception was in 1973-74 when both consumer price index and gross national product deflator rose faster. For higher education, this means that whereas prices in general have risen approximately 50 percent over the last decade, the cost of higher education has risen over 75 percent.[42]

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[40]Marla Harris, "Boling Says U. T. Not Tied to Growth," Daily Beacon, XIII (August 10, 1976), p. 1.

[41]Bowen, "Higher Education and the National Economy," p. 1.

[42]Bowen, "Higher Education and the National Economy," p. 2.

As was indicated by Cheit, colleges and universities are paying a higher price for everything.[43] The prices paid by colleges and universities for utilities rose 17.8 percent during the fiscal year 1977. The prices of books and periodicals rose 6.3 percent while fringe benefits increased more than 10 percent in the year.[44]

To develop a broader understanding of the current plight of higher education, one must also look at the revenue side of budgets. Inflation with recession has caused serious difficulties for institutions.

Most all sources of revenue for private and public institutions have been affected. The burden of tuition, for example, is greater during times of high unemployment and reduced real income. During a normal inflationary period, students and their families would find it much easier to pay the inevitable increasing charges imposed by educational institutions; in turn, institutions would find it somewhat easier to increase revenue from this source. Presently, the fear of affecting both total enrollment and the make-up of student bodies, as well as a concern for the well-being of the individuals involved, inhibits the rate of increase of student charges. This creates a problem for institutions concerned about maintaining enrollment in the face of discouraging demographic trends.

Some states have been cutting higher education appropriations.

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[43]Cheit, The New Depression in Higher Education, p. 8.

[44]"Higher Education's Index of Inflation Goes Up 6.4 Pct.," The Chronicle of Higher Education, XV (September 6, 1977), p. 13.

Federal expenditures for higher education have also been under serious pressures and have not come close to keeping pace with inflation.

In 1975, economic conditions had a serious effect on earnings from endowments. The negative effects of prevailing business conditions were easily recognizable. Corporate dividend growth had slowed and some absolute reductions were occurring. Additionally, the Council on Financial Aid to Education reported that donors were aware of the plight of higher education, but gifts from private sources did not keep up with inflationary trends.[45]

In May 1977, the Council for Financial Aid to Education reported that voluntary support of American colleges and universities in 1975-76 rose more than 11 percent above that of the 1974-75 year. However, one must be alerted that the Council estimated the dollar amount colleges and universities received from businesses, foundations, and individuals. The Council attributed the growth in support exclusively to changes in the economy.[46]

During the twelve months ending June 30, 1977, the index of prices paid by colleges and universities for goods and services rose 6.4 percent. This was the fourth consecutive year in which prices paid by colleges and universities for goods and services rose less than the government's index of general consumer prices. Restricting

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[45]William G. Bowen, "The Effects of Inflation/Recession on Higher Education," Educational Record, LVI (Summer, 1975), p. 3.

[46]"Three Economic Indicators for U. S. Higher Education," The Chronicle of Higher Education, XIV (May 2, 1977), pp. 4-5.

salary increases made this possible.[47] Previously, Reese, Chancellor of The University of Tennessee, Knoxville, had brought attention to what was occurring to staff salaries: "Faculty and staff have experienced an actual erosion of salaries in the past two years as a result of inflation and inadequate increases."[48] Since 1971, the salaries paid to faculty members and other professional employees in higher education have increased at an average rate of 4.8 percent a year, compared with an average yearly inflation rate of 6.7 percent as measured by the Department of Labor's consumer price index.[49]

The Loss of Public Confidence

As a result of his 1970 study of 41 colleges and universities, Cheit brought attention to three new problems which concerned institutional officials. One of these difficulties was the new political and public attitudes about education.[50] For a number of years prior to 1970, colleges and universities had enjoyed a high level of public confidence. The high level of public reliance was evidenced by increasing federal and state appropriations, an increasing number of people attending colleges and universities, and an increasing desire that higher education assist America in making advancement in the fields of science and technology. But in the early 1970's, higher

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[47]"Higher Education's Index of Inflation Goes Up 6.4 Pct.," p. 13.

[48]"Budget Hearings Show Problems," Daily Beacon, XII (October 30, 1975), p. 2.

[49]"Higher Education's Index of Inflation Goes Up 6.4 Pct.," p. 13.

[50]Cheit, The New Depression in Higher Education, p. 19.

education began to meet with public disfavor. The displeasure was due, in part, to happenings on the campuses of many colleges and universities, e.g., demonstrations, riots, and the burning of buildings. The mood toward American higher education during those years was somewhat reflected in a statement made by a Michigan legislator: "If I had my way I'd cut the hell out of them (appropriations) until these kids decide they want to go to school."[51]

In Cheit's 1970 study, respondents were asked, "What broader issues must colleges and universities face as a result of financial problems?" Invariably, college presidents responded with a statement about the need to restore public confidence in higher education. In most all interviews, the point was made that the public is no longer highly motivated to support increased investment in higher education.[52]

In 1972, as he was discussing the financing of higher education, Folger brought attention to the fact that state aid to higher education was not growing fast enough. He identified the causes as incidents of campus protest or violence and a general dissatisfaction with the way things were going in America. He cited the crisis in confidence in public institutions as an underlying problem in the states.[53] Expanding on the reasons, Folger stated:

> The loss of confidence in higher education is partly due to actions and omissions of colleges and universities, partly due to the general lack of confidence in the nation's major

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[51]Cheit, The New Depression in Higher Education, p. 19.

[52]Cheit, The New Depression in Higher Education, p. 156.

[53]Folger, The Prospects for Higher Education, p. 13.

> institutions, and partly due to the college's role as a forum for a broad spectrum of ideas including some unpopular ones.[54]

A strong feeling among corporate donors, legislators, alumni, and the public that institutions of higher education were not using their resources as effectively as they could was given by Halstead as a reason why monetary support of higher education had decreased. Additionally, he indicated there existed a growing belief that less costly techniques could accomplish desired educational goals.[55]

Statistical evidence of the public's loss of confidence in American higher education was presented in 1974 by Harris and Associates. From data gathered, it was determined that public confidence in most American institutions continued to decline. Confidence in higher education had fallen from 44 percent in 1973 to 40 percent in 1974.[56] Previously, the confidence level had been as high as 72 percent.[57] In early 1975, Glenny labelled as a myth the belief that higher education remained in a stable high position in public priority. At that time, public attitudes toward higher education were less hostile than in the late sixties and early seventies. However, higher education held a lower rank in public priority than during the early sixties.[58]

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[54]Folger, The Prospects for Higher Education, p. 18.

[55]Halstead, p. 628.

[56]"American Public's Confidence in Higher Education Declines," The Chronicle of Higher Education, IX (October 7, 1974), p. 2.

[57]L. James Harvey, Managing Colleges and Universities by Objectives (Wheaton: Ireland Educational Corporation, 1976), p. 9.

[58]Glenny, "Illusions," p. 26.

In 1975, Henry stated, "There can be no doubt that the loss of priority is related to a lack of public confidence as to the importance of supporting higher education."[59] The comment was made in response to the downward turn in the financial condition of higher education. In his analysis of the change which had occurred, he identified reasons which contributed to the shift in public attitude.

Public revolt. Violence characterized the years of student protest, particularly from 1964 to 1970. The public was not sympathetic to violent actions, nor to the manner in which institutions dealt with the acts of violence; thus, public confidence in the management of institutions, the students, and the faculties generally was shaken.[60]

Economic insecurity. The public was worried over inflation, trends in living costs, level of government expenditure, and taxes. As a result, the public was apprehensive about expenditures except those for military, welfare, and social service purposes.[61]

Clouded perceptions. Perceptions were not clear as to what the university as a whole meant to society. Thus, the priority of education had been altered to the extent that institutions were faced with the prospect of receiving the leftovers after other needs had been fulfilled.[62]

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[59]Henry, p. 136.

[60]Henry, p. 137.

[61]Henry, p. 139.

[62]Henry, p. 140.

Personal priorities. Each person possessed ideas about priorities, and they were related to personal interests or knowledge, making it difficult for that person to see the need for a broad base of services. Thus, higher education had difficulties competing for public funds.[63]

Politics. Historically, higher education has been dependent upon the public to get necessary funds. When the economic slowdown occurred, the competition for public funds became fierce. Higher education had no interest group to fight its battles and was not well organized to fight its own.[64]

Greater public discussion. Controversy and troubles occurring on college campuses resulted in higher education becoming more visible through reports and commentaries which frequently contained negative criticism and misinformation. Unfortunately, a majority of institutions did not have a planned strategy for responding.[65]

Accountability. Accountability became popular with budget bureaus, legislators, and investigative reporters. As a result, empirical standards were applied to essentially immeasurable items to obtain production costs. These production costs were then compared to productivity standards which were not comparable.[66]

Value of college degree. The value of a college degree in the

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[63]Henry, p. 141.

[64]Henry, p. 142.

[65]Henry, p. 143.

[66]Henry, p. 144.

job market has receded. Student and family awareness of this factor has had a dominant influence on enrollment growth.[67] Holmstrom substantiated this point when she stated, "The second difficulty besetting higher education is diminished public confidence in the value of a college education."[68] She noted that for years the public had been told higher education brings increased returns on the job market; but recently, articles and books highlighting the soaring costs of a college education and the declining market value of a college degree have received public attention.[69]

Federal Support

Signs of waning federal support to American higher education began to appear in the late 1960's and the early 1970's. In 1969 the National Science Foundation reported that in 1964 federal funds obligated by all agencies to colleges and universities increased 15 percent over the previous year. For 1965, the increase was 41.9 percent over 1964. Beginning in 1966, the rate of increase in federal funds began to decline. In 1966 the rate of increase dropped to 30.6 percent, in 1967 the drop was to a 10 percent increase, and to 2 percent in 1968.[70]

In 1972 Folger cited as a principal cause of the financial

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[67]Henry, p. 145.

[68]Engin I. Holmstrom, "Higher Education and Social Mobility," Individualizing the System, p. 149.

[69]Holmstrom, p. 149.

[70]Cheit, The New Depression in Higher Education, p. 10.

crisis among major public research universities the leveling off of federal support for research and graduate education and the shifting of federal support patterns to student aid and programs for disadvantaged students.[71] The point relative to support patterns was substantiated by Glenny when he indicated the federal government is reducing the number and volume of dollars for categorical programs which aid institutions and instead is giving financial aid to students so that they may attend institutions of their choice.[72] Folger emphasized that it was not a decline in federal support to universities, only a leveling off from an annual growth rate of about 15 percent during the early sixties. He indicated that at the heart of the problem was the failure of the federal government to have a clear commitment to the continuing support of the research and graduate programs it had helped to launch.[73] The nature of the political process in Washington was given as a reason for the occurrence.[74]

The Higher Education Amendments of 1972 stirred hope within institutional managers that the federal government was rekindling its aggressive support for higher education. However, by late 1973, the hope that the federal government was going to make a dramatic legislative move to relieve the financial pressure on the nation's colleges and universities ended in disappointments, recriminations, and calls

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[71]Folger, The Prospects for Higher Education, p. 11.

[72]Glenny, "Pressures," p. 6.

[73]Folger, The Prospects for Higher Education, p. 12.

[74]Folger, The Prospects for Higher Education, p. 17.

for reorganizing the lobbying efforts of higher education associations.[75]

Persistent financial problems in higher education have brought almost general agreement that the federal government must become involved if lasting solutions are to be found. Of course, the federal government is already deeply involved. The real issue is how federal funding can be more effectively structured and expanded to meet the continuing needs of colleges and universities and their students.[76] Even though the need is great, there are reasons why general federal support of higher education is not forthcoming:

1. A belief that the states and the private sector rather than the federal government should assume primary responsibility for higher education.

2. Congressional reluctance to make money available without specifying in detail how it should be spent.

3. The controversy over the interpretation of the First Amendment clause that prohibits government support of religious institutions.[77]

State Support

Historically state and local governments have been a major source of revenue for American higher education.[78] State governments

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[75]Cheit, The New Depression in Higher Education--Two Years Later, p. 6.

[76]Halstead, p. 75.

[77]Halstead, p. 591.

[78]Kenneth E. Quindry, "State Support of Postsecondary Education," Survey of Business, X (July, August, 1975), p. 10.

have assumed more responsibility for the financing of public higher education than any other single element in American society. States, together with local governments, provide as much funding for the educational aspects of this country's colleges and universities as do all other revenue sources combined.[79] Thus, in 1972 when Folger identified signs that state aid to higher education was not growing fast enough, many turned an attentive ear. To substantiate his point, he indicated that in 1971 six of the 50 states had actually leveled off or decreased their appropriations to higher education and that half of the states provided less than a 5 percent increase in per student appropriations. With a 5 percent inflation rate during 1971, this meant that half of the states actually lost ground in their aid to colleges and universities.[80]

In 1973 the National Commission on the Financing of Post-secondary Education brought more attention to future state funding of higher education. The Commission identified the following as a trend in state support:

> Although the states may enjoy a period of relative prosperity in this decade, they are not likely to increase significantly the share of their resources devoted to post-secondary education.[81]

The Commission indicated that even though there were recent projections to the effect that states might be expected to enjoy surpluses

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[79]Halstead, p. 605.

[80]Folger, The Prospects for Higher Education, p. 13.

[81]National Commission on the Financing of Postsecondary Education, p. 45.

in their funds through the 1970's, there was reason to believe states would not increase their level of spending as a percentage of current revenues for postsecondary education.[82] Glenny agreed with the Commission:

> With the exception of a few states, the proportion of the state budget going to higher education will be no greater in 1980 than it is now. . . . If funds increase it will result from a larger state income generally, not from a larger percentage of the state revenue.[83]

Factors cited as a rationale for the Commission's position were:

1. The campus disturbances of the late 1960's.

2. The necessity for careful scrutiny of college and university budgets when money was tight.

3. The pressure of other public problems--reform in public school finance, local property tax relief, and increased spending for mental health, rapid transit, and environmental protection.[84]

Bailey added another dimension to the reason why there might not be an increased level of state spending for higher education:

> Faculties have resisted the introduction of educational technology, various forms of nontraditional studies, and outside calls for a more precise definition of academic goals, and this resistance has understandably worn thin the patience of those called upon to finance higher education--seemingly at even higher rates.[85]

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[82]National Commission on the Financing of Postsecondary Education, p. 46.

[83]Glenny, "Pressures," p. 5.

[84]National Commission on the Financing of Postsecondary Education, pp. 46-47.

[85]Stephen K. Bailey, "Combatting the Efficiency Cultists," Change, V (June, 1973), p. 8.

Joseph E. Johnson, at an American Education Finance Conference in Nashville, Tennessee, March 15, 1976, alluded to the concept that states would not be increasing the proportion of state revenues going to higher education until barriers to securing better and more adequate funding for institutions are overcome. He identified the following barriers:

1. Competition from other governmental services.

2. Belief by governmental officials that higher education is actively recruiting students to secure degrees at high cost for jobs that do not exist.

3. The commonly held opinion by some legislative and executive officials that higher education tenure promotes mediocrity, that faculty members spend undue time in research and consulting, that faculty members are overpaid, and that accountability in higher education is below average.[86]

The trend in state support for higher education was substantiated in data released by the Berkeley Center for Research and Development in Higher Education. The 1973 study presented evidence that the proportion of state general revenue going to higher education had dropped steadily since 1968 in the Midwest and since 1971 in the remainder of the nation. Seventy-five percent of the states were providing a smaller proportion of their tax revenues than in the recent growth period. The South included the largest number of states

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[86]Joseph E. Johnson, "Financing Higher Education," Presentation at the American Finance Conference, Nashville, Tennessee, March 15, 1976.

that continued to increase the proportion, but the region as a whole showed a downward pattern.[87] Tennessee, a southern state, decreased the proportion of state revenue, excluding capital outlay, going to higher education in 1974 and 1975.[88] The effect of this decrease was noted by Reese, Chancellor, The University of Tennessee, Knoxville:

> Faculty and staff have experienced an actual erosion of salaries in the past two years as a result of inflation and inadequate increase. The loss of purchasing power during the present fiscal year will likely be the most severe in the history of the institution.[89]

By January 1976, the trend had not been reversed; Furman, then Executive Director of the Illinois Board of Higher Education, indicated that in the last two years two-thirds of the states' public funds declined in proportion of revenues going to higher education.[90] However, in October 1976, it was reported that state appropriations for higher education had risen 24 percent in the past two years.[91] No indication was given as to whether the increased appropriations were the result of a greater proportion of state funds going to higher education or increased state revenues.

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[87]Glenny, "Illusions," p. 26.

[88]"State Appropriations for Education 1973-1977," Tennessee Higher Education Commission, Nashville, Tennessee.

[89]"Budget Hearings Show Problems," p. 2.

[90]James M. Furman, "Budgeting: Views of a State Higher Education Director," Presentation to a Legislative Seminar Sponsored by the Southern Regional Education Board's Legislative Advisory Council, Tampa, Florida, January 9, 1976.

[91]Jack Magarrell, "State Appropriations Up 24 Pct. in Two Years," The Chronicle of Higher Education, XIII (October 25, 1976), p. 9.

Formal Studies

The financial difficulties confronting American higher education have been discussed and analyzed in a number of essays, books, and periodicals. Additionally, studies have been conducted which provide insights relative to the extent of the financial problems confronting institutions of higher education. To substantiate further the existence of a period of decline in American higher education, the findings of three studies have been presented.

In 1971 Cheit reported the findings of his study of 41 institutions--public and private universities, liberal arts colleges, and comprehensive colleges and two-year institutions:[92]

1. Costs and income were rising, but costs were rising at a steady or a slowly growing rate depending on the period and measure used, whereas income was growing at a declining rate.[93]

2. Twenty-nine of the 41 colleges and universities were, at the time of the campus visit, headed for financial trouble or were in financial difficulty. Twelve schools were considered not in financial trouble at the time of the campus visit. An institution was determined to be in financial difficulty if its current financial condition forced a loss of program or services regarded as a part of the program. An institution which had been able to meet current responsibilities without reducing quality, but either could not ensure that it would much longer meet current program and quality standards

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[92]Cheit, The New Depression in Higher Education, p. ix.

[93]Cheit, The New Depression in Higher Education, p. 137.

or could not plan support for program growth was classified as headed for financial trouble. Institutions not in financial trouble were those which could meet current quality and program standards and could, with some assurance, plan the program growth they wanted.[94]

3. Schools headed for financial trouble were engaging in program cuts and changes in plans which could be summarized as postponing planned program growth.

4. Schools classified as being in financial difficulty were more deeply into that phase of cost cutting, and some had begun to drop departments and graduate majors.[95]

5. Private institutions were considerably more likely to be in financial difficulty than public institutions.[96]

Cheit cited the following implications of his findings:

1. Institutions of higher education will not be in a position to meet their responsibilities in the 1970's and subsequent decades if their financial status continues to degenerate.

2. The high incidence of financial difficulty among private institutions suggests that the survival of many private institutions of higher education is in jeopardy.[97]

3. Institutions of higher education will be able to meet their responsibilities in the 1970's without as sharp an increase in

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[94]Cheit, The New Depression in Higher Education, p. 139.

[95]Cheit, The New Depression in Higher Education, p. 142.

[96]Cheit, The New Depression in Higher Education, p. x.

[97]Cheit, The New Depression in Higher Education, p. xi.

revenues as was experienced during the 1960's because enrollments will not continue to increase as rapidly as in the 1960's.[98]

In 1973 Cheit reported the findings of his replicated study of the same 41 institutions included in the 1971 research:

1. Most of the 41 institutions seemed to have achieved a stabilized financial situation. The stability was determined to be fragile as it was the product of unusual cuts in expenditure growth and was based, in part, on favorable assumptions about external conditions--inflation, enrollments, private support, and public policy at the state and federal levels.[99]

2. Institutions were in an adjustment process which had generated and reflected new managerial practices and organizational relationships.[100]

3. No two institutions had been affected exactly alike nor responded in the same manner; but, broadly speaking, private institutions seemed to have adjusted more quickly and more adequately than public institutions.[101]

4. Increased administrative and faculty awareness of the cost-income squeeze followed by the development of new managerial practices

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[98]Cheit, The New Depression in Higher Education, p. xii.

[99]Cheit, The New Depression in Higher Education--Two Years Later, p. 71.

[100]Cheit, The New Depression in Higher Education--Two Years Later, p. 72.

[101]Cheit, The New Depression in Higher Education--Two Years Later, p. v.

and organizational relationships had been effective in the short-run in slowing down and perhaps halting eroding economic conditions.[102]

In September 1976 Lupton, Augenblick, and Heyison presented the data obtained from 2,163 institutions during the period from 1972 through 1974. From their data, the researchers identified the following findings:

1. It was determined that 25.1 percent of the institutions were healthy, 18.8 percent were relatively healthy, 6.9 percent were neutral, 34.8 percent were relatively unhealthy, and 14.4 percent were unhealthy.[103] Definitions were not presented for healthy, relatively healthy, and neutral, but the researchers indicated relatively unhealthy meant the institutions might be turned around by good management. Unhealthy indicated the institution's long-term survival was problematic unless some major external intervention occurred.[104]

2. A total of 149 public institutions was determined to be either relatively unhealthy or unhealthy.[105] The researchers indicated this finding suggested that the general tightening of state budgets was beginning to have a measurable impact.[106]

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[102]Cheit, The New Depression in Higher Education--Two Years Later, p. 15.

[103]Andrew H. Lupton, John Augenblick, and Joseph Heyison, "The Financial State of Higher Education," Change, VIII (September, 1976), p. 25.

[104]Lupton and others, p. 23.

[105]Lupton and others, p. 25.

[106]Lupton and others, p. 23.

3. Of the 196 institutions with an enrollment exceeding 10,000, 19.9 percent were included in the categories relatively unhealthy and unhealthy.[107]

4. Two hundred sixty-one schools offering the doctorate were included in the study; 50.2 percent of these institutions were classified into the relatively unhealthy and unhealthy categories.[108] These institutions were described as being private with small endowments and limited doctoral programs, public universities in sparsely populated states without the required critical mass to generate highly visible programs, and public regional universities that offer a limited number of doctoral programs.[109]

5. Of those institutions included in the study from the southeastern portion of the United States, 42.6 percent were identified as being in the two categories relatively unhealthy and unhealthy.[110]

Lupton, Augenblick, and Heyison indicated that the financial future of all higher education institutions appears to be more delicate than a decade ago. New and crucial social programs have placed increased demands on state treasuries that affect the availability of public subsidies. Private institutions face cost increases that are only partially offset by increases in state and federal support.[111]

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[107]Lupton and others, p. 25.

[108]Lupton and others, p. 25.

[109]Lupton and others, p. 28.

[110]Lupton and others, p. 33.

[111]Lupton and others, p. 29.

Summary

In the late 1960's and early 1970's it became apparent American higher education was experiencing financial stress. Costs were rising more rapidly than income. Institutions were finding it increasingly difficult to maintain institutional solvency. Two studies by Cheit and one by Lupton, Augenblick, and Heyison highlighted this fact.

Institutional managers concerned about American higher education's downward direction conjectured as to the reasons for the occurrence. Leading causes identified by institutional directors were: a slowdown in enrollment growth, the effects of inflation, loss of public confidence, waning federal support, and trends in state support.

American higher education experienced enrollment growth from 1951 to 1975, but the 1976-77 school year was the first time most public colleges and universities confronted a slowdown in enrollment growth. Inflation affected the revenue and expenditure sides of institution's budgets. Goods and services purchased by universities became extremely expensive; revenues were not rapidly increasing because institutions found it difficult to increase charges. The public resented incidents on many campuses; thus, people were no longer motivated to support increased investment in higher education. Federal research funds were scarce; and the proportion of public funds going to higher education was declining in some states and leveling off in others.

CHAPTER III

THE RESEARCH DESIGN AND PROCEDURE

I. GENERAL INTRODUCTION

The financial plight of American higher education has received much attention during the 1970's. This careful observation has focused upon numerous concerns in college and university management, e.g., trends in federal and state appropriations, the effects of inflation, and declining public confidence in higher education. Primarily, this inspection has alerted those in the field to the difficulties being experienced. Secondly, this observance has generated suggested management techniques that may be used during the difficult times confronting public educational institutions. Lists of higher education management methods have been disseminated by management groups; institutional managers have reported techniques which they have implemented. However, there are a limited number of formal studies which give attention to: comparing theoretical and actual management techniques, determining whether implemented management techniques were preventive or remedial in nature, obtaining institutional managers' perceptions of the effectiveness of various management techniques, and determining if the same actual management techniques were implemented by more than one selected public institution. Recognizing that few formal studies existed which give consideration to these factors, the researcher conducted a descriptive study aimed at obtaining this information.

II. STUDY DESIGN AND ANALYSIS

This study considered the actual management techniques of selected public institutions to enrich understanding of the management methods utilized during a period of decline in American higher education. The case study method was chosen to guide the research; more explicitly, the research was a comparative case study.

Several considerations caused the writer to select the case study method as a guide to the research. Good and Scates indicated that:

> The essential procedure of the case study method is to take account of all pertinent aspects of one thing or situation employing as a unit for study an individual, an institution, a community, or any group considered as a unit.[1]

In essence, this definition is descriptive of the study. The researcher obtained data relative to the management techniques implemented by three public institutions of higher learning during a period of decline in American higher education: one which was experiencing financial difficulty, one which was stable after experiencing financial difficulty, and one which had remained stable.

McGrath indicates, "the case study may also be designed to enable the researcher to seek likenesses and differences between two individual cases."[2] One purpose of the study was to determine if selected public institutions employed management techniques which differed from those

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[1]Carter V. Good and Douglas E. Scates, Methods of Research (New York: Appleton-Century-Crofts, Inc., 1954), p. 726.

[2]J. H. McGrath, Research Methods and Designs for Education (Scranton: International Textbook Company, 1970), p. 108.

suggested within the literature. Institutional managers indicated whether the actual management methods were applied as preventive or remedial actions. From these indications, the researcher could determine if the techniques had been employed as both measures. A rating of the effectiveness of various management methods was obtained from selected institutional directors. These perceptions were analyzed to determine similarities and differences in the managers' observations of effectiveness. The actual management methods employed by the three public institutions were identified. By comparing these the researcher could determine if an actual management method was employed by more than one of the selected institutions.

Ary, Jacobs, and Razavich[3] noted that case studies are not a useful tool for testing hypotheses. This fact supports the rationale for using the case method as a guide for this study since insufficient knowledge existed relative to the management of decline to develop and test hypotheses.

In a case study, the investigator conducts an intensive study of a limited number of representative cases.[4] Three public institutions have been included in this research. The schools were selected because of their similarity to a large group of public higher education institutions.

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[3]Donald Ary, Lucy Cheser Jacobs, and Asghar Razavich, Introduction to Research in Education (New York: Holt, Rinehart, and Winston, Inc., 1972), p. 287.

[4]Deobold B. Van Dalen, Understanding Educational Research (New York: McGraw-Hill Book Company, 1973), p. 209.

While the case study method seemed most appropriate as a guide to the study, the researcher was cognizant of the inherent weaknesses in using the procedure. Because the case study is an in-depth examination of a particular phenomenon, the abundant data produced may overwhelm the investigator. To prevent this occurrence, the researcher delimited the inquiry to six clearly defined questions which provided direction to the study.

Although the case study is designed to have depth, it inevitably lacks breadth.[5] Thus, the researcher is reminded that no universal generalizations can be produced from the data obtained.

Ary, Jacobs, and Razavich[6] warn that a case study provides opportunities for subjectivity or even prejudice. In this study, the preconceptions of the investigator had little effect on interpretations of the data since a survey instrument with clearly defined responses was the primary method used to obtain the information. Similarly, the researcher must exercise every possible precaution to detect data that are the product of faulty perception, a poor memory, or the subject's desire to present a "right answer."[7] Within this study, precautions to this effect were: the researcher was in the presence of the respondent as data were being obtained; while in the presence of the respondent, the investigator fully explained the procedures and responded to any inquiries.

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[5]Ary, Jacobs, and Razavich, p. 287.

[6]Ary, Jacobs, and Razavich, p. 287.

[7]Dalen, p. 210.

In conducting comparative studies, the researcher does not have the same careful control over the selection of subjects as in well-designed experimental studies.[8] In this instance, the researcher compensated for this weakness by developing stringent selection criteria that were used to identify the three institutions included in the research.

The design used in this study necessitated a review of selected literature to: develop an explanation which substantiated the existence of a period of decline and its ramifications; select the dimensions of the period of decline which needed to be observed, described, and reported; and identify the higher education theoretical management techniques which may be utilized in order to maintain institutional solvency during a period of decline.

Methodology

The period of decline in American higher education was identified and substantiated through a review of selected literature. Familiarization with the content left the researcher with the realization that little was known regarding implemented management techniques which differed from those suggested in the literature, whether the implemented techniques were employed as preventive or remedial actions, whether institutional managers perceived the methods to be effective, or whether more than one public institution used the same management technique. From this body of literature, suggested higher

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[8]Dalen, p. 215.

education theoretical management techniques were identified and compiled (Appendix A). Study of these and further inquiry into higher education literature contributed to the identification of pertinent categories into which the suggested theoretical higher education management techniques could be classified. These techniques were grouped to facilitate the development of the survey instrument and the systematic observation of the similarities and differences among theoretical and actual management techniques. State funding formulas were surveyed and higher education finance manuals were studied. This process resulted in the selection of nine of the current funds expenditure accounts suggested by the National Association of College and University Business Officers (NACUBO) as categories.[9] These categories and their descriptions follow.

Instruction. This category includes activities that are part of an institution's instructional program, with the exception of remedial and tutorial instruction. Credit and non-credit courses, academic, occupational, and vocational instruction, and regular, special, and extension sessions are included. Department research and public service are included in this classification. The category excludes academic administration when the primary assignment is administration, for example, academic deans. Departmental

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[9]National Association of College and University Business Officers, College and University Business Administration (Washington, D. C.: The Association, 1974), pp. 212-214.

chairpersons are included in this category.[10]

Research. This category includes all activities specifically organized to produce research outcomes, whether commissioned by an agency external to the institution or an organizational unit within the institution. Subject to these conditions, individual and/or project research as well as those of institutes and research centers are included. Additionally, departmental research is included in this classification.[11]

Public service. This category includes activities that are established primarily to provide noninstructional services beneficial to individuals and groups external to the institution. These activities include community service programs and cooperative extension services. Included in this division are conferences, institutes, general advisory services, reference bureaus, radio and television, and consulting to particular sectors of the community.[12]

Academic support. This category includes the retention, preservation, and display of educational materials--libraries, museums, and galleries; the provision of services that directly assist the academic functions of the institution, such as demonstration schools; media, such as audiovisual services and technology such as computing

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[10]National Association of College and University Business Officers (NACUBO), p. 188.

[11]NACUBO, p. 188.

[12]NACUBO, p. 188.

support; academic administration (including academic deans) and personnel development providing administrative support and management direction to instruction, research, and public service; and support for course and curriculum development.[13]

Student services. This category includes activities whose primary purpose is to contribute to the student's emotional and physical well-being and to intellectual, cultural, and social development outside the context of the formal instruction program. Examples of the activities are: cultural events, student newspaper, intramural activities, student organizations, intercollegiate athletics, supplemental educational service, counseling and career guidance, student aid administration, and student health service.[14]

Institutional support. This category includes activities related to: central executive-level management and long-range planning of the entire institution such as the governing board, planning and programming, and legal services; fiscal operations, including the investment office; administrative data processing; space management; employee personnel and records; logistical activities that provide procurement, storerooms, safety, security, printing, and transportation services to the institution; activities concerned with community and alumni relations, including development and fund raising.[15]

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[13]NACUBO, p. 188.

[14]NACUBO, p. 188.

[15]NACUBO, p. 189.

Operation and maintenance of plant. This category includes activities relative to the operation and maintenance of the physical plant and grounds. Included are utilities, fire protection, property insurance, and similar items.[16]

Scholarships and fellowships. This category includes outright grants to students selected by the institution and financed from current funds, restricted or unrestricted. Aid to students in the form of tuition or fee remissions is included in this category.[17]

Auxiliary enterprises. An auxiliary enterprise is an entity that exists to furnish goods or services for a fee directly related to, although not necessarily equal to, the cost of the goods or services. Examples are residence halls, food services, college stores, faculty and staff parking, and faculty housing.[18]

These categories were selected because they are most representative of the areas into which the suggested theoretical higher education management methods could be grouped and because NACUBO has identified functional subcategories that should be included in each category (Appendix B), thereby improving the objective judgment of the researcher. The prerogative of adding the category "Other" was exercised as the investigator felt some of the theoretical management techniques could not be classified appropriately into the nine categories.

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[16]NACUBO, p. 189.

[17]NACUBO, p. 189.

[18]NACUBO, p. 189.

Following identification of the 10 categories, the compiled suggested theoretical higher education management techniques were classified (Appendix C). From this classification, the researcher constructed a preliminary draft of the survey instrument. The instrument contained 278 statements pertaining to suggested theoretical higher education management techniques. The initial design of the instrument was such that three purposes could be realized. First, the institutional managers could indicate with a checkmark beside each item which of the management techniques they had actually implemented in an effort to maintain institutional solvency during a period of decline. Second, the respondents could indicate whether the actual management technique they had employed was a preventive or remedial measure by placing a checkmark in the appropriate option placed at the end of each statement. Third, the subjects could rate the effectiveness of the management techniques they had utilized within their representative school. To accomplish this, the institutional managers were provided a forced-choice continuum containing four possible responses which enabled them to indicate with a checkmark their perceptions of the effectiveness of the actual management technique. The qualitative descriptors chosen as the four possible responses were: most effective; effective; ineffective; and most ineffective. No neutral responses were provided. A criterion was available for each option on the continuum, thus providing institutional directors with a guideline for determining the degree of effectiveness of the actual management technique.

The preliminary draft of the survey instrument was submitted to

a panel of experts (Appendix D) charged with the responsibility for critiquing the instrument and making suggestions for improvement. The three persons selected as panel members were chosen because they were presently occupying or had recently occupied management roles in public higher education. The improvements suggested by the panel of experts were incorporated and a final draft was prepared (Appendix E) and field-tested.

After securing the chief administrative officer's permission, a public institution of higher education in proximity to the researcher was used to field-test the proposed survey instrument. The researcher visited the institution to secure responses to items on the instrument. Five institutional managers at the Dean's level or above (or a designee) were identified as subjects.

The respondents did not implement all of the management techniques represented by statements on the instrument; thus, institutional managers were directed to respond only to those items applicable to methods they or staff members had utilized. The researcher realized that more than one respondent at an institution might have implemented the same technique; however, no attempt was made to obtain this information. Thus, the subjects were instructed not to respond to those items which had been addressed by another respondent. The exception to the above guideline was: if one subject provided a partial response to an item, another respondent could address the item in its entirety. The presence of the researcher enabled the institutional manager to receive feedback to concerns and prevented a second response to those items previously identified and evaluated. Also, institutional directors

were asked to identify any management technique they had implemented that was not represented on the instrument. They were requested to provide the same information as was solicited for items on the survey instrument. If any items served as a catalyst for discussion relative to management of decline, the researcher, with the respondent's advance approval, tape recorded these comments for possible inclusion in the research. Additionally, any suggestions the institutional managers had for improving the survey instrument were recorded by the researcher.

The actual management techniques identified by the institutional administrators were classified according to the previously identified categories. The data from the field-test were then analyzed in an effort to determine:

1. If the investigator could identify the actual management techniques which the institution had implemented.

2. If the institution had implemented management methods which differed from those suggested within the literature.

3. Whether the implemented management techniques were employed as a preventive or as a remedial action.

4. Respondents' perceptions of the effectiveness of the various management methods utilized by the institution.

Utilizing pre-determined criteria (Appendix F), three public institutions were selected for inclusion in the study: one which was experiencing financial difficulty, one which was stable after experiencing financial difficulty, and one which had remained stable. The subjective judgment of institutional managers was used to determine

into which of the three categories the selected institutions were classified. The researcher provided the institutional managers the following category definitions.

Experiencing financial difficulty. The current financial status of the institution is such that revenues are not keeping pace with expenditures, necessitating program cutbacks and/or the use of reserve or endowment funds to meet expenses.

Stable after experiencing financial difficulty. As a result of employing selected higher education management techniques, the current financial status of the institution is such that revenues are keeping pace with expenditures.

Remaining stable. During the past three to five years, the financial status of the institution has been such that expenditures have not exceeded revenues; no services regarded as a part of the school program have been terminated or cut back; the level of the reserve or endowment fund has not been decreased in order to meet costs.

Once the president's/chancellor's written consent to participate in the study was obtained, the chief administrative officer of each school was asked to suggest not more than eight nor fewer than six persons at the Dean's level or above (or a designee) to serve as respondents. Upon receiving consent and the names of the respondents, the researcher pledged to preserve the anonymity of the institution (Appendix G), obtained an appointment with the suggested respondents,

and provided each with an Informed Consent Statement (Appendix H).

The investigator collected the data at the three selected public institutions. In the presence of the researcher, the subjects responded to items on the survey instrument. With their prior approval, explanatory comments were tape recorded. If respondents had implemented actual management techniques not included on the instrument, they were asked to identify them and provide the same information as requested for all other items.

Analysis

Comparative analysis and frequency analysis were used to determine:

1. If selected public institutions implemented management techniques which differed from those suggested within the literature.

2. If the same management method had been employed as a different action.

3. Similarities and differences in institutional managers' perceptions of the effectiveness of techniques which they or staff members had employed.

4. If more than one of the selected public institutions implemented the same actual management method during a period of decline in American higher education.

Comparative analysis. Comparative analysis was used to determine if selected public institutions implemented management

techniques which differed from those suggested in the literature reviewed, to determine if the same management method had been employed as a different action, and to determine similarities and differences in institutional managers' perceptions of the effectiveness of techniques which they or staff members had employed.

The suggested theoretical higher education management techniques had been classified into the following categories:

1. Instruction.
2. Research.
3. Public Service.
4. Academic Support.
5. Student Services.
6. Institutional Support.
7. Operation and Maintenance of Plant.
8. Scholarships and Fellowships.
9. Auxiliary Enterprises.
10. Other.

Actual management techniques identified by the institutional directors were classified into the 10 categories (Appendix I). The two groups of management techniques, theoretical and actual, were compared by division to determine if:

1. The same technique appeared both as a theoretical and as an actual management method.

2. There were suggested management techniques which did not appear in actuality.

3. There were actual management techniques which did not appear as suggested theoretical management techniques.

Each respondent was required to indicate whether an actual management technique represented by an item on the instrument had been utilized as a preventive or as a remedial method. These responses were compared to determine if a technique was employed as both measures. To facilitate this analysis, those techniques labeled by all three institutions as being preventive in nature were identified. Similarly, those methods portrayed by all three institutions as being remedial in nature were analyzed. Additionally, those techniques used both as a preventive and as a remedial action were depicted.

The institutional managers' responses relative to the rating of technique effectiveness were compiled to determine similarities and differences. Tabular methods were used to present each item and its responses. Modal responses are included in Chapter V which contains the data and analysis of the data.

Frequency analysis. Frequency analysis was used to determine if more than one of the selected public institutions implemented the same actual management technique during a period of decline.

Respondents at each institution had been required to identify the actual management techniques they or staff members had employed. A table depicting the actual management techniques and the implementing institutions was developed; thus, the number of universities implementing each technique was indicated.

CHAPTER IV

STATISTICAL FACTS HAVING IMPACT UPON THE MANAGEMENT OF INSTITUTIONS PARTICIPATING IN THE STUDY

I. GENERAL INTRODUCTION

Utilizing pre-determined criteria, the researcher identified a potential group of institutions from which the final selection of participants was made. The criteria required that institutions:

1. Be state-aided.
2. Be located in the southeastern United States.
3. Grant more than 90 doctoral degrees in a calendar year.
4. Have a headcount enrollment exceeding 16,500.
5. Be a public college or university.

From institutions meeting the criteria and agreeing to participate in the study, three were selected which held additional similarities:

1. The universities had a comparable administrative structure.
2. Each of the states in which the institutions were located had a coordinating agency for higher education.
3. All were land grant institutions.
4. The role and scope of each institution included instruction, research, and service.
5. Each of the institutions had a headcount enrollment of more than 20,500.
6. Each of the institutions granted more than 150 doctoral degrees per calendar year.

In addition to the researcher's concern for institutional similarity, one major designated difference among the institutions was desired and realized. Of the three institutions included in the study, one was experiencing financial difficulty, one was stable after experiencing financial difficulty, and one had remained stable.

The management of state institutions of higher education is influenced by factors external and internal to the campus. Thus, in addition to identifying the management techniques utilized by the participating institutions, external factors were considered, e.g., the states' tax structure, the states' resident live birth rate, the annual average rate of unemployment within the states, and the states' number of high school graduates per year. Also, internal factors received attention, e.g., the number of staff, salaries of selected personnel, and headcount enrollment. Statistical information has been presented relative to the external and internal factors of the participating institutions in order to help the reader better understand the environment in which the universities exist.*

State and Institution A

During an eight year period ending June 30, 1977, the current funds revenue for Institution A increased from $90,038,815 to $173,823,212. The yearly increases ranged from $8,451,146 to $16,714,752; the annual

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*The researcher pledged to protect the identity of the institutions which participated in the study. Thus, the letter A has been utilized as an identifier for one of the institutions and the city and the state in which that university is located. Similarly, the letter B and the letter C have been used to identify the second and the third institutions and the cities and the states in which they are located.

average increase has been $11,969,199. From June 30, 1975 to June 30, 1977, the yearly increases exceeded the annual average increase for the eight year period; however, the amount of yearly increase for each year of the three year period has decreased.[1]

From June 30, 1970 to June 30, 1977, the amount of state appropriations found within the current funds revenue increased from $51,939,090 to $88,295,648. During this period, the portion of current funds revenue coming from state appropriations decreased from 58.0 to 51.0 percent.[2] These events occurred during a time when the expenditure of public funds going to the current operation of the State's institutions of higher education increased from $101,237,000 to $331,755,000.[3]

Federal funds included in the current funds revenue at Institution A increased from $6,435,143 in the 1970 fiscal year to $10,022,056 in the 1977 fiscal year. As the amount of federal monies within the current funds revenue increased, the percent of federal monies remained close to 7.0.[4]

Within State A the per capita personal income was $2,645 in 1968.[5]

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[1]Letter from Mr. X, Controller of the University of A, December 15, 1977.

[2]Letter, December 15, 1977.

[3]Bureau of the Census, State Government Finances in 1976 (Washington, D.C.: United States Department of Commerce, 1977), p. 30; State Government Finances in 1975, p. 30; State Government Finances in 1974, p. 32; State Government Finances in 1973, p. 28; State Government Finances in 1972, p. 28; State Government Finances in 1971, p. 28; State Government Finances in 1970, p. 28; State Government Finances in 1969, p. 28.

[4]Letter, December 15, 1977.

[5]Bureau of the Census, State Government Finances in 1969, p. 50.

From 1968 to 1976, the per capita personal income rose to $5,379.[6] The level of yearly increases has not been consistent; the range was from $202 to $593. During the nine year period, the annual average increase was $363. For three of the last four years of the period, the yearly increase has exceeded the annual average. As the per capita personal income increased, so has the general expenditure per $1,000 of personal income going to the State's public aided institutions of higher education. In 1968, $18.46 was the amount of general expenditure per $1,000 of personal income going to the State's public aided institutions of higher education. By 1976, the amount increased to $24.00.[7]

Closely associated with and having impact upon per capita income and general expenditure per $1,000 of personal income going for higher education is a state's unemployment rate. Within State A, the annual average unemployment rate varied from a low of 4.0 percent in 1973 to a high of 7.9 percent in 1975. For the year 1976, the State witnessed a decrease in the annual average unemployment rate of 1975. Complete data were not available for the year 1977; however, based on the accessible statistics, it appeared that State A would experience another decrease

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[6]Bureau of Economic Analysis, "Personal Income by States and Regions, 1971-76," Survey of Current Business, LVII (August, 1977), p. 17.

[7]Bureau of the Census, State Government Finances in 1976, p. 17; State Government Finances in 1975, p. 17; State Government Finances in 1972, p. 18; State Government Finances in 1971, p. 18; State Government Finances in 1970, p. 18; State Government Finances in 1969, p. 18; Bureau of the Census, State Government Finances in 1968 (Washington, D.C.: United States Department of Commerce, 1969), p. 18.

in the annual average unemployment rate. The reduction should lower the annual average to about 4.9 percent.[8]

During the school year 1969-70, the headcount enrollment at Institution A was 16,218,[9] a 4.6 percent increase over the previous years' enrollment. The Institution experienced growth in the student body for the school years 1970-71, 1971-72, and 1972-73. The yearly percentage rate of growth was 8.8, 10.4, and 4.9, respectively. The annual increases resulted in a headcount enrollment of 20,260 for the 1972-73 school year.[10] Institution A recorded a decline in enrollment for the 1973-74 school year; the percent of decline was 5.6. During the school years 1974-75 and 1975-76, enrollment growth occurred at the rate of 6.1 percent and 5.1 percent, respectively, resulting in a student body of 21,488.[11] The Institution reported a 4.6 percent decline in headcount enrollment for the 1976-77 school year lowering the size of the student body to 20,549.[12]

Analysis of the headcount enrollment data at Institution A revealed that approximately 25.0 percent of the student body comes from the immediate geographical area. Data were not available relative to

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[8]Statement by Staff Member, Center for Economic Research, University A, personal interview, A, A, October 13, 1977.

[9]University A, University A Financial Report: June 30, 1970 (A: University A, 1970), p. 3.

[10]University A, University A Financial Report '73 (A: University A, 1973), p. 1.

[11]University A, University A 1975-76 Financial Report (A: University A, 1976), p. 3.

[12]University A, University A 1976-77 Financial Report (A: University A, 1977), p. 2.

the enrollment of non-resident students except for the school year 1976-77. During that year, non-resident students, slightly more than 3,600, accounted for approximately 18.0 percent of the total headcount enrollment.[13]

Beginning in 1951 and continuing through 1967, State A experienced a yearly decline in the number of resident live births. The number decreased from 75,000 in 1951 to 56,400 in 1967.[14] During the years 1968 to 1971, resident live births increased to a level of 60,840.[15] By 1974, the number decreased to 53,382;[16] in 1975, 54,561 resident live births were recorded.[17] The total population of State A has grown from 3,220,711 in April 1970 to approximately 3,428,000 as of July 1976.[18]

In State A the number of high school graduates has increased steadily since 1967. In 1974, the latest date for which data are available, 44,829 graduated from high school in State A. However, the

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[13]University A, University A 1976-77 Financial Report, p. 2.

[14]A Department of Health, Vital Statistics 1968 (A: The Department, 1970), p. 4; Vital Statistics 1961, p. 3.

[15]A Department of Health, Vital Statistics 1969 (A: The Department, 1971), p. 4; Vital Statistics 1971, p. 3.

[16]Division for Research and Special Projects, 1974 A: Selected Vital Statistics and Planning Data (A: Department for Human Resources, 1976), p. 3.

[17]Division for Research and Special Projects, 1975 A: Selected Vital Statistics and Planning Data (A: Department for Human Resources, 1977), p. 5.

[18]Bureau of the Census, Current Population Reports: Population Estimates (Washington, D.C.: United States Department of Commerce, 1977), p. 3.

percentage of high school graduates seeking postsecondary training decreased from 54.5 percent in 1968 to 45.5 percent in 1974.[19]

In the Fall of 1976, Institution A employed 1,076 full-time faculty and 1,718 part-time faculty. Special instructional personnel, a total of 79, brought the number of faculty to a total of 2,873 Additionally, the Institution employed 8,596 individuals who were either in a full-time or part-time capacity; thus, 11,469 people comprised the total paid staff.[20] Faculty salaries were reported by rank and as averages: professor, $26,600; associate professor, $20,200; assistant professor, $16,200; and instructor, $14,000.[21]

The two major sources of revenue for State A were taxes and federal grants. The following taxes were levied in the 1975-76 fiscal year:

1. Road.
2. Alcohol and Licenses.
3. Motor Vehicle Usage.
4. Excise.
5. Motor Fuels.
6. Severance.
7. Corporation Income.

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[19]Division of Research, Holding Power and Graduates: A Public and Non-Public High Schools May, 1974 Classes (A: A State Department of Education, 1975), p. 4; Holding Power and Graduates: A Public and Non-Public High Schools May, 1968 Classes, p. 5.

[20]Letter, December 15, 1977.

[21]Corbin Gwaltney, The Chronicle of Higher Education Deskbook 1976-77 (U.S.A.: Editorial Projects for Education, Inc., 1976), p. 171.

8. Individual Income.

9. Motor Vehicle License.

10. Property.

11. Inheritance.

During the fiscal year, these taxes generated $1,358,801,000 of revenue.[22]

State and Institution B

In the eight year period ending June 30, 1976, the current funds revenue for Institution B increased from slightly less than $69,000,000 to $86,479,979. For six of the years, the Institution experienced a yearly increase in current funds revenue which ranged from $2,023,472 to $8,553,586 resulting in an annual average increase of $5,505,557.67. During the fiscal year ending June 30, 1972, the current funds revenue decreased $15,000,000 from that received in the previous fiscal year. In the fiscal year ending June 30, 1976, the Institution received an increase in current funds revenue which exceeded the annual average increase by $731,052.[23]

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[22]Division of Accounts, State of A Financial Report: For the Fiscal Year Ended June 30, 1976 (A: Executive Department for Finance and Administration, 1976), pp. 2-3.

[23]University B, Supplement to Financial Report for the Year Ended June 30, 1976 (B: University B, 1976), pp. 8-9; Supplement to Financial Report for the Year Ended June 30, 1975, pp. 8-9; Supplement to Financial Report for the Year Ended June 30, 1974, pp. 8-9; Supplement to Financial Report for the Year Ended June 30, 1973, pp. 8-9; Supplement to Financial Report for the Year Ended June 30, 1972, pp. 35-36; Supplement to Financial Report for the Year Ended June 30, 1971, pp. 33-34; Supplement to Financial Report for the Year Ended June 30, 1970, 33-34; Supplement to Financial Report for the Year Ended June 30, 1969, pp. 29-30.

Between June 30, 1969 and June 30, 1976, the amount of state appropriations within the current funds revenue of Institution B increased from $30,985,766 to $38,411,395. During this period, state appropriations accounted for 42.0 to 45.0 percent of the current funds revenue. The only exception was in the 1972 fiscal year when state appropriations were 38.0 percent of the current funds revenue.[24] In the eight year period, public expenditures going to the current operation of all the State's institutions of higher education increased from $151,877,000 to $318,616,000.[25]

Federal funds included in the current funds revenue at Institution B decreased from $9,680,214 in June 1971 to $5,699,256 in June 1976. The decline in federal monies represents a 5.0 percent decrease in the percentage of the current funds revenue from that source.[26]

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[24]University B, Supplement to Financial Report for the Year Ended June 30, 1976, p. 8; Supplement to Financial Report for the Year Ended June 30, 1975, p. 8; Supplement to Financial Report for the Year Ended June 30, 1974, p. 8; Supplement to Financial Report for the Year Ended June 30, 1973, p. 8; Supplement to Financial Report for the Year Ended June 30, 1972, p. 35; Supplement to Financial Report for the Year Ended June 30, 1971, p. 33; Supplement to Financial Report for the Year Ended June 30, 1970, p. 33; Supplement to Financial Report for the Year Ended June 30, 1969, p. 29.

[25]Bureau of the Census, State Government Finances in 1976, p. 30; State Government Finances in 1975, p. 30; State Government Finances in 1974, p. 32; State Government Finances in 1973, p. 28; State Government Finances in 1972, p. 28; State Government Finances in 1971, p. 28; State Government Finances in 1970, p. 28; State Government Finances in 1969, p. 28.

[26]University B, Supplement to Financial Report for the Year Ended June 30, 1976, p. 8; Supplement to Financial Report for the Year Ended June 30, 1975, p. 8; Supplement to Financial Report for the Year Ended June 30, 1974, p. 8; Supplement to Financial Report for the Year Ended June 30, 1973, p. 8; Supplement to Financial Report for the Year Ended June 30, 1972, p. 35; Supplement to Financial Report for the Year Ended

Within State B the per capita personal income was $2,634 in 1968.[27] From 1968 to 1976, the per capita personal income rose to $5,405.[28] The annual average increase for the nine year period was $346.38. Beginning in 1973 and continuing through 1976, the amount of each year's increase exceeded the annual average increase; a $563 yearly increase occurred between 1975 and 1976. As the per capita personal income increased, the general expenditure per $1,000 of personal income going to the State's public aided institutions of higher education decreased. In 1968, $21.80 was the amount of general expenditure per $1,000 of personal income going to the State's public aided institutions of higher education. By 1976, the amount decreased to $19.61.[29]

A state's unemployment rate has impact upon per capita income and general expenditure per $1,000 of personal income going for higher education. Within State B, the annual average unemployment rate varied from a low of 6.8 percent in 1976 and 1973 to a high of 7.7 percent in 1972. In 1976, the rate decreased to 6.8 percent, down from 7.2 percent in 1975. Based on the available data, it was projected that State B's

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June 30, 1971, p. 33; Supplement to Financial Report for the Year Ended June 30, 1970, p. 33; Supplement to Financial Report for the Year Ended June 30, 1969, p. 29.

[27]Bureau of the Census, State Government Finances in 1969, p. 50.

[28]Bureau of Economic Analysis, p. 17.

[29]Bureau of the Census, State Government Finances in 1976, p. 17; State Government Finances in 1975, p. 17; State Government Finances in 1974, p. 19; State Government Finances in 1973, p. 18; State Government Finances in 1972, p. 18; State Government Finances in 1971, p. 18; State Government Finances in 1970, p. 18; State Government Finances in 1969, p. 18; State Government Finances in 1968, p. 18.

annual average unemployment rate would increase to 7.5 percent in 1977.[30]

During the school year 1969-70, the headcount enrollment at Institution B was 17,814.[31] This figure represented a 2.0 percent decrease from the previous years' enrollment. Institution B experienced growth in the student body beginning in the school year 1970-71 and continuing through the 1975-76 school year. During this period, the enrollment grew from 17,814 to 24,791.[32] A decline of .007 percent in headcount enrollment occurred for the 1976-77 school year.[33] In the Fall of 1977, the Institution had an increase of students resulting in an enrollment of 24,880.[34]

A study of the headcount enrollment at Institution B revealed that approximately 40.0 percent of the student body comes from the immediate geographical area. From data generated during the school year 1976-77, it was determined that non-resident students, slightly more than 2,425, accounted for approximately 10.6 percent of the student body.[35]

In 1961, 88,892 resident live births occurred in State B. From 1961 to 1974, the number decreased to 65,868. In 1975 the number

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[30]Statement by Staff Member, State B Department of Employment Security, telephone interview, B, B, October 21, 1977.

[31]University B, University B Almanac 1860-1978 (B: University B, 1977), p. 11.

[32]University B, University B Almanac 1860-1978, p. 11.

[33]University B, University B Almanac 1860-1978, p. 11.

[34]Statement by Staff Member, Office of Institutional Research, University B, personal interview, B, B, October 21, 1977.

[35]University B, University B Almanac 1860-1978, p. 12.

increased to 67,793; in 1976, 69,356 resident live births occurred.[36] The State's population increased from 3,644,637 in April 1970 to approximately 3,841,000 in July 1976.[37]

According to available data, the number of high school graduates increased from 47,897 in 1968 to 56,891 in 1975.[38] However, this statistic may be a misrepresentation because the same figure for the number of graduates from private high schools was repeated five times from 1968 to 1974. Accurate data relative to the percent of high school graduates who seek postsecondary training were not available.

In the Fall of 1976, Institution B employed 949 full-time faculty and 121 part-time faculty. The addition of special instructional personnel brought the number of faculty to a total of 1,223. Additionally, the Institution employed 835 graduate assistants, 80 library personnel, 138 academic support personnel, 233 persons in administrative capacities, and 1,728 classified and unclassified staff members. Thus, 4,237 people comprised the total paid staff.[39] The Institution reported faculty salaries by rank and as averages: professor, $26,400; associate

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[36]Mr. X and Mr. Y, Statistical Abstract of State B (B: Division of Business and Economic Research University within State B, 1974), p. 51.

[37]Bureau of the Census, Current Population Reports: Population Estimates, p. 3.

[38]Statement by Staff Member, Office of Institutional Research, October 21, 1977.

[39]Office of Institutional Research, "Tabulation of Faculty and Staff in University B" (B, B: Office of Institutional Research, University B, 1977). (Mimeographed.)

professor, $19,800; assistant professor, $16,000; and instructor, $12,800.[40]

State B obtains revenue from a variety of taxes and federal grants. Within the fiscal year ending June 30, 1976, the following taxes were levied:

1. Alcohol Beverage.
2. Corporation Franchise.
3. Beer.
4. Corporation Income.
5. Gift.
6. Individual Income.
7. Inheritance.
8. Natural Gas Franchise.
9. Power Use.
10. Sales.
11. Severance.
12. Reforestation.
13. Soft Drinks.
14. Tobacco.
15. Unclaimed Property.
16. Utilities.
17. Gasoline.
18. Special Fuels.
19. Chain Store.
20. Hotel-Motel Occupancy.

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[40]Gwaltney, p. 171.

During the fiscal year 1975-76, the above taxes generated revenue in the amount of $1,556,396,910.[41]

State and Institution C

From June 30, 1974 to June 30, 1977, the current funds revenue increased from $78,674,524.97 to $108,325,953.70.* The annual average increase was $9,883,809.58; however, this average is a distorted portrayal of yearly increases because of the large increment received between fiscal year 1974 and fiscal year 1975. The fiscal year increases were as follows: $13,496,182.73, 1975; $7,641,998.19, 1976; and $8,513,247.81, 1977.[42]

In Institution C between June 30, 1969 and June 30, 1977, the amount of state appropriations found within the current funds revenue increased from $29,218,000 to $46,159,101. During the four year period ending June 30, 1977, the percent of current funds revenue derived from state appropriations had been no more than 43.0 or less than 40.0. For the four year period, the yearly percents of current funds revenue from state appropriations have been: 43.0, 1974; 41.0, 1975; 40.0, 1976; and

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[41]Secretary of Revenue and Taxation, 36th Annual Report State B Department of Revenue and Taxation 1975-76 (B: State B Department of Revenue and Taxation, 1976), p. 7.

*Current funds revenue data, comparable to that indicated for Institutions A and B, cannot be reported for the four fiscal years prior to 1974 due to the structure of financial reports.

[42]University C, Report of the Treasurer for the Year Ended June 30, 1977 (C: University C, 1977), pp. 18-27; Report of the Treasurer for the Year Ended June 30, 1976, pp. 16-26; Report of the Treasurer for the Year Ended June 30, 1975, pp. 14-23; Report of the Treasurer for the Year Ended June 30, 1974, pp. 14-23.

43.0, 1977. In the 1977 fiscal year, the Institution received state appropriations for two special projects. If these monies had not been appropriated, the percent of current funds revenue received from state appropriations would have been 40.0 rather than 43.0.[43] In an eight year period ending June 30, 1976, public expenditures going to the current operation of all the State's institutions of higher education increased from $108,014,000 to $327,008.000.[44]

Federal funds included in the current funds revenue at Institution C have increased from $6,592,023.69 in June 1974 to $10,388,956.27 in June 1977. For each of the three years, federal monies have accounted for 10.0 percent of the current funds revenue.[45]

The per capita personal income for State C was $2,579 in 1968.[46] Between 1968 and 1976, the per capita personal income rose to $5,364.[47] The annual average increase was $348.13. Beginning in 1972 and

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[43]University C, Report of the Treasurer for the Year Ended June 30, 1977, p. 19; Report of the Treasurer for the Year Ended June 30, 1976, p. 19; Report of the Treasurer for the Year Ended June 30, 1975, p. 17; Report of the Treasurer for the Year Ended June 30, 1974, p. 17.

[44]Bureau of the Census, State Government Finances in 1976, p. 30; State Government Finances in 1975, p. 30; State Government Finances in 1974, p. 32; State Government Finances in 1973, p. 28; State Government Finances in 1972, p. 28; State Government Finances in 1971, p. 28; State Government Finances in 1970, p. 28; State Government Finances in 1969, p. 28.

[45]University C, Report of the Treasurer for the Year Ended June 30, 1977, p. 19; Report of the Treasurer for the Year Ended June 30, 1976, p. 19; Report of the Treasurer for the Year Ended June 30, 1975, pp. 16-17; Report of the Treasurer for the Year Ended June 30, 1974, pp. 17-20.

[46]Bureau of the Census, State Government Finances in 1969, p. 50.

[47]Bureau of Economic Analysis, p. 17.

continuing through 1976, the amount of each year's increase exceeded the annual average increase; a $518 yearly increase occurred between 1975 and 1976. As the per capita personal income was more than doubling during the nine year period, the general expenditure per $1,000 of personal income going to the State's public aided institutions of higher education declined from $19.40 in 1969 to $18.59 in 1976.[48]

Between 1970 and 1976, the annual average unemployment rate varied from a low of 3.0 percent in 1973 to a high of 8.5 percent in 1975. In 1976, the State's annual average unemployment rate was 6.0 percent; this rate was 2.5 percent less than that of 1975. From the available data for 1977, it appeared that State C's annual average unemployment rate would be 5.1 percent.[49]

Beginning in the 1968-69 school year, Institution C experienced growth in the student body for eight consecutive school years. In the Fall of 1968, the headcount enrollment was 22,963. By the Fall of 1975, the student body had grown to 29,999. The Institution experienced a decline of 288 in headcount enrollment for the 1976-77 school year. In the Fall of 1977, the reported headcount enrollment was 30,300.[50]

From enrollment data, the researcher determined that

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[48]Bureau of the Census, State Government Finances in 1976, p. 17; State Government Finances in 1975, p. 17; State Government Finances in 1974, p. 19; State Government Finances in 1973, p. 18; State Government Finances in 1972, p. 18; State Government Finances in 1971, p. 18; State Government Finances in 1970, p. 18; State Government Finances in 1969, p. 18.

[49]Statement by Staff Member, Center for Business and Economic Research, University C, personal interview, C, C, October 31, 1977.

[50]Office of Institutional Research, "Enrollments: University C" (C, C: The Office, University C, 1977). (Mimeographed.)

approximately 48.0 percent of the student body comes from the immediate geographical area. During the school year 1976-77, 3,248 non-resident students attended Institution C.[51] These students accounted for approximately 11.0 percent of the student body.

In State C the resident live births have decreased from 82,067 in 1961 to 64,154 in 1974.[52] The years in which the greatest decrease occurred were 1965 and 1972, a drop of 7,110 and 5,420, respectively. Even though resident live births were declining, the state's population grew from 3,926,018 in April 1970 to approximately 4,214,000 in July 1976.[53]

Within State C, the number of high school graduates increased from 48,444 in 1968 to 57,301 in 1976.[54] No data were available relative

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[51]Statement by Staff Member, Admissions and Records, University C, personal interview, C, C, December 21, 1977.

[52]Center for Business and Economic Research, State C Statistical Abstract (C: University C, 1977), p. 687.

[53]Bureau of the Census, Current Population Reports: Population Estimates, p. 3.

[54]C State Department of Education, Annual Statistical Report of the Department of Education for the Scholastic Year Ending June 30, 1976 (C: The Department, 1976), p. 141; Annual Statistical Report of the Department of Education for the Scholastic Year Ending June 30, 1975, p. 68; Annual Statistical Report of the Department of Education for the Scholastic Year Ending June 30, 1974, p. 148; Annual Statistical Report of the Department of Education for the Scholastic Year Ending June 30, 1973, p. 126; Annual Statistical Report of the Department of Education for the Scholastic Year Ending June 30, 1972, p. 112; Annual Statistical Report of the Department of Education for the Scholastic Year Ending June 30, 1971, p. 170; Annual Statistical Report of the Department of Education for the Scholastic Year Ending June 30, 1970, p. 163; Annual Statistical Report for the Scholastic Year Ending June 30, 1969, p. 145; Annual Statistical Report of the Department of Education for the Scholastic Year Ending June 30, 1968, p. 125.

to the percent of high school graduates who seek postsecondary training.

In the Fall of 1977, Institution C employed 1,752 academic and instructional personnel. Executive, professional, and administrative personnel numbered 488. The clerical and support personnel included 2,529 persons. Additionally, approximately 1,600 students were employed. Thus, the total paid staff consisted of approximately 6,369 persons.[55] The average faculty salary by rank was: professor, $24,000; associate professor, $19,000; assistant professor, $15,600; and instructor, $11,000.[56]

State taxes and federal grants were the major sources of revenue for State C. Within the fiscal year ending June 30, 1976, the following taxes were levied:

1. Sales and Use.
2. Gasoline.
3. Motor Fuel.
4. Gasoline Inspection.
5. Motor Vehicle Registration.
6. Income.
7. Privilege.
8. Gross Receipts.
9. Beer.
10. Alcoholic Beverage.
11. Franchise.

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[55]Statement by Staff Member, Office of Institutional Research, University C, personal interview, C, C, December 21, 1977.

[56]Gwaltney, p. 174.

12. Excise.
13. Inheritance and Estate.
14. Tobacco.
15. Mixed Drink.
16. Business.

During the 1975-76 fiscal year, State C collected $1,226,865,542 in revenue from the taxes.[57]

Summary

Institutional managers must labor with factors external and internal to the campus as they undertake the management of state institutions of higher education. Statistical data relative to selected determinants having impact upon the management of the participating institutions have been presented to help the reader better understand the environment in which the universities exist. Those factors which the reader has been acquainted with are: current funds revenue, amount of state appropriations found within current funds revenue, public funds going to current operation of state's institutions of higher education, federal funds included in current funds revenue, per capita personal income, general expenditure per $1,000 of personal income going to state's public aided institutions, annual average unemployment rate, headcount enrollment, approximate percent of student body which comes from the immediate geographical area, non-resident enrollment, resident live births, state population, high school

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[57]Governor of State C, State C Budget Document 1977-78 (C: State C, 1977), p. 22.

graduates, percentage of high school graduates seeking postsecondary training, number of staff, staff salaries, tax structure, and revenue generated by taxes.

Previously, the similar characteristics of the participating institutions were addressed. Analysis of the data pertaining to selected factors having impact upon the management of the participating institutions revealed differences in the environment in which the universities exist. Table 1 contains data relative to a selection of the previously identified factors. From the data, differences can be determined in the following environmental factors: public expenditures going to current operation of all state institutions of higher education, general expenditure per $1,000 of personal income going to the state's public aided institutions of higher education, projected annual average unemployment rate, headcount enrollment, percent of student body from immediate geographical area, resident live births, approximate state population, total paid staff, and revenue generated through state tax structure.

TABLE 1

INSTITUTIONAL DATA PERTAINING TO SELECTED ENVIRONMENTAL FACTORS

Factors	Institution A	Institution B	Institution C
Public expenditures going to current operation of all state institutions of higher education June 1976	$331,755,000.00	$318,616,000.00	$327,008,000.00
General expenditure per $1,000 personal income going to the public aided institutions of higher education in 1976	$24.00	$19.61	$18.59
Projected 1977 annual average unemployment rate	4.9%	7.5%	5.1%
Headcount enrollment Fall of 1976	20,549	24,617	29,711
Percent of student body from immediate geographical area	25.0	40.0	48.0
Resident live births in 1974	53,382	65,868	64,154
Approximate state population July 1976	3,428,000	3,841,000	4,214,000
Total paid staff	11,469 (Fall 1976)	4,237 (Fall 1976)	6,369 (Fall 1977)
Revenue generated through state tax structure during the 1975-76 fiscal year	$1,358,801,000	$1,556,396,910	$1,226,865,542

CHAPTER V

PRESENTATION AND ANALYSIS OF DATA

I. GENERAL INTRODUCTION

Much had been written about the financial plight American higher education experienced during the late 1960's and early 1970's; therefore, a review of selected literature was conducted to:

1. Describe and substantiate the period of decline in American higher education.

2. Identify suggested theoretical higher education management techniques that may be utilized to maintain institutional solvency during a period of decline.

The review of selected literature revealed numerous factors which contributed to American higher education experiencing a period of decline during the late 1960's and early 1970's:

1. A slowdown in enrollment growth.
2. The effects of inflation.
3. The loss of public confidence.
4. The decrease of federal support.
5. Trends in state support.

These forces were addressed in Chapter II. Additionally, the review of selected literature enabled the researcher to identify more than 250 suggested theoretical higher education management techniques (Appendix C).

After completing the review of selected literature, a study was

conducted of the actual management techniques of three public institutions: one which was experiencing financial difficulty, one which was stable after experiencing financial difficulty, and one which had remained stable. This inquiry was initiated to:

1. Identify the management methods selected public institutions of higher education actually implemented during a period of decline.

2. Determine if selected public institutions implemented management techniques which differed from those suggested in the literature.

3. Determine whether the implemented management methods were employed as preventive or remedial techniques.

4. Obtain from institutional managers in the selected public institutions a rating of the effectiveness of various management methods utilized during a period of decline.

5. Determine if an actual management technique was implemented by more than one of the selected public institutions.

Data were obtained from institutional managers at the Dean's level or above (or a designee) at the three participating institutions. In the presence of the researcher, the subjects responded to items on a survey instrument and provided explanatory comments.* The items on

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*Responding to items on the survey instrument, providing explanatory comments, and identifying actual management techniques which they had employed but which were not addressed by statements on the survey instrument required approximately two hours. However, the subjects exhibited such a high degree of interest in the management methods that many of the interviews extended beyond the scheduled two hours.

the survey instrument represented suggested theoretical higher education management techniques.

A forced-choice continuum containing four possible responses was used to obtain the institutional managers' perceptions of the effectiveness of the techniques. The respondents were provided a guide to use in determining the effectiveness:

Most Effective: Indicates that the return exceeded either anticipated savings or anticipated increased revenues in the designated period of time.

Effective: Indicates the return equaled either anticipated savings or anticipated increased revenues in the designated period of time.

Ineffective: Indicates that neither the anticipated savings or the anticipated increased revenues could be realized in the designated period of time.

Most Ineffective: Indicates the cost of implementation exceeded either the anticipated savings or the anticipated increased revenues in the designated period of time.

The researcher realized that more than one respondent at the same institution might have implemented the same management technique; however, no attempt was made to obtain this information. Thus, the subjects were instructed not to respond to those items which had been addressed by another respondent. The exception to the above guideline was: if one subject provided a partial response to an item, another respondent could address the item in its entirety.

Also, the respondents recorded actual management techniques

which they had employed but were not addressed by statements on the survey instrument. The subjects indicated whether these methods were utilized as a preventive or a remedial measure and their perception as to effectiveness of the technique.

The review of selected literature and data collection enabled the researcher to:

1. Identify and substantiate the period of decline in American higher education.

2. Identify suggested theoretical higher education management techniques that may be utilized during a period of decline.

3. Identify the management methods selected public institutions of higher education actually implemented during a period of decline.

4. Determine if selected public institutions implemented management techniques which differed from those suggested in the literature.

5. Determine whether the implemented management methods were employed as preventive or remedial techniques.

6. Obtain from institutional managers in the selected public institutions a rating of the effectiveness of various management methods employed during a period of decline.

7. Determine if an actual management technique was implemented by more than one of the selected public institutions.

II. PRESENTATION OF THE DATA

Three public institutions of higher education were included in the study: one which was experiencing financial difficulty (Institution A), one which was stable after experiencing financial difficulty

(Institution B), and one which had remained stable (Institution C). In the presence of institutional managers at each university, the researcher utilized a survey instrument that contained statements relative to suggested theoretical higher education management techniques to obtain the data.

At each institution seven subjects responded to the survey instrument. The respondents identified which of the suggested theoretical higher education management techniques they or staff members had implemented to maintain institutional solvency during a period of decline, indicated whether the methods had been employed as a preventive or a remedial measure, and rated the effectiveness of the techniques they had utilized. Additionally, the subjects recorded management methods which they or staff members had employed but were not represented by items on the survey instrument. They were asked to indicate whether these techniques were preventive or remedial and to rate the effectiveness of the methods. Frequently, the respondents provided explanatory comments to enhance the researcher's understanding of the technique.

Occasionally, a respondent would indicate they or a staff member had employed a method but would not designate whether it had been applied as a preventive or a remedial measure. Similarly, if the effectiveness of a technique was unknown, the subject did not present a response.*

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*The absences of subjects' response can be noted in Tables 2, 3, 4, and 5 as not all columns have corresponding entries; that is, there may be a response noted in either or both of the columns "preventive"

At Institution A the following persons were interviewed: Dean, College of Business and Economics; Dean, College of Arts and Sciences; Dean, College of Education; Vice President, Student Affairs; Vice President, Business Affairs; Vice President, Academic Affairs; and Vice President, Administration. Subjects at Institution B were: Dean, Arts and Sciences; Dean, Chemistry and Physics; Dean, College of Agriculture; Vice Chancellor, Student Affairs; Vice Chancellor, Business Affairs; Vice Chancellor, Academic Affairs; and Vice Chancellor, Administration. The respondents at Institution C were: Dean, College of Education; Dean, College of Agriculture; Dean, College of Communications; Vice Chancellor, Student Affairs; Vice Chancellor, Business and Finance; Associate Vice Chancellor, Academic Affairs; and Director, Physical Plant (a designee).

The survey instrument contained suggested theoretical higher education management techniques identified from the literature reviewed. The methods had been classified and appeared in 10 different categories: Instruction, Academic Support, Student Services, Scholarship and Fellowship, Operation and Maintenance of Plant, Auxiliary Enterprises, Institutional Support, Research, Public Service, and Other.

Seventy-seven of the suggested theoretical higher education management methods were implemented by more than one of the participating institutions (Table 2). Twenty-eight of the 77 were in the

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and "remedial" but not in the "effectiveness" columns. The opposite might also be observed; that is, there may be a response noted in one of the "effectiveness" columns but not in either the "preventive" or "remedial" column.

TABLE 2

THEORETICAL MANAGEMENT METHODS IMPLEMENTED BY MORE THAN ONE INSTITUTION, WHETHER EMPLOYED AS PREVENTIVE OR REMEDIAL MEASURE, AND INSTITUTIONAL MANAGERS' RATING OF TECHNIQUE EFFECTIVENESS

EXPLANATORY NOTE: Letters "A," "B," and "C" designate which institutions utilized the technique, whether employed as a preventive or a remedial measure, and institutional managers' rating of method effectiveness. The symbols have been placed in the response columns. Frequently, the respondents failed to indicate whether a technique was employed as a preventive or a remedial action, but did provide an effectiveness rating. Similarly, the subjects failed to rate the effectiveness of a technique but did indicate whether employed as a preventive or a remedial action. When one of the above occurred, corresponding responses will not appear; for example, an "A" may appear in the preventive or remedial column but not in the effectiveness columns or vice versa.

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
INSTRUCTION						
Departmental reviews have been conducted by internal and/or external personnel.	AC	BC	A	C		
The amount of class time has been reduced by permitting students to engage in independent work under faculty supervision.	B		A	B		
Overlapping and duplicate programs have been consolidated.	C	B		BC		
Program improvement has occurred through remodeling rather than additions.	C	AB		ABC		

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Academic programs were scrutinized and evaluated, including analysis of income and expenses for each program.	A	B		A	B	
New programs are going forward on a restricted priority basis.	ABC			BC		
An attempt has been made to introduce more popular programs.	ABC		B	AC		
New program growth has been reduced and/or terminated.	AC	B		ABC		
Off-campus programs have been offered to attract new students.	A	A	A			
Extension, evening, and continuing education programs have been increased.	ABC	ABC	AB	C		
Various courses of instruction have been postponed.	ABC	B	A	BC		
Reductions were made in the number of course offerings.	B	BC		ABC		
Low enrollment courses were eliminated.	B	A	B	A		
Low enrollment courses were scheduled less frequently.	BC	A	B	AC		
Recommended new faculty appointments have undergone careful scrutiny as to need and quality.	ABC		A	BC		

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Faculty redistribution has occurred through interdisciplinary programs.		AC		AC		
The faculty teaching load has been increased.		AC	A	C		
The student-to-faculty ratio was increased.	B	ABC	A	BC		
Tenure policies and faculty appointments have been monitored to prevent abuses.	AC			AC		
Sound wage policies for faculty and other professional staff have been established, with a clear delineation of the principal governing factor (salaries paid by competitors, cost-of-living, average family income, incomes of similar professions, etc.), relation of salaries to years of service, ratio of retirement salary to basic salary, role of tenure in determining salary level, fringe benefits, etc.	AB	B	B		A	
Faculty salaries received minimal raises.	AB	BC	A	B	C	
Faculty positions were eliminated.	B	ABC		ABC		
Part-time lecturers have been hired, holding permanent positions open.	BC	B		BC		
Annual appointments have not been renewed.	C	B		BC		
Faculty positions were unfilled.	BC	AB		ABC		

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
The summer instruction program was reduced.	BC	B		B	C	
Graduate assistants were utilized as instructors.	C	AC	A	C		
Number of teaching assistants was reduced.	B	BC		BC		
ACADEMIC SUPPORT						
A number of large-scale mathematical models of the institution have been constructed to determine percentages about student flows in order to calculate course enrollments which can be used to determine needed staff services and facilities.	B		A	B		
Positions vacated through resignation, retirement, or death were allocated to central administration so that they could determine where the need for reassignment is greatest.	ABC		A	BC		
Unit cost studies were utilized.	AB			AB		
WICHE-NCHEMS products were utilized in the management process (program-performance audits, simulation techniques, electronic data processing, analysis of institutional goals, program evaluation, market survey, needs analysis).	B	A		B	A	

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
The program management by objectives was implemented.	AB		A	B		
A management information system was implemented.	BC	ABC		AB		
Academic program plans were postponed.	ABC		B	AC		
Computers were used to store and manipulate statistical data.	AB		AB			
The hiring of needed administrative staff members was postponed.	ABC			AC	B	
The administration has been reorganized and streamlined.	BC	B		BC		
A core of middle managers who assist department chairmen and/or other administrators has been developed.	AB	A	A	B		
Library services were reduced, e.g., hours of service.		BC		BC		
Expenditure for library materials was reduced.	BC	B		BC		
Library subscriptions were analyzed and consolidated.	C	AB		ABC		
University library expansion was delayed.	BC	B		BC		
Funds were shifted into departments where increasing enrollment would result in an increase in net income.	BC	AB	A	BC		

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
STUDENT SERVICES						
No entries.						
SCHOLARSHIP AND FELLOWSHIP						
Funds for student aid have been increased.	AC	C	AC			
OPERATION AND MAINTENANCE OF PLANT						
The building maintenance program was deferred.	B	C		BC		
Cleaning costs were reduced by detailed specifications and assignment of cleaning services.	BC	A		AB	C	
Incandescent fixtures were replaced with fluorescent.	B	C	B		C	
Air conditioning in the spring and fall was manually controlled.	C	A	A		C	
A plan has been adopted which limits the hours academic buildings are opened reducing hours for custodians and heating and cooling.	C	AB	A	C		

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
AUXILIARY ENTERPRISES						
No entries.						
INSTITUTIONAL SUPPORT						
Investment policies were revised.		AB	AB			
Aggressive measures were used to obtain federal funds.	BC	AB		ABC		
Institutional objectives and responsibilities were defined university wide.	BC			B		
Institutional planning devices were established.	BC			B		
Outside program-performance audits were utilized.	ABC	AB	A	B		
Central university monitoring was used to control course and program proliferation or perpetuation.	ABC	B		AB		
Extramural funding sources were developed.	AC	A		AC		
Faculty and student group participation at the college level was requested in the use of funds, evaluation of programs, and planning long-range strategies for growth and development.	AC	A	C			

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
RESEARCH						
Faculty research positions were eliminated.	B	BC		BC		
Sponsored research was controlled to ensure that revenues would cover overhead and related costs.	AB	B		AB		
PUBLIC SERVICE						
No entries.						
OTHER						
Training workshops have been conducted for chairpersons and assistant deans.	ABC		A	B		
Classroom utilization has been improved by matching class sizes better with room seating capacities.	BC	B		BC		
Enrollment projections were made at the university level.	BC			B		
The recruitment of student clients who would not ordinarily be served was initiated.	B	A		B	A	
Student charges were increased.	C	B		BC		

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Tuition was increased.	ABC		AB	C		
The enrollment was increased.	BC		B	C		
Travel funds have been reduced university wide.	BC	BC		BC		
Attempts to convince the faculty of the need to be more cost conscious were made at the university level.	BC			B		
Campus-wide awareness campaigns were waged to conserve utilities.	AC			C		
Financial information about the university was widely disseminated among institutional units.	ABC			AB		
The efficiency of secretaries was increased by specializing jobs and modernizing equipment.	BC			BC		
The hiring of support personnel was stopped.	B	BC		BC		
The number of support employees was reduced.	B	BC		BC		
Expenditures for equipment acquisition and replacement were reduced.	AB	B		AB		

TABLE 2 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Significant shifts have been made in inventory levels.	BC	B		BC		
Copying machines have been purchased and leased to campus users.	C	BC		B		

category of Instruction, 16 in Academic Support, one in Scholarship and Fellowship, five in Operation and Maintenance of Plant, eight in Institutional Support, two in Research, 17 in Other. None of the suggested theoretical management methods included in the categories Student Services, Auxiliary Enterprises, and Public Service were employed by more than one of the institutions. Twenty-one of the techniques applied by more than one institution in the category of Instruction had been utilized as both a preventive and a remedial measure, eight in Academic Support, five in Institutional Support, and nine in Other. All of the items in the categories Scholarship and Fellowship, Operation and Maintenance of Plant, and Research implemented by more than one university had been put to use as both a preventive and a remedial measure. Twenty-two of the theoretical techniques used by more than one institution had been employed only as a preventive measure. Five of these methods were in the category Instruction, seven in Academic Support, two in Institutional Support, and eight in Other. Four suggested techniques were utilized only as a remedial measure: two in Instruction, one in Academic Support, and one in Institutional Support. In the category Instruction, 11 of the techniques implemented by more than one institution were rated as being most effective and effective; for example, one subject may have given the method a rating of most effective while a respondent at another institution rated the technique as effective. One technique in the category Instruction was perceived as being most effective by all who rated it. Twelve techniques were perceived as being effective by all who rated them. Four methods had mixed ratings; that is, one subject

rated the technique as being ineffective; another rated it as being most effective or effective. Six techniques in the Academic Support category were rated as being most effective and effective. One technique was perceived as being most effective by all who rated it. Seven methods were regarded as being effective by all who rated them. Two techniques had mixed ratings. The one method in Scholarship and Fellowship was perceived as being most effective by all who rated it. One technique in Operation and Maintenance of Plant was rated as most effective and effective. One method was perceived as being effective by all who rated it. Three methods were rated as being ineffective at one institution while other subjects rated them as being either most effective or effective. In the category Institutional Support, one technique had a rating of most effective and effective. Two methods were perceived to be most effective by all those who rated them. Five techniques were rated as effective by all who responded to them. The two techniques in the Research grouping were viewed as effective by all who rated them. In the category Other, three methods had a rating of most effective and effective. Thirteen techniques were noted as being effective by all who rated them. One method had mixed ratings of effective and ineffective.

Institution A implemented 29 suggested theoretical higher education management techniques which were not utilized by Institution B or Institution C. These methods are identified by an "x" in the response columns of Table 3. Eight of the techniques were in the category Instruction, three in Academic Support, one in Scholarship and Fellowship, two in Operation and Maintenance of Plant, one in Auxiliary

TABLE 3

MANAGEMENT METHODS IMPLEMENTED BY ONLY INSTITUTION A, WHETHER EMPLOYED AS PREVENTIVE OR REMEDIAL MEASURE, AND INSTITUTIONAL MANAGER'S RATING OF TECHNIQUE EFFECTIVENESS

EXPLANATORY NOTE: The letter "x" in the response columns was used to designate suggested theoretical higher education management techniques utilized by the institution. The methods employed by the university but not contained on the survey instrument were indented and the letter "y" placed in the response columns. Frequently, an entry in the preventive or remedial column will not have a corresponding response in an effectiveness column or vice versa. This occurs because the subjects did not provide the response. Occasionally, the respondents specified a technique was employed, but did not indicate whether utilized as a preventive or a remedial action and did not rate the effectiveness of the method. These techniques have been included and the response columns left blank.

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
INSTRUCTION						
An individualized curriculum was developed.		x				
Curriculum requirements for graduation were relaxed, only for Arts and Sciences.						
Extensive program revisions have been made to maintain a distinctive educational position.	x			x		
An overall educational program that the institution is qualified to offer has been designed.		x				

TABLE 3 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Credit-by-examination programs have been implemented.	x	x				
Correspondence and extension work have been reduced.	x			x		
Central administration has encouraged shifting empty positions to visiting professors.	x		x			
Leaves of absence with pay have been postponed and denied.		x		x		
Courses have been reviewed and duplication of coverage eliminated.		y	y			
Work loads of faculty were modified to increase proportion devoted to off-campus credit and non-credit instruction.	y			y		
The hiring of temporary-type instructional personnel has been employed.						
Introduced within the College of Arts and Sciences a professional advising core consisting of five parttime advisors who work with uncommitted majors to explore the best vocational and academic options for the student.		y	y			

TABLE 3 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Developed a Development Studies Program which is directed toward students with low ACT scores and who are having reading, language, and mathematical difficulties.		y				
The purchase of needed instructional materials, supplies, and equipment has been postponed.						
ACADEMIC SUPPORT						
A partial or pilot review of operations designed to improve efficiency through new means of internal approval of expenditures; new methods of measuring output; control over course proliferation; and devices for internal reallocation of funds, has taken place.	x			x		
The reward system was sensitized in order to reward improvement.	x	x	x			
A college library expansion was delayed.	x		x			
Summer offerings at the college level dramatically increased to reduce burdens of fall semester in particular.	y	y	y			
The number of media-based instructional techniques has been increased.	y			y		

TABLE 3 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
STUDENT SERVICES						
The student newspaper became legally and budgetarily independent of the university; and the university no longer provides direct fiscal support to the paper.		y				
Health service: general fund support was frozen at a fixed level; subsequent health service budget increases have come from increases in student health fee.	y	y	y			
Program expansion in the division of student affairs has been limited.						
SCHOLARSHIP AND FELLOWSHIP						
Financial aid programs have been leveled off.			x			
A collection agency has been employed to collect delinquent NDSL loans.	y	y		y		
Efforts have been made to communicate loan repayment obligations to the borrowers.	y					

TABLE 3 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
OPERATION AND MAINTENANCE OF PLANT						
A "Phantom tube" fluorescent light has been used to trick fixtures.		x		x		
Landscaping was postponed.		x	x			
Two levels of cleaning quality were established.		y		y		
Initiated computer monitoring of environment controls.	y	y	y			
Conducted cost-benefit studies on alternate fuel services to ascertain most economic source by thermal unit (fuel oil, coal, natural gas).	y	y	y			
Conducted public relations campaign through campus media to save energy.	y					
Gave a free dinner to best energy savings tip each month.	y			y		
Applied for and received HUD grant to save energy in the dorms . . . new windows.	y			y		

TABLE 3 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
AUXILIARY ENTERPRISES						
Food service was portion controlled.		x	x			
Built frozen food locker in order to store large quantities of food bought at lower prices.	y		y			
Bought a Trans-Tech software package to control menu preparation and portions.	y		y			
Initiated use of "Valedine" meal identification card.	y		y			
INSTITUTIONAL SUPPORT						
A planning group was organized for the College of Business and Economics.	x	x	x			
Institutional objectives and responsibilities at the college level were defined.	x	x				
Financial support was attained through vigorous fund raising at the college level.	x	x		x		
Unrestricted gift income was used for operation at the college level.	x	x			x	

TABLE 3 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Higher levels of assistance from alumni were realized at the college level.	x	x			x	
Continuing education programs have generated significant income.	y	y	y			
Divisional goals and objectives stated in annual reports written to reflect degree to which the objectives were achieved.	y			y		
Contracted a management consultant to do a study of the Business Affairs units.						
RESEARCH						
Research units operated without a regular support budget.	x		x			
Created selected research offices, e.g., Critical Energy, Business Development.	y	y		y		
Set policy that sponsored research may or may not be required to cover direct and related costs, depending on the institutional value of the work.				y		

TABLE 3 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
PUBLIC SERVICE						
Two centers which emphasized staff development and continuing education were developed.	y	y	y			
OTHER						
Enrollment projections were made at the college level.	x		x			
Student charges for housing and dining were increased.	x	x	x			
Travel funds for student affairs have been reduced.	x			x		
Attempts to convince the faculty of the need to be more cost conscious were made at the college level.	x				x	
Significant shifts have been made in inventory levels in the colleges.		x		x		
A "least-cost telephone routing device" which switches campus phones into less expensive "calling paths" has been installed.	x			x		
Copying machines have been purchased and leased to campus users at the college level.	x		x			

TABLE 3 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Less expensive copying equipment has been rented and/or purchased.	x			x		
Out-of-state travel has been limited.	y	y		y		
Standard manual for electrical installation has been developed and put in use.	y			y		
Telephone software package was purchased to give billing and rating information to units in university.	y			y		
Postage costs have been closely monitored in the division of Student Affairs.				y		
A master plan for out-of-state travel has been initiated within Student Affairs.			y			

Enterprises, five in Institutional Support, one in Research, and eight in Other. None of the theoretical methods exercised by only Institution A in the category of Instruction had been employed as both a preventive and a remedial measure. A subject failed to indicate whether one of the methods used in the category of Instruction and one in the category Scholarship and Fellowship was put to use as a preventive or a remedial measure. One theoretical technique employed by only Institution A in the category of Academic Support had been utilized as both a preventive and a remedial measure, five in Institutional Support, and one in Other. Twelve of the 29 theoretical techniques implemented only by Institution A were used as a preventive measure: three in Instruction, two in Academic Support, one in Research, and six in Other. Eight were applied as a remedial measure: four in Instruction, two in Operation and Maintenance of Plant, one in Auxiliary Enterprises, and one in Other. Twelve of the theoretical methods were rated as most effective; 10 were perceived to be effective. Two theoretical techniques in the category of Institutional Support were rated as ineffective and one in the category Other. Four were not rated.

In addition to Institution A implementing 29 of the suggested theoretical higher education management techniques not utilized by the other universities, the Institution employed 33 management methods which were not included on the survey instrument. These techniques are identified by a "y" in the response columns of Table 3. Six of the methods were placed in the category Instruction, two in Academic Support, three in Student Services, two in Scholarship and Fellowship,

six in Operation and Maintenance of Plant, three in Auxiliary Enterprises, three in Institutional Support, two in Research, one in Public Service, and five in Other. Respondents did not indicate always whether the methods were a preventive or a remedial measure. Also, various techniques had not been utilized long enough for the subjects to rate the effectiveness of the methods. One of the techniques, unique to Institution A, in the category Academic Support was used as both a preventive and a remedial measure, one in Student Services, one in Scholarship and Fellowship, two in Operation and Maintenance of Plant, one in Institutional Support, one in Research, one in Public Service, and one in Other. Of the techniques unique to Institution A, 12 were preventive only measures: one in Instruction, one in Academic Support, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, three in Auxiliary Enterprises, one in Institutional Support, and two in Other. Only five were remedial: three in Instruction, one in Student Services, and one in Operation and Maintenance of Plant. Twelve of the methods unique to Institution A were perceived to be most effective; 13 were rated effective. Eight were not rated.

Twenty-five of the suggested theoretical higher education management techniques were employed by Institution B, but not by Institution A or Institution C. These methods are identified by an "x" in the response columns of Table 4. Four of the techniques were in the category Instruction, four in Academic Support, one in Student Services, four in Operation and Maintenance of Plant, three in Auxiliary Enterprises, four in Institutional Support, one in Research, and four

TABLE 4

MANAGEMENT METHODS IMPLEMENTED BY ONLY INSTITUTION B, WHETHER EMPLOYED AS PREVENTIVE OR REMEDIAL MEASURE, AND INSTITUTIONAL MANAGER'S RATING OF TECHNIQUE EFFECTIVENESS

EXPLANATORY NOTE: The letter "x" in the response columns was used to designate suggested theoretical higher education management techniques utilized by the institution. The methods employed by the university but not contained on the survey instrument were indented and the letter "y" placed in the response columns. Frequently, an entry in the preventive or remedial column will not have a corresponding response in an effectiveness column or vice versa. This occurs because the subjects did not provide the response. Occasionally, the respondents specified a technique was employed, but did not indicate whether utilized as a preventive or a remedial action and did not rate the effectiveness of the method. These techniques have been included and the response columns left blank.

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
INSTRUCTION						
A department or school has been dropped.	x	x				
Positions not subject of active recruitment were left vacant.	x			x		
The number of faculty was frozen.	x	x		x		
New programs in environmental studies were not funded.	x			x		

TABLE 4 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Some staff members have been laid off.	y	y		y		
"Low enrollment" courses were redefined.	y	y		y		
Instructional supply budgets have been drastically reduced.						
ACADEMIC SUPPORT						
A cost-effectiveness analysis was conducted, particularly within departments to determine the relative "expense" of alternative instructional techniques and curriculum design.	x			x		
An office of institutional research was created.	x			x		
Across-the-board budget cuts were made.	x	x		x		
The number of media-based instructional techniques has been increased.	x	x				
The fund supporting a program of partial release time for faculty research has been abolished.		y	y			
Annual review of each faculty member's performance was initiated in 1976-77.	y					

TABLE 4 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Annual review of non-teaching faculty and staff was initiated in 1977.	y			y		
Computer services were obtained from a state agency with surplus capacity.	y	y	y			
A program budgeting system was being developed.	y					
A new vice chancellorship was established to give leadership to resource allocation and managerial efficiency.	y		y			
STUDENT SERVICES						
Admission records have been computerized.	x			x		
Dean of Men and Dean of Women offices combined.	y			y		
Charges for catalogs was begun thereby reducing the number required in addition to providing some new revenues.	y			y		
A director of resident hall social programming was employed.	y		y			

TABLE 4 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
The level of counseling and guidance and published material available through the International Student Office has been improved resulting in an increase in international students.						
Resident hall social programming was instituted.	y		y			
SCHOLARSHIP AND FELLOWSHIP						
Athletic department was forced to absorb increased funds necessary to implement women's varsity athletic program.	y		y			
Redistribution of funds toward more effective program of scholarship and student aid has occurred.		y		y		
Funds from self generated sources have been allocated to take advantage of maximum federal allocations of loan funds, work study, etc.		y	y			
OPERATION AND MAINTENANCE OF PLANT						
Capital outlay for programs only partially funded by the government or outside sources was postponed.		x		x		

TABLE 4 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
New facilities were designed for multipurpose uses.	x	x		x		
Plans for dormitories were cut back.	x		x			
Computerized energy management system was installed, lowering line voltage from 128 to 121.		x	x			
Previously independent air conditioning systems were tied together to reduce utility consumption and extend life of cooling equipment.	y	y	y			
Previously independent air conditioning systems were tied to the central system.	y	y	y			
Instituted preventive maintenance programs to extend life of equipment.	y			y		
Maintenance forces were scheduled to reduce loss of time and complete projects more quickly.		y		y		
Utility distribution system was made more effective by insulating steam and chilled water lines.	y	y		y		

TABLE 4 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Target temperature was set at 68 degrees during heating season and 78 degrees during air conditioning season.		y		y		
Safety program has been initiated university wide and in each department to reduce both workman compensation and liability costs.		y		y		
AUXILIARY ENTERPRISES						
Auxiliary enterprises were controlled to ensure that revenues would cover overhead and related costs.	x			x		
Student help was used in institutionally-operated dormitories.	x			x		
Maid service in dormitories was discontinued.	x			x		
Positions in University Press were reassigned so as to be supported by state funds and self-generated funds.	y			y		
Auxiliaries are fully costed to include employee benefits, insurance, and other costs in addition to maintenance and utility costs.		y		y		
The university has initiated movement of almost all student personnel to auxiliaries.	y					

TABLE 4 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Student media programs have been placed under the direction of one manager.	y					
An outside agency pays the university to make pictures for the school annual.	y		y			
The role and function of auxiliaries has been defined and communicated to the people in various management positions among auxiliaries; and the managers have been told what criteria will be used to judge their particular auxiliary.	y		y			
INSTITUTIONAL SUPPORT						
Budget procedures were implemented to provide incentive for effective use of resources.	x			x		
Investment in short-term securities benefitted high interest rates.		x	x			
Cash balances in checking accounts were minimized to maximize interest yielded by the institution's liquid assets.		x	x			
Plans for new activities were cancelled.	x			x		

TABLE 4 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
The level of anticipated salary savings as an "over-budget" item has been raised.	y		y			
An "on-line" management information system (data base) has been developed as a means of curbing increased need for personnel to handle required federal paperwork.	y					
RESEARCH						
Research units have been partially funded.	x	x		x		
Several research institutes were reduced in funding from the state general budget and told to seek support from restricted state funds.	y		y			
PUBLIC SERVICE						
Some public service programs received cuts in state general fund dollars and were told to seek restricted funding.	y		y			
Fees for some programs were increased so as to release state dollars.	y		y			

TABLE 4 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
OTHER						
New administrative and faculty standards of judgment relative to educational quality and purpose have been developed.	x	x		x		
Memberships in professional organizations were eliminated.	x	x		x		
A consortium of colleges has been established.	x			x		
The workloads of support personnel have been increased.	x	x		x		
Special departmental charge numbers are used to control long distance calls.		y		y		
Planning has been heavily emphasized in student affairs.	y		y			

in Other. Nine of the theoretical techniques had been employed as both a preventive and a remedial measure: two in the category Instruction, two in Academic Support, one in Operation and Maintenance of Plant, one in Research, and three in Other. Thirteen had been utilized only as a preventive measure: two in Instruction, two in Academic Support, one in Student Services, two in Operation and Maintenance of Plant, three in Auxiliary Enterprises, two in Institutional Support, and one in Other. Three techniques were employed only as remedial measures: one in Operation and Maintenance of Plant and two in Institutional Support. Four of the methods were rated as being most effective; 19 were perceived to be effective. Two were not given an effectiveness rating.

Respondents at Institution B identified 37 management techniques which they or staff members initiated but were not addressed by items on the survey instrument. A "y" in the response columns of Table 4 has been used to distinguish these methods. The techniques were classified into the 10 categories: three in Instruction, six in Academic Support, five in Student Services, three in Scholarship and Fellowship, seven in Operation and Maintenance of Plant, six in Auxiliary Enterprises, two in Institutional Support, one in Research, two in Public Service, and two in Other. Six of the methods were utilized as both a preventive and a remedial measure: two in Instruction, one in Academic Support, and three in Operation and Maintenance of Plant. Subjects failed to indicate whether two of the techniques had been applied as either a preventive or a remedial measure. Twenty-one of the management techniques recorded by Institution B were employed only as preventive

measures: four in Academic Support, four in Student Services, one in Scholarship and Fellowship, one in Operation and Maintenance of Plant, five in Auxiliary Enterprises, two in Institutional Support, one in Research, two in Public Service, and one in Other. Eight were utilized only as a remedial measure: one in Academic Support, two in Scholarship and Fellowship, three in Operation and Maintenance of Plant, one in Auxiliary Enterprises, and one in Other. Sixteen of the techniques unique to Institution B were perceived as being most effective; 14 were rated as effective. An effectiveness rating was not given for seven of the methods.

Institution C utilized 27 of the suggested theoretical higher education management techniques not employed by either Institution A or Institution B. These methods are identified by an "x" in the response columns of Table 5. Two of the techniques appear in the category Instruction, two in Academic Support, 10 in Institutional Support, one in Public Service, and 12 in Other. Two of the theoretical methods had been utilized as both a preventive and a remedial measure; they were in the category Other. Of the 27 theoretical techniques implemented only by Institution C, 21 were used only as a preventive measure: two in Instruction, two in Academic Support, 10 in Institutional Support, and seven in Other. Four methods, one in Public Service and three in Other, were employed only as remedial measures. One of the techniques was rated as being most effective; 19 were perceived to be effective. Seven were not rated by the respondents.

Subjects at Institution C recorded 42 management methods which

TABLE 5

MANAGEMENT METHODS IMPLEMENTED BY ONLY INSTITUTION C, WHETHER EMPLOYED AS PREVENTIVE OR REMEDIAL MEASURE, AND INSTITUTIONAL MANAGER'S RATING OF TECHNIQUE EFFECTIVENESS

EXPLANATORY NOTE: The letter "x" in the response columns was used to designate suggested theoretical higher education management techniques utilized by the institution. The methods employed by the university but not contained on the survey instrument were indented and the letter "y" placed in the response columns. Frequently, an entry in the preventive or remedial column will not have a corresponding response in an effectiveness column or vice versa. This occurs because the subjects did not provide the response. Occasionally, the respondents specified a technique was employed, but did not indicate whether utilized as a preventive or a remedial action and did not rate the effectiveness of the method. These techniques have been included and the response columns left blank.

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
INSTRUCTION						
Experimental programs have been reduced and/or eliminated.	x			x		
New programs in urban studies were not funded.	x			x		
Individualized (self-taught) course sequences have been inaugurated, e.g., Persian, Chinese.	y		y			
The College of Agriculture has undergone major departmental consolidation and reorganization.	y	y	y			

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Agriculture experiment station resources have been utilized in the instructional program.		y	y			
The admission standards have been increased for out-of-state students desiring enrollment in Forestry, Wildlife and Ornamental Horticulture.		y		y		
The College of Agriculture has utilized voluntary professional personnel for instructional service.		y		y		
Retiring full professors have been replaced with assistant professors.		y		y		
The acquisition of needed broadcasting materials and equipment had to be delayed.	y			y		
A mini-term has been scheduled between fall and winter quarters.	y					
ACADEMIC SUPPORT						
A modified planning-programming-budgeting system was initiated.	x					
The medium of television was utilized to increase the student-teacher ratio.	x			x		

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
One department was forced to budget for recoverys.		y			y	
Some analysis of the cost of student credit hour production by departments occurred.	y			y		
STUDENT SERVICES						
To maintain existing programs, dollars generated by the program service fee have been shifted to specific operations in student affairs.	y			y		
Reduced the total number of catalogs printed.	y	y		y		
Instituted a policy which requires division approval of publications prior to printing.	y	y		y		
Reduced the number of positions through reassignment of program responsibility.	y	y		y		
Equipment purchases were reduced.		y		y		
Students have absorbed a greater portion of the cost of health service.	y	y		y		

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Contracts for certain medical services with agencies external to the campus have been improved.		y		y		
SCHOLARSHIP AND FELLOWSHIP						
Aggressive measures have occurred to obtain student aid, scholarships, internships and co-operative work experience.	y		y			
OPERATION AND MAINTENANCE OF PLANT						
Within the area of Physical Plant, vacancies have been frozen.		y		y		
The staff of the Physical Plant has been reduced.		y		y		
A program of installing time clocks or photo-electric cells to turn off lights when they are not needed was implemented.	y		y			
Decals urging that lights be turned off were developed and placed near the room light switches in most of the campus buildings.	y				y	
When fluorescent lamps were purchased, thirty-five watt tubes were specified rather than forty watt tubes.		y		y		

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
A program of converting the electrical distribution system from 2400 volts to 13,200 volts, together with combining campus meter has been conducted.		y		y		
The temperature of the domestic hot water was lowered from an average of 140 degrees to 120 degrees Fahrenheit.		y		y		
The building thermostat temperature settings were lowered from 72 degrees to 76 degrees Fahrenheit for the cooling season.		y			y	
A program designed to optimize the performance of hot water heating systems was implemented.		y		y		
The environmental controls maintenance was intensified.		y	y			
In selected buildings, clock activated sequences were installed to shut off and turn on the building air conditioners.			y	y		
The make-up air intake dampers were adjusted to take in only the minimum amount of air necessary for a healthy and safe environment.		y	y			
Replacement room thermostats that require special tools to change the temperature setting have been installed.		y		y		

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
A night temperature set-back program was initiated.		y		y		
Outside stats were placed on heating and cooling units.		y		y		
Defective insulation on pipes was replaced.		y		y		
A position of Energy Conservation Coordinator was established and filled.	y		y			
AUXILIARY ENTERPRISES						
The conference program has been expanded to better utilize space.	y		y			
Auxiliary operations have been expanded to include vending.	y			y		
Utility costs have been reduced through an improved charge system.	y	y	y			
Students have been employed to paint dormitories and related facilities.		y	y			
Different means of purchasing utilized in food service unit to eliminate storing cost.	y					

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
INSTITUTIONAL SUPPORT						
The budgetary procedures have been streamlined and/or computerized.	x					
Financial records have been computerized.	x					
In the largest and most complicated budget areas, expenditures have been brought under "line item" control.	x					
A planning group was organized, university wide.	x					
Financial support was attained through vigorous fund-raising, university wide.	x			x		
Financial support was attained through acquisition of large grants from private foundations.	x			x		
Unrestricted gift income was used for operation, university wide.	x			x		
Higher levels of assistance from alumni were realized.	x			x		
Offices were opened for fund raising and development activities at the college level.	x			x		

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Academic governance processes, grievance processes, and other departmental, college, and university-level meetings that consume valuable time were re-examined.	x		x			
Program of operations analysis has been initiated with study of the security department.	y					
RESEARCH						
No entries.						
PUBLIC SERVICE						
Community service programs were reduced.		x		x		
Conferences and institutes were converted to self-sustaining entities.						
OTHER						
A manual of energy conservation ideas was compiled allowing advanced calculations of savings.	x			x		

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
Preliminary screening of prospective students and establishment of rigid entrance requirements were used to reduce attrition.		x				
Undergraduate admission requirements/standards were modified to increase enrollment.	x			x		
Operating income of auxiliary enterprises was increased by advancing the charge to the student.	x			x		
Overtime has been reduced.	x	x		x		
Federally funded programs were curtailed and/or abolished.		x				
Inter-institutional cooperation was developed in certain high-cost fields.	x			x		
The workloads of support personnel in auxiliary enterprises and physical plant have been increased.	x			x		
The use of temporary personnel was discontinued.		x		x		
Expenditures for equipment acquisition and replacement in student affairs were reduced.	x			x		

TABLE 5 (continued)

Actual Management Techniques	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
A campus-wide examination of rate schedules for all goods and services has been conducted.	x			x		
A new mailing form has been developed which eliminates envelopes and printed-letterhead stationery.	x	x		x		

were not included on the survey instrument. A "y" in the response columns of Table 5 designates these techniques. Eight of the methods were classified into the category Instruction, two in Academic Support, seven in Student Services, one in Scholarship and Fellowship, 17 in Operation and Maintenance of Plant, five in Auxiliary Enterprises, one in Institutional Support, and one in Public Service. Six of the techniques had been employed both as a preventive and a remedial measure: one in Instruction, four in Student Services, and one in Auxiliary Enterprises. A subject did not indicate how one of the methods had been utilized. Thirteen of the 42 management techniques initiated by Institution C but not on the survey instrument were identified only as preventive measures: three in Instruction, one in Academic Support, one in Student Services, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, three in Auxiliary Enterprises, and one in Institutional Support. Twenty-two methods were reported as being only remedial: four in Instruction, one in Academic Support, two in Student Services, 14 in Operation and Maintenance of Plant, and one in Auxiliary Enterprises. Eleven of the techniques unique to Institution C were perceived to be most effective; 24 were rated effective. Three were rated as being ineffective; four were not rated as to effectiveness.

During the period of decline, none of the participating universities initiated use of the 107 suggested theoretical higher education management techniques contained in Table 6. However, various respondents indicated they were employing several of the methods prior to the beginning of the period of decline in American higher education.

TABLE 6

SUGGESTED THEORETICAL HIGHER EDUCATION MANAGEMENT TECHNIQUES NOT EMPLOYED BY EITHER INSTITUTION A, B, OR C

Theoretical Management Techniques
INSTRUCTION
A year-round operation based on the quarter system was initiated.
Evening laboratory schedules were initiated.
A one-year associate of arts program for qualified students was initiated.
Medical and dental education programs were reformed and accelerated to make them less prolonged and less costly.
A three-year bachelor of arts program was initiated for qualified students.
Doctor of Philosophy and/or Doctor of Education program(s) were eliminated.
The length of time required to obtain a Doctor of Arts degree was reduced.
The length of time required to obtain a Doctor of Philosophy degree was reduced.
An unendowed college has been closed.
Programs for high-risk minority students have been reduced.
High cost programs have been reduced.
Faculty redistribution has occurred; away from classroom teaching to off campus positions, assisting in external degree programs.
Systematic efforts have been exerted to retrain faculty for new or unrelated fields.
Faculty are encouraged to retire early through incentive programs.

TABLE 6 (continued)

Theoretical Management Techniques
Faculty teaching loads have been rearranged to smooth out peaks without increasing loads.
Promotion and tenure have been denied to encourage turnover of junior faculty.
Tenure policies were modified.
Tenure policies were abolished.
Sabbatical leaves were reduced.
A large number of faculty and staff have been laid off to reduce expenditures.
Efforts to pay competitive salaries were reduced.
Faculty salaries were frozen.
All nontenured faculty members have been dismissed.
The number of nontenured faculty positions has been reduced.
The flight instruction program was reduced.
Increased emphasis has been placed on vocational programs.
Theater budgets were cut.
Speech budgets were cut.
The spring term academic program was reduced.
Summer quarter was rejuvenated.
Summer quarter was eliminated.
Alumni volunteers were recruited to teach, work with student activities, and kitchen operations.
The use of paraprofessionals was increased.
Central administration has approved only the hiring of lower rank teachers.

TABLE 6 (continued)

Theoretical Management Techniques
ACADEMIC SUPPORT
The laboratory/demonstration school was dropped.
Tuition and schedule revisions were made in order to create a more efficient year-round schedule.
A cost-benefit analysis program was implemented.
Deficit spending was tolerated in hope that financial strains were only temporary.
Computer services were purchased from either a commercial organization, nearby public agency, or large academic organization.
Computers were taken out of service.
The salary of top-level administrators was cut.
The number of vice-presidents/vice-chancellors was decreased.
All non-tenured administrators were dismissed.
A new president or chancellor was selected to direct institutional management.
Individual learning centers were eliminated.
STUDENT SERVICES
Cultural programs were eliminated.
Funds for lectures and concerts were reduced.
Recruiting and counseling pools among neighboring colleges and universities were established to coordinate resources and staff efforts for admitting educationally disadvantaged candidates.
Funds for health services were reduced.
The publications budget was reduced.
Publication of a new catalog was postponed.
The athletic program was reduced.

TABLE 6 (continued)

Theoretical Management Techniques
The debate program was eliminated.
SCHOLARSHIP AND FELLOWSHIP
New financial limits for eligibility of student aid were imposed.
Total expenditures for student grants, fellowships, and scholarships were decreased.
The federal work-study program has been cut.
The tuition payment program for all staff children which provided full tuition up to [a set] level was cut and a policy was instituted to deny this benefit to all employees hired after a determined date.
The number of athletic scholarships was reduced.
The value of athletic scholarships was reduced.
Former "free tuition" colleges began charging some amount of tuition.
Funds available to out-of-state students were cut.
Unit funded scholarships were reduced.
OPERATION AND MAINTENANCE OF PLANT
Buildings were constructed only after funds were available to endow the cost.
Handicapped persons were employed for custodial work through a community agency.
Three optional levels of cleaning quality were established.
Portable boilers for low operating levels were used rather than less efficient central systems.
The tree care program was deferred.
An air conditioning system that pumps cold water from deep wells rather than using electricity for cooling has been installed.

TABLE 6 (continued)

Theoretical Management Techniques
Underground tanks have been installed which allow for storing of chilled water to be used for air conditioning.
Underground water tanks have been installed so that water can be heated electrically at night and then used during the day to warm campus buildings.
AUXILIARY ENTERPRISES
Student housing was contracted.
Student cooperatives were utilized in the operation of student housing.
Food service was contracted.
The laundry was eliminated.
Compulsory student meal plans were started for all dormitory residents.
Compulsory student housing residence required for all non-commuting undergraduates.
INSTITUTIONAL SUPPORT
The budgeting process was decentralized.
Capital funds were eliminated.
Funds were withdrawn from existing campus programs (1 to 3 percent annually) for a self-renewal fund to be directed toward a new or expanded program.
"Program budgeting" was implemented by establishing comprehensive performance standards or budget formulas and an information system of performance reporting.
A three-step process for coping with the steady state was developed: (1) data gathering (2) setting of priorities (3) assigning resources
Reserve and endowment funds were spent.

TABLE 6 (continued)

Theoretical Management Techniques
The printing press was eliminated.
A program of assistance has been developed for employees who might otherwise have been dismissed because of problems with alcohol, drugs, family, or finance.
RESEARCH
Student research was cut back.
Total current fund expenditures for sponsored research were reduced.
PUBLIC SERVICE
Community service programs were eliminated.
OTHER
The growth of special admissions was reduced.
New admission tests were used to screen out those unable to read or write at the eighth grade level.
An international recruiting program was initiated.
A maximum enrollment has been established.
The percentage of graduate students was frozen at the present level.
The number of graduate students was reduced.
Travel funds were eliminated.
Purchasing has been centralized.
Membership in various intercollegiate organizations has been eliminated.
The purchase of needed land has been postponed.
Various assets of the university have been sold.
Funds for public information services were reduced.
An affiliate college has been closed.

TABLE 6 (continued)

Theoretical Management Techniques
The 40-hour work week has been squeezed into 4-1/2 days.
Programmable calculators have been used to prepare bills.
Inventories have been reduced to have funds for obtaining interest.
Typists are required to use one and one-half spaces instead of two between lines.
A rationing program has been initiated for stationery, paper clips, rubber bands, etc.
The university has purchased its own telephone system.
The telephone company's "Wide-area telecommunication service" (WATS) has been replaced with regular long-distance telephone service.

Thirty-four of the theoretical techniques not implemented to maintain institutional solvency during the period of decline were in the category Instruction, 11 in Academic Support, eight in Student Services, nine in Scholarship and Fellowship, eight in Operation and Maintenance of Plant, six in Auxiliary Enterprises, eight in Institutional Support, two in Research, one in Public Service, and 20 in Other.

Summary of the Data

Seventy-seven of the suggested theoretical higher education management techniques were initiated by more than one of the participating institutions. The respondents indicated 51 of those methods had been employed as both a preventive and a remedial measure. Twenty-two were used only as a preventive measure and four only as a remedial measure. Twenty-two of the techniques had both most effective and effective ratings. Five were perceived to be most effective and 40 were rated effective. Ten methods had mixed ratings; that is, they were rated as being either most effective or effective by at least one subject and as ineffective by at least one other respondent.

Approximately 50.0 percent of the 77 techniques implemented by more than one institution were in the categories Instruction and Academic Support. Two items, program and faculty, are addressed by a number of the methods within those categories.

Institution A, the university experiencing financial difficulty, implemented a total of 114 management techniques (Table 7). Sixty-two of the methods were not utilized by the other institutions--29 of the theoretical techniques and 33 others. Sixteen of the 62 were applied both as a preventive and a remedial measure; 24 as a preventive measure

TABLE 7

NUMBER OF TECHNIQUES IMPLEMENTED BY EACH INSTITUTION

Categories	Institution A		Institution B		Institution C	
	Theoretical	Idiosyncratic	Theoretical	Idiosyncratic	Theoretical	Idiosyncratic
Instruction	31	6	27	3	25	8
Academic Support	15	2	20	6	22	2
Student Services		3	1	5		7
Scholarship and Fellowship	2	2		3	1	1
Operation and Maintenance of Plant	5	6	8	7	5	17
Auxiliary Enterprises	1	3	3	6		5
Institutional Support	11	3	10	2	17	1
Research	2	2	3	1	1	
Public Service		1		2	1	1
Other	14	5	20	2	27	
Total Number	114		129		141	

and 13 others as a remedial measure. Twenty-four of the 62 methods were rated most effective, 23 effective, and three ineffective. Both the theoretical and the idiosyncratic techniques give attention to such things as courses, faculty, student financial aid, energy consumption, food service, research units, and travel.

The respondents at Institution B, the university stable after experiencing financial difficulty, identified 129 techniques which had been implemented (Table 7). Sixty-two of the techniques had not been used by the other institutions--25 of the theoretical and 37 others. Fifteen of the 62 had been both preventive and remedial measures. Thirty-four were preventive only and 11 remedial only. Twenty of the methods were rated as most effective; 33 were perceived to be effective. Many of the methods focused attention on the instructional program and the faculty.

The researcher determined Institution C, the university remaining stable, initiated 141 management techniques (Table 7). Sixty-nine of the methods were not utilized by the other institutions--27 of the theoretical and 42 others. Eight of the 69 had served both as a preventive and a remedial action. Thirty-four had been employed only as a preventive measure and 26 only as a remedial action. Twelve of the methods were perceived to be most effective; 43 were rated effective. Three were rated as ineffective. The theoretical and idiosyncratic methods gave attention to programs, energy conservation, and income.

The participating institutions did not initiate use of 107 of the suggested theoretical higher education management techniques. Many of the methods had been implemented before American higher education began experiencing the period of decline.

III. ANALYSIS OF THE DATA

The period of decline in American higher education during the late 1960's and early 1970's was identified and substantiated through a review of selected literature. At least five factors contributed to American higher education experiencing a period of decline:

1. A slowdown in enrollment growth.
2. The effects of inflation.
3. The loss of public confidence.
4. The decrease of federal support.
5. Trends in state support.

Also, the review of selected literature enabled the researcher to identify suggested theoretical higher education management techniques that could be used to maintain institutional solvency during a period of decline. The methods were classified into ten categories: Instruction, Research, Public Service, Academic Support, Student Services, Institutional Support, Operation and Maintenance of Plant, Scholarship and Fellowship, Auxiliary Enterprises, and Other. A survey instrument was developed that reflected the suggested theoretical higher education management techniques and the categories in which they were placed. Additionally, the survey instrument contained columns that respondents utilized to indicate whether the techniques had been employed as a preventive or as a remedial action and their perception of the effectiveness of the methods. The survey instrument was utilized during interviews with institutional managers at the participating institutions to obtain the data presented previously in this chapter.

Data obtained from the participating institutions were analyzed to determine:

1. If selected public institutions implemented management techniques which differed from those suggested in the literature.

2. If the same management method had been employed as a different action.

3. Similarities and differences in institutional managers' perceptions of the effectiveness of techniques which they or staff members employed.

4. If more than one of the selected public institutions implemented the same actual management method during a period of decline in American higher education.

Comparative analysis was used to determine if selected public institutions implemented techniques which differed from those suggested in the literature, to determine if the same management method had been employed as a different action, and to determine similarities and differences in institutional managers' perceptions of the effectiveness of techniques which they or staff members employed. Frequency analysis was used to determine if more than one of the selected public institutions implemented the same actual management technique during a period of decline.

Differences in Theoretical and Actual Management Techniques

The three participating institutions implemented management techniques which were not identified in the literature reviewed. Institution A employed 33 management methods not identified in the literature examined. These techniques appear in Table 3, page 102.

Table 4, page 113, contains 37 management methods utilized by Institution B but not presented in the literature surveyed. Forty-two management techniques employed by Institution C were not found in the literature examined. These methods can be observed in Table 5, page 134. Thus, among the three participating institutions, 112 management techniques were utilized which did not appear in the literature studied. Seventeen of these methods were placed in the category Instruction, 10 in Academic Support, 15 in Student Services, six in Scholarship and Fellowship, 30 in Operation and Maintenance of Plant, 14 in Auxiliary Enterprises, six in Institutional Support, three in Research, four in Public Service, and seven in Other. One hundred fifty-eight management techniques appeared as both theoretical and actual. More than one of the institutions used 77 of the theoretical management methods (Table 2, page 90). Institution A implemented 29 suggested management methods not utilized by Institution B or Institution C (Table 3, page 102). Table 4, page 113, contains 25 theoretical management methods employed by Institution B, but not by Institution A or Institution C. Thirty-seven of the suggested methods were applied by Institution C, but not by Institution A or Institution B (Table 5, page 124). Additionally, 107 suggested theoretical techniques were not employed by the participating institutions; these are presented in Table 6, page 135.

Variance in Technique Utilization

The three participating institutions did use the same management method as a different action. Of the 77 suggested theoretical higher education management methods implemented by more than one of the institutions, 51 were employed as a preventive and as a remedial measure.

Twenty-one of the techniques were in the category Instruction, eight in Academic Support, one in Scholarship and Fellowship, five in Operation and Maintenance of Plant, five in Institutional Support, two in Research, and nine in Other. Twenty-two of the theoretical methods utilized by more than one institution were employed only as a preventive measure: five in Instruction, seven in Academic Support, two in Institutional Support, and eight in Other (Table 2, page 90). Institutional managers at all three participating universities endorsed 12 of these 22 techniques as being a preventive action (Table 8). Four suggested techniques were utilized only as a remedial: two in Instruction, one in Academic Support, and one in Institutional Support (Table 2, page 90). Unanimous agreement was realized on three of the four methods:

1. The student-to-faculty ratio was increased.
2. Faculty positions were eliminated.
3. A management information system was implemented.

One technique in the category Instruction was unanimously agreed upon as being both a preventive and a remedial action: Extension, evening, and continuing education programs have been increased.

Institution A implemented 29 of the suggested theoretical management methods not utilized by Institution B or Institution C plus 33 techniques not identified in the literature reviewed. Sixteen of the 62 methods were employed as a preventive and as a remedial action: two in Academic Support, one in Student Services, one in Scholarship and Fellowship, two in Operation and Maintenance of Plant, six in Institutional Support, one in Research, one in Public Service, and two in Other. Twenty-four of the 62 techniques were utilized only

TABLE 8

TECHNIQUES ENDORSED AS A PREVENTIVE ACTION BY A MANAGER AT EACH OF THE THREE INSTITUTIONS

Preventive Only Techniques
INSTRUCTION
New programs are going forward on a restricted priority basis.
An attempt has been made to introduce more popular programs.
Various courses of instruction have been postponed.
Recommended new faculty appointments have undergone careful scrutiny as to need and quality.
ACADEMIC SUPPORT
Positions vacated through resignation, retirement, or death were allocated to central administration so that they could determine where the need for reassignment is greatest.
Academic program plans were postponed.
The hiring of needed administrative staff members was postponed.
INSTITUTIONAL SUPPORT
Outside program performance audits were utilized.
Central university monitoring was used to control course and program proliferation or perpetuation.
OTHER
Training workshops have been conducted for chairpersons and assistant deans.
Tuition was increased.
Financial information about the university was widely disseminated among institutional units.

as a preventive measure: four in Instruction, three in Academic Support, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, three in Auxiliary Enterprises, one in Institutional Support, one in Research, and eight in Other. Thirteen of the 62 methods were employed only as a remedial measure: seven in Instruction, one in Student Services, three in Operation and Maintenance of Plant, one in Auxiliary Enterprises, and one in Other. There was no indication as to the manner in which nine of the management techniques had been employed. The above data can be observed in Table 3, page 102.

Institution B utilized 25 of the theoretical management methods not employed by Institution A or Institution C plus 37 techniques not identified in the literature surveyed. Fifteen of the 62 methods were used as a preventive and as a remedial measure: four in Instruction, three in Academic Support, four in Operation and Maintenance of Plant, one in Research, and three in Other. Of the 62 techniques, 34 were employed only as a preventive action: two in Instruction, six in Academic Support, five in Student Services, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, eight in Auxiliary Enterprises, four in Institutional Support, one in Research, two in Public Service, and two in Other. Eleven of the 62 methods had been employed only as a remedial measure: one in Academic Support, two in Scholarship and Fellowship, four in Operation and Maintenance of Plant, one in Auxiliary Enterprises, two in Institutional Support, and one in Other. Respondents did not indicate the manner in which two of the techniques were used. Table 4, page 113, contains the above data.

Institution C employed 27 of the suggested theoretical management methods not utilized by Institution A or Institution B plus 42 techniques not identified in the literature examined. Eight of the 69 methods were used as a preventive and as a remedial action: one in Instruction, four in Student Services, one in Auxiliary Enterprises, and two in Other. Thirty-four of the techniques were implemented only as a preventive measure: five in Instruction, three in Academic Support, one in Student Services, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, three in Auxiliary Enterprises, 11 in Institutional Support, and seven in Other. Twenty-six of the 69 methods had been employed only as a remedial measure: four in Instruction, one in Academic Support, two in Student Services, 14 in Operation and Maintenance of Plant, one in Auxiliary Enterprises, one in Public Service, and three in Other. Subjects did not indicate the manner in which one of the techniques was used. The above data can be observed in Table 5, page 124.

Similarities and Differences in Technique Effectiveness

There were similarities and differences in institutional managers' perceptions of the effectiveness of techniques which they or staff members employed. The similarities and differences were determined from an analysis of the responses to the 77 suggested theoretical higher education management methods implemented by more than one of the participating institutions. Most effective was the similar rating different institutional managers gave five of the theoretical methods: one in the category Instruction, one in Academic Support, one in Scholarship and Fellowship, and two in Institutional Support. Forty of

the suggested methods were given the similar rating of effective by different institutional managers. Twelve of these were in the category Instruction, seven in Academic Support, one in Operation and Maintenance of Plant, five in Institutional Support, two in Research, and 13 in Other. Seven of the 40 were rated as effective by a subject from each of the institutions:

1. Program improvement has occurred through remodeling rather than additions.
2 New program growth has been reduced and/or terminated.
3. Reductions were made in the number of course offerings.
4. Faculty positions were eliminated.
5. Faculty positions were unfilled.
6. Library subscriptions were analyzed and consolidated.
7. Aggressive measures were used to obtain federal funds.

Differences were observed in the ratings given selected theoretical management techniques utilized by more than one institution. Most effective and effective were the different ratings given to 11 of the methods in the category Instruction, six in Academic Support, one in Operation and Maintenance of Plant, one in Institutional Support, and three in Other. Ten techniques had mixed ratings; that is, a respondent rated the technique as being ineffective another rated it as being most effective or effective. Of the methods with mixed ratings, four were in the category Instruction, two in Academic Support, three in Operation and Maintenance of Plant, and one in Other. Similarities and differences in institutional managers' perceptions of the techniques employed by more than one institution can be noted in Table 2, page 90.

No similarities and differences in ratings could be determined when a particular technique was implemented by only one of the participating institutions. However, the ratings given these methods merit attention. Institution A implemented 62 management techniques which were not employed by the other institutions--29 of the theoretical and 33 others. Twenty-four of the techniques were perceived to be most effective, 23 were rated effective, and three were designated ineffective. Twelve of the methods were not given a rating (Table 3, page 102). The respondents at Institution B employed 62 methods which were not utilized by other institutions--25 of the theoretical and 37 others. Twenty of the techniques were given a rating of most effective, 33 were perceived to be effective, and nine were not rated (Table 4, page 113). Institution C employed 69 management methods not utilized by the other institutions--27 of the theoretical and 42 others. Twelve of the techniques received a rating of most effective, 43 were rated as being effective, and three were given a rating of ineffective. Eleven methods were not rated (Table 5, page 124).

Techniques Implemented by More Than One Institution

Several of the actual management techniques were implemented by more than one of the participating institutions. Seventy-seven of the suggested theoretical higher education management techniques were implemented by more than one of the participating institutions. Of those 77 methods, 28 were employed by the three universities: 14 in Instruction, six in Academic Support, two in Operation and Maintenance of Plant, three in Institutional Support, and three in Other.

Forty-nine of the 77 techniques were utilized by two of the three participating institutions: 14 in Instruction, 10 in Academic Support, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, five in Institutional Support, two in Research, and 14 in Other. Table 2, page 90, contains the techniques utilized by more than one institution.

Summary of the Analysis of the Data

The three participating institutions implemented 112 management techniques which were not suggested in the literature examined. Thirty of the methods were in the category Operation and Maintenance of Plant. Additional ones were in the category Instruction, Academic Support, Student Services, Scholarship and Fellowship, Auxiliary Enterprises, Institutional Support, Research, Public Service, and Other.

The three universities did use the same management method as a different action. Various management methods were used as both a preventive and a remedial measure. Others were employed only as a preventive action. Also, certain management techniques were utilized only as a remedial measure.

There were similarities and differences in institutional managers' perceptions of the effectiveness of techniques which they or staff members employed. Similar ratings were given for 45 of the suggested theoretical higher education management techniques implemented by more than one of the participating institutions: five were perceived to be most effective by different respondents and 40 were rated as effective by different subjects. Differences were determined in the ratings given 22 of the theoretical management techniques utilized by more than one

institution. Most effective and effective were the different ratings. Ten techniques had mixed ratings of ineffective and most effective or effective.

A number of the actual management techniques was employed by more than one of the participating universities. Twenty-eight methods were utilized by three institutions; 49 techniques were implemented by two of the universities.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

American higher education began experiencing a period of decline during the late 1960's and early 1970's. This fact was substantiated through a review of selected literature. At least five factors were identified which contributed to American higher education experiencing a period of decline:

1. A slowdown in enrollment growth.
2. The effects of inflation.
3. The loss of public confidence.
4. The decrease of federal support.
5. Trends in state support.

The period of decline gave birth to a new management problem for colleges and universities. Heretofore, public higher education institutions had been experiencing tremendous growth; but suddenly fiscal stringency became a major management problem. Confronted with the problem of an increasing scarcity of funds, institutional managers sought to identify and utilize management techniques essential to institutional solvency.

Management methods identified and utilized by institutional managers to maintain solvency during a period of decline had been reported in professional literature. These techniques provided insight into adjustments managers made in response to the period of decline. However, a penetrating study of the actual management techniques of selected public institutions had not been done. Thus, this dissertation considered the

actual management methods of three public institutions: one experiencing financial difficulty (Institution A), one stable after experiencing difficulty (Institution B), and one remaining stable (Institution C).

The purposes of the study were to:

1. Identify suggested theoretical higher education management techniques that may be utilized during a period of decline.

2. Identify the management methods selected public institutions of higher education actually implemented during a period of decline.

3. Determine if selected public institutions implemented management techniques which differed from those suggested within the literature.

4. Determine whether the implemented management methods were employed as preventive or remedial techniques.

5. Obtain from institutional managers in the selected public institutions a rating of the effectiveness of various management methods utilized during a period of decline.

6. Determine if an actual management technique was implemented by more than one of the selected public institutions.

To accomplish the purposes of the study, the researcher used six questions as a guide.

Question 1. What theoretical management methods have been suggested for use in institutions of higher education during the period of decline?

A review of selected literature enabled the researcher to identify more than 250 suggested theoretical higher education management techniques. Study of these methods and further inquiry into higher education literature contributed to the identification of pertinent categories into which the suggested theoretical higher education management techniques

could be classified: Instruction, Research, Public Service, Academic Support, Student Services, Institutional Support, Operation and Maintenance of Plant, Scholarship and Fellowship, Auxiliary Enterprises, and Other. Following identification of the 10 categories, the suggested theoretical higher education management techniques were classified. From this classification, the researcher constructed a preliminary draft of a survey instrument which contained statements pertaining to suggested theoretical higher education management techniques. The preliminary draft of the survey instrument was submitted to a panel of experts charged with the responsibility for critiquing the instrument and making suggestions for improvement. The improvements suggested by the panel of experts were incorporated and a final draft was prepared and field-tested. The field-test proved the survey instrument valuable for obtaining data relative to the management techniques institutional managers employed during a period of decline.

Question 2. What management techniques were implemented during a period of decline to insure institutional solvency by three public higher education institutions: one which was experiencing financial difficulty, one which is stable after experiencing financial difficulty, and one which has remained stable?

Utilizing pre-determined criteria, the researcher identified a potential group of institutions from which the final selection of participants was made. The criteria required that institutions:

1. Be state-aided.
2. Be located in the southeastern United States.

3. Grant more than 90 doctoral degrees in a calendar year.

4. Have a headcount enrollment exceeding 16,500.

5. Be a public college or university.

From institutions meeting the criteria and agreeing to participate in the study, three were selected which held additional similarities:

1. The universities had a comparable administrative structure.

2. Each of the states in which the institutions were located had a coordinating agency for higher education.

3. All were land grant institutions.

4. The role and scope of each institution included instruction, research, and service.

5. Each of the institutions had a headcount enrollment of more than 20,500.

6. Each of the institutions granted more than 150 doctoral degrees per calendar year.

In addition to the researcher's concern for institutional similarity, one major designated difference among the institutions was desired and realized. Of the three institutions included in the study, one was experiencing financial difficulty, one was stable after experiencing financial difficulty, and one had remained stable. The chief administrative officer of each institution utilized the definitions provided in Chapter I as a guide in determining the health of the university.

In the presence of the researcher, seven institutional managers at the Dean's level or above (or a designee) from each university responded to items on the survey instrument. The subjects identified

which of the suggested theoretical higher education management techniques they or staff members had implemented to maintain institutional solvency during a period of decline. Additionally, the respondents recorded management methods which they or staff members had employed but were not represented by items on the survey instrument. Frequently, the institutional managers provided explanatory comments to enhance the researcher's understanding of the technique.

The management methods implemented by the participating institutions to insure institutional solvency during a period of decline can be identified with a study of all the following: Table 2, page 90; Table 3, page 102; Table 4, page 113; and Table 5, page 124.

Seventy-seven of the suggested theoretical higher education management methods were implemented by more than one of the participating institutions. Twenty-eight of the 77 were in the category of Instruction, 16 in Academic Support, one in Scholarship and Fellowship, five in Institutional Support, two in Research, and 17 in Other.

Institution A implemented 29 of the suggested theoretical management methods not used by Institution B or Institution C plus 33 techniques not identified on the survey instrument. Institution B utilized 25 of the theoretical management methods not employed by Institution A or Institution C plus 37 techniques not addressed on the survey instrument. Institution C employed 27 of the suggested theoretical management methods not utilized by Institution A or Institution B plus 42 techniques not contained on the survey instrument. All of these techniques can be viewed on the previously referred to tables.

Question 3. Did the selected public institutions utilize management techniques which differed from those suggested in the literature?

The survey instrument contained suggested theoretical higher education management techniques identified from the literature reviewed. The respondents indicated with a checkmark which of the techniques they or staff members had employed. Additionally, the subjects recorded management methods which they or staff members had utilized but were not represented by items on the survey instrument. Among the three participating institutions, 112 management techniques were used which did not appear in the literature studied. Seventeen of the 112 management methods were in the category Instruction, 10 in Academic Support, 15 in Student Services, six in Scholarship and Fellowship, 30 in Operation and Maintenance of Plant, 14 in Auxiliary Enterprises, six in Institutional Support, three in Research, four in Public Service, and seven in Other. Also, the participating institutions did not initiate use of 107 of the suggested theoretical higher education management techniques. Many of the methods had been implemented prior to American higher education experiencing the period of decline.

Question 4. Were the implemented management methods employed as preventive or remedial techniques?

The institutional managers indicated whether the techniques they or staff members had implemented were employed as a preventive or as a remedial action. Of the 77 suggested theoretical higher education management methods implemented by more than one of the institutions, 51 were employed as a preventive and as a remedial action. Twenty-one of

the techniques were in the category Instruction, eight in Academic Support, one in Scholarship and Fellowship, five in Operation and Maintenance of Plant, five in Institutional Support, two in Research, and nine in Other. Twenty-two of the suggested methods utilized by more than one institution were employed only as a preventive measure: five in Instruction, seven in Academic Support, two in Institutional Support, and eight in Other. Unanimous agreement was indicated on 12 of the 22 techniques by the three participating institutions. Four theoretical techniques were used only as a remedial action: two in Instruction, one in Academic Support, and one in Institutional Support. Three of the four methods received a unanimous endorsement from the three participating institutions. Institution A implemented 62 methods not utilized by Institution B or Institution C. Sixteen of the 62 techniques were employed as a preventive and as a remedial action: two in Academic Support, one in Student Services, one in Scholarship and Fellowship, two in Operation and Maintenance of Plant, six in Institutional Support, one in Research, one in Public Service, and two in Other. Twenty-four of the 62 methods were applied only as a preventive measure: four in Instruction, three in Academic Support, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, three in Auxiliary Enterprises, one in Institutional Support, one in Research, and eight in Other. Thirteen of the 62 techniques were labeled only as a remedial measure: seven in Instruction, one in Student Services, three in Operation and Maintenance of Plant, one in Auxiliary Enterprises, and one in Other. No response was given for nine of the management techniques. Institution B had used 62 methods

not employed by Institution A or Institution C. Fifteen of the 62 methods were used as a preventive and as a remedial measure: four in Instruction, three in Academic Support, four in Operation and Maintenance of Plant, one in Research, and three in Other. Thirty-four were employed only as a preventive action: two in Instruction, six in Academic Support, five in Student Services, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, eight in Auxiliary Enterprises, four in Institutional Support, one in Research, two in Public Service, and two in Other. Eleven of the 62 methods were designated only as a remedial measure: one in Academic Support, two in Scholarship and Fellowship, four in Operation and Maintenance of Plant, one in Auxiliary Enterprises, two in Institutional Support, and one in Other. Subjects did not indicate the manner in which two of the techniques were used. Institution C employed 69 management methods not utilized by Institution A or Institution B. Eight were used as a preventive and as a remedial action: one in Instruction, four in Student Services, one in Auxiliary Enterprises, and two in Other. Thirty-four of the techniques were implemented only as a preventive measure: five in Instruction, three in Academic Support, one in Student Services, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, three in Auxiliary Enterprises, 11 in Institutional Support, and seven in Other. Twenty-six of the 69 methods were employed only as a remedial measure: four in Instruction, one in Academic Support, two in Student Services, 14 in Operation and Maintenance of Plant, one in Auxiliary Enterprises, one in Public Service, and three in Other. One technique did not have a response.

Question 5. How do institutional managers within selected public institutions view the effectiveness of certain actual management methods?

The survey instrument had a forced-choice continuum containing four possible responses that was used to obtain the institutional managers' perceptions of the effectiveness of the techniques which they or staff members had employed. The respondents were provided a guide to utilize in determining the effectiveness.

There were similarities and differences in the effectiveness ratings given the 77 suggested theoretical higher education management methods implemented by more than one of the participating institutions. One technique in the category Instruction, one in Academic Support, one in Scholarship and Fellowship, and two in Institutional Support were given a similar rating of most effective by different institutional managers. Twelve methods in the category Instruction, seven in Academic Support, one in Operation and Maintenance of Plant, five in Institutional Support, two in Research, and 13 in Other were given the similar rating of effective by different institutional managers. Seven techniques had been used by all three participating institutions and were unanimously endorsed as being effective. Most effective and effective were the different ratings given to 11 of the methods in the category Instruction, six in Academic Support, one in Operation and Maintenance of Plant, one in Institutional Support, and three in Other. Ten techniques had mixed ratings of ineffective and most effective or effective: four in the category Instruction, two in Academic Support, three in Operation and Maintenance of Plant, and one in Other.

Institution A implemented 62 management methods which were not employed by the other institutions. Twenty-four of the techniques were rated most effective, 23 were perceived to be effective, and three were designated ineffective; 12 were not given a rating. The subjects at Institution B utilized 62 methods which were not employed by other institutions. A rating of most effective was given 20 of the techniques, 33 were perceived to be effective, and nine were not rated. Institution C employed 69 management techniques not used by the other institutions. Twelve of the techniques received a rating of most effective, 43 were rated as being effective, and three were perceived to be ineffective; 11 methods were not rated.

Question 6. Was the same actual management technique implemented by more than one of the three selected institutions?

Seventy-seven of the suggested theoretical higher education management techniques were implemented by more than one of the participating institutions. Twenty-eight of the 77 methods were employed by all participating institutions: 14 in Instruction, six in Academic Support, two in Operation and Maintenance of Plant, three in Institutional Support, and three in Other. Of the 77 techniques, 49 were utilized by two of the participating universities: 14 in Instruction, 10 in Academic Support, one in Scholarship and Fellowship, three in Operation and Maintenance of Plant, five in Institutional Support, two in Research, and 14 in Other.

II. CONCLUSIONS

The following conclusions have been drawn from the study of the three institutions.

Question 1. What theoretical management methods have been suggested for use in institutions of higher education during the period of decline?

The researcher identified within the literature reviewed more than 250 suggested theoretical higher education management techniques that could be used during a period of decline. Thus, institutional managers have reported techniques which they or staff members employed to maintain institutional solvency. However, in the opinion of the researcher, only a minority of the management methods used by institutions of higher education have been reported in the professional literature. This opinion resulted from the fact that the participating institutions had used 112 methods which were not contained within the literature studied.

Question 2. What management techniques were implemented during a period of decline to insure institutional solvency by three public higher education institutions: one which was experiencing financial difficulty, one which is stable after experiencing financial difficulty, and one which has remained stable?

The actual management techniques implemented during a period of decline to insure institutional solvency by three public higher education institutions were identified. Thus, the institutional managers who were interviewed were cognizant of the fiscal stringency confronting

American higher education, in particular their respective institutions, and were going through a period of readjustment.

Institutional directors favored implementation of techniques which were classified into the categories: Instruction, Academic Support, Institutional Support, and Other. This point was evidenced by the fact that institutional managers utilized more of the theoretical techniques from these categories plus most of the idiosyncratic methods were in these areas.

Question 3. Did the selected public institutions utilize management techniques which differed from those suggested in the literature?

The three participating institutions implemented 112 management techniques which were not found in the literature studied. Thus, the respondents exercised their initiative to identify management methods applicable to their institutions. Seemingly, the operation and maintenance of physical facilities was one of the first areas to receive the attention of the institutional managers, for approximately 27.0 percent of the 112 method were in the category Operation and Maintenance of Plant.

The participating institutions did not initiate use of 107 of the suggested theoretical higher education management techniques during the period of decline. Perhaps the institutional managers were not aware of these methods or did not feel as though they were applicable to their institutions. Also, the institutional managers might have felt that only a minute savings could be realized from utilization of the techniques. Additionally, the institutional managers may not have employed some of the techniques for various of these were concerned

with people, e.g., staff salaries and staff reduction.

Approximately 60.0 percent of the suggested techniques were utilized by the participating institutions. Therefore, institutional managers were aware of these theoretical methods and were convinced the techniques would yield the desired result. Also, most of the theoretical methods which were employed related to non-personnel entities; thus, the institutional managers had chosen to limit instituting techniques which would result in staff lay-offs or staff terminations.

Question 4. Were the implemented management methods employed as preventive or remedial techniques?

Ninety of the implemented management methods were employed as a preventive and as a remedial action; 114 were utilized only as a preventive measure and 54 were employed only in a remedial manner. Therefore, the same management technique was used as a different action among the institutions.

Even though a selection of the methods was used as a different action, 12 techniques were initiated by all three universities and were used as a preventive action only. Thus, institutional directors concerned with preventing insolvency might direct their attention to these particular methods. In addition, three methods were applied as a remedial action only by the three universities. However, because a limited number of the methods were used by all three institutions, the researcher concluded that any of the techniques could have been employed to prevent or to remedy institutional insolvency.

Question 5. How do institutional managers within selected public institutions view the effectiveness of certain actual management methods?

Seven of the management techniques were implemented within all three universities and were perceived to be effective by all those institutional managers rating them. This consensus of opinion deserves the attention of directors who are searching for methods to employ.

Six of the management techniques implemented were rated only as ineffective. Thus, institutional managers believed that they were using sound management techniques to make their institutions more cost effective. Ten of the suggested theoretical higher education management techniques had mixed ratings of ineffective and most effective or effective; therefore, it is reasonable to conclude that these methods were not applicable to all the institutions employing them and that prior to implementing any of the techniques, the factor of applicability must be considered.

Question 6. Was the same actual management technique implemented by more than one of the three selected institutions?

Seventy-seven of the theoretical management techniques were implemented by more than one of the three selected institutions. Therefore, there was agreement among institutional managers as to which methods they should employ during a period of decline in American higher education. However, because of the idiosyncratic methods implemented by each of the universities, no one should be convinced that there exists a particular group of techniques which are applicable to a certain type of institution.

III. RECOMMENDATIONS

Recommendations resulting from the study are that institutional managers:

1. Become apprised of other management techniques which are not reported within the literature.

2. Select and utilize those management techniques identified within the research which are applicable to their institution.

3. Refine and conduct this research with a broader sample in each of the three categories of institutional types.

4. Calculate and report the dollar value realized from the management techniques they institute.

5. Continue the search for additional management techniques which can be utilized in institutions of higher education.

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APPENDIXES

APPENDIX A

THEORETICAL TECHNIQUES IDENTIFIED

FROM SELECTED LITERATURE

The Carnegie Commission on Higher Education, The More Effective Use of Resources (Berkeley: The Carnegie Commission on Higher Education, 1972), pp. 20-146.

Part-time lecturers have been hired, holding permanent positions open.
Attempts to convince the faculty of the need to be more cost-conscious were made.
Across-the-board budget cuts were made.
Across-the-board budget cuts were implemented and a portion of the savings was allocated to an Educational Development Fund destined for new programs.
Overlapping and duplicate programs have been consolidated.
Positions vacated through resignation, retirement, or death were allocated to central administration so that they could determine where the need for reassignment is greatest.
Tenure policies were modified.
A core of middle managers who assist department chairmen and/or other administrators has been developed.
Computer services were purchased from either a commercial organization, nearby public agency, or large academic organization.
Student housing was contracted.
Student cooperatives were utilized in the operation of student housing.
Student help was used in institutionally operated dormitories.
Food service was contracted.
Cash balances in checking accounts were minimized to maximize interest yielded by the institution's liquid assets.
Inventories were reduced to have funds for obtaining interest.

The Carnegie Foundation for the Advancement of Teaching, More Than Survival (San Francisco: Jossey-Bass Publishers, 1975), pp. 14-96.

The student-to-faculty ratio was increased.
The use of paraprofessionals was increased.
The number of media-based instructional techniques was increased.
A maximum enrollment was established.
An overall strategy for the new condition was developed; one which realistically projected several years.
A policy for reallocation was developed.

Funds were withdrawn from existing campus programs (1 to 3 percent annually) for a self-renewal fund to be directed toward a new or expanded program.
Budget procedures were implemented to provide incentive for effective use of resources.
Joint public-private approaches to relieving the problems of dwindling growth were initiated.
Undergraduate admission requirements/standards were modified to increase enrollment.
Increased emphasis has been placed on vocational programs.

Earl F. Cheit, The New Depression in Higher Education (New York: McGraw-Hill Book Co., 1971), pp. xiv-147.

Recruiting and counseling pools among neighboring colleges and universities were established to coordinate resources and staff efforts for admitting educationally disadvantaged candidates.
The length of time required to obtain a Doctor of Philosophy degree was reduced.
The length of time required to obtain a Doctor of Arts degree was reduced.
A three-year bachelor of arts program was initiated for qualified students.
Medical and dental education programs were reformed and accelerated to make them less prolonged and less costly.
A one-year associate of arts program for qualified students was initiated.
Cultural programs were eliminated.
Athletic programs were eliminated.
Community service programs were eliminated.
Plans for new activities were cancelled.
Experimental programs have been reduced and/or eliminated.
Student charges were increased.
The spring term academic program was reduced.
Priorities were reallocated.
Positions not subject of active recruitment were left vacant.
New fund-raising campaigns were begun.
Offices were opened for fund raising and development activities.
Total expenditures for student grants, fellowships, and scholarships were decreased.
Total current fund expenditures for sponsored research were reduced.
Reserve and endowment funds were spent.
New program growth has been reduced and/or terminated.
Commitment for capital outlay was postponed for programs only partially funded by the government or outside sources.
Landscaping was postponed.
The hiring of needed administrative staff members was postponed.

Construction was cut back.
The number of faculty was frozen.
Faculty positions were eliminated.
Library expansion was delayed.
Research was cut back.
The athletic program was reduced.
Efforts to pay competitive salaries were reduced.
Financial support was attained through acquisition of large grants from private foundations.
Financial support was attained through vigorous fund-raising.
Reductions were made in the number of course offerings.
Memberships in professional organizations were eliminated.
Plans for dormitories were cut back.
Student research was cut back.
The percentage of graduate students was frozen at the present level.
The number of support employees was reduced.
Faculty research positions were eliminated.
Number of teaching assistants was reduced.
The number of administrative posts was reduced.
Faculty positions were unfilled.
Sabbatical leaves were reduced by half.
Noneducational business assets were sold.
The debate program was eliminated.
The building maintenance program was deferred.
The printing press was eliminated.
Faculty salaries received minimal raises.
Speech budgets were cut.
Theater budgets were cut.
The laundry was eliminated.
The budgeting process was decentralized.
Various courses of instruction were postponed.
Academic programs were scrutinized and evaluated, including analysis of income and expenses for each program.
Financial information about the university was widely disseminated among institutional units.
An affiliate college was closed.
Research units were partially funded.
Research units operated without a regular support budget were cut.
Summer quarter was eliminated.
New programs in environmental studies were not funded.
New programs in urban studies were not funded.
Community service programs were reduced.
Student services were cut back.
Financial aid programs were leveled off.
Faculty salaries were frozen.
Low enrollment courses were scheduled less frequently.
Low enrollment courses were eliminated.
The administration was reorganized and streamlined.
Computers were taken out of service.

The purchase of needed land was postponed.
Academic program plans were postponed.
Travel funds were reduced.
New financial limits for eligibility of student aid were imposed.
Funds available to out-of-state students were cut.
The salary of top-level administrators was cut.
Library services were reduced, e.g., hours of service.
The growth of special admissions was reduced.
Funds for extracurricular activities and events were cut.
The publications budget was reduced.
Funds for health services were reduced.
Funds for lectures and concerts were reduced.
The hiring of support personnel was stopped.
Funds for public information services were reduced.
The summer instruction program was reduced.
The laboratory/demonstration school was dropped.
The number of nontenured faculty positions has been reduced.
Funds were shifted into departments where increasing enrollment would result in an increase in net income.
The flight instruction program was reduced.
Investment policies were revised.
Extramural funding sources were developed.
Efforts to raise private funds were increased.
Growth was planned by substitution.
Institutional planning devices were established.
Extensive program revisions were made to maintain a distinctive educational position.
Membership in various intercollegiate organizations was eliminated.
Doctor of Philosophy and/or Doctor of Education program(s) were eliminated.
New broadly based budget committees were created and assigned the overall task of helping to reduce costs.
Efficiency was improved through new means of internal approval of expenditures; new methods of measuring output; devices for internal reallocation of funds.
Interinstitutional cooperation was developed in certain high-cost fields.

Earl F. Cheit, The New Depression in Higher Education--Two Years Later (Berkeley: The Carnegie Commission on Higher Education, 1973), pp. v-43.

Instructional costs were reduced by dropping a department or school.
New administrative and faculty standards of judgment relative to educational quality and purpose were developed.
A new president or chancellor was selected to direct institutional management.

Evening laboratory schedules were initiated.
Capital funds were eliminated.
The number of graduate students was reduced.
Buildings were constructed only after funds were available to endow the cost.
Higher levels of assistance from alumni were realized.
The federal work-study program was cut.
The overall size of the faculty was reduced.
An individualized curriculum was developed.
A professional management program was begun.
Unrestricted gift income was used for operation.
Operating income was increased by advancing the charge to the student.
Funds for student aid were increased.
A major capital-funds campaign was planned to increase the endowment of the college.
Rigorous review of budget base and existing programs was conducted.
Expenditure for physical plant maintenance was reduced.
Expenditure for library materials was reduced.
Expenditures for equipment acquisition and replacement were reduced.
Tuition was increased.
The enrollment was increased.
The workloads of support personnel were increased.
Federally funded programs were curtailed and/or abolished.
New programs went forward on a restricted priority basis.
Auxiliary enterprise budgets were brought into better balance (e.g., undergraduate housing).
Summer quarter was rejuvenated.
In the largest and most complicated budget areas, expenditures were brought under "line item" control.
Recommended new faculty appointments have undergone careful scrutiny as to need and quality.
Faculty and student group participation was requested in the use of funds, evaluation of programs, and planning long-range strategies for growth and development.
Campus-wide awareness campaigns were waged to conserve utilities.
A campaign was undertaken to increase the endowment.

John M. Dozier, "The Retrenchment Knife," AGB Reports, XVIII (January/February, 1976), pp. 11-13.

A system to determine what was obsolete and unproductive was developed.
Travel funds were eliminated.
Significant shifts were made in inventory levels.
Individual learning centers were eliminated.
Library subscriptions were analyzed and consolidated.
Programs for high-risk minority students were reduced.

A policy was instituted to deny any benefit to all employees hired after a determined date.
The tuition payment program for all staff children which provided full tuition up to a set level was cut in half.

J. Fielden and G. Lockwood, Planning and Management in Universities (London: Chatto and Windus, 1973), p. 39.

The program Management by Objectives was implemented.

Lyman Glenny and others, Presidents Confront Reality (San Francisco: Jossey-Bass Publishers, 1976), pp. 36-70.

Tenure policies were abolished.
Promotion and tenure were denied to encourage turnover of junior faculty.
Systematic efforts were made to retrain faculty for new or unrelated fields.
Faculty redistribution occurred; away from classroom teaching to off campus positions, assisting in external degree programs.
Faculty redistribution occurred through interdisciplinary programs.
Faculty were encouraged to retire early through incentive programs.
The recruitment of student clients who would not ordinarily be served was initiated.
Extension, evening, and continuing education programs were increased.
An unendowed college was closed.
Unit cost studies were utilized.
WICHE-NCHEMS products were utilized in the management process.
Outside program-performance audits were utilized.

Kent D. Halstead, Statewide Planning in Higher Education (Washington: U. S. Government Printing Office, 1974), pp. 531-655.

The faculty teaching load was increased.
An overall educational program that the institution was qualified to offer was designed.
Deficit spending was tolerated in hope that financial strains were only temporary.
Maid service in dormitories was discontinued.
Publication of a new catalog was postponed.
The number of athletic scholarships was reduced.
The tree-care program was deferred.
Food service was portion controlled.
The use of temporary personnel was discontinued.
Overtime was eliminated.
Less expensive copying equipment was rented and/or purchased.
Less expensive equipment and furnishings were purchased.

Classroom utilization was improved by matching class sizes better with room seating capacities.
A year-round operation based on the quarter system was initiated.
Sponsored research was controlled to ensure that revenues would cover overhead and related costs.
Auxiliary enterprises were controlled to ensure that revenues would cover overhead and related costs.
Sound wage policies for faculty and other professional staff were established.
Institutional objectives and responsibilities were defined.
Tenure policies and faculty appointments were monitored to prevent abuses.
A cost-effectiveness analysis was conducted, particularly within departments, to determine the relative "expense" of alternative instructional techniques and curriculum design.
Enrollment projections were made.
Sound budgeting procedures were established based on a projection of revenues, and determining requirements based on analysis of functions, workloads, and methods.
All avenues for cooperating with other institutions were explored and utilized.
Graduate assistants were utilized as instructors.
Credit-by-examination programs were implemented.
The amount of class time was reduced by permitting students to engage in independent work under faculty supervision.
The medium of television was utilized to increase the student-teacher ratio.
Preliminary screening of prospective students and establishment of rigid entrance requirements were used to reduce attrition.
"Program budgeting" was implemented by establishing comprehensive performance standards or budget formulas and an information system of performance reporting.
A cost-benefit analysis program was implemented.

David D. Henry, Challenges Past, Challenges Present (San Francisco: Jossey-Bass Publishers, 1975), p. 20.

The purchase of books for the library was postponed.
Correspondence and extension work were reduced.
Leaves of absence with pay were postponed and denied.
Annual appoints were not renewed.

Peter A. Janssen, "Lesson from New York," Compact, X (February, 1976), p. 9.

New admission tests were used to screen out those unable to read or write at the eighth grade level.
Former "free tuition" colleges began charging some amount of tuition.

Jack Magarrell, "Cost-Cutting Innovations," The Chronicle of Higher Education, XII (July 26, 1976), p. 4.

A manual of energy conservation ideas was compiled allowing advanced calculations of savings.
Typists were required to use one and one-half spaces instead of two between lines.
The university purchased its own telephone system.
Copying machines were purchased and leased to campus users.
A "least-cost telephone routing device" which switches campus phones into less expensive "calling paths" was utilized.
Programmable calculators were used to prepare bills.
The 40-hour work week was squeezed into four and one-half days.
The efficiency of secretaries was increased by specializing jobs and modernizing equipment.
Purchasing was centralized.
Tuition and schedule revisions were made in order to create a more efficient year-round schedule.
Computerized energy management system was installed, lowering line voltage from 128 to 121.
The number of vice presidents/vice chancellors was decreased.
Faculty teaching loads were rearranged to smooth out peaks without increasing loads.
Alumni volunteers were recruited to teach, work with student activities, and kitchen operations.
Air conditioning in the spring and fall were manually controlled.
Portable boilers for low operating levels were used rather than less efficient central systems.
Handicapped persons were employed for custodial work through a community agency.
Incandescent fixtures were replaced with fluorescent.
Use of "fake" fluorescent light tube to trick the fixture saved more electricity than if the original had been totally removed.
Three optional levels of cleaning quality were established.
Cleaning costs were reduced by detailed specifications and assignment of cleaning services.

Jack Magarrell, "Cost-Cutting Innovations," The Chronicle of Higher Education, XIV (July 25, 1977), p. 14.

A campus-wide examination of rate schedules for all goods and services was conducted.
The telephone company's "wide-area telecommunication service" (WATS) was replaced with regular long-distance telephone service.
A new mailing form was developed which eliminated envelopes and printed-letterhead stationery.
A program of assistance for employees was developed for those who might otherwise have been dismissed because of problems with alcohol, drugs, family, or finance.

Underground tanks were installed which allow for storing chilled water to be used for air conditioning.
Underground water tanks were installed so that water can be heated electrically at night and then used during the day to warm campus buildings.
A plan was adopted which limits the hours academic buildings are opened reducing hours for custodians and heating and cooling.
An air-conditioning system that pumps cold water from deep wells rather than using electricity for cooling was installed.

George J. Mauer, Crisis in Campus Management (New York: Praeger Publishers, 1976), pp. 5-30.

A rationing program was initiated for stationery, paper clips, rubber bands, etc.
Sabbatical leaves were reduced.
A three-step process for coping with the steady state included: (1) data gathering, (2) setting of priorities, and (3) assigning resources.
Aggressive measures were used to obtain federal funds.

Alexander M. Mood and others, Papers on Efficiency in the Management of Higher Education (Berkeley: The Carnegie Commission on Higher Education, 1972), pp. 6-82.

Computers were used to store and manipulate statistical data.
A management information system was implemented.
A planning-programming-budgeting-system was initiated.
An office of institutional research was created.
A planning group was organized.
Admissions records, financial records, and so forth have been computerized.
The budgetary procedures have been streamlined and/or computerized.
A number of large-scale mathematical models of the institution have been constructed to determine percentages about student flows in order to calculate course enrollments which can be used to determine needed staff services and facilities.
Curriculum requirements for graduation were relaxed.
Investment in short-term securities benefitted high interest rates.
A consortia of colleges was established.

The National Commission on the Financing of Postsecondary Education, Financing Postsecondary Education in the United States (Washington: U. S. Government Printing Office, 1973), p. 196.

High cost programs were reduced.

James N. Nesmitch, More for Less: Academic Planning with Faculty Without New Dollars (New York: Society for College and University Planning, 1975), pp. 27-29.

Training workshops were conducted for chairpersons and assistant deans.
The reward system was sensitized in order to reward improvement.
Departmental reviews were conducted by internal and/or external personnel.
Central administration encouraged shifting empty positions to visiting professors and approving the hiring of lower rank teachers.
Academic governance processes, grievance processes, and other departmental college and university level meetings that consume valuable time were reexamined.
Central university monitoring was used to control course and program proliferation or perpetuation.

Philip W. Semas, "State University Layoffs in New York Cut Deep," The Chronicle of Higher Education, XIV (October 11, 1976), p. 4.

A large number of faculty and staff were laid off to reduce expenditures.

Beverly T. Watkins, "San Francisco President Ousted; Deficit-Cutting Actions Blamed," The Chronicle of Higher Education, XIII (November 1, 1976), pp. 6-7.

An international recruiting program was initiated.
Various assets of the university were sold.
All non-tenured administrators were dismissed.
An attempt was made to introduce more popular programs.
Off-campus programs were offered to attract new students.
All non-tenured faculty members were dismissed.

K. Patricia Cross, "The Instructional Revolution," Individualizing the System, ed. Dyckman W. Vermilye (San Francisco: Jossey-Bass Publishers, 1976), p. 52.

Program improvement occurred through remodeling rather than additions.

APPENDIX B

FUNCTIONAL SUBCATEGORIES

EDUCATIONAL AND GENERAL

Instruction
Accounts by divisions, schools, colleges, and departments of instruction following the administrative organization of the institution. The four functional subcategories are:
- General academic instruction
- Occupational and vocational instruction
- Special session instruction
- Community education

Research
Accounts by individual projects, classified by organizational units. The two functional subcategories are:
- Institutes and research centers
- Individual or project research

Public Service
Accounts by activities, classified by type of activity, such as:
- Community Service
- Conferences and Institutes
- Cooperative Extension Service
- Public Lectures
- Radio
- Television

Academic Support
Accounts by activities, classified by type of activity, such as:
- Academic Administration and Personnel Development
- Audiovisual Services
- Computing Support (excluding administrative data processing) unless distributed to using activities
- Course and Curriculum Development
- Demonstration Schools
- Libraries
- Museums and Galleries

Student Services
Accounts by activities, classified by type of activity, such as:
- Admissions Office
- Counseling and Career Guidance
- Cultural Events
- Dean of Students

Financial Aid Administration
Health and Infirmary Services if not an integral part of a hospital nor operated as an essentially self-supporting operation
Intramural Athletics
Intercollegiate Athletics if operated as an integral part of department of physical education and not essentially self-supporting
Registrar
Student Organizations
Remedial Instruction

Institutional Support--detailed as needed, for example:
Governing Board
Chief Executive Office
Chief Academic Office
Chief Business Office
Investment Office
Legal Counsel
Administrative Data Processing
Alumni Office
Auditing, internal and external
Safety
Security
Catalogues and Bulletins
Commencements
Convocations
Development Office
Employee Personnel and Records
Fund Raising
General Insurance other than Property Insurance
Interest on Current Funds Loans
Legal Fees
Memberships
Printing
Provision for Doubtful Accounts and Notes
Publications
Public Relations
Purchasing
Service Departments--There should be interim accounts for all organizational units classified in this category: these accounts should be closed out at the end of each fiscal year.
Space Management
Telephone and Telegraph unless charged to departmental budgets
Transportation including motor pool, unless operated as a service department

Operation and Maintenance of Plant
Accounts for all organizational units and functions, such as:
Administration
Custodial Services

Maintenance of Buildings
Maintenance of Grounds
Utilities
Trucking Services
Fire Protection
Property Insurance

Scholarships and Fellowships
Accounts as needed and desired for scholarships, fellowships, grants-in-aid, trainee stipends, prizes, and awards.
Tuition and Fee Remissions unless properly classified as staff benefit expenditures accounts may be set up for instructional divisions and departments, such as:
School of Medicine
Department of Physics

APPENDIX C

CLASSIFIED SUGGESTED THEORETICAL HIGHER

EDUCATION MANAGEMENT TECHNIQUES

INSTRUCTION

___ 1. Departmental reviews have been conducted by internal and/or external personnel.
___ 2. A year-round operation based on the quarter system was initiated.
___ 3. Evening laboratory schedules were initiated.
___ 4. An individualized curriculum was developed.
___ 5. The amount of class time has been reduced by permitting students to engage in independent work under faculty supervision.
___ 6. A one-year associate of arts program for qualified students was initiated.
___ 7. Medical and dental education programs were reformed and accelerated to make them less prolonged and less costly.
___ 8. A three-year bachelor of arts program was initiated for qualified students.
___ 9. Doctor of Philosophy and/or Doctor of Education program(s) were eliminated.
___10. The length of time required to obtain a Doctor of Arts degree was reduced.
___11. The length of time required to obtain a Doctor of Philosophy degree was reduced.
___12. Curriculum requirements for graduation were relaxed.
___13. An unendowed college has been closed.
___14. Instructional costs were reduced by dropping a department or school.
___15. Extensive program revisions have been made to maintain a distinctive educational position.
___16. Overlapping and duplicate programs have been consolidated.
___17. Programs for high-risk minority students have been reduced.
___18. Program improvement has occurred through remodeling rather than additions.
___19. High cost programs have been reduced.
___20. An overall educational program that the institution is qualified to offer has been designed.
___21. Credit-by-examination programs have been implemented.
___22. Academic programs were scrutinized and evaluated, including analysis of income and expenses for each program.
___23. New programs are going forward on a restricted priority basis.
___24. An attempt has been made to introduce more popular programs.
___25. Experimental programs have been reduced and/or eliminated.
___26. New program growth has been reduced and/or terminated.
___27. Correspondence and extension work have been reduced.

___28. Off-campus programs have been offered to attract new students.
___29. Extension, evening, and continuing education programs have been increased.
___30. Various courses of instruction have been postponed.
___31. Reductions were made in the number of course offerings.
___32. Low enrollment courses were eliminated.
___33. Low enrollment courses were scheduled less frequently.
___34. Central administration has encouraged shifting empty positions to visiting professors and approving the hiring of lower rank teachers.
___35. Recommended new faculty appointments have undergone careful scrutiny as to need and quality.
___36. Faculty redistribution has occurred through interdisciplinary programs.
___37. Faculty redistribution has occurred; away from classroom teaching to off-campus positions, assisting in external degree programs.
___38. Systematic efforts have been exerted to retrain faculty for new or unrelated fields.
___39. Faculty are encouraged to retire early through incentive programs.
___40. The faculty teaching load has been increased.
___41. The student-to-faculty ratio was increased.
___42. Faculty teaching loads have been rearranged to smooth out peaks without increasing loads.
___43. Promotion and tenure have been denied to encourage turnover of junior faculty.
___44. Tenure policies and faculty appointments have been monitored to prevent abuses.
___45. Tenure policies were modified.
___46. Tenure policies were abolished.
___47. Leaves of absence with pay have been postponed and denied.
___48. Sabbatical leaves were reduced.
___49. Sabbatical leaves were reduced by half.
___50. Sound wage policies for faculty and other professional staff have been established.
___51. A large number of faculty and staff have been laid off to reduce expenditures.
___52. Efforts to pay competitive salaries were reduced.
___53. Faculty salaries were frozen.
___54. Faculty salaries received minimal raises.
___55. Positions not subject of active recruitment were left vacant.
___56. The overall size of the faculty has been reduced.
___57. All nontenured faculty members have been dismissed.
___58. The number of nontenured faculty positions has been reduced.
___59. Faculty positions were eliminated.
___60. Part-time lecturers have been hired, holding permanent positions open.
___61. Annual appointments have not been renewed.
___62. The number of faculty was frozen.

___63. Faculty positions were unfilled.
___64. The flight instruction program was reduced.
___65. Increased emphasis has been placed on vocational programs.
___66. New programs in environmental studies were not funded.
___67. New programs in urban studies were not funded.
___68. Theater budgets were cut.
___69. Speech budgets were cut.
___70. The summer instruction program was reduced.
___71. The spring term academic program was reduced.
___72. Summer quarter was rejuvenated.
___73. Summer quarter was eliminated.
___74. Alumni volunteers were recruited to teach, work with student activities, and kitchen operations.
___75. The use of paraprofessionals was increased.
___76. Graduate assistants were utilized as instructors.
___77. Number of teaching assistants was reduced.

ACADEMIC SUPPORT

___ 1. A number of large-scale mathematical models of the institution have been constructed to determine percentages about student flows in order to calculate course enrollments which can be used to determine needed staff services and facilities.
___ 2. Positions vacated through resignation, retirement, or death were allocated to central administration so that they could determine where the need for reassignment is greatest.
___ 3. The laboratory/demonstration school was dropped.
___ 4. Efficiency was improved through new means of internal approval of expenditures; new methods of measuring output; devices for internal reallocation of funds.
___ 5. Tuition and schedule revisions were made in order to create a more efficient year-round schedule.
___ 6. A cost-effectiveness analysis was conducted, particularly within departments, to determine the relative "expense" of alternative instructional techniques and curriculum design.
___ 7. Unit cost studies were utilized.
___ 8. A cost-benefit analysis program was implemented.
___ 9. WICHE-NCHEMS products were utilized in the management process.
___10. A professional management program was begun.
___11. The program Management by Objectives was implemented.
___12. A planning-programming-budgeting system was initiated.
___13. A management information system was implemented.
___14. An office of institutional research was created.
___15. The reward system was sensitized in order to reward improvement.
___16. Across-the-board budget cuts were made.
___17. Across-the-board budget cuts were implemented and a portion of the savings was allocated to an Educational Development Fund destined for new programs.
___18. Deficit spending was tolerated in hope that financial strains were only temporary.

___19. Computer services were purchased from either a commercial organization, nearby public agency, or large academic organization.
___20. Computerized energy management system was installed, lowering line voltage from 128 to 121.
___21. Computers were used to store and manipulate statistical data.
___22. The budgetary procedures have been streamlined and/or computerized.
___23. Admissions records, financial records, and so forth have been computerized.
___24. Computers were taken out of service.
___25. The salary of top-level administrators was cut.
___26. The number of vice-presidents/vice-chancellors was decreased.
___27. All non-tenured administrators were dismissed.
___28. The hiring of needed administrative staff members was postponed.
___29. The number of administrative posts was reduced.
___30. The administration has been reorganized and streamlined.
___31. A new president or chancellor was selected to direct institutional management.
___32. A core of middle managers who assist department chairmen and/or other administrators has been developed.
___33. The number of media-based instructional techniques has been increased.
___34. Individual learning centers were eliminated.
___35. The medium of television was utilized to increase the student-teacher ratio.
___36. Library services were reduced, e.g., hours of service.
___37. Expenditure for library materials was reduced.
___38. The purchase of books for the library was postponed.
___39. Library subscriptions were analyzed and consolidated.
___40. Library expansion was delayed.

STUDENT SERVICES

___ 1. Student services were cut back.
___ 2. Cultural programs were eliminated.
___ 3. Funds for lectures and concerts were reduced.
___ 4. Recruiting and counseling pools among neighboring colleges and universities were established to coordinate resources and staff efforts for admitting educationally disadvantaged candidates.
___ 5. Funds for health services were reduced.
___ 6. The publications budget was reduced.
___ 7. Publication of a new catalog was postponed.
___ 8. Funds for extracurricular activities and events were cut.
___ 9. Athletic programs were eliminated.
___10. The athletic program was reduced.
___11. The debate program was eliminated.

SCHOLARSHIP AND FELLOWSHIP

___ 1. New financial limits for eligibility of student aid were imposed.
___ 2. Funds for student aid have been increased.
___ 3. Financial aid programs have been leveled off.
___ 4. Total expenditures for student grants, fellowships, and scholarships were decreased.
___ 5. The federal work-study program has been cut.
___ 6. The tuition payment program for all staff children which provided full tuition up to [a set] level was cut in half.
___ 7. The number of athletic scholarships was reduced.
___ 8. A policy was instituted to deny any benefit to all employees hired after a determined date.
___ 9. Former "free tuition" colleges began charging some amount of tuition.
___10. Funds available to out-of-state students were cut.

OPERATION AND MAINTENANCE OF PLANT

___ 1. Construction was cut back.
___ 2. Capital funds were eliminated.
___ 3. Buildings were constructed only after funds were available to endow the cost.
___ 4. Commitment for capital outlay was postponed for programs only partially funded by the government or outside sources.
___ 5. New facilities were designed for multipurpose uses.
___ 6. Plans for dormitories were cut back.
___ 7. Expenditure for physical plant maintenance was reduced.
___ 8. The building maintenance program was deferred.
___ 9. Handicapped persons were employed for custodial work through a community agency.
___10. Cleaning costs were reduced by detailed specifications and assignment of cleaning services.
___11. Three optional levels of cleaning quality were established.
___12. Incandescent fixtures were replaced with fluorescent.
___13. Use of "fake" fluorescent light tube to trick the fixture saved more electricity than if the original had been totally removed.
___14. Portable boilers for low operating levels were used rather than less efficient central systems.
___15. Air conditioning in the spring and fall were manually controlled.
___16. The tree care program was deferred.
___17. Landscaping was postponed.
___18. An air conditioning system that pumps cold water from deep wells rather than using electricity for cooling has been installed.
___19. Underground tanks have been installed which allow for storing of chilled water to be used for air conditioning.
___20. Underground water tanks have been installed so that water can be heated electrically at night and then used during the day to warm campus buildings.
___21. A plan has been adopted which limits the hours academic buildings are opened reducing hours for custodians and heating and cooling.

AUXILIARY ENTERPRISES

___ 1. Auxiliary enterprises were controlled to ensure that revenues would cover overhead and related costs.
___ 2. Auxiliary enterprise budgets were brought into better balance (e.g., undergraduate housing).
___ 3. Student housing was contracted.
___ 4. Student cooperatives are utilized in the operation of student housing.
___ 5. Student help was used in institutionally-operated dormitories.
___ 6. Maid service in dormitories was discontinued.
___ 7. Food service was contracted.
___ 8. Food service was portion controlled.
___ 9. The laundry was eliminated.

PUBLIC SERVICE

___ 1. Community service programs were eliminated.
___ 2. Community service programs were reduced.

RESEARCH

___ 1. Faculty research positions were eliminated.
___ 2. Research was cut back.
___ 3. Research units have been partially funded.
___ 4. Research units operate without a regular support budget.
___ 5. Student research was cut back.
___ 6. Total current fund expenditures for sponsored research were reduced.
___ 7. Sponsored research was controlled to ensure that revenues would cover overhead and related costs.

INSTITUTIONAL SUPPORT

___ 1. The budgeting process was decentralized.
___ 2. Sound budgeting procedures were established based on a projection of revenues and determining requirements based on analysis of functions, workloads, and methods.
___ 3. New broadly based budget committees were created and assigned the overall task of helping to reduce costs.
___ 4. In the largest and most complicated budget areas, expenditures have been brought under "line item" control.
___ 5. Budget procedures were implemented to provide incentive for effective use of resources.
___ 6. Rigorous review of budget base and existing programs was conducted.
___ 7. Investment policies were revised.

___ 8. Investment in short-term securities benefitted high interest rates.
___ 9. Aggressive measures were used to obtain federal funds.
___10. Cash balances in checking accounts were minimized to maximize interest yielded by the institution's liquid assets.
___11. Funds were shifted into departments where increasing enrollment would result in an increase in net income.
___12. Funds were withdrawn from existing campus programs (1 to 3 percent annually) for a self-renewal fund to be directed toward a new or expanded program.
___13. "Program budgeting" was implemented by establishing comprehensive performance standards or budget formulas and an information system of performance reporting.
___14. A planning group was organized.
___15. Institutional objectives and responsibilities were defined.
___16. Institutional planning devices were established.
___17. A three-step process for coping with the steady state included:
(1) data gathering
(2) setting of priorities
(3) assigning resources.
___18. A policy for reallocation was developed.
___19. Growth was planned by substitution.
___20. An overall strategy for the new condition was developed; one which realistically projected several years.
___21. Outside program-performance audits were utilized.
___22. Central university monitoring was used to control course and program proliferation or perpetuation.
___23. Priorities were reallocated.
___24. A system to determine what was obsolete and unproductive was developed.
___25. Financial support was attained through vigorous fund-raising.
___26. Financial support was attained through acquisition of large grants from private foundations.
___27. Unrestricted gift income was used for operation.
___28. Reserve and endowment funds were spent.
___29. Higher levels of assistance from alumni were realized.
___30. Extramural funding sources were developed.
___31. Offices were opened for fund raising and development activities.
___32. New fund-raising campaigns were begun.
___33. Efforts to raise private funds were increased.
___34. A major capital-funds campaign was planned to increase the endowment of the college.
___35. A campaign was undertaken to increase the endowment.
___36. Faculty and student group participation was requested in the use of funds, evaluation of programs, and planning long-range strategies for growth and development.
___37. Academic governance processes, grievance processes, and other departmental, college, and university-level meetings that consume valuable time were re-examined.
___38. Plans for new activities were cancelled.

___39. Academic program plans were postponed.
___40. The printing press was eliminated.
___41. Have developed a program of assistance for employees who might otherwise have been dismissed because of problems with alcohol, drugs, family, or finance.

OTHER

___ 1. Training workshops have been conducted for chairpersons and assistant deans.
___ 2. A manual of energy conservation ideas was compiled allowing advanced calculations of savings.
___ 3. Classroom utilization has been improved by matching class sizes better with room seating capacities.
___ 4. Enrollment projections were made.
___ 5. The growth of special admissions was reduced.
___ 6. Preliminary screening of prospective students and establishment of rigid entrance requirements were used to reduce attrition.
___ 7. New admission tests were used to screen out those unable to read or write at the eighth grade level.
___ 8. Undergraduate admission requirements/standards were modified to increase enrollment.
___ 9. An international recruiting program was initiated.
___10. The recruitment of student clients who would not ordinarily be served was initiated.
___11. Student charges were increased.
___12. Tuition was increased.
___13. The enrollment was increased.
___14. A maximum enrollment has been established.
___15. The percentage of graduate students was frozen at the present level.
___16. The number of graduate students was reduced.
___17. New administrative and faculty standards of judgment relative to educational quality and purpose have been developed.
___18. Operating income was increased by advancing the charge to the student.
___19. Overtime has been eliminated.
___20. Travel funds were eliminated.
___21. Travel funds have been reduced.
___22. Purchasing has been centralized.
___23. Membership in various intercollegiate organizations has been eliminated.
___24. Memberships in professional organizations were eliminated.
___25. Federally funded programs were curtailed and/or abolished.
___26. The purchase of needed land has been postponed.
___27. Various assets of the university have been sold.
___28. Noneducational business assets were sold.
___29. Attempts to convince the faculty of the need to be more cost conscious were made.

___30. Funds for public information services were reduced.
___31. Campus-wide awareness campaigns were waged to conserve utilities.
___32. Financial information about the university was widely disseminated among institutional units.
___33. A consortium of colleges has been established.
___34. Joint public-private approaches to relieving the problems of dwindling growth have been initiated.
___35. All avenues for cooperating with other institutions have been explored and utilized.
___36. Inter-institutional cooperation was developed in certain high-cost fields.
___37. An affiliate college has been closed.
___38. The forty-hour work week has been squeezed into four and one-half days.
___39. The workloads of support personnel have been increased.
___40. The efficiency of secretaries was increased by specializing jobs and modernizing equipment.
___41. The use of temporary personnel was discontinued.
___42. The hiring of support personnel was stopped.
___43. The number of support employees was reduced.
___44. Programmable calculators have been used to prepare bills.
___45. Less expensive equipment and furnishings have been purchased.
___46. Expenditures for equipment acquisition and replacement were reduced.
___47. Significant shifts have been made in inventory levels.
___48. Inventories have been reduced to have funds for obtaining interest.
___49. Typists are required to use one and one-half spaces instead of two between lines.
___50. A rationing program has been initiated for stationery, paper clips, rubber bands, etc.
___51. The university has purchased its own telephone system.
___52. A "least-cost telephone routing device" which switches campus phones into less expensive "calling paths" has been installed.
___53. Copying machines have been purchased and leased to campus users.
___54. Less expensive copying equipment has been rented and/or purchased.
___55. A campus-wide examination of rate schedules for all goods and services has been conducted.
___56. The telephone company's "Wide-area telecommunication service" (WATS) has been replaced with regular long-distance telephone service.
___57. A new mailing form has been developed which eliminates envelopes and printed-letterhead stationery.

APPENDIX D

PANEL OF EXPERTS

Dr. Francis M. Gross, Vice Chancellor for Business and Finance
University of Tennessee, Martin

Dr. M. William Konnert,
The University of Tennessee, Knoxville

Dr. Hilton A. Smith
The University of Tennessee, Knoxville

APPENDIX E

FINAL DRAFT OF SURVEY INSTRUMENT

The attached survey instrument contains statements relative to suggested theoretical higher education management techniques that may be utilized during a period of decline to maintain institutional solvency. As a respondent, you are being asked to:

1. Indicate with a check each item that you or staff members have employed;

EXCEPTION: The researcher realizes that more than one respondent at the same institution may have implemented the same management technique; however, no attempt is being made to obtain this information. Thus, if another respondent has provided a response to an item which you or a staff member has implemented, please do not provide a second response to that item.

2. Indicate whether the technique you or staff members implemented was employed as a preventive or remedial measure;

3. Use the forced-choice continuum containing four possible responses--most effective, effective, ineffective, and most ineffective--to indicate your perception of the effectiveness of the technique.

NOTE: The following is provided as a guide to your indicating the effectiveness of a particular technique:

Most Effective: Indicates that the return exceeded either anticipated savings or anticipated increased revenues in the designated period of time.

Effective: Indicates the return equaled either anticipated savings or anticipated increased revenues in the designated period of time.

Ineffective: Indicates that neither the anticipated savings or the anticipated increased revenues could be realized in the designated period of time.

Most Ineffective: Indicates the cost of implementation exceeded either the anticipated savings or the anticipated increased revenues in the designated period of time.

If you have questions regarding the instructions or items on the survey instrument, I will answer them.

SURVEY INSTRUMENT

INSTRUCTION

Check (✓) appropriate column(s).

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 1. Departmental reviews have been conducted by internal and/or external personnel.						
___ 2. A year-round operation based on the quarter system was initiated.						
___ 3. Evening laboratory schedules were initiated.						
___ 4. An individualized curriculum was developed.						
___ 5. The amount of class time has been reduced by permitting students to engage in independent work under faculty supervision.						
___ 6. A one-year associate of arts program for qualified students was initiated.						
___ 7. Medical and dental education programs were reformed and accelerated to make them less prolonged and less costly.						
___ 8. A three-year bachelor of arts program was initiated for qualified students.						
___ 9. Doctor of Philosophy and/or Doctor of Education program(s) were eliminated.						

INSTRUCTION (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___10. The length of time required to obtain a Doctor of Arts degree was reduced.						
___11. The length of time required to obtain a Doctor of Philosophy degree was reduced.						
___12. Curriculum requirements for graduation were relaxed.						
___13. An unendowed college has been closed.						
___14. A department or school has been dropped.						
___15. Extensive program revisions have been made to maintain a distinctive educational position.						
___16. Overlapping and duplicate programs have been consolidated.						
___17. Programs for high-risk minority students have been reduced.						
___18. Program improvement has occurred through remodeling rather than additions.						
___19. High cost programs have been reduced.						
___20. An overall educational program that the institution is qualified to offer has been designed.						
___21. Credit-by-examination programs have been implemented.						

INSTRUCTION (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___22. Academic programs were scrutinized and evaluated, including analysis of income and expenses for each program.						
___23. New programs are going forward on a restricted priority basis.						
___24. An attempt has been made to introduce more popular programs.						
___25. Experimental programs have been reduced and/or eliminated.						
___26. New program growth has been reduced and/or terminated.						
___27. Correspondence and extension work have been reduced.						
___28. Off-campus programs have been offered to attract new students.						
___29. Extension, evening, and continuing education programs have been increased.						
___30. Various courses of instruction have been postponed.						
___31. Reductions were made in the number of course offerings.						
___32. Low enrollment courses were eliminated.						
___33. Low enrollment courses were scheduled less frequently.						
___34. Central administration has encouraged shifting empty positions to visiting professors.						

INSTRUCTION (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___35. Recommended new faculty appointments have undergone careful scrutiny as to need and quality.						
___36. Faculty redistribution has occurred through interdisciplinary programs.						
___37. Faculty redistribution has occurred; away from classroom teaching to off campus positions, assisting in external degree programs.						
___38. Systematic efforts have been exerted to retrain faculty for new or unrelated fields.						
___39. Faculty are encouraged to retire early through incentive programs.						
___40. The faculty teaching load has been increased.						
___41. The student-to-faculty ratio was increased.						
___42. Faculty teaching loads have been rearranged to smooth out peaks without increasing loads.						
___43. Promotion and tenure have been denied to encourage turnover of junior faculty.						
___44. Tenure policies and faculty appointments have been monitored to prevent abuses.						

INSTRUCTION (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___45. Tenure policies were modified.						
___46. Tenure policies were abolished.						
___47. Leaves of absence with pay have been postponed and denied.						
___48. Sabbatical leaves were reduced.						
___49. Sound wage policies for faculty and other professional staff have been established, with a clear delineation of the principal governing factor (salaries paid by competitors, cost-of-living, average family income, incomes of similar professions, etc.), relation of salaries to years of service, ratio of retirement salary to basic salary, role of tenure in determining salary level, fringe benefits, etc.						
___50. A large number of faculty and staff have been laid off to reduce expenditures.						
___51. Efforts to pay competitive salaries were reduced.						
___52. Faculty salaries were frozen.						
___53. Faculty salaries received minimal raises.						
___54. Positions not subject of active recruitment were left vacant.						

INSTRUCTION (continued)

	Preventive / Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___55. All nontenured faculty members have been dismissed.					
___56. The number of nontenured faculty positions has been reduced.					
___57. Faculty positions were eliminated.					
___58. Part-time lecturers have been hired, holding permanent positions open.					
___59. Annual appointments have not been renewed.					
___60. The number of faculty was frozen.					
___61. Faculty positions were unfilled.					
___62. The flight instruction program was reduced.					
___63. Increased emphasis has been placed on vocational programs.					
___64. New programs in environmental studies were not funded.					
___65. New programs in urban studies were not funded.					
___66. Theater budgets were cut.					
___67. Speech budgets were cut.					
___68. The summer instruction program was reduced.					

INSTRUCTION (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___69. The spring term academic program was reduced.						
___70. Summer quarter was rejuvenated.						
___71. Summer quarter was eliminated.						
___72. Alumni volunteers were recruited to teach, work with student activities, and kitchen operations.						
___73. The use of paraprofessionals was increased.						
___74. Graduate assistants were utilized as instructors.						
___75. Number of teaching assistants was reduced.						
___76. Central administration has approved only the hiring of lower rank teachers.						

Please indicate any others for this category that you or staff members have implemented.

___77. _____						
___78. _____						

INSTRUCTION (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___79. _____						
___80. _____						

ACADEMIC SUPPORT

Check (✓) appropriate column(s).

___ 1. A number of large-scale mathematical models of the institution have been constructed to determine percentages about student flows in order to calculate course enrollments which can be used to determine needed staff services and facilities.						
___ 2. Positions vacated through resignation, retirement, or death were allocated to central administration so that they could determine where the need for reassignment is greatest.						
___ 3. The laboratory/demonstration school was dropped.						
___ 4. A partial or pilot review of operations designed to improve efficiency through new means of internal approval of expenditures; new methods of measuring output; control over course proliferation; and devices for internal reallocation of funds, has taken place.						

ACADEMIC SUPPORT (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 5. Tuition and schedule revisions were made in order to create a more efficient year-round schedule.						
___ 6. A cost-effectiveness analysis was conducted, particularly within departments to determine the relative "expense" of alternative instructional techniques and curriculum design.						
___ 7. Unit cost studies were utilized.						
___ 8. A cost-benefit analysis program was implemented.						
___ 9. WICHE-NCHEMS products were utilized in the management process (program-performance audits, simulation techniques, electronic data processing, analysis of institutional goals, program evaluation, market survey, needs analysis).						
___10. The program management by objectives was implemented.						
___11. A planning-programming-budgeting system was initiated.						
___12. A management information system was implemented.						
___13. An office of institutional research was created.						
___14. The reward system was sensitized in order to reward improvement.						
___15. Across-the-board budget cuts were made.						

ACADEMIC SUPPORT (continued)

	Preventive / Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___16. Academic program plans were postponed.					
___17. Deficit spending was tolerated in hope that financial strains were only temporary.					
___18. Computer services were purchased from either a commercial organization, nearby public agency, or large academic organization.					
___19. Computers were used to store and manipulate statistical data.					
___20. Computers were taken out of service.					
___21. The salary of top-level administrators was cut.					
___22. The number of vice-presidents/vice-chancellors was decreased.					
___23. All non-tenured administrators were dismissed.					
___24. The hiring of needed administrative staff members was postponed.					
___25. The administration has been reorganized and streamlined.					
___26. A new president or chancellor was selected to direct institutional management.					
___27. A core of middle managers who assist department chairmen and/or other administrators has been developed.					

ACADEMIC SUPPORT (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___28. The number of media-based instructional techniques has been increased.						
___29. Individual learning centers were eliminated.						
___30. The medium of television was utilized to increase the student-teacher ratio.						
___31. Library services were reduced, e.g., hours of service.						
___32. Expenditure for library materials was reduced.						
___33. Library subscriptions were analyzed and consolidated.						
___34. Library expansion was delayed.						
___35. Funds were shifted into departments where increasing enrollment would result in an increase in net income.						

Please indicate any others for this category that you or staff members have implemented.

___36. _____						
___37. _____						

ACADEMIC SUPPORT (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___38. _____						
___39. _____						

STUDENT SERVICES

Check (✓) appropriate column(s).

___ 1. Cultural programs were eliminated.						
___ 2. Funds for lectures and concerts were reduced.						
___ 3. Recruiting and counseling pools among neighboring colleges and universities were established to coordinate resources and staff efforts for admitting educationally disadvantaged candidates.						
___ 4. Funds for health services were reduced.						
___ 5. The publications budget was reduced.						
___ 6. Publication of a new catalog was postponed.						
___ 7. The athletic program was reduced.						
___ 8. The debate program was eliminated.						
___ 9. Admission records have been computerized.						

STUDENT SERVICES (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___10.						
___11.						
___12.						
___13.						
___14.						

SCHOLARSHIP AND FELLOWSHIP

Check (✓) appropriate column(s).

___ 1. New financial limits for eligibility of student aid were imposed.						
___ 2. Funds for student aid have been increased.						
___ 3. Financial aid programs have been leveled off.						
___ 4. Total expenditures for student grants, fellowships, and scholarships were decreased.						

SCHOLARSHIP AND FELLOWSHIP (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 5. The federal work-study program has been cut.						
___ 6. The tuition payment program for all staff children which provided full tuition up to [a set] level was cut and a policy was instituted to deny this benefit to all employees hired after a determined date.						
___ 7. The number of athletic scholarships was reduced.						
___ 8. The value of athletic scholarships was reduced.						
___ 9. Former "free tuition" colleges began charging some amount of tuition.						
___10. Funds available to out-of-state students were cut.						
___11. Unit funded scholarships were reduced.						
___12. _____						
___13. _____						
___14. _____						

SCHOLARSHIP AND FELLOWSHIP (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___15. _____						
___16. _____						

OPERATION AND MAINTENANCE OF PLANT

Check (✓) appropriate column(s).

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 1. Buildings were constructed only after funds were available to endow the cost.						
___ 2. Capital outlay for programs only partially funded by the government or outside sources was postponed.						
___ 3. New facilities were designed for multipurpose uses.						
___ 4. Plans for dormitories were cut back.						
___ 5. The building maintenance program was deferred.						
___ 6. Handicapped persons were employed for custodial work through a community agency.						
___ 7. Cleaning costs were reduced by detailed specifications and assignment of cleaning services.						

OPERATION AND MAINTENANCE OF PLANT (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 8. Three optional levels of cleaning quality were established.						
___ 9. Incandescent fixtures were replaced with fluorescent.						
___10. A "Phantom tube" fluorescent light has been used to trick fixtures.						
___11. Portable boilers for low operating levels were used rather than less efficient central systems.						
___12. Air conditioning in the spring and fall was manually controlled.						
___13. The tree care program was deferred.						
___14. Landscaping was postponed.						
___15. An air conditioning system that pumps cold water from deep wells rather than using electricity for cooling has been installed.						
___16. Underground tanks have been installed which allow for storing of chilled water to be used for air conditioning.						
___17. Underground water tanks have been installed so that water can be heated electrically at night and then used during the day to warm campus buildings.						

OPERATION AND MAINTENANCE OF PLANT (continued)

	Preventive / Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___18. A plan has been adopted which limits the hours academic buildings are opened reducing hours for custodians and heating and cooling.					
___19. Computerized energy management system was installed, lowering line voltage from 128 to 121.					

Please indicate any others for this category that you or staff members have implemented.

___20. _____						
___21. _____						
___22. _____						
___23. _____						
___24. _____						

AUXILIARY ENTERPRISES

Check (✓) appropriate column(s).

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 1. Auxiliary enterprises were controlled to ensure that revenues would cover overhead and related costs.						
___ 2. Student housing was contracted.						
___ 3. Student cooperatives were utilized in the operation of student housing.						
___ 4. Student help was used in institutionally-operated dormitories.						
___ 5. Maid service in dormitories was discontinued.						
___ 6. Food service was contracted.						
___ 7. Food service was portion controlled.						
___ 8. The laundry was eliminated.						
___ 9. Compulsory student meal plans were started for all dormitory residents.						
___10. Compulsory student housing residence required for all non-commuting undergraduates.						

AUXILIARY ENTERPRISES (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___11.						
___12.						
___13.						
___14.						
___15.						

INSTITUTIONAL SUPPORT

Check (✓) appropriate column(s).

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 1. The budgetary procedures have been streamlined and/or computerized.						
___ 2. The budgeting process was decentralized.						
___ 3. Financial records have been computerized.						

INSTITUTIONAL SUPPORT (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 4. In the largest and most complicated budget areas, expenditures have been brought under "line item" control.						
___ 5. Budget procedures were implemented to provide incentive for effective use of resources.						
___ 6. Investment policies were revised.						
___ 7. Investment in short-term securities benefitted high interest rates.						
___ 8. Aggressive measures were used to obtain federal funds.						
___ 9. Cash balances in checking accounts were minimized to maximize interest yielded by the institution's liquid assets.						
___10. Capital funds were eliminated.						
___11. Funds were withdrawn from existing campus programs (1 to 3 percent annually) for a self-renewal fund to be directed toward a new or expanded program.						
___12. "Program budgeting" was implemented by establishing comprehensive performance standards or budget formulas and an information system of performance reporting.						
___13. A planning group was organized.						

INSTITUTIONAL SUPPORT (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___14. Institutional objectives and responsibilities were defined.						
___15. Institutional planning devices were established.						
___16. A three-step process for coping with the steady state was developed: (1) data gathering (2) setting of priorities (3) assigning resources.						
___17. Outside program-performance audits were utilized.						
___18. Central university monitoring was used to control course and program proliferation or perpetuation.						
___19. Financial support was attained through vigorous fund-raising.						
___20. Financial support was attained through acquisition of large grants from private foundations.						
___21. Unrestricted gift income was used for operation.						
___22. Reserve and endowment funds were spent.						
___23. Higher levels of assistance from alumni were realized.						
___24. Extramural funding sources were developed.						

INSTITUTIONAL SUPPORT (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___25. Offices were opened for fund raising and development activities.						
___26. Faculty and student group participation was requested in the use of funds, evaluation of programs, and planning long-range strategies for growth and development.						
___27. Academic governance processes, grievance processes, and other departmental, college, and university-level meetings that consume valuable time were re-examined.						
___28. Plans for new activities were cancelled.						
___29. The printing press was eliminated.						
___30. A program of assistance has been developed for employees who might otherwise have been dismissed because of problems with alcohol, drugs, family, or finance.						

Please indicate any others for this category that you or staff members have implemented.

___31. _____						
___32. _____						

INSTITUTIONAL SUPPORT (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___33.						
___34.						
___35.						

RESEARCH

Check (✓) appropriate column(s).

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 1. Faculty research positions were eliminated.						
___ 2. Research units have been partially funded.						
___ 3. Research units operated without a regular support budget.						
___ 4. Student research was cut back.						
___ 5. Total current fund expenditures for sponsored research were reduced.						
___ 6. Sponsored research was controlled to ensure that revenues would cover overhead and related costs.						

RESEARCH (continued)

Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective

Please indicate any others for this category that you or staff members have implemented.

___ 7. _____

_____

___ 8. _____

_____

___ 9. _____

_____

___10. _____

_____

___11. _____

_____

PUBLIC SERVICE

Check (✓) appropriate column(s).

___ 1. Community service programs were eliminated.

___ 2. Community service programs were reduced.

PUBLIC SERVICE (continued)

Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective

Please indicate any others for this category that you or staff members have implemented.

___ 3. _____

_____

___ 4. _____

_____

___ 5. _____

_____

___ 6. _____

_____

OTHER

Check (✓) appropriate column(s).

___ 1. Training workshops have been conducted for chairpersons and assistant deans.

___ 2. A manual of energy conservation ideas was compiled allowing advanced calculations of savings.

OTHER (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___ 3. Classroom utilization has been improved by matching class sizes better with room seating capacities.						
___ 4. Enrollment projections were made.						
___ 5. The growth of special admissions was reduced.						
___ 6. Preliminary screening of prospective students and establishment of rigid entrance requirements were used to reduce attrition.						
___ 7. New admission tests were used to screen out those unable to read or write at the eighth grade level.						
___ 8. Undergraduate admission requirements/standards were modified to increase enrollment.						
___ 9. An international recruiting program was initiated.						
___10. The recruitment of student clients who would not ordinarily be served was initiated.						
___11. Student charges were increased.						
___12. Tuition was increased.						
___13. The enrollment was increased.						

OTHER (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___14. A maximum enrollment has been established.						
___15. The percentage of graduate students was frozen at the present level.						
___16. The number of graduate students was reduced.						
___17. New administrative and faculty standards of judgment relative to educational quality and purpose have been developed.						
___18. Operating income was increased by advancing the charge to the student.						
___19. Overtime has been eliminated.						
___20. Travel funds were eliminated.						
___21. Travel funds have been reduced.						
___22. Purchasing has been centralized.						
___23. Membership in various intercollegiate organizations has been eliminated.						
___24. Memberships in professional organizations were eliminated.						
___25. Federally funded programs were curtailed and/or abolished.						

OTHER (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___26. The purchase of needed land has been postponed.						
___27. Various assets of the university have been sold.						
___28. Attempts to convince the faculty of the need to be more cost conscious were made.						
___29. Funds for public information services were reduced.						
___30. Campus-wide awareness campaigns were waged to conserve utilities.						
___31. Financial information about the university was widely disseminated among institutional units.						
___32. A consortium of colleges has been established.						
___33. Inter-institutional cooperation was developed in certain high-cost fields.						
___34. An affiliate college has been closed.						
___35. The forty-hour work week has been squeezed into four and one-half days.						
___36. The workloads of support personnel have been increased.						

OTHER (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___37. The efficiency of secretaries was increased by specializing jobs and modernizing equipment.						
___38. The use of temporary personnel was discontinued.						
___39. The hiring of support personnel was stopped.						
___40. The number of support employees was reduced.						
___41. Programmable calculators have been used to prepare bills.						
___42. Expenditures for equipment acquisition and replacement were reduced.						
___43. Significant shifts have been made in inventory levels.						
___44. Inventories have been reduced to have funds for obtaining interest.						
___45. Typists are required to use one and one-half spaces instead of two between lines.						
___46. A rationing program has been initiated for stationery, paper clips, rubber bands, etc.						
___47. The university has purchased its own telephone system.						

OTHER (continued)

	Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___48. A "least-cost telephone routing device" which switches campus phones into less expensive "calling paths" has been installed.						
___49. Copying machines have been purchased and leased to campus users.						
___50. Less expensive copying equipment has been rented and/or purchased.						
___51. A campus-wide examination of rate schedules for all goods and services has been conducted.						
___52. The telephone company's "Wide-area telecommunication service" (WATS) has been replaced with regular long-distance telephone service.						
___53. A new mailing form has been developed which eliminates envelopes and printed-letterhead stationery.						

Please indicate any others for this category that you or staff members have implemented.

___54. _____						
___55. _____						

OTHER (continued)

		Preventive	Remedial	Most Effective	Effective	Ineffective	Most Ineffective
___56.							
___57.							
___58.							

APPENDIX F

CRITERIA FOR SELECTION OF INSTITUTIONS

1. The institution must be state-aided.
2. The institution must be located in the southeast region of the United States.
3. The institution must grant over 90 doctoral degrees in a calendar year.
4. The institution must have a headcount enrollment exceeding 16,500.
5. The institution must be a public college or university.

APPENDIX G

PROJECT DIRECTOR'S PLEDGE

I, Wayne M. Chaffin, do hereby pledge never to divulge the name(s) of the institutions nor the names of the respondents who voluntarily provided data for possible inclusion in my dissertation to anyone other than the members of my doctoral committee. I do further pledge that I will ask each of the Committee members in the presence of a witness for a verbal commitment to secrecy as to the identity of the institutions and the respondents.

Signature:

Project Director_____

Date_____

APPENDIX H

INFORMED CONSENT STATEMENT

In developing the dissertation, A STUDY OF INSTITUTIONAL MANAGEMENT DURING A PERIOD OF DECLINE, six objectives are recognized: to identify suggested theoretical higher education management techniques that may be utilized during a period of decline; to identify the management techniques selected public institutions of higher education implemented during a period of decline; to determine if selected public institutions implemented management techniques which differed from those suggested within the literature; to determine whether the implemented management techniques were employed as preventive or remedial measures; to obtain from institutional managers in the selected public institutions a rating of the effectiveness of various management techniques utilized during a period of decline; and to determine if an actual management technique was implemented by more than one of the selected public institutions.

Your assistance is being requested by responding to the appropriate items on the survey instrument. Items on the instrument may serve as a catalyst for your offering voluntary comments relative to the management of decline. With your permission, these comments will be tape recorded; remarks or information which you designate as confidential will be so respected.

Neither your name nor the identity of the institution will appear in the dissertation or be revealed to anyone other than the members of the researcher's doctoral committee. Those persons who comprise the Committee will be asked in the presence of a witness for a verbal commitment to preserve the anonymity of the institution and the respondents.

If you have questions regarding the procedure to be followed, the Project Director will answer them. Please indicate your consent to respond to items on the instrument and have your pursuing comments tape recorded by signing this statement.

Signature:

Respondent_____

Date_____

APPENDIX I

ACTUAL MANAGEMENT TECHNIQUES IMPLEMENTED BY

PARTICIPATING INSTITUTIONS

INSTRUCTION

___ Departmental reviews have been conducted by internal and/or external personnel.
___ An individualized curriculum was developed.
___ The amount of class time has been reduced by permitting students to engage in independent work under faculty supervision.
___ Curriculum requirements for graduation were relaxed (only for Arts and Sciences).
___ A department or school has been dropped.
___ Extensive program revisions have been made to maintain a distinctive educational position.
___ Overlapping and duplicate programs have been consolidated.
___ Program improvement has occurred through remodeling rather than additions.
___ An overall educational program that the institution is qualified to offer has been designed.
___ Credit-by-examination programs have been implemented.
___ Academic programs were scrutinized and evaluated, including analysis of income and expenses for each program.
___ New programs are going forward on a restricted priority basis.
___ An attempt has been made to introduce more popular programs.
___ Experimental programs have been reduced and/or eliminated.
___ New program growth has been reduced and/or terminated.
___ Correspondence and extension work have been reduced.
___ Off-campus programs have been offered to attract new students.
___ Extension, evening, and continuing education programs have been increased.
___ Various courses of instruction have been postponed.
___ Reductions were made in the number of course offerings.
___ Low enrollment courses were eliminated.
___ Low enrollment courses were scheduled less frequently.
___ Central administration has encouraged shifting empty positions to visiting professors.
___ Recommended new faculty appointments have undergone careful scrutiny as to need and quality.
___ Faculty redistribution has occurred through interdisciplinary programs.
___ The faculty teaching load has been increased.
___ The student-to-faculty ratio was increased.
___ Tenure policies and faculty appointments have been monitored to prevent abuses.

___ Leaves of absence with pay have been postponed and denied.
___ Sound wage policies for faculty and other professional staff have been established, with a clear delineation of the principal governing factor (salaries paid by competitors, cost-of-living, average family income, incomes of similar professions, etc.), relation of salaries to years of service, ratio of retirement salary to basic salary, role of tenure in determining salary level, fringe benefits, etc.
___ Faculty salaries received minimal raises.
___ Positions not subject of active recruitment were left vacant.
___ Faculty positions were eliminated.
___ Part-time lecturers have been hired, holding permanent positions open.
___ Annual appointments have not been renewed.
___ The number of faculty was frozen.
___ Faculty positions were unfilled.
___ New programs in environmental studies were not funded.
___ New programs in urban studies were not funded.
___ The summer instruction program was reduced.
___ Graduate assistants were utilized as instructors.
___ Number of teaching assistants was reduced.
___ Courses have been reviewed and duplication of coverage eliminated.
___ Work loads of faculty were modified to increase proportion devoted to off-campus credit and non-credit instruction.
___ The hiring of temporary-type instructional personnel has been employed.
___ Introduced within the College of Arts and Sciences a professional advising core consisting of five part-time advisors who work with uncommitted majors to explore the best vocational and academic options for the student.
___ Developed a Development Studies Program which is directed toward students with low ACT scores and who are having reading, language, and mathematical difficulties.
___ The purchase of needed instructional materials, supplies, and equipment has been postponed.
___ Some staff members have been laid off.
___ "Low enrollment" courses were redefined.
___ Instructional supply budgets have been drastically reduced.
___ Individualized (self-taught) course sequences have been inaugurated, e.g., Persian, Chinese.
___ The College of Agriculture has undergone major departmental consolidation and reorganization.
___ Agriculture experiment station resources have been utilized in the instructional program.
___ The admission standards have been increased for out-of-state students desiring enrollment in Forestry, Wildlife and Ornamental Horticulture.
___ The College of Agriculture has utilized voluntary professional personnel for instructional service.
___ Retiring full professors have been replaced with assistant professors.

___ The acquisition of needed broadcasting materials and equipment had to be delayed.
___ A mini-term has been scheduled between fall and winter quarters.

ACADEMIC SUPPORT

___ A number of large-scale mathematical models of the institution have been constructed to determine percentages about student flows in order to calculate course enrollments which can be used to determine needed staff services and facilities.
___ Positions vacated through resignation, retirement, or death were allocated to central administration so that they could determine where the need for reassignment is greatest.
___ A partial or pilot review of operations designed to improve efficiency through new means of internal approval of expenditures; new methods of measuring output; control over course proliferation; and devices for internal reallocation of funds, has taken place.
___ A cost-effectiveness analysis was conducted, particularly within departments to determine the relative "expense" of alternative instructional techniques and curriculum design.
___ Unit cost studies were utilized.
___ WICHE-NCHEMS products were utilized in the management process (program-performance audits, simulation techniques, electronic data processing, analysis of institutional goals, program evaluation, market survey, needs analysis).
___ The program management by objectives was implemented.
___ A management information system was implemented.
___ An office of institutional research was created.
___ The reward system was sensitized in order to reward improvement.
___ Across-the-board budget cuts were made.
___ Academic program plans were postponed.
___ Computers were used to store and manipulate statistical data.
___ The hiring of needed administrative staff members was postponed.
___ The administration has been reorganized and streamlined.
___ A core of middle managers who assist department chairmen and/or other administrators has been developed.
___ The number of media-based instructional techniques has been increased.
___ The medium of television was utilized to increase the student-teacher ratio.
___ Library services were reduced, e.g., hours of service.
___ Expenditure for library materials was reduced.
___ Library subscriptions were analyzed and consolidated.
___ Library expansion was delayed (a college library/University level).
___ Funds were shifted into departments where increasing enrollment would result in an increase in net income.
___ Summer offerings dramatically increased to reduce burdens of fall semester in particular (college level).
___ The fund supporting a program of partial release time for faculty research has been abolished.

___ Annual review of each faculty member's performance was initiated in 1976-77.
___ Annual review of non-teaching faculty and staff was initiated in 1977.
___ Computer services were obtained from a state agency with surplus capacity.
___ A program budgeting system was being developed.
___ A new vice chancellorship was established to give leadership to resource allocation and managerial efficiency.

STUDENT SERVICES

___ Admission records have been computerized.
___ The student newspaper became legally and budgetarily independent of the university; and the university no longer provides direct fiscal support to the paper.
___ Health service: general fund support was frozen at a fixed level; subsequent health service budget increases have come from increases in student health fee.
___ Program expansion in the division of student affairs has been limited.
___ Dean of Men and Dean of Women offices combined.
___ Charges for catalogs was begun thereby reducing the number required in addition to providing some new revenues.
___ A director of resident hall social programming was employed.
___ The level of counseling and guidance and published material available through the International Student Office has been improved resulting in an increase in international students.
___ Resident hall social programming was instituted.
___ To maintain existing programs, dollars generated by the program service fee have been shifted to specific operations in student affairs.
___ Reduced the total number of catalogs printed.
___ Instituted a policy which requires division approval of publications prior to printing.
___ Reduced the number of positions through reassignment of program responsibility.
___ Equipment purchases were reduced.
___ Students have absorbed a greater portion of the cost of health service.
___ Contracts for certain medical services with agencies external to the campus have been improved.

SCHOLARSHIP AND FELLOWSHIP

___ Funds for student aid have been increased.
___ Financial aid programs have been leveled off.
___ A collection agency has been employed to collect delinquent NDSL loans.
___ Efforts have been made to communicate loan repayment obligations to the borrowers.

___ Athletic department was forced to absorb increased funds necessary to implement women's varsity athletic program.
___ Redistribution of funds toward more effective program of scholarship and student aid has occurred.
___ Funds from self generated sources have been allocated to take advantage of maximum federal allocations of loan funds, work study, etc.
___ Aggressive measures have occurred to obtain student aid (scholarships, internships and co-operative work experience).

OPERATION AND MAINTENANCE OF PLANT

___ Capital outlay for programs only partially funded by the government or outside sources was postponed.
___ New facilities were designed for multipurpose uses.
___ Plans for dormitories were cut back.
___ The building maintenance program was deferred.
___ Cleaning costs were reduced by detailed specifications and assignment of cleaning services.
___ Incandescent fixtures were replaced with fluorescent.
___ A "Phantom tube" fluorescent light has been used to trick fixtures.
___ Air conditioning in the spring and fall was manually controlled.
___ Landscaping was postponed.
___ A plan has been adopted which limits the hours academic buildings are opened reducing hours for custodians and heating and cooling.
___ Computerized energy management system was installed, lowering line voltage from 128 to 121.
___ Two levels of cleaning quality were established.
___ Initiated computer monitoring of environment controls.
___ Conducted cost-benefit studies on alternate fuel services to ascertain most economic source by thermal unit (fuel oil, coal, natural gas).
___ Conducted public relations campaign through campus media to save energy.
___ Gave a free dinner to best energy savings tip each month.
___ Applied for and received HUD grant to save energy in the dorms . . . new windows.
___ Previously independent air conditioning systems were tied together to reduce utility consumption and extend life of cooling equipment.
___ Previously independent air conditioning systems were tied to the central system.
___ Instituted preventive maintenance programs to extend life of equipment.
___ Maintenance forces were scheduled to reduce loss of time and complete projects more quickly.
___ Utility distribution system was made more effective by insulating steam and chilled water lines.
___ Target temperature was set at 68 degrees during heating season and 78 degrees during air conditioning season.

___ Safety program has been initiated university wide and in each department to reduce both workman compensation and liability costs.
___ Within the area of Physical Plant, vacancies have been frozen.
___ The staff of the Physical Plant has been reduced.
___ A program of installing time clocks or photo-electric cells to turn off lights when they are not needed was implemented.
___ Decals urging that lights be turned off were developed and placed near the room light switches in most of the campus buildings.
___ When fluorescent lamps were purchased, thirty-five watt tubes were specified rather than forty watt tubes.
___ A program of converting the electrical distribution system from 2400 volts to 13,200 volts, together with combining campus meter has been conducted.
___ The temperature of the domestic hot water was lowered from an average of 140 degrees to 120 degrees Fahrenheit.
___ The building thermostat temperature settings were lowered from 72 degrees to 76 degrees Fahrenheit for the cooling season.
___ A program designed to optimize the performance of hot water heating systems was implemented.
___ The environmental controls maintenance was intensified.
___ In selected buildings, clock activated sequencers were installed to shut off and turn on the building air conditioners.
___ The make-up air intake dampers were adjusted to take in only the minimum amount of air necessary for a healthy and safe environment.
___ Replacement room thermostats that require special tools to change the temperature setting have been installed.
___ A night temperature set-back program was initiated.
___ Outside stats were placed on heating and cooling units.
___ Defective insulation on pipes was replaced.
___ A position of Energy Conservation Coordinator was established and filled.

AUXILIARY ENTERPRISES

___ Auxiliary enterprises were controlled to ensure that revenues would cover overhead and related costs.
___ Student help was used in institutionally-operated dormitories.
___ Maid service in dormitories was discontinued.
___ Food service was portion controlled.
___ Built frozen food locker in order to store large quantities of food bought at lower prices.
___ Bought a Trans-Tech software package to control menu preparation and portions.
___ Initiated use of Valedine meal identification card.
___ Positions in University Press were reassigned so as to be supported by state funds and self-generated funds.
___ Auxiliaries are fully costed to include employee benefits, insurance, and other costs in addition to maintenance and utility costs.

___ The university has initiated movement of almost all student personnel to auxiliaries.
___ Student media programs have been placed under the direction of one manager.
___ An outside agency pays the university to make pictures for the school annual.
___ The role and function of auxiliaries has been defined and communicated to the people in various management positions among auxiliaries; and the managers have been told what criteria will be used to judge their particular auxiliary.
___ The conference program has been expanded to better utilize space.
___ Auxiliary operations have been expanded to include vending.
___ Utility costs have been reduced through an improved charge system.
___ Students have been employed to paint dormitories and related facilities.
___ Different means of purchasing utilized in food service unit to eliminate storing cost.

INSTITUTIONAL SUPPORT

___ The budgetary procedures have been streamlined and/or computerized.
___ Financial records have been computerized.
___ In the largest and most complicated budget areas, expenditures have been brought under "line item" control.
___ Budget procedures were implemented to provide incentive for effective use of resources.
___ Investment policies were revised.
___ Investment in short-term securities benefitted high interest rates.
___ Aggressive measures were used to obtain federal funds.
___ Cash balances in checking accounts were minimized to maximize interest yielded by the institution's liquid assets.
___ A planning group was organized (College of Business and Economics/ University wide).
___ Institutional objectives and responsibilities were defined (college level/University wide).
___ Institutional planning devices were established.
___ Outside program-performance audits were utilized.
___ Central university monitoring was used to control course and program proliferation or perpetuation.
___ Financial support was attained through vigorous fund-raising (college level/University wide).
___ Financial support was attained through acquisition of large grants from private foundations.
___ Unrestricted gift income was used for operation.
___ Higher levels of assistance from alumni were realized (college level/University wide).
___ Extramural funding sources were developed.
___ Offices were opened for fund raising and development activities (college level).

___ Faculty and student group participation was requested in the use of funds, evaluation of programs, and planning long-range strategies for growth and development (college level).
___ Academic governance processes, grievance processes, and other departmental, college, and university-level meetings that consume valuable time were re-examined.
___ Plans for new activities were cancelled.
___ Continuing education programs have generated significant income.
___ Divisional goals and objectives stated in annual reports written to reflect degree to which the objectives were achieved.
___ Contracted a management consultant to do a study of the Business Affairs units.
___ The level of anticipated salary savings as an "over-budget" item has been raised.
___ An "on-line" management information system (data base) has been developed as a means of curbing increased need for personnel to handle required federal paperwork.
___ Program of operations analysis has been initiated with study of the security department.

RESEARCH

___ Faculty research positions were eliminated.
___ Research units have been partially funded.
___ Research units operated without a regular support budget.
___ Sponsored research was controlled to ensure that revenues would cover overhead and related costs.
___ Created selected research offices, e.g., Critical Energy, Business Development.
___ Set policy that sponsored research may or may not be required to cover direct and related costs, depending on the institutional value of the work.
___ Several research institutes were reduced in funding from the state general budget and told to seek support from restricted state funds.

PUBLIC SERVICE

___ Community service programs were reduced.
___ Two centers which emphasized staff development and continuing education were developed.
___ Some public service programs received cuts in state general fund dollars and were told to seek restricted funding.
___ Fees for some programs were increased so as to release state dollars.
___ Conferences and institutes were converted to self-sustaining entities.

OTHER

___ Training workshops have been conducted for chairpersons and assistant deans.
___ A manual of energy conservation ideas was compiled allowing advanced calculations of savings.
___ Classroom utilization has been improved by matching class sizes better with room seating capacities.
___ Enrollment projections were made (college level/University wide).
___ Preliminary screening of prospective students and establishment of rigid entrance requirements were used to reduce attrition.
___ Undergraduate admission requirements/standards were modified to increase enrollment.
___ The recruitment of student clients who would not ordinarily be served was initiated.
___ Student charges were increased (University wide/housing and dining).
___ Tuition was increased.
___ The enrollment was increased.
___ New administrative and faculty standards of judgment relative to educational quality and purpose have been developed.
___ Operating income was increased by advancing the charge to the student (Auxiliary Enterprises).
___ Travel funds have been reduced (Student Affairs/University wide).
___ Memberships in professional organizations were eliminated.
___ Federally funded programs were curtailed and/or abolished.
___ Attempts to convince the faculty of the need to be more cost conscious were made (college level/University wide).
___ Campus-wide awareness campaigns were waged to conserve utilities.
___ Financial information about the university was widely disseminated among institutional units.
___ A consortium of colleges has been established.
___ Inter-institutional cooperation was developed in certain high-cost fields.
___ The workloads of support personnel have been increased (Auxiliary Operations/Physical Plant).
___ The efficiency of secretaries was increased by specializing jobs and modernizing equipment.
___ The use of temporary personnel was discontinued.
___ The hiring of support personnel was stopped.
___ The number of support employees was reduced.
___ Expenditures for equipment acquisition and replacement were reduced (University wide/Student Affairs).
___ Significant shifts have been made in inventory levels (college level/University wide).
___ A "least-cost telephone routing device" which switches campus phones into less expensive "calling paths" has been installed.
___ Copying machines have been purchased and leased to campus users (college level/campus wide).
___ Less expensive copying equipment has been rented and/or purchased.

___ A campus-wide examination of rate schedules for all goods and services has been conducted.
___ A new mailing form has been developed which eliminates envelopes and printed-letterhead stationery.
___ Out-of-state travel has been limited.
___ Standard manual for electrical installation has been developed and put in use.
___ Telephone software package was purchased to give billing and rating information to units in university.
___ Postage costs have been closely monitored in the division of Student Affairs.
___ A master plan for out-of-state travel has been initiated within Student Affairs.
___ Special departmental charge numbers are used to control long distance calls.
___ Planning has been heavily emphasized in Student Affairs.
___ Overtime has been reduced.

VITA

Wayne Morris Chaffin was born to Hugh and Lorene Chaffin on July 19, 1943, in Jackson County, Tennessee. He graduated from Marshall County High School, Lewisburg, Tennessee, in 1961. In 1962 he entered Middle Tennessee State University, Murfreesboro, Tennessee; in January 1966, he received the Bachelor of Science degree in Health, Physical Education, and Recreation.

From 1966 to 1969, he taught driver and traffic safety education for the Tennessee State Department of Education. Within this time period, Mr. Chaffin studied at Middle Tennessee State University and earned the Master of Education degree with a major in Health, Physical Education, and Recreation and a minor in Educational Administration.

In August 1969, the Tennessee State Department of Education granted him a sabbatical leave to work toward the Specialist degree in Safety Education at Central Missouri State College in Warrensburg, Missouri. The degree was received in August 1970.

From September 1970 to April 1973, he was Supervisor of Driver and Traffic Safety Education with the Tennessee State Department of Education. In May 1973, he became an Education Specialist II; his assignment was to direct the Department's Community Program for Indigent and Neglected Children. From July 1974 to September 1975, he was assigned to the Department's Office of Planning and Evaluation.

He holds membership in Phi Delta Kappa, National Education

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