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AUTHOR Parker, Barbara; Zammuto, Raymond F.
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ABSTRACT

Approaches to studying enrollment decline are compared and limitations and advantages associated with each method in predicting response to decline are assessed. The literature is reviewed to identify research perspectives on decline. Variables consistent with each perspective are identified and measured on a sample of 56 small- to medium-sized colleges and universities that experienced decline. Path analysis (LISREL V.) was used to compare perspectives and predictor variables. The literature indicated two major perspectives concerning organizational elements: (1) they are objective and measurable or (2) they are subjective, contextual, and knowable via interpretation. An initial assumption was that both the objective and interpretive approaches to studying decline are useful in describing organizational responses to decline. While the interpretive approach was superior to the objective measure for predicting responses to decline, both perspectives were important to understanding responses. It is suggested that the way organizational members perceive decline is important, along with the level of agreement on institutional mission, and managers' interpretations of external events to staff. A four-page list of references concludes the report. (SW)

INSTITUTIONAL RESPONSES TO ENROLLMENT DECLINE: THE ROLE OF PERCEPTIONS

Barbara Parker
School of Business
University of Tennessee at Chattanooga
Chattanooga, TN 37403
615-755-4060

and

Raymond F. Zammuto
Graduate School of Business Administration
University of Colorado at Denver
Denver, CO 80202

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ASHE Association for the Study of Higher Education
The George Washington University/One Dupont Circle, Suite 630/Washington, D.C. 20036
(202) 296-2597

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About 25-30% of private sector organizations have experienced some form of decline since 1967 (Hambrick & Schecter, 1983; Hughes, 1982), while about 20% of the population of American colleges and universities experienced enrollment declines of greater than five percent from 1972-1979 (Zammuto, 1983). Decline in both sectors is expected to persist throughout the 1980s (Cummings, Blumenthal, & Greiner, 1983; Zammuto, 1985). Interest in decline has fostered a modest explosion in publications on the subject. Zammuto's (1984) selected bibliography on decline illustrates the currency of interest: 75% of the 400 articles he reviewed had been published since 1974. However, a review of literature on decline reveals that for the most part decline is a poorly understood phenomenon.

Decline is defined and measured in a number of ways, the results of decline studies often are not generalizable, and the prescriptions differ. The absence of a unifying framework for research on decline may account for the fact that there is little agreement over how to study decline. However, there does appear to be one point of agreement in the literature with regard to the study of decline: research should examine both objective and subjective factors for decline (Jick & Murray, 1983; Hambrick & Schecter, 1983). Few have pursued that approach. Instead, what we find is a highly fragmented body of knowledge, dichotomized by sector, by type of research pursued, and by underlying theoretical perspectives. Private sector research tends to use quantitative measures, examine objective indicators of decline, and pursue post hoc explanations for turnaround or persistent decline (Ford, 1985). On the other hand,

public sector research is most often descriptive, examines subjective factors, and gravitates toward revealing the dynamics of meaning management (Peterson, 1985).

These examples of fragmentation may explain why the field of study has, as yet, yielded limited useful knowledge for decline management in postsecondary education. Unitary approachs to method and singular theoretical perspectives place limits around what we can hope to know about organizations that are believed to be complex and multidimensional under "normal" circumstances (Cohen & March, 1974). As a result, our understanding of organizations experiencing the unaccustomed and unwelcome stress of decline may likewise be limited.

The purpose of this paper is to report on a study conducted to examine the magnitude of these limitations. The first part of the research references the literature to identify underlying research perspectives on decline. Variables consistent with each perspective are identified, and measured on a sample of 56 small- to medium-sized colleges and universities that experienced decline. These perspectives are compared to one another toward developing an understanding of which types of variables (and the perspectives they represent) are most predictive of organizational responses to decline. The method used is path analysis, specifically LISREL V. The results have implications for future research and for decline management in higher education. While the study incorporates more dimensions of decline than are typical for empirical work in this field its limitation is that it only begins to approximate the many dimensions of decline management in postsecondary education.

Literature Review

A question that needs to be answered is: what body of work on decline best represents the experience of higher education? Because objective research on decline is associated primarily with the private sector, and subjective research with the public sector, some have concluded that the sectors themselves experience decline in different ways. This expectation is probably reinforced by what appear to be other observable differences. For example, in the private sector decline is typically viewed as failure to grow as defined by growth rates of less than one half of GNP growth (Hamermesh & Silk, 1979), real growth of less than 10% (Hambrick & Schecter, 1983; Harrigan & Porter, 1983), or years of contracting sales revenue (Hughes, 1962). In the public sector, decline is defined as actual cutbacks (Dick & Murray, 1982), revenue decreases (Cameron, 1983; Chaffee, 1982), or losses on student enrollments over time (Zammuto, Whetten, & Cameron, 1983).

Apparent differences between failure to grow and actual losses divert attention from the fact that underlying dimensions of decline for both sectors are severity of decline and the time dimension. This example suggests that the dynamics of decline in the public and private sectors are probably more similar than dissimilar (Zammuto, 1985), and provides a rationale for looking at the research in both sectors toward developing a general model of responses to decline.

If we can look beyond the intuitive division of public from private sector, we can observe that there are two dominant themes that appear in the research for either sector. One theme represents

constraints. It is deterministic, consisting mostly of post hoc empirical studies that match variables supposed to make an organization more or less susceptible to decline with responses that make it more or less able to recover (c.f. Hambrick & Schecter, 1983; Hofer, 1980; Hughes, 1982; Zammuto, Whetten, & Cameron, 1983). The constraint approach typically begins by looking at response outcomes, and tracing backward from there to identify factors that help to explain why the organization is failing or has experienced turnaround. The practical value for this type of research is that having identified the universe of decline types and response alternatives, the manager can then select responses consistent with the particular experience of decline. As Miles and Snow (1978) note, the assumption of limited flexibility in an environment reduces the demands on managers to continually view and review events. One limitation is that it is difficult to identify all the contingencies of decline that might exist. A second is that the mechanism of the techniques may clash with the more voluntaristic and fluid core ideologies of higher education (Dill, 1982).

A competing point of view is that organizational dynamics play a significant role in interpreting the decline experience (Greenhalgh, 1984; Miller, 1977; Rubin, 1979; Smart & Vertinsky, 1977) and themselves determine organizational actions pursuant to decline. This perspective begins at the point of crisis, and traces forward to examine how crisis interacts with internal conditions to produce responses. Research consistent with this perspective examines interpretations of decline as well as evidence of decline.

and is useful to describe relationships between internal processes and organizational choice (Holsti, 1978; Staw, Sandelands, & Dutton, 1981).

Both perspectives on decline have utilit and limitations for practitioners. The constraint approach identifies sources of decline, encourages managers to monitor their external environment, and has produced sets of generic approaches to decline that are both conceptually and empirically valid. For example, Hofer (1980) suggested that there are two general types of responses to decline: operating and strategic. Using different samples, and pursuing different research interests, both Hambrick and Schecter (1983) and Krakower and Zammuto (1983) found empirical support for the dual response theme. These themes also appear in conceptual pieces and descriptive research (Bibeault, 1982; Cyert, 1978; Rubin, 1977). A limitation of this type of research may be that in the search for a match between external and internal elements, one focuses more on the elements and less on processes.

Interpretive research--that which looks at how meaning is managed--is useful because it emphasizes process and acknowledges the particular nature of the individual institution (Chaffee, 1984; 1985). The interpretive vision of universities argues that each such organization has a culture of its own (Clark, 1972; Dill, 1982), a culture evidenced by distinctive norms that represent or symbolize the institution's individuality. The culture and the symbols of it are sources of cohesion, order, commitment, and meaning for members of the particular institution (Clark, 1972; Masland, 1985). In the presence of stress associated with decline, the strength of that culture may be part arly important (Dill, 1982).

Interpretative research on decline is valuable because it is consistent with practitioner expectations that organizations differ and therefore demand individualized attention. Case studies that use the interpretive approach devote attention to these differences, acknowledging unique internal processes and the role of choice and culture in shaping responses to decline. For example, in her study of small, private colleges, Chaffee (1984) found that those more resilient to decline were characterized by "conceptual and communication systems that guided and interpreted any organizational change" (p. 213). This suggests that decline management is partially shaped by internal dynamics of choice, rather than strictly by the exigencies of external environment suggested by constraint research. However, a limitation is suggested by attention t individual characteristics: the researcher can only study a few organizations, and results are so highly specialized that they may not be generalizable.

In summary, the literature indicates that there are two underlying perspectives that characterize research on decline. These perspectives reflect what Peterson (1985) calls "the contextual debate" (p. 9) between extremes pertinent to both ontology and epistemology. Social factists suggest that organizational el ents are objective, measureable, testable, and knowable in some concrete fashion while social definitionists argue that elements of organization are subjective, process oriented, contextual, and knowable via interpretation (Smith, 1983; Peterson, 1985). Both perspectives represent extremes, and may result in limitations

consistent with each extreme. This suggests that a comparison of these theories both can focus the debate, and can indicate which perspective has the most meaningful implications for managing decline in higher education.

Research Method

The epistemological differences between perspectives produces a methodological problem for this piece of research. The research task is to compare variables consistent with each research stream, but the literature indicates that the variables themselves are not necessarily comparable. To address this problem, the variables are not compared to one another directly, but rather compared to one another via their effects on responses to decline. An appropriate test for these relationships is path analysis. LISREL V was used to examine the direct and indirect effects of relationships among causal variables.

The conceptual model of responses to decline includes decline severity and agreement on mission as the two direct objective and subjective causes of responses to decline. A review of the literature suggests that these variables may also have an indirect effect on responses to decline because they are mediated by internal attributions of decline (Ford, 1985). This possibility was explored using Weiner's (1979) dimensions of attribution: causality, stability, and controllability. These dimensions appear to be robust in explaining attributions for poor performance (Bettman & Weitz, 1983), and the research indicates that people do engage in attributions, particularly when outcomes are unexpected (Weiner, 1985).

The underlying assumptions for including an attributional model in this research are that people bring ideas or knowledge about causality to bear on a situation that represents constraints (Thompson, 1967). The fact that individuals have preconceived notions of cause or predispositions to attribute cause leads them to attribute meaning to events consistent with their own abilities to cope. The causal model described selects decline severity and agreement on mission as the independent or exogenous variables, dimensions of attribution as the mediating variables, and operating and strategic responses as the effect variables [see Figure 1]. The research explores the relative impact of causal variables on effect variables.

Sample. The sample of 56 small- to medium-sized colleges and universities was drawn from HEGIS data, and from members of the dominant coalitions in reporting institutions who responded to the Institutional Performance Survey (IPS) administered by the National Center for Higher Education Management Systems (NCHEMS) in 1983. The response rate for the instrument was 70.6% for administrators and 61.9% for faculty respondents. There were no significant differences between the two groups on the perceptual variables.

Decline was defined as percentage decrease in enrollment measured from beginning year 1978-79 to end year 1981-82. The four year period of decline is imposed by the data but is consistent with Schendel, Patton, and Riggs' (1976) contention that the time span must be long enough to capture organizational attention. Enrollments

are considered appropriate measures of relative decline both because students are the raw resource for the educational process and because enrollments directly and/or indirectly produce revenues at public and private institutions (Brinkman, 1984; McCoy & Halstead, 1984). Mean enrollment decline for this sample was 12%.

The IPS includes four items that a priori were believed to measure internal perceptions of organizational mission. A factor analysis of survey items indicates that these items do load on a single factor, and have high internal consistency (.90); the item that loaded highest on this factor was chosen as the indicator of internal agreement for this study. Interest in the attributional dimensions of decline followed collection of the survey data;[1] as a result, the instrument and responses were examined for items that could approximate measures of stability and controllability. Items believed to be face valid were selected for an exploratory factor analysis. For example, stability was believed to be the underlying factor for an item that read "decreasing enrollments were a short-term problem." This factor analysis included 5 items (in addition to the four internal agreement items) that loaded on three factors. The first and second factors clustered around items consistent with separate measures of controllability and stability; the third was the agreement factor. Items that best measured each construct were selected for analysis.

A measure of causality was constructed based on responses to an open-ended IPS question that asked "Please indicate in the space below the major factors that caused enrollments to decrease at your

institution." Responses were coded to reflect internal causality, for example, poor planning, deteriorating physical plant, or external causality, for example, unfavorable demographics, or a poor economy. Almost 60% of respondents attributed cause to external factors.

At the time that the IPS was administered, institutional research officers at participating institutions completed a Supplemental Objective Data instrument that asked them to indicate which of 35 changes had occurred at their institution between 1978 and the time of the 1983 survey. These events were all actions that higher education organizations are expected to use in response to decline (Mingle, 1982). The events listed are of two types: 25 items are operating types of responses, for example, cut the library budget or restrict operating expenditures, and 10 represent actions that alter the nature of the enterprise, for example, develop or increase the number of continuing education courses.

Factor analyses of the items indicate that for this sample, operating responses are represented by efficiency measures, and strategic responses are represented by actions that reflect a change in the organization's posture for competing in the same business. A scalogram technique failed to reveal evidence of a hierarchy of responses (Krakower & Zammuto, 1983); therefore, neither type of response was believed to cause or preceed the other. On the basis of readings cited here and elsewhere, operating responses appear to be those decisions that emphasize efficiency, take limited time to implement or reverse, require minimal consensus for purposes of implementation because they are acknowledged to be within the scope

of control of the leader, and represent normal types of changes. In constrast, strategic responses require considerable consensus and time to implement, and as a result are more difficult to reverse than operating responses. Moreover, the organization wide nature of strategic change may require resource expenditures and represent radical change.

Results and Discussion

The model described was analyzed using LISREL V, generating a coefficient of determination of .29. An examination of path coefficients for the model indicates the sources of variance for effect variables; these are summarized in Table 1.

The results suggest that severity of decline is not a valuable predictor for types of responses that a small- to medium-sized college or university pursues during or following enrollment decline. On the other hand, it does appear that perceptual types of variables, particularly agreement on mission, perceived permanence of decline, and perceived cause of decline are valuable predictors of the types of responses these organizations pursue.

Severity of decline, the predictive variable consistent with the constraint approach, only marginally causes operating responses. If we accept Asher's (1983) suggestion that relationships of less than .05 are not meaningful, the conclusion is that severity of decline is not a cause of strategic types of responses. Moreover, when decline severity is mediated by internal attributions of causality, controllability, and stability, the total effect of this

objective factor on responses appears to be the reverse of the direct effect. This suggests that a research focus on direct, objectively measured relationships of decline may understate or misstate the nature of those relationships. This is illustrated by examining the relationship between decline severity and perceived cause.

The direct relationship between decline severity and operating response is quite small. However, the paths between decline and perceived cause, and from perceived cause to responses are considerably larger. These data indicate that there are a set of countervailing flows that have to be taken into account in explaining the responses of colleges and universities to declining enrollments. The severity of declining enrollments appears to lead organizational leaders to attribute decline to internal events. In turn, these attributions lead to an emphasis on increasing the efficiency of institutional operations. This suggests that while we would not want to rely upon objective measures alone to model decline responses, neither would it be appropriate to concentrate only on processes and subjective reality. Instead, it appears that objective reality has an impact on responses via internal attribution of meaning to events.

The direct relationships between agreement and operating and strategic responses are -.21 and -.16 respectively. These negative relationships increase as a result of the mediating variables to total -.32 and -.22. In other words, agreement on mission has a negative effect on the number of responses taken to decline, and this effect increases when we include the indirect impact agreement has on

responses via attributions. This suggests that internal agreement on mission puts an upward boundary on the number of responses an organization will pursue under decline conditions.

Chaffee's (1984) examination of small private colleges suggests that fewer operating responses are pursued when the organization has a shared sense of mission. She proposes that the shared mission provides a mechanism for selective pursuit of responses. In the absence of a shared mission and the presence of the decline crisis, we might expect more operating types of responses, inasmuch as these types of responses are within the control of top managers, can be implemented, and do not require internal consensuss. Moreover, crisis without consensus may motivate the manager to do something, perhaps anything, to give the illusion of control (Salancik & Meindl, 1984) or create cohesion. These results seem to suggest that when there is internal cohesion, operating responses are fewer; this indicates that agreement leads to a selective choice of operating responses. Lack of agreement leads to more operating responses.

The type of change in product/market mix represented by strategic responses suggests that these types of actions have implications for the future direction and structure of the organization. Because strategic types of change require consensus to implement, one might expect that these changes would occur most often when there is a high degree of internal cohesion. However, the results indicate that fewer strategic responses were associated with those institutions that expressed a high sense of internal agreement on mission.

One explanation for this finding is that shared mission provides a broad mechanism for pursuing any type of response under conditions of decline. Just as mission produces selective operating responses, so it might also produce selective strategic responses. A second interpretation for the observed relationship between high mission agreement and limited strategic responses is that members of an institution with a strong sense of mission usually believe that what the institution is doing is both correct and important. As a result, such institutions may be more than reluctant to make the types of changes represented in the strategic response index. For example, a traditional liberal arts college may not rush to embrace professional school programs.

A third interpretation for the relationships between agreement on mission and responses is that the crisis of decline may suspend normal decision making processes for those organizations that have little sense of shared mission, leading to radical change without the time lags and deliberation usually associated with altering product/market mix in higher education. For those organizations without a strong shared sense of mission, the urge to "do something" may compel leaders to make more radical changes than would be possible under ordinary circumstances. Crisis without a shared sense of mission may produce a no-holds-barred desperation mentality that results in a large number of responses of both types. Because this interpretation is entirely inconsistent with Whetten's (1981) argument that stress and risk aversity go hand in hand in higher education, it deserves further study.

The findings suggest that if decline is believed to be temporary (unstable), few operating types of responses will be pursued. The data reveal nothing about why managers do not take action, but several possibities exist. A perception that decline is temporary may give managers additional time to interpret events or make decisions, or could indicate a form of organizational denial of the decline's permanence. If managers believe that a declining enrollment is a temporary phenomenon, they are unlikely to engage in any more actions than are necessary to bring revenues and expenditures into line. If the institution has what its members believe to be an adequate cushion of slack resources, or the leader's credibility is low, nothing may be done (Kerchner & Schuster, 1982).

This logic is similar to that presented by Schendel and Patton (1976) and Scherdel, Patton and Riggs (1976) concerning the relationship between the severity of decline and the magnitude of organizational responses. They suggested that it often takes a severe jolt to mobilize an organization into action. Chronic enrollment problems that unfold over time may not be perceived as enough of a crisis to warrant organizational response. Conversely, an expectation that decline is permanent (stable) results in long term or strategic types of responses. This finding is consistent with an argument that perceived permanence of decline will result in proactive respones (Zammuto & Cameron, 1985) or responses that are also permanent in nature (Ford, 1985; Harrigan & Porter, 1983).

About 30% of the variance observed in responses is explained by the causal variables. One's enthusiasm for these results is tempered

by recognition that 70% of the variance is explained by variables not included in the model. This suggests that future research may well be directed toward discovering additional variables that individually or as a group help to explain more about responses to decline. On the other hand, Kenny (1979) proposes that in social science research "one is fooling oneself if more than 50% of the variance is predicted" (p. 9). He suggests that human freedom of choice is represented in the error term. This argument has particular relevance for a sample drawn from organizations that already consider themselves unique one from the other. In fact, some of the research on decline in higher education argues that successful turnaround choices have to be unique to the organization (Chaffee, 1984; Zammuto, 1983).

Consistent with an argument for the possibility of individual variation in this sample is the fact that the direct measure of agreement was "there is a general sense that this institution has a distinctive purpose to fulfill." A mean of 3.97 for agreement on a scale of 5 suggests that for members of the dominant coalitions in this sample, there were shared perceptions that individual organizations had distinctive purposes to fulfill. This is an additional indicator that unique variation resides in the error term.

Implications

This study began with the assumption that both the constraint and the interpretive approaches to studying decline are useful in describing organizational responses to decline. The model and data

analysis sought to compare those perceptives, and identify limitations and advantages associated with each in predicting organizational choice of responses. Substantively, it was shown that for this sample the interpretive approach and the variables used to measure interpretions were superior to the objective measure of decline severity for predicting responses to decline. However, it was also shown that neither type of variable stands alone, but rather that objective reality produces interpretations which themselves lead to responses. Similarly, it was shown that an existing internal condition--agreement on mission--also was subject to interpretation by members of the dominant coalition, and that those direct and indirect relationships have a powerful effect on responses to decline. These results suggest that both perspectives on decline do contribute to understanding responses to decline, but that neither provides a complete enough picture of the dynamics of decline response to stand alone.

For leaders of organizations in decline, these findings suggest that a critical dimension of response to decline is how organizational members perceive that decline. One predictor of perception is the existing level of agreement on what constitutes the purpose and/or mission of the organization. A strong mission can become the mechanism by which ordinary and radical change can occur. If decline occurs, mission agreement may also be the mechanism by which internal consequences of decline are reduced. For example, the stress of decline often produces intense conflict (Hermann, 1963; Hirschman, 1970; Levine, 1978, 1979; Whetten, 1980). Increased

pluralism (Pfeffer, 1981; Pfeffer & Salancik, 1978), decreased morale (Bozeman & Slusher, 1978; Whetten, 1981), and increases in voluntary turnover (Hirschman, 1970; Levine, 1979). These consequences may be reduced by the stabilizing effect of a strong mission and a credible leader to articulate that purpose.

However, this is not to suggest that all is lost in the absence of a strong mission. In fact, these results indicate that a second management function for decline is to interpret external events for organizational members. It is evident that interpretations of the dimensions of decline lead to responses. This being the case, the manager would be well advised to understand the dimensions of decline and be prepared to interpret the meaning of those dimensions to organizational members. Preparation can certainly come from a reading of the constraint literature in order to develop a general sense of how others have matched organizational resources with the environmental context. This management task may be aided when a strong mission exists, but the crisis of decline may provide an opportunity to use interpretation in order to develop or enhance the organization's sense of purpose or mission. This suggests that a critical function of decline management is to interpret the dimensions of the crisis for organizational members.

The findings also indicate that agreement on mission can be a mixed blessing. If, as occurs for this sample, high agreement on mission produces a perception that decline is temporary, then this perception may prevent leaders from galvanizing members to take action. To the extent that perception is consistent with external

events, the causal relationship between agreement and the temporary nature of decline is appropriate. However, this perception may mean problems if the decline is actually shown to be longer term in nature. This example illustrates that the sense of solidarity needed to marshall resources may also obscure relationships between the organization and its external environment. If this is the case, it provides an opportunity and a threat. The opportunity is to manage crisis interpretations in order to fine tune the mission so that it is responsive to good times and to bad, the threat is to develop a strong mission without creating the impression of invincibility.

[1]Jeffrey Ford (1985) suggested using dimensions of attribution to examine responses to decline. His suggestion is gratefully acknowledged.

FIGURE 1

CAUSAL PATHS

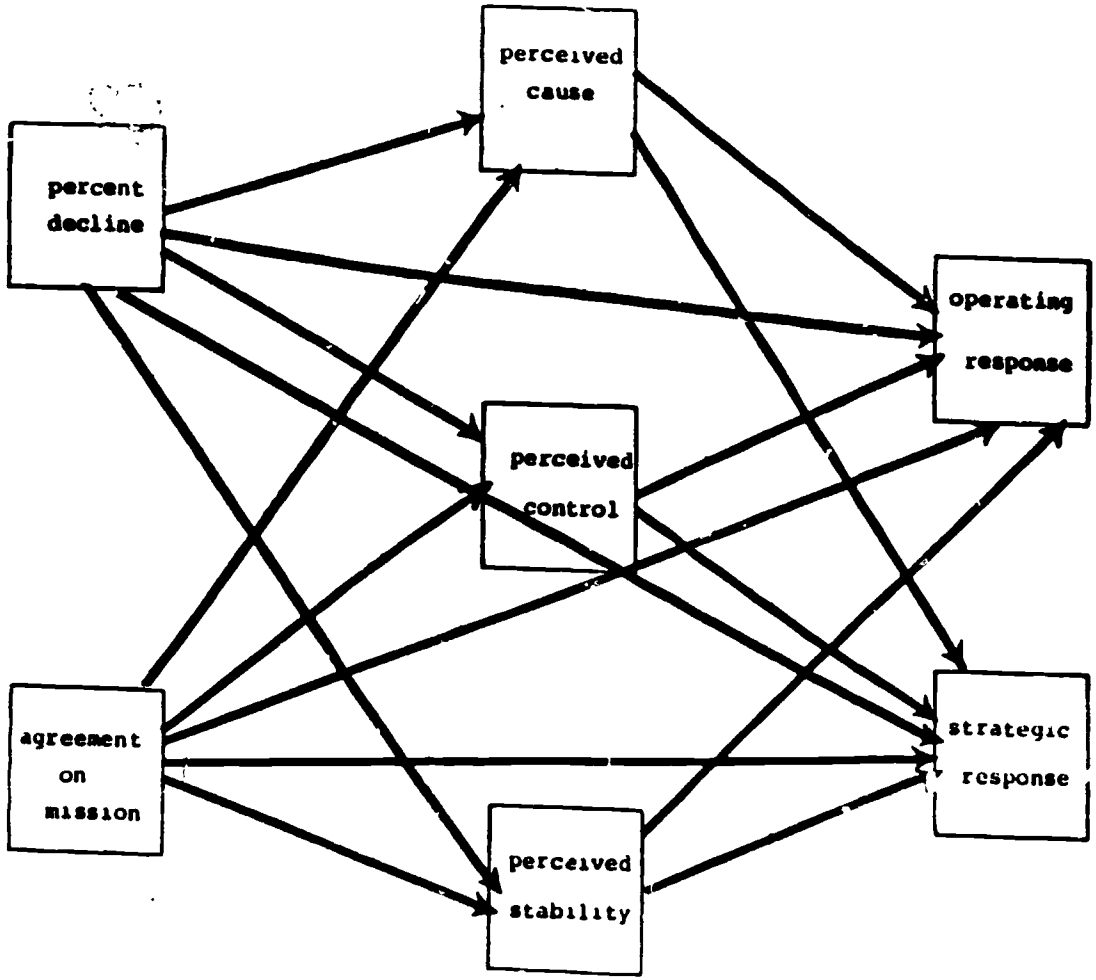

TABLE 1

PATH COEFFICIENTS (STANDARDIZED)

	Indirect Effects		Direct Effects				
	Decline	Agreement	Decline	Agreement	Perceived Cause	Perceived Control	Perceived Stability
Operating Response	.089	-.11	-.058	-.211	-.228	-.081	-.404
Strategic Response	-.081	-.058	.046	- 157	.189	-.110	-.138
Perceived Cause	--	--	-.372	-.029	--	--	--
Perceived Control	--	--	.145	.151	--	--	--
Perceived Stability	--	--	-.040	.260	--	--	--

Total Effects

	Decline	Agreement	Perceived Cause	Perceived Control	Perceived Stability
Perceived Cause	-.372	-.029	--	--	--
Perceived Control	.145	.151	--	--	--
Perceived Stability	-.040	.260	--	--	--
Operating Response	.031	-.321	-.228	-.081	-.404
Strategic Response	-.035	-.215	.189	-.110	-.138

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