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ABSTRACT

This study examined relationships between institutional culture, decision making approaches, and organizational effectiveness of two-year colleges. The sample included 639 full-time faculty members or full-time administrators at 30 public two-year colleges stratified for size. The causal model estimated for this study used K. S. Cameron's (1978; 1986) nine dimensions of organizational effectiveness to produce a global measure of institutional performance. Four sets of variables were included: (1) institutional variables (such as financial health and enrollment health), (2) institutional culture, (3) resource allocation decision making, and (4) the global organizational effectiveness of the institution. Results confirmed and extended previous research on the influence of the external environment and institutional cultures on organizational effectiveness. The key mediating variable for both enrollment and financial health as well as overall effectiveness was an adhocracy culture. Adhocracy cultures assume that change is inevitable; individuals are motivated by the importance and ideological appeal of the tasks to be addressed. A prospector-type stratetic orientation is used to acquire resources to ensure institutional vitality and viability. Adaptive and interpretative qualities are called on to make decisions. Findings also suggested that the influences of these factors may have been underestimated in the past by not taking into account indirect influences on effectiveness and how the negative influences of declining enrollments and financial health may be partially muted through attention to institutional cultures and decision approaches. (Contains 53 references.) (DB)

THE ROLES OF INSTITUTIONAL CULTURES AND DECISION APPROACHES IN PROMOTING ORGANIZATIONAL EFFECTIVENESS IN TWO-YEAR COLLEGES

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Abstract

This study examines the influences of institutional cultures and decision approaches on the organizational effectiveness of two-year colleges through the use of causal modeling procedures. The findings confirm and extend earlier research on the relative influence of factors in the external environment, institutional culture, and internal decision and managerial approaches on the organizational effectiveness of postsecondary institutions. The influences of these factors may have been underestimated in the past by not taking into account indirect influences on effectiveness. In addition to providing more accurate estimates of the "true" effects of these forces, the results also suggest how the negative influences of declining enrollments and financial health may be partially muted through attention to institutional cultures and decision approaches. These two components of the overall managerial strategy of two-year colleges appear to be powerful mechanisms in efforts to enhance organizational performance in this era where the credibility of colleges and universities is being challenged and their environments are less munificent.

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Jean Endo
Editor
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THE ROLES OF INSTITUTIONAL CULTURES AND DECISION APPROACHES IN PROMOTING ORGANIZATIONAL EFFECTIVENESS IN TWO-YEAR COLLEGES

The effectiveness of a college or university is a function of how it responds to external forces and internal pressures in fulfilling its educational mission. Most of the research on institutional effectiveness has focused on four-year institutions. Yet, two-year institutions comprise the single largest institutional sector of American higher education with over 1,200 serving more than five million students (Pincus and Archer, 1989). This paper focuses on the organizational effectiveness of two-year colleges.

Background

Cameron (1978; 1986) identified nine dimensions of organizational effectiveness that can be used to evaluate the performance of all forms of postsecondary institutions. The nine dimensions are: student educational satisfaction; student academic development; student career development; student personal development; faculty and administrator employment satisfaction; professional development and quality of faculty; system openness and community interaction; ability to acquire resources; and organizational health. From their study of a sample of two-year colleges, Smart and Hamm (1993b) concluded that Cameron's nine dimensions of organizational effectiveness represent key management and institutional performance indicators of two-year colleges. They also demonstrated that the organizational effectiveness of two-year colleges is a function, in part, of their mission priorities (e.g., transfer/college parallel, technical/career, adult/continuing, and other goals).

Cameron's dimensions of organizational effectiveness encompass a wide range of important variables. However, they do not include other factors that also affect institutional performance, such as decision making approaches, institutional culture, and the nature of relations among faculty, administrators, and students (Birnbaum, 1988, 1992; Senge, 1990; Weick, 1979; Whetten, 1984). These variables become increasingly important as turbulent and unpredictable economic cycles, competitiveness, and shifting priorities for public support threaten the viability of many postsecondary institutions (Ashar and Shapiro, 1990; Cameron, 1986; Finn and Manno, 1996; "To Dance With Change," 1994). In these circumstances institutions often adopt structural patterns (e.g., centralization of functions) and management practices (e.g., autocratic decision-making processes) that frequently result in inflexible patterns of behavior which, over time, may have a negative influence on institutional performance (Cameron, 1983; Cameron, Whetten, and Kim, 1987; Zammuto and Cameron, 1985). Indeed, much of the most recent literature on high performance in organizations calls for exactly the opposite kind of structural patterns; "postmodern" organizations, argue researchers, need less autocracy, more flexibility, and greater creativity (Handy, 1989; Senge, 1990; Tierney, forthcoming).

The research is unclear about whether certain decision making approaches are related to enhanced institutional effectiveness (Baldridge, 1971; Chaffee, 1983; Cohen and March, 1974). Nonetheless, many organizational theorists argue that participative decision processes are associated with higher levels of organizational performance (Birnbaum, 1992; Child, 1973; Meyer, 1979; Peters, 1987; Senge, 1990; Sutton and D'Aunno, 1989). Consensual, participative decision processes seem to be more strongly associated with the organizational effectiveness of four-year colleges and universities than are centralized decision processes (Cameron and Tschirhart, 1992). The nature of administrative and faculty relations also can influence decision making and, in turn, institutional effectiveness (Cameron, 1982, 1985). Cameron (1982) found that institutions with collective bargaining agreements scored lower than non-unionized campuses on eight of the nine organizational effectiveness dimensions.

An institution's culture is thought to mediate how an institution deals with external forces and internal pressures (Chaffee and Tierney, 1988; Kuh and Whitt, 1988). Culture is formed over decades as institutions "learn" how to respond to challenges associated with their establishment, survival, and growth (Clark, 1970; Schein, 1985). There are many ways to conceptualize and define institutional culture. For the purpose of this paper culture is the patterns of interpretations people form about the manifestations of their institutions' values, formal rules and procedures, informal codes of behavior, rituals, tasks, jargon, and so on (Martin, 1992). In this sense, "culture is reflected in what is done, how it is done, and who is involved in doing it. It concerns decisions, actions, and communication . . ." (Tierney, 1988, p. 127). The plural form of the word, "pattern," suggests that no single interpretation or view can accurately represent the perspectives of all faculty, staff and students because people do not see the institution in the same way (Martin, 1992). Indeed, a college can be host to many cultures or subcultures (Van Maanen and Barley, 1985). At the same time it is possible to deduce some general themes of organizational life about which people can generally agree, such as preferred approaches to decision making (Quinn and McGrath, 1985).

How one thinks about organizational life also suggests the manner in which strategy gets enacted and defined. An organization's culture, then, implies a particular stance toward strategy. A cultural view of the organization suggests that strategy is a process, not a product, a means to ask appropriate questions rather than a series of answers. In effect, a cultural strategy - often called interpretative strategy - is a way for leaders to think about, look at, and define their organization. In contrast, previous uses of strategy - usually called linear - were hierarchial in nature and expected a small group of an institution's leaders to develop an efficient mechanism that would manipulate the predictable components of the organization. The environment was seen as a series of understandable properties "out there"; an effective manager was one who was able to react to the complex set of forces in the environment. Administrators assessed goals and planned actions that achieved definable ends. Such a strategic orientation often has been seen as too rigid because it overlooks the dynamic aspects at work within the organization and in the environment.

In reaction to linear strategy, some critics utilized adaptive strategy. Rather than machinelike, adaptive strategists thought of the organization more as an organism that adapted to environmental trends and demands. The external environment received prominence. Whatever the environment needed was seen as the goal of the organization. Organizational values were ignored or subordinated to the demands of the environment. A leader was someone who could read the environment accurately and adapt the organization to the press of external forces. The concern with this approach was that the over-riding purpose or ethos of the organization often became lost, constituents were unsure of their tasks, and any sense of organizational glue came unhinged; long range stability was put in jeopardy for perceived short range needs.

In the cultural approach, people receive, process, and send messages. To be sure, goals and results are important as in linear strategy, and the environment is also critical, as with the adaptive strategy. However, in this approach organizational values are central. How individuals interpret the organization to themselves and to outsiders becomes the key task as they struggle to meet the challenges and demands of the marketplace. Such a strategy works from the assumption that the organization plays a role in creating its structure and its environment.

Studies of institutional effectiveness have typically employed conventional regression procedures to examine the relationships between organizational structures and processes. Regression analyses take into account only direct effects of independent variables (e.g., environmental conditions, mission priorities, institutional culture) on the dependent measure of organizational effectiveness. There is also reason to believe that the external post-industrial environments (Cameron and Tschirhart, 1992) of two-year colleges may have significant negative indirect, as well as direct, effects on organizational performance. For example, as mentioned earlier, institutions often centralize managerial functions and processes in response to external threats to their viability (Cameron, 1983; Cameron and Tschirhart, 1992; Zammuto and Cameron, 1985). To discover how the external environment and an institution's culture, mission, preferred decision-making approaches, and collective bargaining status work together to influence the performance of two-year colleges, both indirect and direct effects must be estimated.

Purpose

This study examines the relationships between institutional culture, decision making approaches, and organizational effectiveness of two-year colleges. It differs from most of the related research on postsecondary institutional effectiveness in three respects. First, the study focuses on two-year institutions, a sector of American higher education in which such inquires are relatively rare.

Second, most studies of the culture of postsecondary institutions (e.g., Clark, 1970; Chaffee and Tierney, 1988; Kuh, Schuh, Whitt and Associates, 1991; Kuh and Robinson, 1995) have employed an integration perspective (Martin, 1992); that is, people are assumed to interpret organizational arrangements and activities pretty much the same way (i.e., cultural properties are interpreted consistently by all institutional members). In contrast, the idea of "equifinality" is that members may subscribe to similar goals, but the reasons they desire to achieve such goals and/or how they interpret the goals may vary. Accordingly, in this study we acknowledge that multiple interpretations of institutional life are not only possible but likely, and that certain events and actions (e.g., decision making approaches) may be ambiguous even though the data collection methods employed suggest otherwise (Martin, 1992).

Finally, the study uses causal modeling procedures to estimate the contributions of factors considered important to organizational effectiveness in two-year colleges. The advantage of causal modeling procedures over conventional regression techniques is that they take into account both direct and indirect influences of predictor variables, thus producing a more robust estimate of the total influence of variables in the model. In addition, they reveal the dynamic process by which the predictor variables exert influence by identifying salient intervening or mediating variables (Wolfle, 1985).

Methods

Sample: A two-stage process was used to select the sample. First, 30 public two-year colleges stratified according to size were randomly selected using the 1990 AACJC membership directory. Then, all full-time administrators and a random sample of full-time faculty members at these institutions were invited to participate in the study (n = 1332). Approximately twice as many faculty were selected as administrators at each college. A 54% response rate (n = 698) was realized. The administrator response rate (63%) was greater than for faculty members (47%). The results are based on the responses of 639 individuals who had complete data on the variables described below.

The Causal Model: The causal model estimated for this study (Figure 1) uses Cameron's nine dimensions of organizational effectiveness to produce a global measure of institutional performance. The inclusion of decision making approaches in the model reflects their reputed importance to organizational performance (Child, 1973; Meyer, 1979; Peters, 1987; Sutton and D'Aunno, 1989). The model also assumes that the missions, cultures, and external environmental conditions of two-year colleges differ. Mission priorities and environmental conditions interact with the institutional culture in unknown ways and shape institutional decision making and management approaches. Taken together, all these variables are thought to influence the global organizational effectiveness of two-year colleges.

Therefore, four sets of variables are ordered in a causal sequence in the model. The first set is comprised of seven exogenous variables reflecting (1) college size in terms of headcount enrollment, (2) college financial health in terms of deteriorating funding and revenue patterns, (3) college enrollment health in terms of declining student enrollments, (4) college transfer emphasis in terms of the percentage of total enrollment in college parallel programs, (5) college career emphasis in terms of the percentage of total enrollment in technical/career programs, (6) college continuing education emphasis in terms of the percentage of total enrollment in adult/continuing education programs, and (7) collective bargaining status based on whether or not the campus is unionized. These exogenous variables are included in the model to control for their demonstrated relationship to the organizational effectiveness of colleges and universities noted earlier.

The second set was comprised of measures of the four types of institutional cultures developed by Cameron and Ettington (1988) and used in previous studies of the effectiveness of two- and four-year postsecondary institutions (Cameron and Ettington, 1988; Fjortoft and Smart, 1994; Smart and Hamm, 1993a; Smart and St. John, forthcoming; Zammuto and Krakower, 1991). The four culture types are clan, adhocracy, bureaucracy, and market. Clan cultures are characterized by norms and values that foster affiliation, encourage member participation in decision making, and emphasize talent development as an institutional goal. Faculty and staff are motivated by trust, tradition, and their commitment to the institution. The clan's strategic orientation is to use consensus to make decisions; interpretative strategy is utilized. Adhocracy cultures assume that change is inevitable; individuals are motivated by the importance and ideological appeal of the tasks to be addressed. A prospector-type strategic orientation is used to acquire resources to ensure institutional vitality and viability. Adaptive and interpretative strategies are called on to make decisions. A bureaucratic culture seeks stability; its strategic orientation is to maintain the status quo. Formally described roles dictate the activities performed by various individuals and the nature of relations among people; individual compliance with organizational mandates is governed by rules and regulations and linear strategy is the mode of operation. Market cultures are achievement-oriented and emphasize planning, productivity, and efficiency in developing strategy; again, linear strategy is the modus operandi. Faculty and staff performance is assured through rewards for competence and contributions to organizational effectiveness. Appendix A explains the analytical procedures used to derive the four culture scores.

These four culture types represent ideal forms. They differ in terms of the degree to which they emphasize the importance of: (1) people or the organization, (2) stability and control or change and flexibility, and (3) means or ends. Most institutions probably reflect properties of more than one of these types. At the same time, colleges manifest different combinations of attributes that evolve into distinctive institutional cultures that

> "are reflected in idiosyncratic manifestations: organization-specific rituals, symbols, languages, and the like. But while specific manifestations of individual cultures may be unique, their meaning content across organizations will be similar to the extent that the underlying value systems are similar" (Quinn and Kimberly, 1984, p. 300).

The third set of variables in the model was comprised initially of how respondents characterized the manner in which resource allocation decisions at their institution were made (Baldridge, 1971; Cohen and March, 1974; Chaffee, 1983). The six decision approaches are: (a) collegial, based on consensus, (b) rational, based on supporting data, (c) bureaucratic, based on structured administrative patterns, (d) political, based on conflicting self-interest and power, (e) organized anarchy, based on serendipity, and (f) autocratic, based on the preference of a single, powerful individual. Because these measures have unknown psychometric properties, factor analytic procedures were used to determine their construct validity. The results (Appendix B)

pointed to two prevalent decision approaches. The first is rational/collegial in which resource allocation decisions are the result of "group discussion and consensus," based on the use of "a standard set of procedures," and criteria reflecting "what objectively seems best for this institution overall." The second is autocratic/political in which resource allocation decisions are customarily made by "one individual at this institution," in a political manner "based on the relative power of those involved." and without any "particular pattern" characterizing the criteria used.

The fourth set was a single dependent variable reflecting the global organizational effectiveness of the 30 participating two-year colleges. The organizational effectiveness scale was created by summing the mean scores for all respondents on the nine effectiveness dimensions developed by Cameron (1978; 1986). These perceptual measures of effectiveness have external validity in that they are consistently and positively correlated with indices characteristic of high performing organizations (e.g., financial health, student enrollment, ratings of academic quality) (Cameron, 1978: 1986). Table 1 provides operational definitions and reliability estimates (where appropriate) for all measures used in the study.

(Insert Table 1 about here)

Analyses. Institutional culture factor scores were computed to identify a dominant culture type for each institution. This was done by classifying institutions according to their highest score across each of the four culture factors. The results indicated that 9 (30%) have a dominant bureaucratic culture, 8 (27%) represent a dominant adhocracy culture, 8 (27%) reflect a dominant clan culture, and 5 (17%) have a dominant market culture. Appendix A shows that the corresponding factor score for each dominant culture type is about a half standard deviation above the grand mean (standardized at 0) and that each dominant culture type has a substantially higher mean score on its corresponding factor. Thus, faculty and administrators perceive that their institutions have "unique profiles" consistent with the culture factor labels.

A preliminary analysis was conducted to determine if administrators and faculty members differed in the factors they perceived to influence the global measure of effectiveness of two-year colleges. This was accomplished by regressing the organizational effectiveness measure on all causally antecedent variables in the model plus a set of interaction terms that were the cross-products of employment status (i.e., administrator, faculty member) and each of the predictor variables. The results showed trivial differences in the amount of variance explained, indicating that the influence of variables in the model was comparable for both administrators and faculty members.

A two-step process was used to estimate the direct and indirect effects represented in the model (Figure 1). First, ordinary least squares regression procedures were used to estimate the coefficients in the seven structural equations defining the full model. Each endogenous variable was regressed on the exogenous variables and all causally antecedent endogenous variables. This produced seven sets of regression coefficients representing the direct effects of the causal factors on organizational effectiveness. Second, GEMINI (Wolfle and Ethington, 1985) was used to calculate and test the statistical significance of indirect effects implied in the model.

Results

Table 2 presents the means, standard deviations, and inter-correlations for all variables. Table 3 presents the structural equations derived from the model. The regression coefficients in Table 3 may be interpreted as the direct effects of individual predictor variables on the dependent variable while holding constant the influence of all other predictors in the equations.

The final structural equation in Table 3 indicates that the variables in the model explain 44% of the variance in organizational effectiveness of the 30 two-year colleges. We are unable to contrast this percent with earlier research findings because they have customarily employed analysis of variance procedures and have not reported an equivalent statistic (i.e., percent of variance explained among groups). Nonetheless, explanation of this high a percentage of the variance in such a complex construct as organizational effectiveness seems uncommonly strong and demonstrates that the collective influence of the independent variables in the model are important predictors of the global organizational effectiveness of two-year colleges.

(Insert Tables 2 and 3 about here)

Table 4 presents a summary of the direct, indirect, and total effects of all variables in the model on the global measure of organizational effectiveness for the combined sample of administrators and faculty members. These are standardized coefficients and may be used to interpret the relative influences of variables in the causal model.

(Insert Table 4 about here)

The results indicate that organizational effectiveness of two-year colleges is a function of the interaction among the external environment, institutional culture, and preferred decision making approach. Two measures of the external environment (financial health, enrollment health), all four culture types, and both decision approaches (rational/collegial, autocratic/political) have significant total effects on organizational effectiveness (Table 4). Furthermore, several predictor variables have significant indirect effects that are consistent with the effects discovered by other researchers (Cameron, 1981; Cameron and Tschirhart, 1992; Zammuto and Cameron, 1985). The results are presented according to the three sets of predictor variables in the causal model shown in Figure 1.

Pre-existing Conditions (Exogenous Variables). The organizational effectiveness of two-year colleges is negatively affected by deteriorating financial conditions and enrollment declines as both these variables have significant negative direct, indirect, and total effects on organizational effectiveness. Approximately one-third of the total effect of financial health and enrollment health is exerted indirectly (see Table 4). Institutional size has a significant positive direct ($p < .05$) and total ($p < .01$) influence on effectiveness (see Table 4); that is, larger two-year colleges are perceived by both administrators and faculty members to be more effective than smaller institutions. Neither mission emphasis (transfer, career, adult learning) nor collective bargaining status are related to organizational effectiveness when controlling for the influence of other variables in the model.

Culture Types. All four institutional culture factors have significant direct and indirect influences on effectiveness. In fact, the total effects column in Table 4 show that the two most powerful influences on the organizational effectiveness of two-year colleges are culture measures (i.e., Adhocracy and Bureaucratic). Adhocracy (total effect = .38) and clan (total effect = .17) cultures are positively associated with effectiveness while bureaucratic (total effect = -.39) and market (total effect = -.20) cultures are negatively related. Moreover, the significant negative indirect effects of external conditions (i.e., financial and enrollment health) on organizational effectiveness are minimized by the presence of a strong adhocracy culture (see the equation for variable number 9, adhocracy, in Table 3). The significant negative indirect effect of enrollment health is exacerbated in institutions with a strong market culture (see the equation for variable number 10, market, in Table 3).

Decision Approaches. Both the rational/collegial and autocratic/political decision approaches have significant direct and total effects on organizational effectiveness; the former is positive (.19; $p < .001$), the latter is negative (-.08; $p < .05$). The influence of the rational/collegial variable in the model, however, goes well beyond its significant direct influence on effectiveness because it also serves as the primary mediating variable for the positive indirect effects of clan and adhocracy culture types and the negative indirect effects of market and bureaucratic cultures. That is, clan and adhocracy cultures appear to foster the use of a rational/collegial decision approach, which has a significant positive influence on effectiveness (see positive effects in the equation for variable 12, rational/collegial, in Table 3). Conversely, bureaucratic and market cultures obviate rational/collegial approaches to decision making (see negative effects in the equation for variable 12, rational/collegial, in Table 3). The negative indirect influence of the financial health measure is exacerbated at institutions using an autocratic/political decision approach (see positive effect in the equation for variable 13 in Table 3).

Discussion

The findings from this study confirm and extend previous research on the influence of the external environment and institutional cultures on organizational effectiveness. The results also lend some insight into the dynamic manner by which potentially debilitating factors in the external environment indirectly influence organizational effectiveness. For example, the key mediating variable for both enrollment and financial health is an adhocracy culture. It seems that colleges with a strong adhocracy culture are able to minimize the impact of difficult enrollment and financial conditions, perhaps by enabling the institution to adapt to changing external conditions and internal pressures. These institutions also are considered by their faculty and administrators to be more effective overall. Consistent with other research (Cameron and Freeman, 1991; Cameron and Tschirhart, 1992; Fjortoft, and Smart, 1994; Smart and Hamm, 1993a), declining enrollment and financial conditions and bureaucratic and market cultures are negatively related to effectiveness.

These findings suggest that the relative influence of these measures may have been previously underestimated as they now appear to have important indirect, as well as direct, influences on the organizational performance of two-year colleges. This is especially the case in terms of financial and enrollment health where approximately a third of their total effects on organizational performance are indirect in nature (see Table 4). The potentially debilitating influences of declining enrollment and financial conditions on organizational performance seem to be muted in part by leadership styles and decision approaches

that are congruent with adhocracy and clan cultures. Leaders in institutions with an adhocracy culture prefer to be proactive with regard to trends and forces in the external environment through external positioning, long-term time frames, and achievement-oriented activities. Turning inward and focusing on internal management issues is inconsistent with their prospector, externally-oriented style of administration and leadership, which is associated with enhanced organizational performance. Therefore, it seems advisable that two-year college administrators adopt a leadership style and advocate for managerial processes that will develop and sustain a culture that permits some measure of entrepeneurism in its interactions with the external environment.

According to Schein (1985), "the only thing of real importance that leaders do is to create and manage culture" (p. 2). In fact, the most common mistake made by new presidents is acting in ways that are counter to their institution's culture (Birnbaum, 1992). The results of this study confirm that becoming competent in discovering and managing culture is a critical skill for institutional leaders (Dill, 1982; Kuh and Whitt, 1988; Lundberg, 1990). "The symbolic role of leadership," writes Tierney, "is to communicate and interpret the values and goals of the community" (1992, p. 17). Thus, it appears prudent that community college leaders employ interpretative strategies aided by an adaptive view of the environment.

Most scholars who use cultural perspectives in their work are hesitant to endorse certain forms of cultures as "better" than others (Martin, 1992; Kuh and Whitt, 1988; Van Maanen and Barley, 1985). They argue that while cultures have different properties they do not differ in relative worth. However, the results of this study indicate that institutions with adhocracy or clan cultures are advantaged when dealing with potentially debilitating conditions in the external environment (Cameron and Ettington, 1988; Cameron and Freeman, 1991; Fjortoft and Smart, 1994). Almost half of the institutions in this study have dominant cultures classified as bureaucratic or market, types that are negatively associated with institutional effectiveness. Bureaucratic cultures, for example, are generally considered to be among the most difficult to respond purposefully and adroitly to external forces and internal pressures (Birnbaum, 1988).

Leadership styles, bonding mechanisms, and strategic emphases vary by culture types. For example, in clans the dominant leadership style is that of a mentor or facilitator, the bonding among organizational members is based on loyalty and tradition, and the strategic emphases focus on human resources and cohesion. The attributes of a clan culture may take longer to cultivate, especially if the dominant culture type is bureaucratic. Alternatively, in adhocracies the prevalent leadership style is that of an entrepreneur or innovator, the bonding among organizational members is based on innovation and development, and strategic emphases focus on growth and the acquisition of additional resources. Such institutions emphasize concern for the welfare of employees and the maintenance of flexibility, individuality, and spontaneity (Cameron and Ettington, 1988). In general, organizations that exhibit a clan culture are considered to be very personal places in which people seem to share a lot of themselves, while those that exhibit an adhocracy culture are regarded as being very dynamic and entrepreneurial places in which people are willing to stick their necks out and take risks. Both of these forms of institutional culture are superior to market and bureaucratic cultures; the former characterized by a production orientation and an emphasis on competitive actions and achievement where leaders are regarded as hard drivers or producers and in which the bonding among organizational members is based on task and goal accomplishment, while the latter is characterized by structured and formalized rules and regulations and an emphasis on permanence and stability where leaders are regarded as organizers or coordinators and the bonding among organizational members is based on adherence to formal procedures.

Leaders in clans and adhocracies utilize interpretative strategies that assume the organization and environment are not preexisting and determined realities that have a singular interpretation. Instead, leaders make sense of the organization and the environment to constituents. Clan leaders call more on the use of historical ideologies, whereas adhocracies interpret the environment. In this sense, adhocracies are more adaptive to the needs of the marketplace, but they nonetheless still focus on interpretation. Bureaucratic and market cultures, however, subscribe to a singular notion of organizational reality and assume that structural responses are adequate.

Administrators at two-year colleges with strong bureaucratic and market cultures should consider ways to "bend" their college's culture in order to make the institution more responsive and adaptable to external forces and internal pressures, thereby insuring institutional survival. At some institutions this may require that administrators approach their work in Janusian fashion, centralizing some functions while at other times encouraging participative decision making practices in ways that might become compatible with their institution's culture. Recall that the rational/collegial decision approach has a significant positive influence on organizational performance and is the primary mediating variable for the significant indirect effects of the four culture types; the autocratic/political approach has a significant negative influence on organizational performance and mediates the significant indirect effect of the financial health external threat.

These two decision approaches represent sharply contrasting ways of making resource allocation decisions. The differences in the approaches can be characterized by three key features: (a) degree of membership participation, (b) institutional

focus of decision criteria, and (c) procedural orderliness. Rational/collegial processes are characterized by higher levels of membership participation in decision making through an emphasis on group discussion and consensus, a stronger focus on institutional priorities when making resource allocation decisions, and more consistency achieved through the use of a standard set of procedures to reach decisions. At the other extreme, autocratic/political processes manifest less membership participation in that one individual tends to make all important decisions, special interest groups influence decisions as much as institutional priorities, and ambiguity in how decisions are reached. The findings of this study clearly suggest that efforts to enhance the organizational performance of two-year colleges would be advised to incorporate the approach of the rational/collegial process in critical resource allocation decisions.

Finally, an institutional strategy must be developed that will help forge an emergent institutional culture with properties of an adhocracy and clan so that the external environment becomes "more munificent and supportive of the institution's activities" (Cameron, 1983, p. 375) and internal processes encourage active participation. Such a strategy will likely reflect a combination of what Cameron (1983) called domain defense, offense, and creation. Domain defense activities (e.g., activate support groups, form lobbying organizations, develop consortia) are intended to generate support from important external constituencies, to buffer the institution from environmental threats, to buy time to clarify those threats, and to formulate domain offense strategies. The objectives of domain offense activities (e.g., expanding current markets or student groups, aggressive recruiting, active public relations programs) are to enable institutions to expand activities they already perform, to broaden institutional appeal, and to increase slack resources. Domain creation activities (e.g., establishing new programs in high demand areas, capital investments, new public service ventures) are intended to create "new opportunities for institutional success while minimizing the risk of being overspecialized in areas where resources are decreasing" (Cameron, 1983, p. 375).

It is not possible to describe a culture bending strategy that will work in every two-year college. Administrators and faculty are encouraged to consult Schein (1985), Lewin (1958), Lundberg (1985), Goodstein and Burke (1991), and others as they seek ways to infuse the complementary values of adhocracy and clans in their own institutional cultures and decision making approaches. For example, Schein (1985, pp. 270-296) describes twelve mechanisms that have been employed successfully to modify cultures depending on the institution's stage of organizational development. And Lundberg (1985) provides a conceptual framework to understand the process of cultural change that is grounded in organization learning theory and incorporates internal and external contingencies that facilitate and hinder efforts to intervene in the culture change cycle.

Limitations

This study has several limitations that must be taken into account when interpreting the results. First, although this is a multiple institution study, 30 randomly selected institutions is but a small fraction of the more than 1,200 two-year colleges in the United States. Thus, caution must be exerted when attempting to generalize from this sample to other two-year institutions.

The selection of external environmental measures (financial and enrollment health) may have affected the results in unknown ways. The use of other indices (e.g., changing local employment conditions or tax base) might have influenced institutional effectiveness differently. In addition, these measures may not necessarily reflect factors that are independent of the institution as portrayed in the causal model. That is, it is possible that a college creates enrollment problems by treating students poorly or through its inability to offer high demand programs.

Some of the measures of the global organizational effectiveness index may be contaminated by perceived environmental threats. For example, because enrollment has declined recently, faculty and staff may assume students are less satisfied and that the institution is doing other things wrong as well.

The measures used to determine institutional culture profiles are not sensitive to many cultural properties that may have a bearing on institutional effectiveness (e.g., trust, history of managing well threats to institutional survival). Also, it is not clear whether currently preferred approaches to decision making shape the institutions' culture profiles, or whether the distinctive institutional culture essentially dictates which approaches could be used. That is, what comes first: A culture that supports rational decision making approaches? Orr is rational participative decision making a fundamental property of clan and adhocracy cultures? This is a non-trivial distinction. It may be possible for administrators to modify decision making processes through technical adjustments. However, when implemented the new processes may be seen by faculty and others as counter cultural and subsequently become counterproductive. As we have suggested, if culture shapes decision making, then institutional leaders must focus more on interpretive strategies (Chaffee, 1985) when explaining the institution's relationship to its external environment, and symbols and meaning making (Dill, 1982) in internal communications.

Furthermore, the work is a snapshot of an organization at a particular point in time. One potential for further investigation pertains to how cultures change over the organizational life cycle. Perhaps new organizations need cultures that

are bureaucratic, for example, in order to implement basic structural processes. At what point in its history is an organization capable of becoming clan-like? Such questions demand further research.

Conclusion

This study confirms and extends earlier research on the relative influence of factors in the external environment, institutional culture, and internal decision and managerial approaches on the organizational effectiveness of postsecondary institutions. The findings of this study suggest that the influences of these factors may have been underestimated in the past by not taking into account indirect influences on effectiveness. In addition to providing more accurate estimates of the "true" effects of these forces, the results also suggest how the negative influences of declining enrollments and financial health may be partially muted through attention to institutional cultures and decision approaches. These two components of the overall managerial strategy of two-year colleges appear to be powerful mechanisms in efforts to enhance organizational performance in this era where the credibility of colleges and universities is being challenged and their environments are less munificent.

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Figure 1

Causal Model to be Estimated

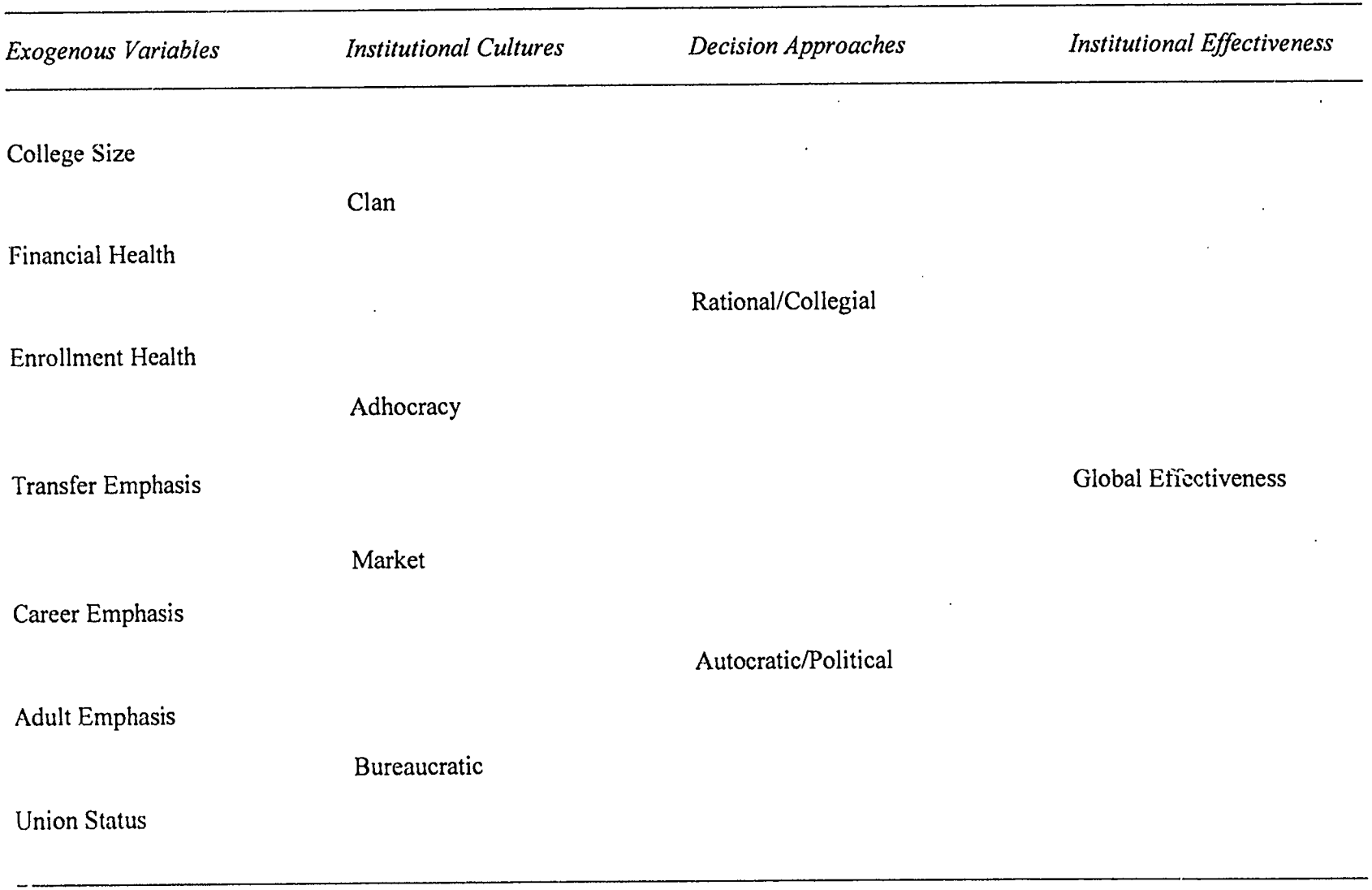

Table 1

Variable Names and Variable Definitions

Names	Definitions
Exogenous Variables:	
College Size	Total number of full-time equivalent students.
Financial Health	A two-item scale indicating the extent to which "Financial resources have become more difficult to obtain in the last year" and "Revenue for the college, adjusted for inflation, decreased over the last year." (alpha = .84)
Enrollment Health	A single item indicating the extent to which "Full and part-time student enrollments have decreased over the last year."
Transfer Emphasis	Percent of total enrollment in transfer-college parallel programs.
Career Emphasis	Percent of total enrollment in technical-career programs.
Adult Emphasis	Percent of total enrollment in adult-continuing education programs.
Union Status	A dichotomous variable indicating whether the faculty are unionized. The variable was coded: 0 = nonunionized; 1 = unionized.
Institutional Cultures (see Appendix A):	
Clan Culture	A factor score defined primarily by the extent to which respondents agree that their campuses are characterized as (1) being held together by loyalty and tradition (.76), (2) with an emphasis on human resources (.51), and (3) where the leader is generally considered to be a mentor, a sage, or a father or mother figure (.36), and disagree with the perception that there is a strong production orientation with an emphasis on tasks and goal accomplishment (-.74).
Adhocracy Culture	A factor score defined primarily by the extent to which respondents agree that their campuses are characterized (1) by a commitment to innovation and development with an emphasis on being first (.71), (2) where people are willing to stick their necks out and take risks (.70), (3) there is an emphasis on growth and the acquisition of new resources (.51), and (4) the leader is generally considered to be an entrepreneur, an innovator, or a risk taker (.50), and disagree with the perception that there is an emphasis on permanence and stability (-.62).
Market Culture	A factor score defined primarily by the extent to which respondents agree that their campuses are characterized as (1) being production oriented and where people aren't very personally involved (.70), (2) the leader is considered to be a producer, a technician, or a hard-driver (.62), and (3) emphasizing competitive actions, achievement, and measurable goals (.43), and disagree with the perceptions that (a) the campus is a personal place where people seem to share a lot of themselves (-.70) and (b) the leader is generally considered to be a coordinator, an organizer, or an administrator (-.58).

Table 1 (continued)

Variable Names and Variable Definitions

Names	Definitions
Bureaucratic Culture	A factor score defined primarily by the extent to which respondents agree that their campuses are characterized as (1) a very formalized and structured place where bureaucratic procedures generally govern what people do (.89) and (2) held together by formal rules and policies with the maintenance of a smooth running institution being very important (.71), and disagree with the perspective that the campus is a very personal place where people seem to share a lot of themselves (-.65).
Decision Approaches (see Appendix B):	
Rational/Collegial	A factor score defined primarily by the extent to which respondents agree with the following statements regarding resource allocation decisions on their campuses: (1) "Resource allocation is a matter for group discussion and consensus" (.71), (2) "Resource allocation decisions are based on what objectively seems best for the college overall" (.54), and (3) "The college has a standard set of procedures it uses to make resource decisions" (.53).
Autocratic/Political	A factor score defined primarily by the extent to which respondents agree with the following statements regarding resource allocation decisions on their campuses: (1) "One individual at the college makes all resource decisions of any consequence" (.60), (2) "Resource allocation decisions are political, based on the relative power of those involved" (.54), and (3) "No particular pattern characterizes the process by which resource allocation decisions are made at this college" (.39).
Institutional Effectiveness:	
Global Effectiveness	The mean score of respondents on the nine dimensions of organizational effectiveness developed by Cameron (1978). The nine dimensions are: Student Educational Satisfaction; Student Academic Development; Student Career Development; Student Personal Development; Faculty and Administrator Employment Satisfaction; Professional Development and Quality of Faculty; System Openness and Community Interaction; Ability to Acquire Resources; and Organizational Health. (alpha = .80)

Note: Numbers in parentheses for the campus culture and decision processes descriptions are the structure loading weights derived from the factor analysis (see Appendices A and B).

Table 2

Means, Standard Deviations, and Correlations

	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14
#1. Effectiveness	1.00													
#2. Financial Health	-.30	1.00												
#3. College Size	.19	-.19	1.00											
#4. Enrollment Health	-.27	.18	-.20	1.00										
#5. Union Status	.02	-.01	.01	.10	1.0									
#6. Transfer Emphasis	.03	-.11	.22	-.10	.06	1.00								
#7. Career Emphasis	-.08	.09	-.23	.11	-.05	-.57	1.00							
#8. Adult Emphasis	.08	.01	.05	.03	.01	-.22	-.30	1.00						
#9. Bureaucratic	-.28	.04	.02	.06	-.04	-.03	.06	-.03	1.0					
#10. Adhocracy	.42	-.23	.23	-.22	-.01	.06	-.09	.06	.17	1.00				
#11. Market	-.18	.03	.17	.04	-.14	.05	.01	-.04	-.08	-.11	1.00			
#11. Clan	.06	.01	.03	.01	-.06	.07	-.09	.05	.19	-.02	.14	1.00		
#12. Rational-Collegial	.34	-.08	.10	-.09	.04	.04	-.09	.05	-.21	.17	-.16	.04	1.00	
#13. Autocratic-Political	-.18	.16	-.05	.10	-.03	-.07	.06	.03	.06	-.12	.06	-.06	.03	1.00
Means	0.00	3.37	4864.39	1.50	1.55	33.78	44.75	19.57	-0.01	0.01	0.01	0.00	0.00	0.00
Standard. Deviations	0.50	0.90	3832.71	0.87	0.50	18.49	19.79	13.73	1.00	0.98	0.98	0.99	0.81	0.74

Table 3

Structural Equations: Standardized Regression Coefficients

Independent Variables	Dependent Variables (Standardized Direct Effects)						
	#8	#9	#10	#11	#12	#13	#14
Exogenous Variables:							
#1. College Size	.01	.16[c]	.19[c]	.05	.09[a]	.00	.08[b]
#2. Financial Health	.02	-.18[c]	-.01	.03	-.02	.13[b]	-.17[c]
#3. Enrollment Health	.02	-.16[c]	.10[a]	.06	.00	.05	-.11[c]
#4. Transfer Emphasis	.07	-.01	.05	.00	-.02	-.01	-.02
#5. Career Emphasis	-.04	-.01	.05	.05	-.04	.02	.05
#6. Adult Emphasis	.05	.05	-.03	-.01	-.01	.04	.05
#7. Union Status	-.07	.02	-.15[c]	-.04	.01	-.02	-.01
Institutional Cultures:							
#8. Clan					.11[b]	-.09[a]	.15[c]
#9. Adhocracy					.17[c]	-.08	.35[c]
#10. Market					-.19[c]	.08	-.17[c]
#11. Bureaucratic					-.28[c]	.09[a]	-.34[c]
Decision Approaches:							
#12. Rational/Collegial							.15[c]
#13. Autocratic/Political							-.06[a]
Dependent Variable:							
#14. Institutional Effectiveness							
R^2	.01	.12[c]	.06[c]	.01	.14[c]	.06[c]	.44[c]

[a] = $p<.05$; [b] = $p<.01$; [c] = $p<.001$

Table 4

Standardized Direct, Indirect, and Total Effects on Organizational Effectiveness

	Standardized Effect Sizes (Beta Weights)		
	Direct	Indirect	Total
Exogenous Variables:			
College Size	.08[b]	.05	.13[b]
Financial Health	-.17[c]	-.08[c]	-.25[c]
Enrollment Health	-.11[c]	-.08[c]	-.19[c]
Transfer Emphasis	-.02	.00	-.02
Career Emphasis	.05	-.04	.01
Adult Emphasis	.05	.03	.08
Union Status	-.01	.02	.01
Institutional Cultures:			
Clan Culture	.15[c]	.06[c]	.21[c]
Adhocracy Culture	.35[c]	.04[c]	.39[c]
Market Culture	-.17[c]	-.01	-.18[c]
Bureaucratic Culture	-.34[c]	-.05[c]	-.39[c]
Decision Approaches:			
Rational/Collegial Decisions	.15[c]		.15[c]
Autocratic/Political Decisions	-.06[a]		-.06[a]

[a] = $p<.05$; [b] = $p<.01$; [c] = $p<.001$

Appendix A
Institutional Culture Measures: Factor Analytic Procedures and Results

Factor Procedures: The survey instrument contained the original sixteen items used by Cameron and Ettington (1988) to measure four distinct but related types of campus cultures. Theoretically, there are four items intended to measure each of the four campus cultures. Factor analytic procedures using an oblique rotation were used to assess the validity of the proposed factor structure, and, subsequently, to obtain factor scores used in the path analysis. Four factors were derived given the underlying four-dimensional conceptual framework of the survey instrument developed by Cameron and Ettington (1988).

Factor Results: The results of the analysis produced the factor loadings presented in the Table A below. The table presents the pattern and structure weights used to interpret the substantive meaning of the four derived factors. The *pattern weights* are similar to regression coefficients, whereas the *structure coefficients* represent the correlations of the variables with the factor scores. Overall, the four factor solution accounts for 57.6 percent of the variance among the sixteen variables. In addition, 12 of the 16 items load most highly on the factor to which they are theoretically related. And, none of the four items that do not conform to theoretical expectations (items 1, 7, 12, and 15 in the following table) load in a positive manner on any other factor; rather, they tend to have a strong negative loading on another factor and a weak positive loading on the factor to which they are theoretically related.

(Insert Table A about here)

The first factor represents the *bureaucratic culture* and is defined primarily in a positive sense by two items associated with the bureaucratic scale (# 3 and #11), and in a negative sense by a single item (#1) associated with the clan culture. The two items that were assumed to be measures of the bureaucratic culture, but did not load strongly on the first factor (#7 and #15), load more highly with negative weights on other factors and have weak positive loadings on this factor. The second factor is defined primarily by the strong positive loadings of the four items related theoretically to the *adhocracy culture* (#2, #6, #10, #14) plus the negative loading of one item (#7) theoretically associated with the bureaucratic culture. The third factor is defined primarily by the positive loadings of three of the four items theoretically related to the *market culture* (#4, #8, #16) and the negative loadings of two items theoretically associated with clan (#1) and bureaucratic (#7) cultures. The fourth factor is defined primarily by the positive loadings of three of the four items theoretically related to the *clan culture* (#5, #9, #13) and the negative loading of one item (#12) theoretically associated with the market culture.

"Dominant" Culture Type: The four factor scores above are used throughout the paper to reflect the degree to which individuals perceive their colleges as manifesting the four institutional cultures developed by Cameron and Ettington (1988). All prior studies have classified institutions by their "dominant" culture type; that is, an institution is classified as having a dominant clan culture if the institution's score on the clan scale, regardless of the magnitude of the difference, is higher than its score on the three remaining culture scales. We were interested in determining what the dominant culture type would be for each of the 30 institutions in this study given this tradition in prior research. This was done by classifying institutions according to their highest score across each of the four culture factors. The results indicate that 9 (30%) have a dominant bureaucratic culture, 8 (27%) represent a dominant adhocracy culture, 8 (27%) reflect a dominant clan culture, and 5 (17%) have a dominant market culture.

The following is the mean score on all four culture scales for colleges classified by their dominant culture type.

Dominant Culture Type	Means on Four Culture Factor Scores			
	Bureaucratic	Adhocracy	Market	Clan
Bureaucratic (n=9)	+ 0.43	- 0.35	- 0.17	- 0.01
Adhocracy (n=8)	- 0.04	+ 0.53	- 0.06	- 0.06
Market (n=5)	- 0.03	- 0.28	+ 0.52	- 0.07
Clan (n=8)	- 0.21	- 0.28	- 0.12	+ 0.39

Inspection of the above indicates that the mean for each dominant culture type is about a half standard deviation above the grand mean (standardized at 0) and that each dominant culture type has a substantially higher mean score on its corresponding factor: for example, the mean for colleges with a dominant market culture on the market culture factor is 0.52. Thus, faculty and administrators perceive that their institutions have "unique profiles" consistent with the dominant culture type labels.

Table A: Institutional Culture Factor Results: Pattern and Structure Weights *

Institutional Culture Items	Factor Number I	II	III	IV
Institutional Characteristics Items:				
#1. This is a **personal place**. It is like an extended family. People seem to share a lot of themselves. (Clan item)	-.55 (-.65)	.04 (.09)	-.62 **(-.70)**	.08 (.33)
#2. This is a very **dynamic and entrepreneural** place. People are willing to stick their necks out and take risks. (Adhocracy item)	-.13 (-.26)	.67 **(.70)**	.07 (.08)	.12 (.17)
#3. This is a very **formalized and structured** place. Bureaucratic procedures generally govern what people do. (Bureaucracy item)	.87 **(.89)**	-.15 (-.29)	.05 (.14)	.05 (-.17)
#4. This is a **production oriented** place. A major concern is with getting the job done. People aren't very personally involved. (Market item)	-.20 (.04)	-.44 (-.36)	.70 **(.70)**	-.29 (-.39)
Institutional Leader Items:				
#5. Our leader is generally considered to be a **mentor**, a **sage**, or a **father or mother figure**. (Clan item)	-.09 (-.17)	-.07 (-.05)	-.05 (-.13)	.34 **(.36)**
#6. Our leader is generally considered to be an **entrepreneur**, an **innovator**, or a **risk taker**. (Adhocracy item)	-.06 (-.15)	.47 **(.50)**	.23 (.23)	.18 (.17)
#7. Our leader is generally considered to be a **coordinator**, an **organizer**, or an **administrator**. (Bureaucracy item)	.04 (.09)	-.27 (-.34)	-.63 **(-.58)**	-.35 (-.25)
#8. Our leader is generally considered to be a **producer**, a **technician**, or a **hard-driver**. (Market item)	.06 (.15)	-.03 (.01)	.60 **(.62)**	-.04 (-.17)
Institutional "Glue" Items:				
#9. The glue that holds this college together is **loyalty and tradition**. Commitment to this college runs high. (Clan item)	-.35 (-.47)	-.21 (-.12)	.01 (-.18)	.68 **(.76)**
#10. The glue that holds this college together is **commitment to innovation and development**. There is an emphasis on being first. (Adhocracy item)	-.07 (-.20)	.70 **(.71)**	-.05 (.00)	-.02 (.03)

Table A (continued): Institutional Culture Factor Results: Pattern and Structure Weights *

Campus Culture Items	Factor Number I	II	III	IV
Institutional "Glue" Items (continued):				
#11. The glue that holds this college together is **formal rules and policies**. Maintaining a smooth-running institution is important here. (Bureaucracy item)	.67 (**.71**)	-.25 (-.38)	-.07 (-.01)	-.03 (-.18)
#12. The glue that holds this college together is the emphasis on **tasks and accomplishment**. A production orientation is commonly shared. (Market item)	-.24 (-.01)	-.16 (-.13)	.12 (.22)	-.77 (**-.74**)
Institutional Emphases Items:				
#13. This college emphasizes **human resources**. High cohesion and morale are important. (Clan item)	-.33 (-.46)	-.00 (.04)	-.32 -.43)	.37 (**.51**)
#14. This college emphasizes **growth and acquiring new resources**. Readiness to meet new challenges is important. (Adhocracy item)	.06 (.05)	.54 (**.51**)	-.05 (.07)	-.36 (-.34)
#15. This college emphasizes **permanence and stabilty**. Efficient, smooth operations are important. (Bureaucracy item)	.19 (.27)	-.59 (**-.62**)	.04 (.00)	.12 (.05)
#16. This college emphasizes **competitive actions and achievement**. Measurable goals are important. (Market item)	.04 (.11)	.09 (.11)	.39 (**.43**)	-.16 (-.24)

Factor Titles: Factor I: Bureaucratic Culture; Factor II: Adhocracy Culture; Factor III: Market Culture; Factor IV: Clan Culture.

Note: Emphases (highlighted words) in the items are in the original instrument.

* Structure coefficients are given in parentheses. Those highlighted were used to define the factors.

Appendix B

Decision Approach Measures: Factor Analytic Procedures and Results

Factor Procesures: The survey instrument included six items to assess the nature by which resource allocation decisions were made on the 30 campuses. The dimensionality of the six items shown in Table B below was explored through the use of factor analytic procedures with oblique rotation.

(Insert Table B about here)

Factor Results: The results of the analysis yielded two factors with eigenvalues of 1.0 or greater. Overall, the two factor solution accounts for 54.2 percent of the variance among the six decision approach variables. The following table reports the pattern and structure weights used to interpret the substantive meaning of the two factors obtained from the analysis. The first factor is defined primarily by the first three items and was given the label of "rational/collegial" decision approach; the second factor is defined primarily by the last three items and was given the title of "autocratic/political" decision approach.

Table B: Decision Approach Factor Results: Pattern and Structure Weights *

Decision Approach Variables	Factor Number I	II
#1. Resource allocation is a matter for group discussion and consensus	.71 (.71)	-.11 -.17
#2. Resource allocation decisions are based on what objectively seems best for this college	.55 (.54)	.07 .02
#3. The college has a standard set of procedures it uses to make resource decisions	.54 (.53)	.01 (-.04)
#4. Resource allocation decisions are political, based on the relative power of those involved	.11 (.06)	.61 (.60)
#5. No particular pattern characterizes the process by which resource allocation decisions are made at this college	-.08 (-.13)	.54 (.54)
#6. One individual at this college makes all resource allocation of any consequence	-.01 (-.05)	.38 (.39)

* Structure coefficients are given in parentheses.