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ABSTRACT

Research results concerning determinants of organizational effectiveness of colleges are presented, and concerns pertaining to this type of research are addressed. A major research question is whether the study of institutional effectiveness can identify indicators of long-term organizational viability. In 1980, organizational effectiveness was measured in 29 of 41 schools that had been studied in 1976 (Cameron). Institutional representatives were administered questionnaires that required them to provide descriptive information regarding the extent to which their institution possessed characteristics indicative of effectiveness. The same nine dimensions of effectiveness emerged from this study as have emerged in past research. Factors accounting for high scores on the nine effectiveness dimensions are identified, along with factors accounting for improvement or decline in effectiveness scores. Attention is also directed to characteristics of institutions that improved in their overall effectiveness as compared to those that remained stable or declined in effectiveness. Based on the findings, the importance of environmental factors and managerial strategies in organizational effectiveness is discussed, and the effectiveness of specific types of management strategies are distinguished. (SW)

A STUDY OF ORGANIZATIONAL EFFECTIVENESS AND ITS PREDICTORS

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A STUDY OF ORGANIZATIONAL EFFECTIVENESS AND ITS PREDICTORS

Recently, Goodman, Atkin, and Schoorman (1983) called for a moratorium on traditional studies of organizational effectiveness. They argued that the empirical literature to date has been mostly inadequate in helping to understand the effectiveness of organizations. A completely different kind of research is needed, in their view, if organizational performance is to be comprehended.[1] Four main problems of the literature were discussed by these authors: (1) inadequacy in identifying indicators of effectiveness, (2) over-reliance on single indicators of effectiveness and ignoring the relationships among multiple indicators, (3) under-specified models and ignoring the time frame of the criterion variable, and (4) over-generalization to dissimilar organizations or subunits. Other writers have similarly criticized the literature on effectiveness labeling it "in conceptual disarray" (Connolly, Conlon, and Deutsch, 1980), and "in a chaotic state of affairs" (Nord, 1983). Moreover, others have also joined in the call for an abolition of effectiveness research in the organizational sciences (e.g., Hannan and Freeman, 1977).

One purpose of this paper is to point out why studies of organizational effectiveness are needed, especially in certain types of organizations, and also to illustrate by means of an empirical study of effectiveness how the objections of Goodman and his colleagues to the empirical literature can be addressed.

Assessing Organizational Effectiveness

Numerous problems of assessing organizational effectiveness have been discussed elsewhere (see Cameron and Whetten, 1983). They include the fact that different approaches to assessing effectiveness are products of different arbitrary models of organizations; the fact that the construct space of effectiveness has never been bounded; the fact that effectiveness is a product of individual values and preferences, and therefore the best criteria for assessing effectiveness cannot be identified; and the fact that all relevant criteria of effectiveness have never yet been identified. However, these assessment problems and theoretical issues are largely the concern of researchers, not of managers or the lay public. That is, members of the public are required frequently to make judgments about the effectiveness of organizations as they make choices concerning where to send their children to school, where to save (or invest) their money, where to seek hospital care, where to have their car repaired, which voluntary organization to join, where to pursue employment, and so on. Organizational effectiveness is not the only consideration in these kinds of judgments, of course, but it is invariably part of the judgment equation.

It is also true that individuals will make these judgments regardless of the criteria available to them. When primary or direct indicators of effectiveness are not readily apparent (e.g., how well students get educated at a university) secondary or easily accessible indicators will be readily substituted (e.g., the attractiveness of the campus) (see Whetten, 1981). Individuals, in other words, will always find a rationale for their judgments of effectiveness, (Nisbet and Wilson, 1977; Bern,

1967) it is just that the rationale may have little or no relationship to organizational performance.

Researchers, on the other hand, are less willing to accept any arbitrary criteria of effectiveness in their assessments, so they struggle to identify indicators that can be measured reliably, that relate to organizational performance (i.e., the indicators possess validity), and that may have some theoretical utility. Much debate continues in the literature regarding which are the best criteria (for example, see Cummings, 1983; Schneider, 1983; Weick and Daft, 1983). In some kinds of organizations, however, researchers face a more troublesome criteria problem than in other kinds of organizations. They are less able to find reliable and valid criteria. For example, criteria of effectiveness are especially ambiguous in organizations that do not have clearly defined goals (therefore, the goal model of effectiveness [Campbell, 1977; Scott, 1977] is not applicable), that are so loosely coupled that acquired resources have little, if any, direct connection with the organization's products (therefore, the system-resource model of effectiveness [Yuchtman and Seashore, 1967; Pfeffer and Salancik, 1978] has limited usefulness), that can ignore the demands of many strategic constituencies and still survive (therefore, the multiple constituencies model [Connelly, et al., 1980; Zammuto, 1982] has little utility), and so on. Judgments of effectiveness are less consensual and more individualistic in these kinds of organizations, and therefore, the meaning of effectiveness is less clear (see Weick, 1976; March and Olsen, 1976). While in some organizations agreement can be reached about what constitutes high levels of effectiveness (e.g., profitability in an industry), in other

organizations such agreement is lacking, and it is not clear what constitutes optimal performance.

Effectiveness in Higher Education

This condition of ambiguity regarding what constitutes effective performance is characteristic of colleges and universities. These organizations not only are typified by an absence of measurable goals, loose coupling, little direct connect between acquired resouces and products, an ability to ignore major constituencies, and so on (Cameron, 1978, 1980), but they have a tradition of resistance to assessments of effectiveness that have kept consensual criteria of effectiveness from emerging. Colleges and universities argue fervently that they are unlike other types of organizations, and therefore that traditional approaches to assessment are not applicable (March and Olsen, 1976; Weick, 1976). The uniqueness of each institution is also argued to make comparative assessments among schools questionable (Dressel, 1971). Whereas judgments about college and university effectiveness must occur regularly by accreditation agencies, potential students and faculty members, parents, funders, and employers, no good criteria of effectiveness have ever been identified, and the meaning of effectiveness in higher education is unclear (Hutchins, 1965). It is not that attempts haven't been made to identify criteria, it is just that the indicators of effectiveness selected by researchers have brought little clarity to the construct.

For example, Webster (1981) identified the six most prevelant methods of evaluating effectiveness in higher education over the past 20 years. The most prominent is the use of "reputational ratings" by peers or experts (e.g., faculty members, deans, senior scholars, corporate executives). Reputational ratings are produced by asking respondents to

list the five best (most effective, highest quality, etc.) institutions or departments. Besides being subject to time lag, halo effect, and oversimplification, the weakness of this reputation criterion is best illustrated by a study conducted in 1980 asking senior personnel executives in leading organizations to rate the 12 best undergraduate business programs in America. Harvard, Stanford, Columbia, Chicago, and Northwestern all were rated as among the 12 best, even though none of these schools even has an undergraduate business program (Webster, 1981).

A second prevalent criterion of effectiveness is citation counts of faculty members in institutions. This criterion is not only subject to problems of the relative popularity of disciplines, the teaching orientation of the school, the inability to assess quality of articles published, and so on, but an important weakness is illustrated by a study in 1977 rating psychology departments on the basis of number of articles published (Cox and Catt, 1977). Harvard's psychology department--including B.F. Skinner, Robert Bales, Roger Brown, Jerome Bruner, David McClelland, Gerome Kagan, and Richard Herrnstein--was rated 28th best, behind schools such as Temple, Rochester, and Missouri. Most knowledgable psychologists would question the validity of such an assessment.

The other four most prevalent criteria used to rate effectiveness in colleges and universities include faculty awards and honors (e.g., Fulbright or Guggenheim fellowships), student achievements after graduation (e.g., starting salaries, listings in Who's Who...), scores of entering students on national exams (e.g., SAT, ACT), and institutional resources (e.g., size of the library, expenditures per student). In each case, major flaws are associated with each of these criteria, the most

important of which is that they apply only to 50 or so of the best known institutions in the country. Schools that do not pursue a national reputation, that do not compete in a national labor market, that do not emphasize or reward research and publication by the faculty, that emphasize meeting local community needs, or that do not engage in nationally visible activities (e.g., division 1 football) never score high on such criteria. Unfortunately, the group of institutions for which these six criteria don't apply compose over 95 percent of the colleges and universities in America. Aside from the few schools with high visibility and traditions of academic excellence, most institutions of higher education are left without obvious criteria to assess their organizational effectiveness.

The result is that individualistic impressions, or judgments made on the basis of questionable criteria, are typical of assessments of effectiveness in institutions. And without systematic and rigorous assessments in these organizations, there is little information available about how to improve performance. The effectiveness of a college or university cannot be improved, in other words, if it is not clear what effectiveness is. One reason that the call for a moratorium on studies of effectiveness is not appropriate for this kind of organization, therefore, is that no valid, univariate indicators are available, and the management of institutions of higher education suffers from this lack of understanding about appropriate performance. As Bennis (1973) put it:

> Unquestionably, universities are among the worst managed institutions in the country. Hospitals and some state and city administrations may be as bad; no business or industry except Penn Central [which subsequently went bankrupt] can possibly be. One reason, incredibly enough, is that universities--which have studied everything from government to Persian

> mirrors and the number 7--have never deeply studied their own administration [pp. 25-26].

It is the intent of this paper to address this dearth of research on the effectiveness of colleges and universities as well as to address some of the major problems with past effectiveness studies as enumerated by Goodman and his colleagues. That is, the focus is on assessing and predicting the organizational effectiveness of colleges and universities, and doing it in such a way that many of the weaknesses of past investigators are overcome.

Research Questions

It is to be expected that without clarity concerning the measurement of organizational effectiveness, no theories are available regarding what factors are most powerful in predicting or explaining effectiveness, and what factors are associated with improvement in effectiveness. This is particularly true in higher education. Not only have attempts to assess organizational effectiveness been problematic, but almost no consideration has been given to identifying factors that may help guide managers of these institutions in understanding or improving their own effectiveness. In this research, four main research questions are considered that help address this deficiency. They are not derived from existing theory (since none is available), rather they are identified only as guides to understanding organizational effectiveness in higher education and in knowing how to improve it. The four questions are:

1. Can institutional effectiveness be assessed in such a way as to be associated with indicators of long-term organizational viability (i.e., can it be assessed validly)?

2. What factors are most predictive of organizational effectiveness in colleges and universities?
3. What factors account for improvement in effectiveness over time?
4. In what ways do institutions that improve in effectiveness over time differ from those that decline in effectiveness?

The intent of these questions is not to develop a theory of organizational effectiveness as a result of one study, rather it is to begin to address some of the deficiencies in the literature on effectiveness and on higher education assessments. For example, the first question is posed as a direct response to the criticism of Goodman et al. (1983) and others (Cameron, 1978; Campbell, 1977; Reimann, 1982) that the relationship between the criteria selected to assess effectiveness and actual success in performance, or long-term viability, often is not obvious. As Goodman et al., put it, "the relationship between indicators and OE is not examined (p. 171)." By answering this first question, assurance can be provided that what is being measured does, in fact, have some relationship to long term organizational survival.

The second question is posed as a reaction to the lack of understanding regarding why some institutions are more effective than others. Especially among, "lesser known" institutions of higher education that never make the reputational rating lists, (for example, Cartter, 1966) it is not clear what factors are most important in explaining their effectiveness or lack thereof.

The third question results from an interest in looking at more than one static assessment. If some institutions improve or decline in various aspects of effectiveness over time, what is it that accounts for those changes? Some factors may be uncovered that are of interest to those

charged with improving the effectiveness of their own colleges and universities.

The fourth question is an elaboration of question 3. Aside from the factors that help explain improvement or decline in certain aspects of effectiveness, are some institutions more likely to improve (or decline) than others? This question focuses on the factors that serve to differentiate institutions on the way up from those on the way down relative to overall effectiveness.

In the section below, the procedures for assessing organizational effectiveness are explained, and the factors that serve as potential predictors relative to the four research questions are specified.

METHODOLOGY

This study reports an elaboration and extension of earlier research reported by Cameron (1978, 1981, 1982). In that earlier research, organizational effectiveness was assessed in a sample of 41 colleges and universities in the northeast United States [illegible]6. The current study used the same instrument to measure effectiveness four years later (1980) in 29 of the same 41 schools. In this follow-up research, only 29 of the original 41 schools agreed to participate. No apparent systematic bias was evident among those institutions. Similar institutional demographics (e.g., unionized versus nonunionized, public versus private, large versus small, doctoral versus four-year only) and similar effectiveness profiles (e.g., high scorers in different domains of effectiveness, see Cameron [1981]) were present in both samples.

Institutional Sample

Each of the 29 institutions included in the 1980 study are four-year institutions. Seven of the schools offer only bachelors degrees, five offer masters degrees, and 17 offer doctorates. Eleven of the schools are publically supported and 18 are private. Institutional age ranges from approximately 30 years to over 200 years. Faculties are unionized in 19 of the schools with 10 being non-unionized. Undergraduate student enrollments range from just over 1000 to just over 10,000 with the average being 4200 students. Confidentially was promised to each institution, so names of schools are not included in this report.

Respondent Sample

In each of the sample institutions, approximately 75 representatives of the dominant coalition were asked to respond to a questionnaire. Forty-nine percent of the respondents were faculty department heads, the rest were academic, financial, student affairs, and general administrators. In all, 1240 individuals participated in the data collection effort in 1980 (1317 participated in the earlier 1976 study), representing a response rate of 60 percent of those contacted.

Instrument

The questionnaire consisted of items identified by members of the dominant coalition as indicating organizational effectiveness in colleges and universities. These indicators were obtained from an earlier study of dominant coalition members in another sample of institutions by means of interviews. Respondents in those interviews were asked to identify characteristics that are typical of effective institutions that they were aware of. A long list of potential indicators was identified. From those

characteristics, questionnaire items were constructed to be included on the effectiveness instrument (see Cameron, 1978, for a more detailed explanation). Items on the questionnaire asked individuals to provide descriptive information, not evaluative judgments, regarding the extent to which their institution possessed certain characteristics. Although these characteristics had been identified as being indicative of effectiveness, questionnaire respondents were not instructed that they were rating effectiveness. They were only told that they were to describe the characteristics possessed by their institution.[2] This emphasis on description, not evaluation, is important in order to reduce the likelihood that respondents would purposely bias assessments of their own organization's effectiveness in a positive direction. This questionnaire is designed to assess nine separate dimensions of organizational effectiveness, and these dimensions are summarized in Table 1.

TABLE 1 ABOUT HERE

Boundaries of the Effectiveness Construct

Cameron and Whetten (1983) suggest that in every assessment of effectiveness, but particularly in assessments in settings that have some degree of ambiguity regarding appropriate criteria (e.g., higher education), the construct of effectiveness must be circumscribed or bounded. That is, not all possible criteria or perspectives can be taken into account, so researchers must be explicit about what they are and are not measuring. Seven guidelines are outlined by these authors that help limit the scope of the assessment and provide boundaries to the

Table 1 Nine Dimensions of Organizational Effectiveness in Institutions of Higher Education

DIMENSION	DEFINITION
1. Student Educational Satisfaction	The extent to which students are satisfied with their educational experiences at the institution.
2. Student Academic Development	The extent of the academic growth, attainment, and progress of students at the institution.
3. Student Career Development	The extent of occupational preparedness of the students, and the emphasis on career development provided by the institution.
4. Student Personal Development	The extent of student development in nonacademic, noncareer oriented areas, and the emphasis on personal development provided by the school.
5. Faculty and Administrator Employment Satisfaction	The extent of satisfaction of faculty members and administrators with their employment at the institution.
6. Professional Development and Quality of the Faculty	The extent of professional attainment and development of the faculty, and the emphasis on development provided by the institution.
7. System Openness and Community Interaction	The extent of interaction with, adaptation to, and services provided for the external environment by the institution.
8. Ability to Acquire Resources	The ability of the institution to acquire needed resources such as high quality students and faculty, financial supports, etc.
9. Organizational Health	The extent to which the internal processes and practices in the institution are smooth-functioning and benevolent.

definition. The seven guidelines are listed below along with the circumscriptions for this investigation.

GUIDELINE	CIRCUMSCRIPTION
1. From whose perspective is effectiveness being judged?	Dominant coalition members constitute the relevant perspective in this study. This group comprises the major decision makers in the institutions, and the ones that have the most influence on institutional policy, direction, and performance.
2. On what domains of activity is the judgment focused?	The undergraduate portion of the institutions was assessed. This was selected because it is a comparable domain across all the schools, and because it comprises the major area of activity and identity for each of the institutions.
3. What level of analysis is used?	The organizational level of analysis was the focus. This level is important in making comparative judgments across institutions, and because it has largely been ignored in past evaluations in higher education. Moreover, none of the institutions is so large as to make institutional wide ratings infeasible.
4. What is the purpose of the assessment?	This assessment sought to identify areas of strength and weakness on various dimensions of effectiveness. Guaranteeing confidentiality for institutions helped to eliminate the threat that the assessments would be used for political or punative purposes, and that biased data would result.
5. What time frame is employed?	Criteria of effectiveness all were oriented toward static, short-term indicators. They focus on the extent to which

	the institutions currently possess characteristics indicative of high effectiveness.
6. What type of data are sought?	Perceptual ratings of effectiveness were sought by way of questionnaires.
7. What is the referent against which effectiveness is judged?	Schools were assumed to be highly effective if they scored higher on a dimension than other institutions in the sample. Therefore, a comparative referent was employed.

The constraints imposed on effectiveness in this investigation suggest that institutions were judged to be effective if they scored high on a variety of short-term, organization level criteria that are important to members of the dominant coalition.

Analyses

In order to address the four research questions in this study, several kinds of statistical analyses were required. First, psychometric tests were conducted to ensure that the nine dimensions of effectiveness assessed by the questionnaire possess high reliability and internal consistency. Cameron (1981) argued that these dimensions are conceptually distinct (but not necessarily statistically independent), so it was important to determine if the nine dimensions emerged from this study. The psychometric tests included reliability analyses and factor analysis.

Second, the scores of institutions on the effectiveness dimensions were correlated with other independent indicators of institutional well-being and long-term viability. The indicators selected for these analyses were five indicators of "financial health" (Dickmeyer, 1980), and enrollment trends in the institutions from 1975 through 1982. The

rationale is that schools scoring high on dimensions of effectiveness should also be financially strong and should not be losing students. Many other factors besides effectiveness could affect these two indicators of long-term viability, of course, but it was felt that some evidence of validity for the questionnaire measures could be obtained by finding positive associations between effectiveness scores and financial health and an absence of enrollment decline.

The analyses used to address research questions 2, 3, and 4 were multiple regression and discriminant analysis. Regressing several potentially important predictor variables on effectiveness scores was designed to determine what were the most important factors in explaining college and university effectiveness. In addition, because some institutions improved in their scores on the effectiveness dimensions between 1976 and 1980 while others declined or remained stable, predictor variables also were regressed on the change scores for each dimension of effectiveness in these institutions between 1976 and 1980. The purpose was to determine what factors account for improvement in each dimension of effectiveness over time. Finally, institutions were divided into three groups--those that improved in effectiveness (i.e., average scores on effectiveness dimensions improved at least 2 percent), those that remained stable on their effectiveness scores (i.e., average effectiveness scores were $\pm$1.5 percent), and those that declined in effectiveness (i.e., effectiveness scores declined at least 2 percent). Discriminant analyses were conducted to determine what factors differentiated between institutions that were getting better from those that were getting worse.

Predictor Variables

Variables were selected as potential predictors if they had been identified in previous research as having some relationship to institutional performance. Because this research is focused on identifying the most important predictor variables, not on testing a priori hypothesized relationships between certain variables and effectiveness, this strategy for selecting variables seemed appropriate. That is, this investigation is exploratory in the sense that no theories exist regarding what variables are supposed to be related to effectiveness in colleges and universities. Therefore, factors that have been found to be associated with performance in other types of organizations were used. For example, dimensions of the external environment were assessed--including turbulence, complexity, richness or munificence, and supportiveness --based on the work of Cameron (1981), Duncan (1973), Hirsch (1975), Miles and Cameron (1982), Negandhi and Reimann (1973), Nord (1983), Osborn and Hunt (1974), Pennings (1975, 1976), Zammuto (1982), and others. Organizational structure variables--i.e., centralization, professionalization, standardization, administrative ratio--also were included based on the findings of Blau (1974), Lawrence and Lorsch (1969), Mahoney (1967), Van de Ven and Ferry (1980) and others. Assessments of the strategic management orientation were included--including major area of strategic emphasis, proactivity of strategies, and internal versus external focus--based on Child (1974, 1975), Chandler (1977), Miles and Snow (1978), Hambrick (1983), Miles and Cameron (1982), and others. The degree to which management action is associated with successful organizational performance--as opposed to uncontrollable factors such as environment, structure, and institutional demographics--is a much debated

issue in current organizational research (Aldrich, 1979; Miles and Cameron, 1982) so special emphasis was given to comparisons between these controllable and uncontrollable factors.

Kemmerer and Baldridge (1978), Cameron (1982), and others found faculty unionism to be an important variable in the functioning of higher education institutions, so it also was included as a variable in this study. In addition, internal "saga" or climate measures (Clark, 1970), along with internal expenditure patterns (Bowen, 1981; Pfeffer and Moore, 1980; Chaffee, 1983) and types of students in the school--e.g., high entrance examination scores--were assessed as predictor variables for those schools. Finally, institutional demographics--size, location, percent of tenured faculty, type of school (i.e., liberal arts, specialized, major doctoral, comprehensive), and institutional control (i.e., public, private)--were included because of their potential to affect institutional effectiveness (Zammuto, 1983).

RESULTS

Dimensions of Effectiveness

The same nine dimensions of effectiveness emerged from this study as have emerged in past research. Internal consistency reliabilities for these dimensions ranged from .72 to .92 with a mean reliability coefficient of .82. Factor analysis (orthogonal rotation) of the 57 questionnaire items resulted in the items for each dimension loading on their own factors. (Detailed reporting of these factor loadings is not included to conserve space.) Average intercorrelation among the nine dimensions was .42 indicating that, whereas the dimensions are conceptually distinct, certain of the dimensions do vary together in

ratings of effectiveness (see Cameron [1981] for an analysis of the interdimensional covariance). These results indicate that the nine dimensions of organizational effectiveness have adequate internal consistency reliability and discriminant validity to be used as the basis for the institutional performance profiles. An examination of the mean scores of each of the 29 institutions across the nine dimensions showed that each school had a unique profile of effectiveness scores, and no school scored high (or low) on all the dimensions of effectiveness.

Associations of Dimensions with Other Effectiveness Indicators

Researchers have too frequently selected criteria of effectiveness arbitrarily or on the basis of convenience, and they have not often demonstrated relationships between those criteria and longer-term performance. (A recent example of an exception to this shortcoming is Reimann, 1982.) It is important, however, to determine to what extent the criteria of effectiveness used in assessments are associated with other indicators of longer-term viability and performance. This is essentially a question of external validity. Cameron (1978) reported correlations between scores on these nine dimensions and certain objective measures of performance, but few of those objective indicators were long-term in orientation. Similarly, Cameron (1978b) reported the results of a multitrait-multimethod analysis with the nine dimensions and demonstrated the acceptability of the discriminant validity of these dimensions. However, Goodman, Atkin, and Schoorman (1983) still raised questions about the appropriateness of these measures of effectiveness in arguing, "It is not clear how the objective data maps onto OE...there may be confusion as to whether the nine dimensions are clearly measures of OE... (p. 170, 171)."

Evidence for the external validity of these nine dimensions may be observed by analyzing the relationships between scores on the dimensions and indicators of institutional financial health, and between the dimension scores and enrollment trends. Francis (1982), Dickmeyer (1980), Dickmeyer and Hughes (1982), Minter (1980) and others have argued that long-term institutional viability is strongly related to financial health, and considerable effort has been extended to develop measures of that construct. Whereas no consensus has been reached regarding which are the best measures of financial health for institutions of higher education, the five indicators included in Table 2 are generally acknowledged to be among the best alternatives. Table 2 reports average correlations between scores on the nine effectiveness dimensions with scores on five financial indicators for the 29 institutions.[3]

TABLE 2 ABOUT HERE

Correlations are averaged across each of the financial indicators in the top half of the table to provide an average correlation between each dimension of effectiveness and overall financial health. Six of the nine dimensions are significantly and positively associated with financial health for the sample schools. In the bottom half of the table, correlations are averaged across the nine dimensions of effectiveness for each of the five financial indicators. All five are significantly correlated with overall organizational effectiveness. The canonical correlation coefficient between these two sets of variables is .98, and approximately 99 percent of the variance is accounted for.

Table 2 Correlations Between Effectiveness Dimensions and Financial Health

EFFECTIVENESS DIMENSION	AVERAGE CORRELATION
Student Educational Satisfaction	.488*
Student Academic Development	.802**
Student Career Development	.561**
Student Personal Development	.396*
Faculty & Administrator Employment Satisfaction	.244
Professional Development & Quality of the Faculty	.806**
System Openness & Community Interaction	.055
Ability to Acquire Resources	.783**
Organizational Health	.471*

FINANCIAL HEALTH INDICATOR	AVERAGE CORRELATION
Financial Independence	.377*
Financial Flexibility	.518**
Financial Cushion	.532**
Revenue Drawing Power	.590**
Endowment Yield	.542**

CANONICAL CORRELATION COEFFICIENT	CHI SQUARE	SIGNIFICANCE
.984	106.72	.000

* $p < .01$
** $p < .001$

A more fine-grained way to analyze the relationship between financial health and effectiveness is to compare the financial health of the schools scoring lowest on effectiveness with those scoring highest on effectiveness. Seven of the ten schools that had the highest overall average scores on the nine dimensions of effectiveness also had the highest scores on all five of the financial health indicators. In fact, the top seven schools in average effectiveness also were the top seven schools on each indicator of financial health (although the rank orderings on each of the financial indicators were not always the same). Similarly, the institutions that scored lowest on the nine dimensions of effectiveness also tended to score low on the financial health indicators. Nine of the bottom ten schools in average effectiveness also ranked in the bottom ten on at least three of the financial health indicators.

Rank order correlations for schools' ranks on organizational effectiveness with their ranks on each of the five financial health indicators ranged between .26 ($p < .05$) and .68 ($p < .001$). The average rank order correlation between effectiveness and financial health is .54 ($p. < .001$). In summary, therefore, these product-moment correlations and rank order correlations provide support for the external validity of the nine effectiveness dimensions, and they provide some indication that financial viability over time is associated with effectiveness scores for the institutions.

A second possible indicator of long-term institutional viability is the pattern of enrollments experienced by schools. If institutions are losing enrollments, it may indicate that long-term survival is threatened or that the institution is not as effective as it could be. Of course, numerous other factors have a significant impact on institutional

enrollments such as the economy, federal student aid, unemployment rates, and so on (see Zammuto, 1983), but is is also reasonable to assume that ineffectiveness and enrollment decline may be correlated as well. Table 3 reports the correlations between enrollment change from 1975 through 1982 and scores on the nine effectiveness dimensions. Significant correlations exist for only four of the dimensions. The canonical correlation coefficient is approximately .6 ($p < .10$).

TABLE 3 ABOUT HERE

More supportive evidence for external validity using these data, however, comes from comparing the ten institutions having the highest overall effectiveness scores with the ten institutions having the lowest overall scores. Only one of the top ten schools experienced enrollment decline in the period 1975 through 1982 (a drop of 3 percent), whereas seven of the bottom ten schools experienced enrollment declines (ranging from 3 percent to 94 percent).[4] These results seem to provide additional evidence that the nine dimensions of effectiveness are assessing important aspects of institutional performance.

Predictors of Organizational Effectiveness

Goodman et al. (1983) suggested that if any faith is to be put in measures of organizational effectiveness, indicators of what factors affect them is a prerequisite. Referring particularly to the nine dimensions of effectiveness used in this study, they asserted:

Table 3 Correlations Between Effectiveness Dimensions and Enrollment Change Between 1975 and 1982

EFFECTIVENESS DIMENSION	CORRELATION
Student Educational Satisfaction	.236*
Student Academic Development	-.120
Student Career Development	.488***
Student Personal Development	-.205
Faculty & Administrator Employment Satisfaction	.387***
Professional Development & Quality of the Faculty	-.050
System Openness and Community Interaction	.337**
Ability to Acquire Resources	.120
Organizational Health	.201

CANONICAL CORRELATION COEFFICIENT	CHI SQUARE	SIGNIFICANCE
.598	34.66	.10

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

> The key issue, however is that we cannot interpret variations of students' academic development [for example] as a measure of OE until we understand the controllable and uncontrollable variables that affect this dimension (p. 171).

Analyses reported in Table 4 address the need to determine factors that affect or predict organizational effectiveness. Two steps were used to generate these results.

TABLE 4 ABOUT HERE

First, because there were too many predictor variables for a single regression analysis (i.e., a degrees of freedom limitation), separate stepwise regressions were run for each major category of variables in order to identify the most powerful predictors. From three to nine variables, depending on the dimension being considered, resulted from those analyses. They were each included in the final regression analysis. The results in Table 4 show the variables that have significant relationships with each effectiveness dimension at the .05 level of significance.[5] These findings indicate that for every dimension of effectiveness, the strategic emphasis of top institutional administrators is significantly related to high scores. A strategic emphasis by top administrators on academic and scholarly affairs, for example, is associated with high effectiveness on four dimensions--student educational satisfaction, student academic development, professional development and quality of the faculty, and organizational health. Implementing strategies proactively, instead of reactively, is associated with high scores on three of the dimensions--faculty and administrator employment

TABLE 4 Predictors of Nine Dimensions of Organizational Effectiveness (variables at the $p < .05$ level of significance)

DIMENSION	PREDICTOR VARIABLE	BETA	CORR.	R^2
Student Educational Satisfaction				
	Strategic emphasis on academics	.743	.743	
	Turbulent environment	-.416	-.650	
	Strategic emphasis on fund raising	.365	.699	.772
Student Academic Development				
	Highly selective studentbody	.890	.890	
	Strategic emphasis on academics	.322	.785	.845
Student Career Development				
	Financial independence	-.671	-.671	
	Strategic emphasis on public relations	.397	.508	.602
Student Personal Development				
	Strategic emphasis on student affairs	.727	.727	
	Strategic emphasis on fund raising	.442	.598	
	Strategic emphasis on public service	-.313	.222	.776
Faculty & Administrator Employment Satisfaction				
	Turbulent environment	-.726	-.726	
	Proactive strategies implemented	.357	.444	.653
Professional Development & Quality of the Faculty				
	Highly selective studentbody	.888	.888	
	Revenue drawing power	.451	.882	
	Strategic emphasis on academics	.261	.755	.876
System Openness & Community Interaction				
	Proactive strategies implemented	.693	.693	
	Strategic emphasis on public service	.523	.668	.736
Ability to Acquire Resources				
	Highly selective studentbody	.942	.942	
	Proactive strategies implemented	.222	.650	
	Revenue drawing power	.244	.886	.938
Organizational Health				
	Strategic emphasis on academics	.759	.759	
	Strategic emphasis on student affairs	.463	.708	.734

satisfaction, system openness and community interaction, and ability to acquire resources. A strategic emphasis on public service, student affairs, and fund raising are associated with two effectiveness dimensions each.

Factors other than administrator strategies that hold significant relationships with effectiveness dimensions are the revenue drawing power of the institutions (see footnote 3 for a definition), and the selectivity of the studentbody, as indicated by their scores on entrance examinations such as SAT and ACT. Both of these factors are associated with high scores on the academically oriented dimensions, i.e., student academic development, professional development and quality of the faculty, and ability to acquire resources. The major negative influence on organizational effectiveness comes from environmental turbulence, which is a significant negative factor in affecting two morale-oriented dimensions--student educational satisfaction and faculty and administrator satisfaction.

In brief, of all the categories of variables assessed, the most powerful factors associated with organizational effectiveness in these institutions of higher education tend to be those under the control of managers. That is, managers' strategic emphases, their stance toward proactivity rather than reactivity, and the quality of students they can attract are among the most influential variables in predicting to what extent the institutions score high on the effectiveness dimensions. Environmental turbulence, a largely uncontrollable factor, appears to be the major constraint on performance.

Predictors of Change in Organizational Effectiveness

Aside from determining what factors account for high scores on these nine effectiveness dimensions, determining what factors account for improvement or decline in effectiveness scores also is important. That is, factors that are associated with high effectiveness at one point in time may be different than the factors that help institutions improve, or that decrease their effectiveness over time. Table 4 reports results that relate to maintaining high levels of effectiveness. The results reported in this section relate to changing the level of effectiveness possessed by an institution.

As mentioned earlier, the criteria of effectiveness assessed by this instrument are short-term in orientation and static, but the instrument was administered to dominant coalition members at the same 29 institutions in 1976 and 1980. Therefore, by computing the differences between effectiveness scores in 1976 and in 1980, it becomes possible to identify improving and declining schools and to determine the factors that account for those changes. A two-stage regression procedure was used in these analyses, as was the case in predicting the static effectiveness scores in Table 4, and the results are reported in Table 5.

TABLE 5 ABOUT HERE

One factor that accounts for change on the many dimensions of effectiveness is the nature of the external environment. Environmental turbulence is associated with decline in effectiveness on three dimensions--faculty and administrator employment satisfaction,

TABLE 5 Predictors of Change in Scores on Nine Dimensions of Organizational Effectiveness - 1976 to 1980 (variables at $p < .05$ level of significance)

DIMENSION	PREDICTOR VARIABLE	BETA	CORR.	R^2
Change in Student Educational Satisfaction				
	Presence of a faculty union in 1980	-.434	-.434	.188
Change in Student Academic Development				
	Strategic emphasis on legal matters	.547	.547	
	Supportive external environment	.377	.332	.440
Change in Student Career Development				
	Strategic emphasis on fund raising	.383	.383	
	Complexity of the external environment	-.452	-.353	.342
Change in Student Personal Development				
	Strategic emphasis on finances/budgets	-.414	-.414	.172
Change in Faculty & Administrator Employment Satisfaction				
	Turbulence of the external environment	-.597	-.597	.357
Change in Professional Development & Quality of the Faculty				
	Turbulence of the external environment	-.679	-.679	
	Total expenditures per FTE student	-.297	-.286	
	Proactive strategies implemented	.298	.218	.623
Change in System Openness & Community Interaction				
	Proactive strategies implemented	.468	.468	.219
Change in Ability to Acquire Resources				
	Presence of a faculty union in 1980	-.477	-.477	
	Total expenditures per FTE student	-.541	-.411	
	Revenue drawing power	.787	.029	.623
Change in Organizational Health				
	Turbulence of the external environment	-.509	-.509	.259

professional development and quality of the faculty, and organizational health. Environmental complexity and decline in the dimension, student career development, are significantly related. And the supportiveness of the external environment (e.g., non-constraining, allowing for flexibility in institutional strategies) is associated with improvement in student academic development.

The strategic emphasis of top administrators also is associated with five different dimensions of effectiveness. Being proactive rather than reactive in implementing strategies is associated with improvement in two dimensions--professional development and quality of the faculty, and system openness and community interaction. A strategic emphasis on legal matters and fund raising also are significantly associated with improvement in student academic development and student career development respectively, while a strategic emphasis on finances and budgeting is associated with decline in student personal development effectiveness.

The results of these two factors, the external environment and the strategic emphases of administrators, suggest that neither the natural selection model (Campbell, 1969; Hannan and Freeman, 1977; Aldrich, 1979), which emphasizes the prominence of the environment as the major determiner of organizational performance, nor the strategic choice model (Chandler, 1977; Child, 1972; Miles and Cameron, 1982), which emphasizes the power of managerial actions, are entirely comprehensive in accounting for improvements in effectiveness. Both factors--those that are immutable outside the institution as well as those under the control of the manager--are important in accounting for improvement in dimensions of organizational effectiveness.

Other important factors besides the environment and managerial strategies are the presence of a faculty union, which is associated with a decline in effectiveness on two of the dimensions, and the ratio of expenditures to students, which is also associated with a decline in effectiveness on two dimensions. The findings showing a negative relationship of unionism to effectiveness are consistent with earlier research on that subject (Cameron, 1982) which showed that schools with a union tended to have lower scores on all dimensions of effectiveness than nonunionized schools. The findings relative to expenditures per student seem to suggest that institutions improved in effectiveness on two academically-oriented dimensions (professional development and quality of the faculty, and ability to acquire resources) when institutions limited spending and became more efficient. This strategy is consistent with Chaffee's (1983) research showing that schools that managed decline well, or that recovered from decline, often became "lean and mean" in their academic programs. That is, they implemented efficiency measures and became proactive in their strategies, which is consistent with spending less rather than more money per student (also see Peck, 1983).

In summary, the regression results in Table 5 indicate at least two general findings. First, both immutable environmental forces and managerial strategies have significant relationships with changes in organizational effectiveness--the former largely negative and the latter largely positive. Second, aside from the environment, the most negative factors relative to individual dimensions of effectiveness are the presence of a faculty union and large expenditures during a period of increasing enrollment and revenue decline in higher education nationwide. The most positive factors are managerial strategic emphases.

Differentiating Among Improving, Stable, and Declining Institutions

The fourth research question guiding this investigation focuses on the characteristics of institutions that improve in their overall effectiveness as compared to those that remain stable or decline in effectiveness. The emphasis is on general improvement rather than on change in the individual dimensions of effectiveness. Two steps were used in differentiating among these institutions, as was the case in the previous regression analyses. That is, separate stepwise discriminant analyses were used with different categories of variables in order to identify those that were most powerful in distinguishing among the three institutional groups--improvers, decliners, and those that remained stable. The final discriminant analysis used only the most powerful variables. Table 6 reports the results of that analysis.

TABLE 6 ABOUT HERE

Eight variables were found to be extremely powerful in differentiating among these three groups of institutions. These eight variables accounted for almost 98 percent of the variance and resulted in 100 percent of the institutions being correctly classified as declining, stable, or improving in effectiveness. Four of the variables have positive associations with improvement in effectiveness and four have negative associations.

Institutions that improved in effectiveness between 1976 and 1980 are those that perceive the external environment to be supportive and that are strategically oriented toward fund raising activities in that environment.

TABLE 6 Variables Discriminating Among Institutions That Declined, Remained Stable, or Improved in Organizational Effectiveness from 1976 to 1980.

EIGENVALUE	CANONICAL CORRELATION	WILKS' LAMBDA	CHI SQUARE	D.F.	SIGNIFICANCE
15.31	.969	.027	70.77	24	.0000

VARIABLES	DISCRIMINANT COEFFICIENT	CORRELATION WITH DISCRIMINANT SCORE
Expenditures Per FTE Student	2.204	.560***
Supportive External Environment	-2.509	.612***
Strategic Emphasis on Fund Raising	-2.888	.447**
Major Doctoral Classification	- .219	.441**
Strategic Emphasis on Internal Affairs	-2.828	-.497**
Strategic Emphasis on Legal Matters	.545	-.375*
Percent In-State Undergraduate Students	-2.090	-.998***
Presence of a Faculty Union in 1980	3.301	-.578***
Turbulent External Environment	- .505	-.060
General Baccalaureate Classification	1.684	-.134
Change in Student Enrollments from 1976 to 1980	1.791	.268

GROUP	CENTROID	PERCENT OF INSTITUTIONS CORRECTLY CLASSIFIED
Declined in Effectiveness	4.407	
Remained Stable in Effectiveness	3.216	100
Increased In Effectiveness	-3.422	

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

They also are major doctoral-type institutions, and, interestingly, have high expenditures per student. Whereas high expenditures per student are associated with lower effectiveness in professional development and quality of the faculty and with the ability to acquire resources (Table 5), when all nine dimensions are considered together, higher expenditures in the school seems to help overall effectiveness.[6] This finding illustrates the tradeoffs faced by organizations when trying to increase their effectiveness. Implementing one particular action may improve effectiveness on some dimensions and inhibit effectiveness on other dimensions.

Institutions that improved in effectiveness also have characteristics opposite of the negatively associated variables in Table 6. That is, they are externally oriented in strategic affairs, they are not caught up in internal legalistic matters, their studentbody is cosmopolitan and diverse, and they have no faculty union.

On the other hand, institutions that declined in effectiveness are strategically oriented toward internal (as opposed to external) institutional affairs and legalistic matters, their students tend to be drawn from local (as opposed to regional or national) markets, and their faculty is unionized. In addition, they possess characteristics opposite to the positively associated factors in the table. They are in a hostile external environment, they spend little money per student, and they do not emphasize fund raising activities. As shown by the group centroids, stable institutions are similar to declining institutions in their characteristics.

DISCUSSION

This study addresses and attempts to overcome many of the major weaknesses of past studies that have used organizational effectiveness as a variable. Criticism of this research has been widespread and severe, but the criticism is not without justification. Criteria of effectiveness often have been arbitrarily selected, they frequently have not been clearly associated with organizational performance, and the major factors that indicate or affect effectiveness have not been specified (see Goodman et al., [1983]; Kanter and Brinkerhoff [1981]; and Cameron and Whetten, [1983] for some of the most recent criticism). In this study, the defintional boundaries of effectiveness have been clearly stated, the issue of external validity has been investigated, and the major factors that affect scores on effectiveness and changes in effectiveness over time have been identified.

The value of this study, however, is not only in the example it provides for a way to improve organizational effectiveness assessments, but the empirical findings resulting from the analyses have relevance for organizational theory and management practice as well. Because the organizations investigated are colleges and universities, however, generalizing to other types of organizations may be inappropriate. But because of the lack of research on effectiveness in institutions of higher education, theoretical contributions in this area are badly needed. Three propositions can be derived from these findings, and they are enumerated and discussed below. The paper then concludes with a suggestion of future research directions for organizational effectiveness researchers.

1. The most important factors associated with both static and dynamic assessments of effectiveness are environmental factors and management strategies. This suggests that both the natural selection and the strategic choice perspectives are important in explaining variance in effectiveness.

The natural selection perspective (Hannan and Freeman, 1977; Brittain and Freeman, 1980; Aldrich, 1979; McKelvey, 1982) assumes that organizations are captives of an environment, and that the environment detemines the behavior and, ultimately, the effectiveness of organizations. Managers and managerial actions are considered to be largely irrelevant factors in predicting the successful performance of organizations. Moreover, organizational inertia--which is created by externally imposed constraints on organizational performance, mandates for meeting certain constituencies' needs, organizational culture and history that create norms and expectations for future performance, and structures which inhibit the implementation of some options and so on--is argued to inhibit organizations' discretion in affecting their own long term effectiveness (Miller and Freisen, 1979). The nature of the external environment is, therefore, the critical factor to assess when studying organizational effectiveness.

A polar opposite perspective--the strategic choice view--assumes that top managers exercise a great deal of choice and can have major impact on organizational effectiveness and long-term survival. They do this both by exerting influence on, changing, or selecting the environment in which they operate, and by changing the configuration and processes in the organization itself in order to improve performance (Child, 1972; Miles and Cameron, 1982; Barnard 1938; Miles and Snow, 1978). Organizational

inertia is overcome by the quality of executive leadership (Chandler, 1977; Miles and Cameron, 1982). The strategic emphases and choices of managers, therefore, are the critical factors to be included in assessments of organizational effectiveness from this perspective.

In this study, both environmental dimensions and strategic emphases of managers were included as factors that could potentially account for the effectiveness of institutions of higher education. Overall, both factors were found to be highly important--in fact, they are the most important variables in accounting for effectiveness--but their importance differs according to the particular dimension of effectiveness being considered. Environmental dimensions tend to serve as constraints (i.e., negatively associated factors) to high effectiveness on dimensions relating to morale and smooth internal functioning of the institution. Managerial strategies tend to serve as inducements (i.e., positively associated factors) to high effectiveness on dimensions relating to the academic domain and to the external adaptation domain. That is, institutions tend to do well academically and in interacting with the external environment as a result of managerial strategies.

Theoretically, the fact that positive dimensions of the external environment (i.e., resource munificence, supportiveness and absence of constraints) are not strong predictors of effectiveness suggests that environmental dimensions are largely factors that must be overcome rather than that contribute to improvement in effectiveness. It appears that institutions may be effective, in other words, in spite of their environments more than because of them--an argument contrary to the view of natural-selection theorists.

One other point also should be made regarding this proposition. Several major variables that often are included in research and that are assumed to be crucial in accounting for effectiveness were not very important at all in this investigation. For example, the structure and size of the institutions, the type or classification of the institutions, the presence of a saga or special mission, and so on, did not emerge as important variables in any of the regression or discriminant analyses. Apparently the amount of variance accounted for by these factors is dwarfed by the two major factors--environment and strategy.

2. Proactive managerial strategies and those with an external emphasis are more successful than are reactive strategies and those oriented toward internal institutional affairs. Few strategic issues in the organizational literature are characterized by as much agreement as the need for entrepreneurship (or proactivity) in organizations (Van de Ven, 1983; Hedburg, Starbuck, and Nystrom, 1976; Weick, 1982). On the other hand, Cameron (1983) discovered that a modal response of higher education administrators when faced with fiscal and enrollemnt declines is to become conservative, efficiency oriented, and reactive. An explanation for why these tendencies occurred can be found elsewhere (Cameron, 1982, 1983), but the important point is that in that previous study, most managers were found to behave contrary to conventional wisdom. The findings in this study support conventional wisdom and the prescriptions of most organizational theorists. That is, proactivity is generally more successful than is reactivity. This finding also is consistent with Miles and Snow's (1978), Miles and Cameron's (1982), and Snow and Hrebiniak's (1981) research that found prospector organizations (completely proactive) and analyzer organizations (moderately proactive) to be more effective on

almost all dimensions than defender (mostly reactive) and reactor organizations. In institutions of higher education, as in other types of organizations, not waiting for environmental events to occur before implementing strategies appears to be an important prescription for success.

In addition, strategies oriented toward influencing factors outside the institution (e.g., public service, fund raising) are associated with effectiveness whereas strategies focused only on internal affairs (e.g., budgeting, legal matters) are more generally negatively associated with effectiveness. This finding squares with the conclusions of Miles and Cameron (1982) regarding the strategic orientations that were associated with success among the firms in the U.S. tobacco industry. They identified three major types of strategies--domain defense, domain offense, and domain creation--which account for the long-term effectiveness of the tobacco firms (1950-1979). Each of these strategies is oriented toward affecting the external environment in building political slack and legitimacy, expanding markets, moving into new domains, and so on. Emphasis on internal affairs (while they cannot be completely ignored) do not account for the success of the tobacco firms in overcoming an extremely turbulent and hostile environment.

Whereas tobacco firms and institutions of higher education are dissimilar in many ways, both face similar types of environments (Cameron, 1983), and the strategies associated with effectiveness seem to be similar. That is, institutions that pursue strategies oriented toward influencing the external environment seem to have higher effectiveness scores than do those that do not.

3. Multi-faceted managerial strategies are required in order for institutions to be effective. Institutions do not succeed by being monolithic. Managers must implement a variety of strategies with a variety of targets in order to ensure effectiveness over time. In this study, a variety of different strategic emphases were associated with different dimensions of effectiveness, suggesting that no one orientation is best. In fact, as was illustrated in comparing Table 5 and Table 6, some factors are associated with increasing effectiveness on certain dimensions and decreasing effectiveness on others. Managers' strategies have to match the variety of effectiveness dimensions they have available to them.

This finding is consistent with the work of Chaffee (1983) who tried to identify the factors that differentiated institutions that successfully recovered from decline from those that continued to decline through the 1970's. She discovered, among other things, that a wide variety of strategies was required in order for institutions to turn-around and to begin to increase their effectiveness. Her summary, "colleges have a wide range of strategic moves they might make productively (p. 28)" is consistent with this study's results. Implementing strategies that emphasize a variety of areas such as academics, public relations, student affairs, budgeting and financial affairs, public service, and so on, appears to be the best way to influence a variety of dimensions of organizational effectiveness. By doing so, long-term institutional viability is likely to be enhanced (see Table 2).

CONCLUSION

This study has attempted to investigate organizational effectiveness in such a way that the weaknesses of previous investigators were addressed. In addition, its purpose was to identify the major factors that are associated with high levels of effectiveness in colleges and universities. These findings, of course, are preliminary and exploratory, but they do suggest some directions for future research that may both enhance our understanding of organizational effectiveness and help to improve the performance of colleges and universities. For example, future research on effectiveness could be markedly improved if the seven constraints on the definition, which were enumerated earlier, were made explicit. Those choices are made implicitly in each assessment, but their lack of conscious specification has led to ambiguity, noncumulativeness, and confusion in definitions and criteria of effectiveness in the literature. Being clear about the boundaries of organizational effectiveness in each study would help overcome those problems.

Second, more attempts at external validity should be made when assessments of effectiveness are conducted. Whereas ultimate organizational demise is usually not available as a referent, other potential indicators of long-term and short-term success may be found. The criteria selected for assessing effectiveness can then be correlated with those independent indicators.

Third, because the actual strategic actions of managers were not assessed in this study, only their strategic emphases, much more fine-grained analyses should be performed of what actions managers can take to preserve or enhance the effectiveness of their institutions. Now that certain major variables have been identified, more rigorous

assessments of these important factors should be done. The value of an exploratory study such as this one, in fact, is that it identifies which commonly used variables are not important in institutional performance, and those can be given less emphasis than the more important ones in future investigations.

Finally, more systematic analyses of the effectiveness of colleges and universities are badly needed. Most of the assessments up to now have been made on the basis of opinion (e.g., Barron's "The Best, Most Popular, and Most Exciting Colleges," 1982), or secondary characteristics with only marginal association with what the institution actually does (e.g., starting salaries of graduates). While the nine dimensions of effectiveness used in this study are not appropriate for all types of schools nor for all assessments, similar attempts should be made more often to identify valid and reliable indicators.

FOOTNOTES

[1]Their alternative view calls fine-grained research on single dependent variables such as satisfaction, productivity, accidents, and so on, "but not on OE." (Goodman, et al., 1983, p. 175). This suggested alternative is controversial, however, as is evidenced by Brewer's (1983) reaction to it: "The demand to impose a moratorium on organizational effectiveness studies is disingeneous and easily read as a move to impede work that does not conform to the limited perception presented in the fine-grained analysis paradigm (p. 219)."

[2]Three examples of the 57 items on the questionnaire are provided to illustrate the descriptive nature of the questions.

> "How many faculty members and administrators at this college would you say serve in the community in government, on boards or committees, as consultants, or in other capacities?"
>
> "How many faculty members at this institution are actively engaged now in professional development activities--e.g., doing research, getting an advanced degree, etc.?"
>
> "Approximately how many students have either dropped out or not returned because of dissatisfaction with their educational experience at this institution?"

[3]The following are definitions of the five indicators of financial health:

<u>financial independence</u> - the proportion of revenues from six different sources (tuition, appropriations, grants, gifts, endowment, and all others)

<u>financial flexibility</u> - the proportion of unrestricted revenues

<u>financial cushion</u> - the extent to which savings or slack can be generated

revenue drawing power - the ability to attract revenues relative to other institutions

endowment yield - the amount of endowment relative to other similar schools

Computational formulas for each of these variables are described in Collier and Patrick (1978).

[4]Computing rank order correlations is not appropriate in this case because high growth in enrollments is not necessarily considered to be an indicator of effectiveness, even though declining enrollments might be considered to be an indication of ineffectiveness.

[5]Because of this two stage regression procedure, the percent of variance accounted for (R^2) may be exaggerated.

[6]One explanation of why expenditures per student are negatively associated with two of the dimensions and positively associated with effectiveness when all nine dimensions are considered together is that when fewer revenues are available (and, therefore, expenditures per student are lower) institutions may be forced to increase their ability to acquire additional resources in order to survive. That is, they do better at acquiring resources when expenditures are being constrained. Therefore, a negative relationship between these two variables seems reasonable. Similarly, when less money is available, more faculty may seek their own sources of funding (e.g., research grants, consulting) and more may engage in degree-upgrading programs to assure their indispensibility to their institutions. Therefore, effectiveness in professional development and quality of the faculty could actually increase under conditions of lower expenditures. However, when other dimensions of effectiveness are considered such as student development,

morale factors, and organizational health, a condition of low expenditures becomes associated with low effectiveness. For example, low expenditures may stimulate an increase in resource acquiring and professional development activities, but morale may decrease, students may get short-changed because of the emphasis in other areas, smooth internal institutional functioning may erode, the needs of external constituencies may be ignored, political infighting over scarce resources may occur, and so on. A positive relationship between expenditures and effectiveness is, therefore, understandable when all nine dimensions are considered.

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