

ANTECEDENTS TO ORGANIZATIONAL ISSUE INTERPRETATION: THE ROLES OF SINGLE-LEVEL, CROSS-LEVEL, AND CONTENT CUES

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This study examined the relationship between individual, group, and organizational antecedent variables and strategic and political interpretations of key organizational issues. Results showed that (1) the three sources of influence were linked to strategic and political interpretations differently, and (2) issue content combined with context and interpretive outcomes to define three distinct interpretive environments. The configurational analyses that define these environments unmask the cross-level effects of several variables on managerial interpretation. We discuss implications for studying interpretation at multiple levels and future research directions.

The cognitive activities of top managers continue to gain research attention, focusing especially on the antecedents of the interpretation and decision efforts associated with organizational issues (e.g., Hitt & Tyler, 1991; Schneider & De Meyer, 1991). To a much lesser extent, cognition's link to organizational outcomes (e.g., Thomas, Clark, & Gioia, 1993) has also emerged as an important stream of inquiry. Although the conceptual and empirical streams of work on managerial cognition differ in breadth, both are rooted in the assumption that top management teams must ascribe meaning to complex issues, choosing from among multiple possible interpretations, each of which may be associated with different organizational actions and firm performance implications (Weick, 1979). Thus, understanding managerial cognition is critical for gaining insight into organizational actions (Dutton, Fahey, & Narayanan, 1983), strategic change (Dutton & Duncan, 1987), organizational learning (Daft & Weick, 1984), and ultimately, firm performance (Ginsberg & Venkatraman, 1992).

Despite the expanding research on issue interpretation, little is known about the effect multiple contexts have on interpretations of organizational issues. Some work has examined the individual, group, and organizational antecedents to strategic interpretation and decision making (e.g., Hitt & Tyler, 1991; Schneider & De Meyer, 1991), but there is a need to continue to measure antecedents at more than a single level of analysis if scholars are to



enhance their understanding of the interpretive process and its outcomes (Thomas & McDaniel, 1990). Further, as Kiesler and Sproull (1982), Cowan (1990), and Dutton, Walton, and Abrahamson (1989) have suggested, we need to consider not only multilevel and cross-level variables, but need to do so in relation to the content of the issues under consideration.

The purpose of this study was to gain insight into the relative effects that different contexts—individual, group, and organizational—have on the interpretation of multiple, interlinking issues in organizations. In addition to examining the unique role that these different contexts play in managerial interpretation, we also examined how issue content combines with managerial cognition and the multiple levels of context to form configurations that we refer to as interpretive environments. The general research questions posed include, What are the relative roles of individual, group, and organizational antecedents in the interpretation of organizational issues by top managers? Does the content of an issue combine with the multiple-level contextual variables and specific interpretations to create a unique configuration that indicates different interpretive environments?

Traditionally, research on issue interpretation has focused on the two primary labels that represent the meaning managers impose on a situation—threat and opportunity (e.g., Dutton & Jackson, 1987; Thomas & McDaniel, 1990). However, theorists have suggested that attention needs to shift from these two analytic characteristics that allow comparisons among issues to be made toward more substantive characteristics that capture the overarching concerns of top managers (Cowan, 1990; Dutton et al. 1989; Dutton, Stumpf, & Wagner, 1991). This move toward more substantive labels in interpretation research fits the view that certain labels, such as “strategic” and “political,” may serve as precursors to more commonly accepted analytical labels, such as opportunity and threat (Gioia & Thomas, 1991). In addition to capturing a manager’s assessment of an issue’s payoff, substantive dimensions capture how certain issues affect an organization in terms of both its strategic positioning and the issues’ political underpinnings (Dutton et al., 1989; Walsh, 1988).

An organizational issue is said to be strategic if it is considered to represent a trend, dilemma, or development that affects an organization’s position and performance (Ansoff, 1965). Strategic issues involve matters other than tactical or operational concerns and usually concern whole organizations and their goals (Ginsberg, 1988). Because of their complexity and range, such issues are often ill-structured (Lyles, 1981), poorly documented (Dutton et al., 1983), and open to multiple interpretations (Daft & Weick, 1984; Thomas & McDaniel, 1990). As such, strategic issues are not “prepackaged”; rather, decision makers identify and formulate them by selectively attending to some aspects of their environment while ignoring others (Cowan, 1986; Pounds, 1969).

In addition to their strategic quality, many organizational issues also represent a forum through which the concerns of individuals and groups are expressed, negotiated, or protected (e.g., Dutton, Walton, & Abrahamson,

1989; Hawley & Nichols, 1982; Lyles & Mitroff, 1980). This political aspect of organizational issues involves shifts in the set of groups and individuals seeking to impose their views on the issues (Eisenhardt & Bourgeois, 1988). Specifically, perhaps because of the associated ambiguity, the political nature of an issue is subject to conflicting interpretations involving the different political interests of the decision participants. In this sense, interpretations may differ around such matters as the allocation of organizational resources or the setting of policy precedents (Narayanan & Fahey, 1982) in addition to matters such as the strategic position of the firm or its effectiveness (Pfeffer, 1981). Accordingly, various parties may try to distort or control information about the issue to protect self-interests (Dutton et al., 1983; Nutt, 1984). Thus, the very nature of many organizational issues suggests that they may also be characterized as domains that activate and motivate the protection of control and resources, thereby evoking bargaining, negotiation, and compromise over the definition of the issue (Mintzberg, Raisinghani, & Théoret, 1976; Pettigrew, 1973).

As Burns (1962) noted, top managers are at once cooperators in a common strategic enterprise and rivals for the material and intangible rewards of successful competition. Thus, not incorporating managers' perspectives on both the strategic and political aspects of organizational issues is, as Farrell and Petersen (1982) suggested, to guarantee no more than partial success in explaining many phenomena in organizations, including managerial interpretation. Accordingly, we also posed the research question: Do the contexts represented by different levels of analysis affect top managers' strategic and political interpretations of organizational issues differently?

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Research suggests that when exposed to similar stimuli, top managers in different organizations will form different interpretations of the same issue (e.g., Lawrence & Dyer, 1983; Meyer, 1982). Daft and Weick (1984) argued that these differences may be, in part, the result of frameworks, or contexts, that direct information, attention, and interpretation. In other words, top managers' interpretations are a product of multiple sources of influence, and these sources may emanate from different levels of the managers' overall contexts. In this sense, issue interpretation is a function of multiple and cross-level processes (Rousseau, 1985). Thomas and McDaniel (1990) found that in addition to an organization-level context embodied in such factors as strategy, the structure of a top management team (a group-level contextual feature) accounted for interpretation variance across top managers from different organizations. At the individual level, the findings of Hitt and Tyler (1991) suggest that characteristics such as experience and education affect how a strategic issue might be perceived.

As past research has shown (e.g., Milliken & Lant, 1991), top executives facing the same objective stimuli often perceive their organizations as facing differently defined environments. The importance of this observation to stra-

tegic management is that responses to an organization's environment, and ultimately, the organization's performance, are highly dependent on these different interpretations (Dutton & Duncan, 1987; Huber & Daft, 1987). Previous research has further demonstrated that these interpretations are susceptible to systematic biases and errors rooted in a variety of sources and levels of analysis. For example, the findings of Schneider and DeMeyer (1991) suggest that antecedents from different levels of analysis will directly or indirectly relate to the nature of top managers' interpretations of critical organizational issues because the various antecedents contribute to a context that impedes or facilitates information processing (Thomas & McDaniel, 1990). Thus, we begin by posing the question: Do variables from the individual, group, and organizational levels of analysis each make a significant and unique contribution to top managers' interpretations of organizational issues?

Individual-Level Contextual Effects

At the individual level, personal attributes explain, in part, why different people exposed to the same situation perceive it differently (Jackson & Schuler, 1985; Ramaprasad & Mitroff, 1984). The theory underlying research in this area is that people form cognitive categories based on their past experiences and observations of the features, or attributes, of a situation (cf. Rosch, 1978). Individuals' unique past experiences affect the cognitive structures they develop by reducing cognitive processing demands through the organization of objects or events into meaningful groups (Simon & Kaplan, 1989). However, once attained, the cognitive representation of the objects or events is an inaccurate, simplified picture that matches the category prototype, or schema, more than it does the original stimulus (Gioia & Poole, 1984). In addition, categorizations are liable to contain constructive errors resulting from processes such as "gap filling" (cf. Alba & Hasher, 1983; Rumelhart, 1989).

Research in issue interpretation suggests that a myriad of individual-level characteristics may influence the interpretations that develop from this categorization process. For example, attributes such as an individual's "locus of control" (Miller, Kets de Vries, & Toulouse, 1982; Rotter, 1966), emotion (Isen & Baron, 1991), and commitment to a particular viewpoint (Kiesler, 1971; Mitroff, 1974) may affect the meaning given an issue. The work on cognitive heuristics and biases (e.g., Tversky & Kahnemann, 1974) suggests that interpretations are subject to simplification processes that often lead to systematic differences in the perception of an organizational issue (cf. Schwenk, 1984). Perceptual differences often arise among managers in the same organization, thereby awakening the political interests of interpretive participants (Dutton et al., 1983; Hawley & Nichols, 1982).

Functional background has also been found to be related to issue interpretation (Bantel & Jackson, 1989; Dearborn & Simon, 1958). These findings suggest that the closer an issue is to a person's functional background, the better he or she can understand and evaluate the issue (Hitt & Tyler, 1991).

Moreover, Hambrick and Mason (1984) suggested that managers' educational backgrounds can be used as a surrogate for their knowledge and skill base. As Hitt and Tyler (1991) explained, because of the differences that develop in personal values, cognitive preferences, and specialized knowledge between those with, say, a formal education in engineering and those with a formal education in the liberal arts or business, we would expect members of the two specializations to use different cognitive models in interpreting an issue. Such models might evoke different categorizations of the issue's strategic and political implications.

Organizational experience has also been shown to be related to interpretation (e.g., Bantel & Jackson, 1989; Fredrickson, 1985) through affecting people's cognitive frameworks. Individuals with long tenures in an organization have vested interests in the status quo and hence are more likely to interpret issues as having more strategic implications for their organizations (Hambrick & Mason, 1984). Further, executives with long organizational tenures are more likely to see the interdependence between a given issue and other issues having strategic (Dutton et al., 1991) and political (Narayanan & Fahey, 1982) implications. More specifically, past experience will provide insight into the potential for the issue to affect not only the organization's market position and its goals (Milliken & Lant, 1991), but also the specific interests of individuals and coalitions (Mintzberg et al., 1976; Pfeffer & Salancik, 1974).

Experience in a given position may affect issue interpretation in a similar manner. Hitt and Barr (1989) found that executive decisions regarding compensation issues differed as a function of position experience, suggesting that managers with different experiential bases may perceive the same issue quite differently. Similarly, Fredrickson (1985) suggested that less experienced managers are more naive because they do not have the benefit of having multiple past decisions against which to compare and contrast a new situation. Accordingly, they are less inclined to recognize the strategic and political implications of associated organizational issues.

The findings of Ireland, Hitt, Bettis, and DePorrás (1987) suggest that executive level in an organization may affect the interpretation of organizational issues as well. Specifically, Ireland and his colleagues found that managers at different levels had different perceptions of an organization's strengths and weaknesses. Further, Hitt and Tyler (1991) found that executive level was a significant moderator of the relationship between objective criteria and an individual's decision to acquire a firm. Together, these findings suggest that the information available to and used by decision makers varies with their level in both an organization and its top management team (cf. Provan, 1991). Further, because higher-level managers are those most responsible for interpreting issues involved with aligning an organization's strategy, structure, and environment (Ritvo, Salipanti, & Notz, 1979), we might expect executive level to be related to the extent to which an organizational issue is perceived as having strategic implications for the organization. Collectively, these previous findings led us to frame the following

theoretical proposition. Proposition 1: Individual characteristics of top managers will be systematically related to the interpretation of organizational issues. More specifically, the past empirical findings and conceptual development discussed above suggest

Hypothesis 1a: Top managers' experience, role, and type of education will contribute to a context that is systematically related to their strategic interpretations of organizational issues.

Hypothesis 1b: Top managers' experience, role, and type of education will contribute to a context that is systematically related to their political interpretations of organizational issues.

Group-Level Contextual Effects

Taking an "upper echelons" perspective (Hambrick & Mason, 1984), researchers have studied group composition as a determinant of issue interpretation. Typically, aggregated demographic variables such as the age, background, tenure, and personality of top management team (TMT) members are used to assess group composition (cf. Jackson, 1992). Research suggests that heterogeneous groups are better at interpretation because they use a variety of perspectives in the interpretive decision making process (Bantel & Jackson, 1989; Hurst, Rush, & White, 1989). Aggregate turnover in a group has also been found to influence interpretation because as top management team members move in and out of the group, the interpretive process itself changes, with both positive and negative effects. Specifically, Lyles and Mitroff (1980) found that the positive effects of turnover centered on the reevaluation and reexamination of important issues, resulting in more thoughtful analysis and the use of higher-quality information. The primary negative effect of turnover on interpretive processes involved the costly delays and reassessments caused by the reluctance of new managers to take risks.

Collectively, previous works that have examined group-level antecedents to interpretation suggest Proposition 2: Group characteristics will be systematically related to the interpretation of organizational issues by individual members of a top management team.

Group-level variables that have been examined and are not aggregates of individual-level descriptors include the information-processing structure of a top management team, its political activity, and its members' shared sense of identity. Information-processing capacity is a concept rooted in earlier work that has demonstrated that group structural characteristics, such as degree of participation, interaction, and formalization, facilitate or impede how people use information in the interpretive process (e.g., Daft & Lengel, 1986; Duncan, 1973; Thomas & McDaniel, 1990). For example, top management teams with strong information-processing capacity are more likely to

perceive an organizational issue as controllable (Thomas & McDaniel, 1990) because they have a sense of mastery over the issues they confront (Eisenhardt & Bourgeois, 1988). Therefore, we might predict that because managers see issues as more controllable when information-processing capacity is strong, and hence see them as less threatening (Dutton & Jackson, 1987), the issues will be perceived as affecting opportunities related to an organization's goals and its position in the market and will not be a strong stimulus for political maneuvering.

Hypothesis 2a: The information-processing capacity of a top management team will contribute to a context that is systematically related to top managers' strategic interpretations of organizational issues.

Political activity within a group may also have a contextual influence on issue interpretation. The tumultuous internal environment resulting from a high degree of political activity—extensive coalition building, for example—directs top management's attention away from environmental scanning (Janis, 1989). Consequently, critical issues rooted in the environment may remain unrecognized or not reach strategic status. For issues that capture management's attention, intense levels of conflict may decrease consensus on an interpretation (Dutton et al., 1983). Multiple interpretations result, and executives may direct their attention and effort toward lobbying and confrontational activities in order to gain support for their particular interpretations (Narayanan & Fahey, 1982). This literature suggests that as political activity increases, attention shifts away from the characteristics of an issue and toward maneuvers to maintain or gain interpretive control. Thus, organizational issues interpreted in a highly political environment will be perceived as having more political implications, including conflict, negotiation, and bargaining, and a lower strategic impact.

Hypothesis 2b: The level of political activity among top management team members will contribute to a context that is systematically related to top managers' political interpretations of organizational issues.

An organization's identity is defined as what its members believe to be central, enduring, and distinctive about the organization (Albert & Whetten, 1985; Ashforth & Mael, 1989). Such perceptions help direct interpretation by serving as a reference point for gauging the importance of issues, influencing perceptions of their legitimacy and shaping their meaning (Dutton & Dukerich, 1991). As Milliken (1990) found, top management team members who perceived their organizations as lacking a strong identity were more likely to see an issue as having strategic relevance. More specifically, members of top management teams with strong identities possessed confidence that their organizations could weather environmental changes; hence, the issues represented by those changes had less strategic relevance. Thus, the members of a management team that has a strong sense of uniqueness are less convinced

than the members of other teams that an organizational issue represents a significant strategic threat to their entire organization or its place in the market.

Further, a well-developed consensus concerning the organization's history and a sense of pride in its goals should foster commitment, social control (Ouchi & Price, 1978), and a sense of belonging (Pfeffer, 1981) that minimize the need for political speculation about key issues. As Swindler (1986) and Nelson and Winter (1982) observed, identity is closely tied to a set of routines and standard procedures for interpreting and dealing with an issue. The findings of Dutton and Dukerich (1991) further suggest that a strong identity moves a top team's commitment, involvement, and resistance to organizational issues in particular directions. As such, identity produces typified ways of seeing and doing things that dampen the need for political confrontation. Hence, the logic linking identity to interpretation suggests

Hypothesis 2c: The identity held by a top management team will contribute to a context that is systematically related to top managers' strategic and political interpretations of organizational issues.

Organizational Contextual Effects

As Huber and Daft (1987) suggested, the information acquisition and conveying mechanisms of an organization are key determinants of how top managers interpret their environment. A number of related reasons explaining why this occurs have been discussed in the literature. For example, Hall (1984) contended that organizational factors such as orientation—whether ownership is public or private, for instance—and size provide a social setting and architecture that affect perceptions of organizational issues by not only providing a framework for determining the degree of environmental uncertainty sensed, but also dictating how it will be reduced.

Hambrick and Finkelstein (1987) argued that organization-level factors, including the size and type of an organization, create inertial forces that prevent managers from having discretion over perceptions of their environment. For example, managers in large organizations often have severe difficulties contemplating or effecting change (Aldrich, 1979) and hence may be limited in defining their strategic expectations about an issue. Further, an organization's level of specialization, defined by, for instance, its offerings, and its mission (for instance, whether it is for profit or nonprofit) have direct impacts on the processes of conformity, independence, and social pressure that contribute to how top managers perceive situations (Gioia & Chitipeddi, 1991; Weick, 1979). Specifically, the type and ownership of an organization set parameters defining what information is important and what is to be ignored during interpretive processes. For example, what constitutes a strategic issue is often determined by the range or type of products and services that the organization provides (e.g., Meyer, 1982) and its goals as to whether to generate and how to use profits, a concept that is often captured by the organization's ownership (Hedberg, 1981).

Certain organizational factors may also be related to the political interpretations of organizational issues. For example, large organizations have more elaborate structures characterized by task specialization, differentiated units, and highly developed administrative components (Mintzberg, 1979). Accordingly, in a large organization there is greater diversity among the units that top management oversees than there is in a small organization. The tendency in this type of environment, as Pfeffer (1981) suggested, is for managers to perceive organizational issues more from the perspective of their own units rather than from that of the organization as a whole. Conflict, negotiation, and compromise over the nature of many issues would thus characterize issue interpretation. Similarly, we might also expect that type of ownership would be linked to political interpretation. Specifically, because managers in publicly owned organizations must more often address the concerns of multiple, and often diverse, stakeholders, interpretation may involve more conflict and influence attempts than it does for managers in privately owned organizations. Collectively, these arguments suggest Proposition 3: Organization-level characteristics will be systematically related to the interpretation of organizational issues by top management team members. In particular, we predicted

Hypothesis 3a: Organization size, type, and ownership will contribute to a context that is systematically related to top managers' strategic interpretations of organizational issues.

Hypothesis 3b: Organization size and ownership will contribute to a context that is systematically related to top managers' political interpretations of organizational issues.

Role of Content

Interpreting an organizational issue is a function not only of the different contexts in which knowledge of that issue is manifested, but also of the content of the issue itself (Cowan, 1986; Lyles, 1981). Although individual characteristics, group processes, and organizational features all assist managerial interpretation (Schneider & De Meyer, 1991), researchers should also consider the characteristics or content of the issue to fully understand executives interpretations (cf. Pounds, 1969).

Some work has examined the role of the relationship of context and content (Walsh, 1988) in predicting interpretive outcomes (e.g., Dearborn & Simon, 1958), but it has been mostly limited to the individual level of analysis, as in work linking functional background and problem type. What remains to be examined is how the relationships among the three levels of analysis discussed in the present research and the content of issues confronting top managers are linked to interpretation (cf. Cowan, 1990). Specifically, although some preliminary findings support such a relationship (e.g., Walsh, 1988), in the absence of a theory or theories that would allow us to

predict the specific nature of the relationship between interpretive outcomes and patterns of context and content, we offer Proposition 4: When the individual, group, and organizational contexts are combined with issue content, configurations will develop that will be predictive of interpretation outcomes.

METHODS

Overview

We sought to test our hypotheses in an industry environment that had the potential to present a rich mix of political and strategic interpretive outcomes that would in turn allow us to develop and convey an understanding of top management interpretation. We chose higher education as our industry because its traditionally political decision environment (e.g., Cohen & March, 1974) is now taking on a more strategic emphasis in many institutions (Milliken, 1990). Additionally, because the marketplace for higher education has become more dynamic, the pace of change that has historically characterized these institutions is now too slow (Milliken, 1990). Perhaps the main result of these shifts is a pressing need for top managers to make sense of their new and ambiguous environment (Gioia & Chittipeddi, 1991). Thus, we were confident that the decision environment in these institutions was an appropriate setting for learning about interpretation.

Accordingly, the data for this study were collected from a stratified sample of 439 institutions of higher education representing publicly and privately owned schools and three degree-granting types—institutions offering four-year baccalaureate, master's, and doctoral degrees. The resulting six cells contained 70–75 institutions each. We also ensured that all regions of the United States (the Northeast, South, Midwest, and West) were comparably represented by selecting no more than 33 percent of the institutions in each cell from any one region. Questionnaires were mailed to three members of the top management team at each of 439 institutions. Officers considered part of the top management team included (1) the president or chancellor, (2) the executive vice president, provost, or vice president of academic affairs, and (3) the vice president or dean of admissions. The chief financial officer or controller was included if there was no admissions officer.

Of the 1,317 questionnaires distributed, 611 usable questionnaires were returned. These represented 372 institutions and an individual response rate of 46 percent.¹ The number of respondents from each institution ranged from

¹ An analysis of respondent-nonrespondent organizational differences showed that in terms of type and ownership the two groups were not different (both $\chi^2 < 2.32$, n.s.), but they were different in terms of region ($\chi^2 = 22.1$, $p < .0001$). Accordingly, we entered region as a
(continued)

1 to 3, with an average of 1.64. Of the 372 institutions, 178 had more than one respondent. We also analyzed the response rate by title, finding that the titles represented roughly equal parts of the respondent pool: presidents, 33 percent; executive vice presidents, 38 percent; and other administrators, 29 percent. Further, these managers, 34 percent of whom were women, had approximately 6.5 years of experience in their positions and averaged almost 13 years of service with their respective institutions.

Information-processing capacity, political activity, identity, and the interpretation scales were measured using a seven-point Likert response format (see the Appendix). Respondents were asked to provide general information about themselves at the beginning of the questionnaire. We used this information to code title, tenure, and educational background. Size, type, and ownership data were obtained from the Higher Education Publication's (HEP) 1990 *Higher Education Directory*.

This research effort began with an attempt to assure that we were identifying variables and relationships significant to top managers in their interpretation efforts. To accomplish this initial goal, we conducted a series of recorded interviews with seven top managers in educational institutions, including three university presidents, a provost, a vice provost, a vice president for finance, and a director of planning. The approximately 26 hours of tape transcripts that resulted were analyzed in three ways: with a categorical analysis (e.g., Miles & Huberman, 1984), a domain analysis (Spradley, 1979), and a general gestalt analysis (van Maanen, 1988). These analyses, each conducted by a different researcher to avoid bias across them, all revealed that the managers interviewed saw "strategic" and "political" as the key dimensions capturing their understanding of the interpretation of organizational issues. In addition, managers' descriptions of these dimensions were almost identical to the theoretically driven item set used to operationally define each. Details of these analyses are available from Gioia and Thomas (1991).

To help assure the construct validity of the items in the questionnaire, we employed a panel of six experts in higher education, including two university managers (a provost and a vice provost), two senior staff members from the strategic planning office of a major university, and two university faculty members whose research focus was strategy in higher education. In a series of interviews with each expert, we sought to verify that the items in the questionnaire were actually measuring the variables identified in the earlier, qualitative phase of the study. These two procedures, coupled with the literature review, gave us confidence in the overall validity of the variables under examination.

control variable into all regression equations. Results showed that region did contribute to political interpretation ($R^2 = .01, p < .05$) but not to strategic interpretation. Specifically, region was a significant predictor of the political interpretations of minority issues ($\beta = .15, p < .002$) and student satisfaction ($\beta = .12, p < .01$). However, none of the results reported in the text were altered as a result of including region in both regression models.

Dependent Variables

With rare exception (e.g., Thomas & McDaniel, 1990) research in managerial interpretation has tended to focus on a single issue or content area in examining the antecedents or outcomes of interpretation. In the initial phase of our analysis, we chose to examine six issues that were deemed important to managers in institutions of higher education. Because extant theory did not permit content-specific hypotheses, the focus of the analyses used to test the present hypotheses was on what Gorsuch (1983) called “higher-strata” or “single-order” factors—the strategic and political dimensions. Hence, for these analyses, responses regarding the interpretation of all six issues are combined (correlations among the variables for all the issues are in Table 1). In subsequent analyses, we separated the content areas and conducted more exploratory analyses that provided deeper insight into the effect of content on interpretation.

Issue content. The interviews with the seven top managers and a subsequent literature search of several journals of higher education resulted in the identification of 26 key organizational issues (20 from the interviews, 6 from the literature search) typically facing top administrators at institutions of higher education. We asked our expert panel to rank the issues in terms of how important they felt administrators at higher education institutions would perceive them. Six issues appeared in the top-ten rankings of all six raters: (1) faculty satisfaction, (2) minority issues, (3) external funding, (4) student educational satisfaction, (5) changes in academic programs, and (6) changes in student enrollment. For each of these issues, two 4-item, seven-point scales assessed interpretation.

Issue interpretation. Issues were measured by the extent to which they were interpreted as strategic and political. An issue was defined as strategic if it (1) could alter an institution’s position in the market, (2) could significantly affect the whole institution, and (3) could affect the institution’s goals and missions (cf. Ginsberg, 1988). The four items were scaled so that higher ratings indicated that an issue was perceived as strategic. A sample item is, “To what extent would your institution consider this issue as one that has consequences for the institution’s position in the marketplace?” Across all six content areas, strategic scale items exhibited an internal consistency (Cronbach’s alpha) of .88. We also performed an unrestricted maximum likelihood analysis using all 24 scale items (four items by six issues) that referred to strategic interpretation. This analysis yielded six significant factors ($\chi^2_{225} = 1,468.9, p < .001$). The inspection of the item loadings (rotated to oblique solutions) revealed that they exhibited the expected patterns. The alphas for the six subscales were as follows: faculty satisfaction, .73; minority issues, .86; external funding, .83; student educational satisfaction, .82; changes in academic programs, .83; and changes in student enrollment, .84.

An issue was defined as political if it (1) involved influence attempts among individuals and groups, (2) generated conflict over control of the issue, and (3) was associated with bargaining, compromise, and negotiation

among top administrators over its meaning (cf. Dutton et al., 1983; Mac-Millan, 1978). An example item in the four-item scale is, "To what extent would your institution consider this issue an area in which there is conflict within the administration over control of the issue?" High ratings indicated that an issue was perceived as political. Together, the political scale items across the different issues exhibited an alpha of .92. When we subjected the political interpretation items to the same factor analysis procedures described above, we again found evidence of six factors ($\chi^2_{225} = 1,702.44$, $p < .001$). The alphas for the six subscales were as follows: faculty satisfaction, .73; minority issues, .81; external funding, .81; student educational satisfaction, .79; changes in academic programs, .79; and changes in student enrollment, .81.²

Independent Variables

Individual-level variables. Executive level, position tenure, institutional tenure, and academic background data were collected from self-report information through the questionnaire. Executive level was coded into three levels, with CEO or president equal to +1, executive vice president or chief academic officer, 0, and chief of admissions or chief financial officer, -1. Position tenure was the number of years a respondent had been in a current position. Institutional tenure was the number of years a respondent had been at his or her present institution. Academic background was a respondent's area of formal education (-1, liberal arts, including psychology, sociology, art, music, and theology; 0, hard sciences, including biology, chemistry, physics, and math; +1 business and related fields—business administration, economics).

Group-level variables. Information-processing structure is the perceived formality, interaction, and degree of participation among the top managers involved in executive decision processes in an institution (Duncan, 1973). The seven-item scale ($\alpha = .88$) we used to measure information-processing structure was based on Thomas and McDaniel's (1990) work. The items were scaled so that high values represented low formality, high participation, and high interaction, indicating an information-processing structure with high capacity (Galbraith, 1973). An example item is, "To what extent do one or two people dominate the handling of important issues?"

For this study, political activity in an institution was measured using the attributes Pfeffer (1981) suggested for measuring the extent of such activity: (1) goals and preferences, (2) coalitions, (3) information requirements, and (4) information use. A political environment is characterized by changing goals and preferences (Pettigrew, 1973) represented by shifting coalitions (Eisenhardt & Bourgeois, 1988). The process of interpreting organizational

² We also entered all 56 items, regardless of content or strategic-political orientation, into an unrestricted maximum likelihood factor analysis. We found evidence to support the existence of 12 factors ($\chi^2_{934} = 2,682.44$, $p < .001$), as expected.

issues in this environment is characterized by the push and pull of different interests (Narayanan & Fahey, 1982) and by information search that is not systematic but perhaps quite extensive, if individuals are using the information to support their positions or to discredit others' (Lyles, 1981; Sabatier, 1978). Indeed, even when information processing in coalitions is high, people may withhold information to solidify their positions or protect their interests (Pfeffer, 1981). The four items in the survey ($\alpha = .71$) were scaled so that high ratings represented high levels of political activity. An example is, "To what extent do coalitions develop or change as different issues are dealt with?"

The identity variable refers to a top management team's beliefs about various facets of its organization's cultural values (Dutton & Dukerich, 1991; Martin, Feldman, Hatch, & Sitkin, 1983; Milliken, 1990). We adapted Milliken's six-item scale ($\alpha = .82$) for use in the present research. An example item from this scale is, "To what extent do the top management team members of your institution have a strong sense of the institution's history?" High values indicated a strong identity (a more widely held and understood sense of uniqueness).

Although responses for these group-level variables were collected from individual administrators, it is important to emphasize that these scales referred to aggregate processes occurring in university top management teams. Thus, the survey instructions emphasized that items referred to team characteristics (Dewar, Whetten, & Boje, 1980; Rousseau, 1990). Therefore, we employed multitrait multimethod (MTMM) analysis to assess whether managers differently positioned in the institutions exhibited convergent validity on these measures (cf. Kavanagh, MacKinney, & Wolins, 1971).

The trait factor in the MTMM analysis had three levels corresponding to the information-processing capacity, political activity, and identity scales. The method factor was represented by the three executive levels noted above. Because not all positions were represented in all universities, we calculated the nine-by-nine correlation matrix (three traits by three methods) used for the MTMM analysis using pairwise deletion of cases. We set the number of cases equal to the average number of cases used per correlation (116). It should be noted that this figure represented approximately one-third of the total sample.

Three sources of variance were examined in the MTMM analysis. First, the university main effect was significant ($F_{115, 460} = 2.43, p < .001$). This variance indicated that universities could be reliably rank-ordered on the basis of the group variables, and it should be interpreted as convergent validity (Dickinson, 1987). Second, the university-by-method interaction was also significant ($F_{230, 460} = 1.59, p < .001$). This finding indicated that individuals who occupied different positions in a top management team tended to view their group processes differently. This variance should be interpreted as method variance. Thus, an average of top management team member ratings provides a more accurate representation of group perceptions than any one informant. Third, and most important, the university-

by-trait interaction was also significant ($F_{230, 460} = 1.41, p < .01$), indicating that the rank order of the group process variables differed across universities. This variance should be interpreted as evidence of discriminant validity (Dickinson, 1987). Collectively, the convergent and discriminant variance components accounted for 64.4 percent of the predictable rating variance. Interclass correlations (ICC) were as follows: university, .11; university-by-method, .13; university-by-trait, .09. All these correlations are comparable to those obtained in previous research (cf. James, 1982). These results indicated that aggregating individual administrators' responses within universities was justified. Consequently, we calculated aggregated values for the group variables from item averages computed across the multiple respondents within each university and assigned these values to each individual in that institution.

Organization-level variables. The size, type, and ownership of an institution were used as organization-level antecedents. Size was calculated by collapsing the nine size groupings used in the United States Department of Education's *Digest of Educational Statistics*. Because the resulting distribution of sizes was markedly skewed (Kolmogorov-Smirnov Z-test = 4.80, $p < .001$), we applied a logarithmic transformation to the observed values. Type was coded in terms of the highest degree offered, with bachelor's degree equal to 1; master's degree, 2; and Ph.D. or postdoctoral degrees, 3. Ownership was coded as either public (1) or private (2).

RESULTS

A composition data set was constructed by assigning the group- and organization-level variables to all respondents from each university (cf. Rousseau, 1985). Table 1 contains descriptive statistics and correlations between all study variables. We tested hypotheses using a series of hierarchical multiple regression analyses (Cohen & Cohen, 1983).³ In each analysis, the focal type of issue interpretation was regressed initially onto all variables

³ We also used moderated multiple regression analyses to check whether the number of responses returned per university or the position of the respondent or respondents had any influence on the findings. If, for example, some form of method variance was affecting the relationships between the group-level variables and interpretation, the effect would be more pronounced when all variables came from one respondent than when multiple responses were averaged to create the group variable measures. Accordingly, we recomputed all the regression equations including the number of responses per institution as an independent variable. No significant linear effects were found. Next, we computed interaction terms by multiplying the number of responses by the group-level variables and adding these three terms in the second stages of two hierarchical multiple regression analyses (either strategic or political interpretation was the dependent variable). No significant incremental variance was accounted for. Finally, because we did not receive responses from officers in all positions for each institution, we also examined respondents' position as a potential moderator variable. In short, we treated the individuals' coded position variable as we did the number of responses and found no significant linear or multiplicative effects, suggesting that the relationships reported did not differ significantly by respondent position.

from the two context levels not addressed in the hypothesis, and then all variables from the level of interest were introduced. We first looked for a significant R^2 -increment attributable to the latter variable set and then assessed the contributions of specific variables. For these regression models, the six subscales for the strategic and political interpretation variables were combined. Second-order factor analyses revealed that all subscales loaded significantly on a single higher-order latent variable (all parameter estimates $> .53$, $p < .01$).

Hypothesis Testing

Regressing the strategic interpretation criterion onto the group and organizational variables yielded an R^2 of .06 ($p < .001$). However, adding the individual-level variables did not produce a significant increment ($\Delta R^2 = .01$, n.s.), suggesting that individual-level variables are not predictive of strategic interpretations of organizational issues. Regressing the political interpretation criterion onto the group and organizational variables yielded an R^2 of .20 ($p < .001$), and adding the individual variables produced a significant increment ($\Delta R^2 = .04$, $p < .001$). Specifically, executive level ($\beta = -.16$, $p < .01$) and position tenure ($\beta = .10$, $p < .05$) were found to be significant predictors of political interpretation. Therefore, although results did not support Hypothesis 1a, they did support Hypothesis 1b, but only for executive level and position tenure.

We tested Hypothesis 2a by regressing the strategic interpretation criterion first onto the individual and organizational variables ($R^2 = .02$, n.s.) and then onto the group variables; the latter produced a significant increment ($\Delta R^2 = .05$, $p < .001$). Identity ($\beta = .16$, $p < .001$) and political activity ($\beta = .10$, $p < .05$) were found to be significantly linked to strategic interpretation but not to information-processing capacity, as was hypothesized. Thus, Hypothesis 2a was not supported. Regressing the political interpretation criterion onto the individual and organizational variables yielded an R^2 of .09 ($p < .001$), and adding the group-level variables yielded a significant increment ($\Delta R^2 = .15$, $p < .001$). As was predicted, political activity ($\beta = .33$, $p < .001$) was significantly related to political interpretation; thus, Hypothesis 2b was supported. Lastly, a review of these regression models revealed that identity was a predictor of both strategic ($\beta = .16$, $p < .001$) and political ($\beta = -.08$, $p < .05$) interpretation. Thus, findings supported Hypothesis 2c.

Regressing the strategic interpretation criterion onto the individual and group variables yielded an R^2 of .07 ($p < .001$). Adding the organizational variables did not produce a significant increment ($\Delta R^2 = .005$, n.s.), suggesting that for the strategic interpretation of an organizational issue, organization-level variables are not predictive. Thus, Hypothesis 3a was not supported. Regressing the political interpretation criterion onto the individual and group variables yielded an R^2 of .23 ($p < .001$); adding the organizational variables accounted for additional significant variance, albeit a small amount ($\Delta R^2 = .01$, $p < .05$). Specifically, organizational type ($\beta = .11$, $p <$

TABLE 1
Descriptive Statistics and Correlations^a

Variables ^b	Means	s.d.	1	2	3	4	5	6	7	8	9	10
1. Strategic interpretation of issue	5.55	0.67	(.88)									
2. Faculty satisfaction 1	5.16	0.98	.65	(.73)								
3. Minority issues 1	4.94	1.30	.64	.37	(.86)							
4. External funding 1	5.76	1.14	.65	.30	.29	(.83)						
5. Student satisfaction 1	5.88	0.90	.70	.40	.25	.33	(.82)					
6. Program changes 1	5.51	1.00	.63	.25	.22	.27	.40	(.83)				
7. Enrollment changes 1	6.05	0.95	.57	.18	.12	.22	.43	.35	(.84)			
8. Political interpretation of issue	3.64	0.99	.22	.16	.16	.19	.01	.19	.10	(.92)		
9. Faculty satisfaction 2	3.89	1.13	.16	.24	.08	.09	-.03	.14	.07	.73	(.73)	
10. Minority issues 2	3.37	1.29	.22	.16	.43	.12	-.03	.07	.00	.70	.46	(.81)
11. External funding 2	3.56	1.40	.20	.13	.11	.37	-.03	.10	.03	.81	.48	.51
12. Student satisfaction 2	3.45	1.23	.14	.13	.03	.07	.12	.14	.07	.84	.55	.50
13. Program changes 2	3.91	1.23	.20	.09	.06	.15	.03	.35	.10	.79	.51	.40
14. Enrollment changes 2	3.63	1.37	.09	.01	.01	.05	-.01	.08	.22	.78	.46	.39
15. Executive level	0.14	0.71	.10	.08	.08	.10	.09	.04	.00	-.17	-.13	-.05
16. Position tenure	6.47	5.46	-.05	-.06	-.12	-.09	.12	-.02	.05	-.15	-.10	-.12
17. Institutional tenure	12.95	9.45	-.05	.00	-.06	-.08	.04	-.03	-.03	-.09	-.09	-.08
18. Academic background	-0.39	0.81	-.02	.06	-.04	-.02	-.02	-.01	-.02	.06	.08	.05
19. Information-processing capacity	4.62	0.72	.17	.24	.15	.06	.01	.12	-.01	-.21	-.15	-.10
20. Political activity	3.98	0.76	.12	.18	.11	.06	.18	.03	-.01	.31	.33	.21
21. Identity	5.59	0.73	.18	.17	.12	.10	.26	.05	.03	-.24	-.20	-.15
22. Ownership	1.47	0.50	.05	.07	-.08	.05	.17	-.06	.10	-.14	-.09	-.23
23. Degree-granting type	1.99	0.78	.05	.07	.21	.14	-.10	-.06	-.16	.12	.05	.24
24. Size	3.65	0.47	.03	.04	.22	.08	-.14	-.02	-.15	.16	.07	.29

^a N = 608. Coefficient alphas indicating scale reliabilities are in parentheses. Correlations greater than .05 are significant at $p < .05$; those greater than .11 are significant at $p < .01$.

^b Variables with a "1" represent strategic interpretation; those with a "2," political interpretation.

.05) was significantly tied to political interpretation. However, although there was a significant finding, it was not for the variables for which we hypothesized effects (ownership and size). Therefore, Hypothesis 3b was not supported.

Table 2 summarizes regression analysis results for the two types of

capacity of a top management team, and the group's identity had a negative relationship with political interpretation. Political activity and private ownership each had a positive influence.

To conduct a supplemental analysis, we also ran the full regression model using each of the six organizational issues as the dependent variable. Table 3 presents these results. They generally reveal the expected pattern, with occasional issue-specific differences.

Configurational Results

Proposition 4, predicting that the three levels of context and the content of the six issues examined would exhibit a configurational relationship with issue interpretation, was examined using a differentiated criterion set and canonical correlation analyses. Canonical correlations test whether one underlying dimension or more link a set of dependent variables with a set of independent variables. Evidence of a configurational pattern of relationships would exist if multiple underlying dimensions emerged. The criterion set consisted of 12 variables, the six content areas each rated in terms of their levels of strategic and political interpretation. The independent variable set consisted of the 10 variables across the three levels of analysis.

This analysis revealed three significant (Wilks's lambda = .41, $F_{120, 4,322} = 4.34$, $p < .001$) underlying dimensions that collectively account for 12.37 percent of the variance of the criterion set of interpretations; redundancy coefficients (Stewart & Love, 1968) were 8.85, 2.31, and 1.21 percent. To

TABLE 2
Summary of Regression Analysis Results^a

Variables	Strategic Interpretation	Political Interpretation
Organizational level		
Ownership	.06	-.08
Type	.03	.11*
Size	.04	-.03
Group level		
Information-processing capacity	.08	-.24***
Identity	.16***	-.08*
Political activity	.10*	.33***
Individual level		
Executive level	.07	-.16**
Position tenure	-.03	-.10*
Institutional tenure	-.06	-.05
Academic background	.02	.00
R^2	.07	.24
F	4.49***	18.14***

$N = 584$.

* $p < .05$

** $p < .01$

*** $p < .001$

TABLE 3
Results of Regression Analyses Across All Issues

Variables*	Individual Level			Group Level			Organizational Level			
	Academic Background	Executive Level	Position Tenure	Institutional Tenure	Information-Processing Capacity	Identity	Political Activity	Ownership	Granting Type	Size
Strategic interpretation of issue	.01	.06	-.03	-.05	.09	.16***	.08	.05	.02	.05
Political interpretation of issue	.00	-.16***	-.11**	-.06	-.23***	-.09*	.33**	-.08	.11*	-.03
Faculty satisfaction 1	.08	.05	-.07	-.01	.16***	.11**	.13**	.10*	.05	.05
Faculty satisfaction 2	.04	-.13**	-.06	-.06	-.18***	-.09*	.36***	-.04	.07	-.08
Minority issues 1	-.03	.03	-.09*	-.05	.11*	.14**	.03	-.04	.12*	.14*
Minority issues 2	.01	-.05	.07	-.06	-.11*	-.03	.17***	-.15**	.14*	.10
External funding 1	.00	.07	-.05	-.07	.01	.10*	.06	.06	.13*	.02
External funding 2	.01	-.12**	-.12**	-.04	-.18***	-.06	.25***	-.12**	.20***	-.09
Student satisfaction 1	.01	.06	.10*	.00	.09*	.18***	-.01	.11*	-.07	.00
Student satisfaction 2	.00	-.17***	.07	-.03	-.19***	-.03	.28***	-.05	.11*	-.11
Program changes 1	.00	.03	-.02	-.02	-.04	.07	.12**	-.08	-.03	-.05
Program changes 2	.01	-.12**	-.09*	-.06	-.21***	-.07	.24***	.02	.01	.06
Enrollment changes 1	.00	-.01	.07	-.05	.01	.03	-.01	.07	-.16**	-.01
Enrollment changes 2	-.07	-.17***	-.09*	-.01	-.21***	-.12**	.23***	-.04	-.03	-.02

* Variables with a "1" represent strategic interpretation; those with a "2," political interpretation.

* $p < .05$

** $p < .01$

*** $p < .001$

interpret these relationships, we used structure coefficients, which are correlations between the original variables and their corresponding canonical variate scores (Pedhazur, 1982). Coefficients greater than or equal to .30 were used for interpretation, as Pedhazur recommended; Table 4 presents results.

The first dimension contained substantial loadings ($>.56$) from all political interpretation subscales and a negative loading for the strategic interpretation of student satisfaction ($-.48$). Independent variables at the individual (executive level = $-.33$); group (identity = $-.62$, information-processing capacity = $-.52$, political activity = $.47$); and organizational (size = $.33$, ownership = $-.43$) levels all contributed to the dimension. We labeled this dimension "divisive," viewing it as capturing a situation in which key issues take on a political life of their own in what appears to be the highly charged political environment of a large public university. Such an environment was further characterized by top management teams with low information-processing capacity and a low sense of identity.

TABLE 4
Structure Coefficients Linking Individual, Group, and Organizational Variables with Issue Interpretation^a

Variables	Canonical Dimensions		
	1	2	3
Strategic interpretation of issue			
Faculty satisfaction		.47	.65
Minority issues		.72	
External funding		.40	
Student satisfaction	-.48		.44
Program change			
Enrollment		.36	
Political interpretation			
Faculty satisfaction	.72		.52
Minority issues	.57	.47	
External funding	.69		
Student satisfaction	.59		.42
Program change	.64		
Enrollment	.65		
Organizational level			
Ownership	-.43		.52
Type		.74	
Size	.33	.70	-.37
Group level			
Information-processing capacity	-.52	.42	
Identity	-.62		.37
Political activity	.47		.62
Individual level			
Executive level	-.33		
Position tenure		-.35	
Institutional tenure			
Academic background			

^a Coefficients greater than .30 are indicated and used for interpretation.

The second dimension was identified by the strategic interpretation subscales of faculty satisfaction (.47), minority issues (.72), external funding (.40), and enrollment (.36) as well as by minority issues rated in terms of political emphasis (.47). University size (.70) and type (.74) and information-processing capacity (.42) and position tenure (−.35) contributed from the independent variable set. We labeled this dimension “utilitarian” (after Albert and Whetten [1985]); it captures the strategic and economic implications of a mix of internal (e.g., enrollment) and external (e.g., funding) issues in highly interactive top management teams representing large, advanced degree-granting institutions privately and publicly owned.

The third dimension was identified mainly through the satisfaction levels of faculty and students. Both measures of satisfaction were rated high in terms of strategic (.65 and .44) and political (.52 and .42) interpretations. Identity (.37), political activity (.62), organizational size (−.37), and ownership (.52) exhibited influences from the independent variable set. We labeled this dimension “normative” (Albert & Whetten, 1985) as it appeared to focus on the strategic and political implications surrounding the satisfaction of key internal constituencies at small, traditional, private institutions.

DISCUSSION

This study contributes to the current literature on managerial cognition in two key ways. The first involves *what* we studied. Interpretation studies involving top management have tended, with rare exception, to use a single level of analysis and to deal almost exclusively with strategic interpretations and with one or a very few industry- or organization-specific issues. We examined three sources of influence and both the strategic and political interpretation of six different organizational issues in order to expand understanding regarding managerial cognition.

The second contribution is *how* we studied the factors relating to interpretation. Specifically, we examined the relationship of variables from each of three levels of analysis while controlling for the other two. This process provided a conservative yet realistic examination of the unique contribution of each contextual source. We also explored the configurational relationship of the three variable levels with issue content and interpretive outcomes. The results of this configurational analysis revealed that until the content of the issues being interpreted by top managers is considered, the impact of certain antecedent variables (most notably, organizational variables) is obscured; these variables were nonsignificant in the regression analyses but became key components in defining more macro, interpretive environments. Overall, these environments point to the existence, and define the general nature, of systematic biases and errors that relate to interpretation but go beyond the individual level. Indeed, refining the composition of these multilevel, interpretive “heuristics” should be considered an important research arena in the future.

Individual Level

The regression analyses revealed that the individual-level characteristics did not appear to play a significant role in the strategic interpretation of key organizational issues after organizational and group contexts were accounted for in the regression analyses. This finding is similar to the findings of Schneider and DeMeyer (1991) and of Thomas and his colleagues (1993). However, Hitt and Tyler (1991) found that education, experience, and executive level were significant moderators when decision choice (response) was the dependent variable. Collectively, these findings suggest that group and organizational context may overshadow individual context during strategic interpretation; however, individual characteristics do affect the extent to which managers use objective criteria for postinterpretation strategic decision responses. Thus, one of the key findings of this study is that when dealing with how to interpret the strategic aspect of an issue, managers seem to use conceptual lenses other than their past experiential biases. However, we should note that because these findings are based on measures taken after respondents participated in strategic interpretation processes, research designs that include actual observations of interpretive processes are needed to refine and clarify the relationships that emerged.

The extent to which an issue is perceived as having political overtones in the form of generating conflict and influence attempts is related to certain individual characteristics. For example, executives with function-specific responsibilities, such as chief financial officers and admissions directors, and with little experience in their positions tended to interpret organizational issues as more political. As Fredrickson (1985) suggested, lack of experience implies that an individual can compare current issues using only a few past issues. We might conclude that these managers are inclined to see the types of issues presented in this study as involving the negotiation of meaning and attempts to influence their own perceptions of the issues' importance or nature. Thus, the political ambiguity an issue represents is identified, at least in part, by a manager's individual context, but the manager turns to the group or organizational context for help in confronting the strategic uncertainty attached to the issue. In other words, the interpretation of certain issues as strategic is a function of a higher-level context or of several such contexts, but perceptions that the interpretation of an issue will emerge only after conflict, influence attempts, and negotiation have occurred is guided in part by individuals' positions in a team's hierarchy and how long they have been with an organization.

Group Level

Of the three contexts discussed here, the individual, group, and organizational, the group context had the strongest relationship (in terms of the number of variables found to be significant) to both strategic and political interpretation; however, its links to the two interpretations differed. For example, we found that groups exhibiting strong identities tended to inter-

pret issues as strategic. This finding modifies the findings of Milliken (1990). Instead of providing confidence that an institution can weather environmental changes and hence showing a negative relationship to strategic interpretation, a strong management team identity might instead give team members the confidence to pursue possible strategic opportunities and be proactive. Hence, managers in such teams tend to perceive organizational issues as having strategic implications for their institutions. However, we should note that this difference in findings may be a result of differences between our study and Milliken's in the number of issues examined (one for Milliken versus six here) and the types of institutions studied (four-year degree, privately owned schools versus all degree-granting and ownership types).

The findings also reveal that strategic interpretation was related to the political environment of top management teams. Specifically, decision environments seen as being rich in shifting coalitions and alliances contributed to a group context that facilitated the strategic interpretation of issues. As coalitions struggle to protect their resources and attempt to influence other coalitions during interpretation (Narayanan & Fahey, 1982), the strategic implications of an organizational issue seem to emerge. In this sense, political activity among team members may be the vehicle by which efforts to influence interpretation, or "sensegiving" (Gioia & Chittipeddi, 1991), occurs. Indeed, from an interpretive perspective, attempts to give sense to other coalitions or individuals may capture how political activity is related to ascribing the strategic content of an issue (cf. Gamson, 1962). The group context appears to be the context wherein the politics of strategic interpretation is defined.

We also found that low information-processing capacity was linked to strong perceptions of political implications. Top management teams that were perceived as having low interaction and participation levels helped to define a context in which issues were perceived as forums for conflict and negotiation. We might conclude that in the absence of information exchange among top management team members, they at least initially perceive issues as arenas for protecting or enhancing their control (Pfeffer, 1981). Specifically, with perhaps only a surface knowledge of other team members' perceptions of an issue (a condition rooted in the lack of interaction) by default members assume that interpretations of critical issues will differ from their own and that interpretations are subject to influence attempts and possible compromise (Narayanan & Fahey, 1982).

Although strong group identities were found to contribute to managers' perceiving issues as strategic, weak group identities were related to the perception that the same issues were political. Strong organizational identity appears to instill a sense of pride and belonging that overshadows coalition differences, or perhaps even the need for coalitions. Lastly, decision environments in which multiple and shifting coalitions were perceived around all organizational issues were related to managers' interpretations of issues as settings for conflict and influence. This finding suggests that in highly political environments, what makes an issue salient may not be its strategic

content, but rather, its potential to limit resources or reduce a coalition's power base (cf. Pfeffer & Salancik, 1974).

Organizational Level

After entering the individual and group context variables in the regression equations, we found that the organization-level variables (size, type, and ownership) were not significantly related to the strategic interpretations of the issues under study. However, we did find that managers in advanced degree-granting institutions tended to perceive issues as political. The role of organizational variables became clear when we examined the results of the canonical correlations and the interpretive environments they helped to define.

Interpretive Environments

The theoretical foundation for understanding how top managers ascribe meaning to the organizational situations they face is found primarily in theories of schemata (e.g., Bartlett, 1932) and categorization (e.g., Rosch, 1978). These theories describe both individuals' internal knowledge structures organizing information about associated people, events, and objects and subsequent categorizations (cf. Dutton & Jackson, 1987). The various social, political, and other contextual aspects of interpretation that affect issue categorizations or labels (e.g., Lyles & Mitroff, 1980; Thomas & McDaniel, 1990) have shed some light on how information that is relevant to or consistent with given schemata (or irrelevant and inconsistent) detracts from or enhances interpretation (Cowan, 1990). However, what has not been empirically examined is how the content of an issue under examination interacts with the various contexts surrounding strategic and political interpretation efforts to form interpretive environments. Such environments provide clues as to how cognition, issue content, and context are integrated to form organizational schemata that facilitate or impede learning (Fiske & Linville, 1980) and change (Daft & Weick, 1984). In the present study, we found that the six issues examined and their political and strategic interpretations interacted with contextual variables to form three distinct interpretive environments that we labeled divisive, utilitarian, and normative.

Divisive. Found predominantly in large, public universities, this environment was one in which interpretation focused on the political aspect of organizational issues. This environment is highlighted by the failure of top management teams, rich in political activity but poor in information-processing capacity and identity, to recognize the strategic implications of the issues their organizations confront. We might hypothesize that the educational institutions in which such an environment is found have not met or even recognized the strategic challenges presented by a changing and increasingly hostile marketplace. Given the inertial tendencies of these organizations (e.g., Tushman & Romanelli, 1985), the vacuum caused by the lack of executive discretion seems to be filled with political instability surrounding organizational issues, irrespective of their content. How such an envi-

ronment affects organizational action and the eventual success or failure of an institution is clearly a research issue that should be pursued.

Utilitarian. A group of large, advanced degree-granting institutions seem to have developed interpretive environments that focus on facilitating the formulation of the strategic implications of organizational issues. In this environment, managers may see financial return as both a condition of continuing operation and a central symbol of success (Albert & Whetten, 1985). The focus is on understanding the requirements for successfully competing in the marketplace. Such environments are further characterized by newer managers who have developed highly interactive and participatory decision-making processes. They are also environments that breed sensitivity to the potential conflict and debates surrounding minority issues. Of interest is whether this type of interpretive environment demonstrates how certain social processes, obligations, and actualities are currently being institutionalized in higher education. Perhaps this environment shows how academic institutions are being transformed from places in which “management by ideology,” characterized by the political decision making Cohen and March (1974) discussed, is practiced, to places where the “management-by-information” that defines many postindustrial organizations is practiced.

Normative. The last interpretive environment revealed in the analyses is found mainly in small, privately owned institutions among top management teams perceived as having a strong sense of identity and as being rich in political activity. Here, interpretation appears to focus exclusively on the strategic and political understanding of issues associated with a specific content area—the satisfaction levels of faculty and students. In this sense, value-based concerns seem to dominate. This environment represents a significant repository of tradition in which such outside threats as the changing marketplace seem to have bonded key stakeholders (faculty and students) more closely to their institution.

Overall, these interpretive environments, defined by the alignment of cognition, context, and content, provide insight as to how categorizations and schemata are acquired and used in the interpretation of organizational issues. In this sense, the findings suggest that interpretation research must consider not only many levels of context, but also many areas of issue content to be assured of accurately addressing the factors affecting managerial cognition. Much is left to be done with respect to understanding the implications of these interpretive environments. Some of the key questions that remain are: How are these interpretive environments systematically linked to organizational actions? Is one type of environment ultimately more successful than another? What are the contingencies in terms of which the success or failure of these interpretive environments can be judged? That is, how are these environments linked to other organizational characteristics, such as strategy, that, as Daft and Weick (1984) suggested, might mediate or moderate the interpretation-performance relationship? Further, an interesting research path, stemming from the concept of dual identities (Albert & Whetten, 1985), would be to ascertain if environments systematically evolve

over time in a given industry and if they exist in dual or even triple combinations, parts of which come to the forefront under certain conditions.

As work on the outcomes and antecedents of managerial interpretation continues, the present findings suggest a number of guidelines that perhaps should be considered in the design and implementation of such studies. First, examining interpretation at a single level of analysis or not controlling for other levels might bias results with respect to the underlying nature of interpretation. Second, unless researchers account for variance in issue content, the presence of an effect or the relative impacts of certain variables may be masked. Third, future researchers need to recognize the need to use multiple sources of information at each organization under study and longitudinal designs if they are to better understand the role of group processes in the interpretation efforts of top managers. Finally, it is critical that finer-grained theory and analyses be developed with which the types of issues examined and identified here can be studied.

We should note that several limitations of the study should be considered when interpreting the results. First, we did not actually observe managers interpreting issues, but rather, relied on questionnaire responses to hypothetical, though very realistic, issues. As Thomas and his colleagues (1993) suggested, field methods are needed if understanding of managerial interpretation is to grow. Second, although we assigned aggregated measures to each individual where possible, the possibility that common method bias influenced the group-level variables should be considered. Social desirability bias may have also been present in responses to the identity measure because of its link to organizational effectiveness. Naturally, to the extent that these biases were present, they would have been more pronounced where we received only one response for a particular institution. Third, the relative statistical and practical significance of some of the findings should be considered. We suggest that in light of the very conservative test of hypotheses that we employed, the significant increments of explained variance in interpretation that emerged here, though in some cases not impressive in a practical sense, provide insight into what shapes the sensemaking of top managers and, just as important, point to a direction for future inquiries. Lastly, future research should use the present findings to guide research conducted in several industries to test generalizability. This study was conducted in a university setting, and relationships may differ in other types of industries.

Conclusion

As Eden and Jones (1979) pointed out, the process of interpreting organizational issues does not essentially involve modeling an objective reality, but it does entail identifying whose reality is going to be attended to. In this study, we attempted to elucidate that identification process by examining not only the role of the reality of individual, group, and organization in issue interpretation, but also how the confluence of cognition, content, and context serve to define realities that may go beyond the predictive power of any single-level or cross-level antecedent. Managers do not discover issues "out

there" (Lindblom & Cohen, 1979) but rather, are guided in their choices as to what is important and why it is important by the interaction of the categories of issues they confront, their own experiences, and the natures of the team and organization to which they belong. Discovering how this interaction is linked to action and performance will add to academic and practical knowledge of why two organizations confronting similar environmental circumstances can see and act upon their shared marketplace so differently.

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APPENDIX

Scale Items

For the dependent variables, the stem was "to what extent is [issue] considered by your institution to be . . . ?" For the independent variables, the stem was "To what extent . . . ?" For all items, responses ranged from 1, "to a small extent," to 7, "to a great extent."

Dependent Variables

Strategic interpretation. A strategic issue; an issue that has consequences for the institution's position in the marketplace; something that affects the whole institution; an issue that could impact the institution's mission and goals.

Political interpretation. An issue that involves attempts among individuals or groups in the institution to influence preferences; a political issue; an area in which there is conflict within the administration over control of the issue; a topic that is associated with bargaining, compromise and negotiation among top administrators.

Independent Variables

Information-processing capacity. Are views other than those of top administrators included in executive decision processes; can planning concerning important issues be characterized as participative; do one or two people dominate the handling of important issues; is there a free and open exchange of ideas among those affected by a given issue; do people affected by an issue typically feel that the definition of the issue and the manner in which it was resolved were imposed upon them; can decision making be characterized as a process dominated by formal rules and procedures; are important issues determined by top management team members (i.e., president, vice-president).

Political activity. Do coalitions develop or change as different issues are dealt with; can decision making be characterized as the "give and take" of different interests and factions (e.g., administrators, deans) at your institution; do administrators join forces or form alliances with other people, departments, colleges or programs at your institution to "push through" a policy proposal; do administrators join forces or form an alliance with different people at your institution to get alternatives or points of view "on the table."

Identity. Do the top management team members of your institution have a strong sense of the institution's history; do your top managers have a sense of pride in the institution's missions and goals; do top administrators feel that your institution has carved out a significant place in the higher education community; do the top management team members not have a well-defined set of goals or objectives for the institution; is your top management team knowledgeable about the institution's history and traditions.

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