COGNITION AND CORPORATE GOVERNANCE: UNDERSTANDING BOARDS OF DIRECTORS AS STRATEGIC DECISION-MAKING GROUPS

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Recent research developments underscore the need for research on the processes that link board demography with firm performance. In this article we develop a model of board processes by integrating the literature on boards of directors with the literature on group dynamics and workgroup effectiveness. The resulting model illuminates the complexity of board dynamics and paves the way for future empirical research that expands and refines our understanding of what makes boards effective.

Recent reviews of management research on boards of directors (Johnson, Daily, & Ellstrand, 1996; Pettigrew, 1992) have indicated that, although much has been learned, the time is ripe for reflection and for the exploration of new directions in board research. In particular, Pettigrew has observed that in many studies of boards, "Great inferential leaps are made from input variables such as board composition to output variables such as board performance with no direct evidence on the processes and mechanisms which presumably link the inputs to the outputs" (1992: 171). Pettigrew goes on to argue that future research on boards should focus on the actual behavior of boards, thereby supplementing our knowledge of what boards look like with evidence of what boards do.

The importance of studying board behavior directly is underscored by evidence that practitioners—in some cases, boards themselves—are also beginning to pay more attention to what boards do (Lublin, 1997; Schine, 1997). Whereas in previous decades boards of directors could be characterized as essentially formal and passive institutions that seldom came under public scrutiny (Mace, 1971), boards today are increasingly finding their actions closely monitored by institutional investors (Heard, 1987; Judge & Reinhardt, 1997) as well as by the media (Byrne, 1997; Orwall & Lublin, 1997).

Further evidence of interest in board behavior can be seen in the increased level of legal scrutiny to which boards are subjected and in the growing competitiveness of the market for corporate control (Kesner & Johnson, 1990; Monks & Minow, 1995). Moreover, *Business Week* reported recently that the board of Campbell Soup conducted an internal assessment, in which it determined

> that it wasn't devoting enough time to long-range strategic planning; that some colleagues didn't speak up enough in meetings; that the quality of some committee reports needed upgrading; and that the company had to spend more time broadening and diversifying the skills of directors (Byrne, 1996: 98).

It would have been almost unthinkable to encounter such a rigorous self-analysis from one of the characteristically unresponsive boards documented by Mace (1971) almost 30 years ago. In summary, it appears that as boards assume a more central oversight role in the governance of organizations, researchers and practitioners alike are seeking to better understand the processes and behaviors involved in effective board performance.

In addition, recent research developments have reinforced Pettigrew's (1992) point that it is necessary to go beyond the demography-outcome approach in order to understand fully the performance implications of board characteristics. Reviews of the boards literature indicate that the predictive power of parsimonious models has failed to materialize, even in the most well-researched areas (Johnson et al., 1996). Furthermore, research on demography in

other contexts has called into question the assumptions that underlie the search for direct demography-performance links (Lawrence, 1997; Melone, 1994). At the same time, other recent studies have demonstrated the superior explanatory power of studies that incorporate the study of process constructs (Amason & Sapienza, 1997; Ancona & Caldwell, 1992; Smith, Smith, Olian, Sims, O'Bannon, & Scully, 1994).

Here, we propose a model of strategic decision-making effectiveness in U.S.-based boards that bridges some of the gaps that currently characterize much theorizing about boards. We begin by considering the factors that characterize boards as decision-making groups and by discussing some criteria that distinguish effective boards from ineffective ones. Then, drawing on the literature on small-group decision making, we define and develop three critical board processes and two board-level outcomes that we believe serve as mediators of the relationships between commonly studied aspects of board demography and firm performance.

Our analysis focuses on the board's control and service tasks, which, to be performed effectively, require that board members cooperate to exchange information, evaluate the merits of competing alternatives, and reach well-reasoned decisions. We acknowledge that, in practice, it is often difficult for boards to do these things and that on many boards the quantity and quality of substantive interaction are, in fact, minimal. However, the very existence of the board as an institution is rooted in the wise belief that the effective oversight of an organization exceeds the capabilities of any individual and that collective knowledge and deliberation are better suited to this task. The processes we discuss are those that enable boards to achieve their full potential as strategic decision-making groups.

In the course of our discussion, we suggest ways of operationalizing the constructs we identify in an effort to guide future empirical research based on our model. We also explain how the processes we identify are likely to be affected by various aspects of board demography, such as job-related diversity and size. Finally, we discuss ways in which the dynamics of boards as groups may differ among boards of different types of organizations.

THEORETICAL BACKGROUND

Most scholars agree that predictions about the performance implications of demographic variables are presumed to operate through some set of intervening processes. However, there has been debate over whether the direct study of those intervening processes is necessary. Pfeffer (1983), for example, argues that the study of such processes is not necessary, because executives' beliefs and behaviors can be inferred successfully from demographic characteristics. This argument is essentially one of parsimony: as long as research can explain *what* the group- or organization-level impact of demography is, it is not necessary to determine (or one can speculate about) *why* demography operates in the observed way. This is an appealing argument, and it has provided the inspiration for a great many studies of the demography of top management teams (TMTs) and boards of directors. However, recent research findings suggest at least three reasons why the argument for parsimony over precision in the study of board demography is no longer convincing.

First, recent literature reviews have concluded that board research has failed to establish any clear consensus as to which demographic characteristics lead to which outcomes, even in the most well-researched areas (Daily & Schwenk, 1996; Johnson et al., 1996, Zahra & Pearce, 1989). This conclusion suggests that the influence of board demography on firm performance may not be simple and direct, as many past studies presume, but, rather, complex and indirect. To account for this possibility, researchers must begin to explore more precise ways of studying board demography that account for the role of intervening processes.

Second, the assumptions that underlie the search for direct demography-performance links have been shown to be unreliable. Lawrence (1997), for example, conducted an intensive review of past demographic research, precisely for the purpose of evaluating the assumption that it is unnecessary to test the inferences involved in demography-outcome relationships. She found that, in a majority of cases, the explanations offered for demography-outcome relationships are not supported by studies in which researchers have actually examined the intermediary process phenomena. Recent findings by Walsh (1988) and Melone (1994) also dispute the notion

that executive beliefs and behaviors can be inferred reliably from demographic variables alone.

Third, scholars have shown that the study of process constructs has the potential to expand and refine our understanding of group dynamics. For example, Smith and colleagues' study of TMTs (1994) showed that firm performance was impacted (1) directly by demographic variables, (2) indirectly by demographic variables operating through process variables, and (3) directly and independently by additional process variables. The identification of independently predictive processes represents an important complement to knowledge about the direct or indirect effects of board demography. Other studies have shown how a single group characteristic can have multiple implications for group performance. For example, Amason and Sapienza's (1997) study of TMTs shows that group size is positively related to both cognitive conflict and affective conflict—two processes generally understood to have opposite effects on the quality of groups' strategic decisions. Studies that account for such complexities enable researchers to draw more informed conclusions by clarifying the multiple factors that managers must consider in making decisions regarding group design.

These findings demonstrate the value of studying group processes. They indicate that researchers need to incorporate the study of process variables so that they can expand their understanding of the factors that contribute to group performance and address questions concerning the influence of group demography with adequate care. While these lessons are applicable to many areas of group demography, they are particularly applicable to boards.

In the following sections we show how the study of board processes can help to disentangle the predictions offered by multiple theoretical perspectives with regard to board demography. For example, it is plausible that a high proportion of outsiders will enhance some aspects of board functioning, such as board effort norms, as agency theory would suggest, but will have a negative impact on other aspects of board functioning that are beyond the scope of agency theory's rational framework, such as the level of cohesiveness on the board. Attention to process variables permits researchers to develop and test models that reflect these com-plexities of board dynamics. Researchers will be able to use the knowledge generated by process studies to clarify the tradeoffs associated with various aspects of board design and to resolve long-standing inconsistencies in board research.

TOWARD A MODEL OF BOARD PROCESSES

Extensive literature exists on the effectiveness of workgroups in organizations (for reviews, see Bettenhausen, 1991; Cohen & Bailey, 1997; Gist, Locke, & Taylor, 1987). In developing our model of boards as groups, we define workgroups as "intact social systems that perform one or more tasks within an organizational context" (Bettenhausen, 1991: 346), and we believe that all boards qualify as groups in this respect. In addition, we look to the general "heuristic model of group effectiveness" identified by Cohen and Bailey (1997: 244), which is based on earlier models by Hackman and Morris (1975) and Gladstein (1984).

In particular, we value the input-process-output approach this framework uses, as well as its distinction between "task-performance" outcomes and those outcomes concerned with the ability of the group to continue functioning. However, following Goodman, Ravlin, and Schminke (1987), we believe that the specific processes that mediate between board demography and firm performance are likely to depend on factors that are specific to boards as groups and on the specific criteria of effectiveness under consideration. In the sections that follow, we discuss the factors that distinguish boards from other types of workgroups and propose specific criteria that could be used to evaluate the decision-making effectiveness of boards.

Distinctive Features of Boards As Groups

Scholars most commonly describe the board of directors as the formal link between the shareholders of a firm and the managers entrusted with the day-to-day functioning of the organization (Mintzberg, 1983; Monks & Minow, 1995). Consistent with this description, Fama and Jensen have described the board as the "apex of the firm's decision control system" (1983: 311). Like a TMT—another elite workgroup with a major role in the firm's decision control system—boards face complex, multifaceted

tasks that involve strategic-issue processing (Jackson, 1992). However, an important difference exists between boards and TMTs in that boards are responsible only for monitoring and influencing strategy—not for implementing strategic decisions or for day-to-day administration (Fama & Jensen, 1983).

Our analysis focuses on the specific board tasks that are most relevant to an understanding of boards as groups: control and service. The board's control task refers to its legal duty to monitor management on behalf of the firm's shareholders and to carry out this duty with sufficient loyalty and care (Monks & Minow, 1995). The board's service task refers to its potential to provide advice and counsel to the CEO and other top managers and to participate actively in the formulation of strategy.

Several additional distinctive features of boards deserve note. First, contemporary boards often include many "outsiders," who have their primary affiliation with another organization. These outsiders serve on only a part-time basis and have limited direct exposure to the firm's affairs. Second, boards average 13 members (Monks & Minow, 1995)—a size considerably greater than that of other workgroups studied in the management literature. The top management teams studied by Eisenhardt and Bourgeois (1988), for example, ranged in size from 5 to 9 members, whereas the workgroups studied by Gersick (1988) and Jehn (1995) averaged 5.6 members and 5.9 members, respectively. Finally, unlike many workgroups, boards function only episodically. Full board meetings are held, on average, only 7 times per year (Monks & Minow, 1995). Committee meetings provide some additional opportunities for intraboard interaction, but, in general, directors still spend less than 2 weeks per year working on the boards they serve (Monks & Minow, 1995).

In summary, boards of directors can be characterized as large, elite, and episodic decision-making groups that face complex tasks pertaining to strategic-issue processing. Because boards are not involved in implementation, the "output" that boards produce is entirely cognitive in nature. In addition, because boards are large, episodic, and interdependent, they are particularly vulnerable to "process losses" (Steiner, 1972)—the interaction difficulties that prevent groups from achieving their full potential. Taken together, these factors suggest that

the effectiveness of boards is likely to depend heavily on social-psychological processes, particularly those pertaining to group participation and interaction, the exchange of information, and critical discussion (Butler, 1981; Jackson, 1992; Milliken & Vollrath, 1991).

Criteria of Board Effectiveness

The model we develop is concerned with two criteria of board effectiveness: (1) board task performance, defined as the board's ability to perform its control and service tasks effectively, and (2) the board's ability to continue working together, as evidenced by the cohesiveness of the board. These are the classic "task" and "maintenance" criteria identified in many past models of group effectiveness (Cohen & Bailey, 1997; Gladstein, 1984). Both are board-level constructs that are distinct from firm performance, but both also contribute to firm performance. Board task performance influences firm performance directly, whereas board cohesiveness does so indirectly by influencing present and future levels of board task performance.

In our model board task performance represents the degree to which boards succeed in fulfilling their control and service tasks. Specific board activities that are critical to the fulfillment of the control task include decisions regarding the hiring, compensation, and replacement of the firm's most senior managers, as well as the approval of major initiatives proposed by management. Specific activities that correspond to the fulfillment of the service task include providing expert and detailed insight during major events, such as an acquisition or restructuring, as well as more informal and ongoing activities, such as generating and analyzing strategic alternatives during board meetings.

Because of the strictly confidential and highly interpretive nature of board activity, it is likely to be extremely difficult for researchers to measure the task performance of boards in ways that are both reliable and comprehensive. Certain publicly announced board actions, such as the adoption of golden parachutes (Singh & Harianto, 1989) or CEO replacement (Boeker, 1992), may be used as proxies for performance on the control dimension. Board performance on the service dimension may be assessed by asking the CEO, a nonmember manager, or an outside consultant to rate the value of the advice

and analysis the board contributes to strategic decisions. Alternatively, researchers may regard board task performance as a latent construct.

Board cohesiveness refers to the degree to which board members are attracted to each other and are motivated to stay on the board (Summers, Coffelt, & Horton, 1988). Because boards meet only episodically and are composed of persons for whom directorship is a part-time responsibility, the relationship of directors to the board can be characterized as one of "partial inclusion" (Weick, 1979). Cohesiveness captures the affective dimension of members' inclusion on the board and reflects the ability of the board to continue working together.

In studies of workgroups, researchers have found that when group members are more attracted to one another, they realize higher levels of member satisfaction (Katz & Kahn, 1978; Summers et al., 1988) and higher levels of commitment to the group (Zaccaro & Dobbins, 1989); they are also less likely to engage in excessive turnover (Angle & Perry, 1981; Jaros, 1995; O'Reilly, Caldwell, & Barnett, 1989; Piper, Marache, Lacroix, Richardsen, & Jones, 1983). On boards with very low levels of cohesiveness, members may choose not to stand for reelection, or, in extreme cases, they may resign from the board. Although a certain amount of turnover is normal and even healthy, high levels of turnover are likely to reduce the presence of firm-specific knowledge on the board.

In addition, owing to the tendency of groups to preserve the collective structures they create (Weick, 1979), cohesiveness may influence future board processes as well. For example, in light of past research linking organizational commitment to members' extrarole, prosocial behaviors and a willingness to expend effort on behalf of the organization (O'Reilly & Chatman, 1986), there is reason to expect that high levels of cohesiveness may enhance the future effort norms of the board. Moreover, high levels of cohesiveness may strengthen the future impact of effort norms, because more-cohesive groups are better able to influence their members' behavior (Janis, 1983; Shaw, 1981).

Cohesiveness also can exert a more immediate influence on the task performance of boards—a point we return to later. Cohesiveness can be operationalized using the scales

from O'Reilly et al. (1989) that correspond to the affective components of social integration.

BOARD PROCESSES AND THEIR IMPACT ON BOARD EFFECTIVENESS

We have argued that board task performance and board cohesiveness are two key criteria by which to assess the effectiveness of boards as decision-making groups and that board task performance is likely to be influenced by social-psychological factors. In this section we discuss three board processes that we propose will significantly influence a board's task performance and cohesiveness: effort norms, cognitive conflict, and the board's use of its knowledge and skills. We also consider the relationship between cohesiveness and board task performance.

Effort Norms: Ensuring Preparation, Participation, and Analysis

Effort norms are a group-level construct that refers to the group's shared beliefs regarding the level of effort each individual is expected to put toward a task (Wageman, 1995). Effort—an individual-level construct—is a product of motivation and refers to the intensity of individuals' task-performance behavior (Kanfer, 1992) or to the proportion of members' "total cognitive resources [that are] directed toward the target task" (Kanfer, 1992: 79). Norms often exert a strong influence on member behavior (Feldman, 1984; Steiner, 1972), particularly in groups that, like boards, are interdependent (Wageman, 1995). Thus, strong effort norms can be expected to enhance the effort of individual group members (Steiner, 1972; Wageman, 1995), which, in turn, can contribute to the performance of workgroups (Latané, Williams, & Harkins, 1979; Steiner, 1972; Weldon & Gargano, 1985).

Most directors face many competing demands for their time and must keep carefully budgeted schedules (Lorsch, 1989; Mace, 1986). Although most board members face these constraints, the time that directors devote to their tasks can differ considerably across boards, and these differences can significantly determine the degree to which boards are able to represent shareholders' interests successfully and to make contributions to strategy. Mace argues that most boards fall far short of realizing their potential contri-

butions and that this is due, in part, to their failure to even "do the homework" necessary for understanding the company's problems (1986: 107). Similarly, Lorsch argues that directors who devote sufficient time to their duties and seek out the information they need are better able to prevent and manage crises and to govern effectively in times of stability (1989: 191–192).

Although time is an important manifestation of effort, even boards that spend similar amounts of time can exhibit different levels of effort. Past qualitative studies have shown that boards undertake their duties with widely varying degrees of attentiveness, analysis, and participation. Some boards simply "go through the motions" of attending meetings and registering votes, without being mentally engaged with the issues facing the board (Herman, 1981; Mace, 1986). However, there are counterexamples of boards that conduct diligent research on the firms they serve (Lorsch, 1989: 104–105), that participate actively in board discussions (Lorsch, 1989: 118), and that use pocket calculators during meetings (Monks & Minow, 1995: 217). Boards that have standards and expectations promoting such high-effort behaviors among members are more likely to perform their control and service tasks effectively.

Drawing on Wageman's (1995) example, researchers could operationalize effort norms by asking board members to rate the board's support for behaviors with statements such as the following: "carefully scrutinizing the information provided by the firm prior to meetings," "researching issues relevant to the company," "taking notes during meetings," or "participating actively during meetings."

Cognitive Conflict: Leveraging Differences of Perspective

Cognitive conflict refers to task-oriented differences in judgment among group members. Jehn defines cognitive conflict as "disagreements about the content of the tasks being performed, including differences in viewpoints, ideas and opinions" (1995: 258). Cognitive conflict differs from effort norms in that effort norms refer to group expectations regarding the intensity of individual behavior, whereas cognitive conflict is concerned with the presence of issue-related disagreement among members. Cognitive conflict is likely to arise in groups that, like

boards, are interdependent and face complex decision-making tasks. Because the issues facing boards are complex and ambiguous, board members are liable to characterize issues differently and to hold different opinions about what the appropriate responses to these issues are (Dutton & Jackson, 1987). However, boards are likely to differ considerably in the degree to which they experience cognitive conflict (Byrne, 1997; Monks & Minow, 1995).

Cognitive conflict involves the use of "critical and investigative interaction processes" (Amason, 1996: 104) that can enhance the board's performance of its control role. The presence of disagreement and critical investigation on the board may require CEOs to explain, justify, and possibly modify their positions on important strategic issues and to entertain alternative perspectives and courses of action. Moreover, the existence of cognitive conflict on the board can serve to remind management of the power and role of the board and of the importance of considering shareholder interests in the formulation of strategy even beyond the boardroom.

In addition, cognitive conflict results in the consideration of more alternatives and the more careful evaluation of alternatives—processes that contribute to the quality of strategic decision making in uncertain environments (Eisenhardt, Kahwajy, & Bourgeois, 1997; Jackson, 1992; Milliken & Vollrath, 1991). Watson and Michaelsen (1988) have found that groups performing an intellective task perform better when their interaction behaviors feature the inclusion of multiple viewpoints and the exchange of both positive and negative comments. Likewise, Wanous and Youtz (1986) have found that solution diversity has a positive influence on the quality of group decisions; Schweiger, Sandberg, and Ragan (1986) have found that conflict-inducing techniques contribute to the effectiveness of strategic decision-making groups.

In spite of these beneficial effects of cognitive conflict, cognitive conflict also can arouse negative emotions (Nemeth & Staw, 1989) that diminish interpersonal attraction among members. Findings by Jehn (1995) and Schweiger and colleagues (1986) demonstrate that members of groups with high levels of cognitive conflict experience lower levels of satisfaction with the group and express less desire to remain with the group. Mace (1986) has found evidence that these dynamics can apply to boards as well.

Because of the pressures of their competing responsibilities, he observed, many directors respond to high levels of cognitive conflict on the board by reducing, rather than increasing, their commitment to the board (Mace, 1986: 33–36).

One recent example of a reliable operationalization of cognitive conflict is Jehn's (1995) four-item scale for task conflict. Using this scale, researchers could ask respondents to gauge, using Likert-type items, the frequency of conflicts about ideas and the extent of differences of opinion on the board.

The Presence and Use of Knowledge and Skills

Boards require a high degree of specialized knowledge and skill to function effectively. Jackson notes that although "an implicit assumption often made in the management literature is that expertise will be used, assuming it is present, psychological research clearly indicates that the availability of expertise in a group does not guarantee the use of that expertise" (1992: 359). Thus, our model accounts for the presence and use of knowledge and skills with two separate constructs: (1) an "input" variable that represents the knowledge and skills present on the board and (2) a "process" variable that represents the way in which those resources are used by the board.

Presence of knowledge and skills. One can characterize the knowledge and skills most relevant to boards on two main dimensions: (1) functional area knowledge and skills and (2) firm-specific knowledge and skills. Functional area knowledge and skills span the traditional domains of business, including accounting, finance, and marketing, as well as those domains that pertain to the firm's relationship with its environment, such as law. Boards—as elite, strategic-issue-processing groups—must have members who possess knowledge and skills in these areas or have access to external networks that can aid in information gathering and problem solving (Ancona & Caldwell, 1988).

Firm-specific knowledge and skills refer to detailed information about the firm and an intimate understanding of its operations and internal management issues. Boards often need this kind of "tacit" knowledge (Nonaka, 1994) in order to deal effectively with strategic issues. In order to make informed decisions regarding diversification or acquisition opportunities, for example,

the board may need to have a detailed understanding of how new and existing businesses would complement one another (Farjoun, 1994; Sirower, 1997).

Researchers may assess the knowledge and skills present on the board by asking board members to assess, using a Likert-type scale, the degree to which both types of expertise are present on the board. The scale used to assess the presence of functional area knowledge and skills might include items intended to gauge the presence of knowledge in domains that are common to virtually all businesses, such as finance, accounting, marketing, and law. These items could them be summed to obtain a composite score. Alternatively, because some functional areas are liable to vary in importance across industries, researchers may want to ask respondents to rate the importance of various functional areas to their businesses and use an additive measure that weights more important areas more strongly.

In assessing firm-specific knowledge and skills, researchers could draw on measures similar to those developed by McGrath, MacMillan, and Venkataraman (1995) to measure "comprehension" within executive teams. Specifically, researchers could ask respondents to assess the degree to which the board understands cause-effect relationships involving the needs of customers, sources of risk to the firm, and impediments to output quality.

Use of knowledge and skills. The use of knowledge and skills refers to the board's ability to tap the knowledge and skills available to it and then apply them to its tasks. The construct, first identified by Hackman and Morris (1975), represents the minimization of "process losses" and the occurrence of "cross-training" and "collective learning" among members (Hackman, 1987: 327). This construct is related to the behavioral dimension of social integration, which refers to a group's ability to cooperate (Cohen & Bailey, 1997). It is also related to Weick and Roberts' concept of heedful interrelating, which they define as a "complex, attentive system [of interaction] tied together by trust," in which individual actions are subordinated and responsive to the demands of "joint action" (1993: 378). The use of knowledge and skills is distinct from cognitive conflict in that the use of knowledge and skills refers to the process by which members' contributions are coordinated,

whereas cognitive conflict refers to the content of members' contributions.

If boards are to perform their control task effectively, they must integrate their knowledge of the firm's internal affairs with their expertise in the areas of law and strategy. In addition, if boards are to perform their service task effectively, they must be able to combine their knowledge of various functional areas and apply that knowledge properly to firm-specific issues. In both cases board members must elicit and respect each others' expertise, build upon each others' contributions, and seek to combine their insights in creative, synergistic ways.

Empirical studies of related constructs suggest the importance of the use of knowledge and skills in determining group effectiveness. Wageman (1995), for example, has found that cooperation norms contribute to group performance, particularly in interdependent groups. Similarly, Weick and Roberts (1993) show how heedful interrelating is a prerequisite to the effective performance of flight deck crews. Studies also show that the performance of TMTs is enhanced by group processes similar to the use of knowledge and skills, such as the "smoothness" of group process (Eisenhardt, 1989) and executive team "deftness" (McGrath et al., 1995).

A board's ability to use its knowledge and skills could be operationalized by asking board members to assess the validity of statements like the following, using Likert-type items: "people on this board are aware of each others' areas of expertise," "when an issue is discussed, the most knowledgeable people generally have the most influence," and "task delegation on this board represents a good match between knowledge and responsibilities." In addition, although the construct of executive team deftness is broader than the use of knowledge and skills construct, the scale developed by McGrath and colleagues (1995) to measure deftness contains several items pertaining to the exchange of information within groups that could be adapted for use in this context—for example, "important information often gets withheld on this board" (reverse coded) and "information flows quickly among board members."

Cohesiveness

We have discussed the effects of effort norms, cognitive conflict, and the use of knowledge and skills on board task performance. We now address the potential for board cohesiveness to exert an immediate influence on board task performance.

Because boards are charged with complex, interactive tasks, the degree of interpersonal attraction among members is likely to influence the effectiveness with which those tasks are performed (Williams & O'Reilly, 1998). The relationship between board cohesiveness and board task performance is likely to be curvilinear. Both the control and service components of the board's task require extensive communication and deliberation, and board members must have a certain minimum level of interpersonal attraction in order to engage in these things. In addition, board members must trust each others' judgment and expertise, and such trust will be difficult to sustain on boards with very low levels of interpersonal attraction. Furthermore, cohesiveness has been found to enhance decision making in some ways, such as by promoting earlier and more extensive discussion of alternative scenarios (Hogg, 1996).

However, very high levels of cohesiveness are likely to prove detrimental to the quality of the board's decision making. Highly cohesive boards may be distracted by the proliferation of personal exchanges. In addition, cohesiveness is the most prominent and frequently noted antecedent of "groupthink" (Mullen, Anthony, Salas, & Driskell, 1994)—a dysfunctional mode of group decision making characterized by a reduction in independent critical thinking and a relentless striving for unanimity among members (Janis, 1983). Janis hypothesizes that "for most groups, optimal functioning in decision making tasks may prove to be at a moderate level of cohesiveness" (1983: 248).

Although, as we have noted, cohesiveness is a key determinant of groupthink, it is not sufficient to produce groupthink (Janis, 1983; Mullen et al., 1994). In order to lead to groupthink, cohesiveness also must be accompanied by an absence of cognitive conflict among members. According to Janis (1983), groupthink occurs when members of highly cohesive groups engage in self-censorship and act as "mindguards," pressuring deviant thinkers to conform to majority opinions. But such behaviors do not invariably accompany cohesiveness. It is entirely possible for groups to have high levels of both interpersonal attraction and task-oriented disagreement

(Jackson, 1992). In fact, the most effective boards, like the best management teams (Eisenhardt et al., 1997), can be characterized in precisely this way (Byrne, 1996). Cognitive conflict can help to prevent the emergence of groupthink in cohesive groups by fostering an environment characterized by a task-oriented focus and a tolerance of multiple viewpoints and opinions (Bernthal & Insko, 1993; Janis, 1983).

Concluding Observations Regarding the Effects of Board Processes

The following propositions summarize our predictions regarding the influence of board processes on board effectiveness.

> *Proposition 1: Board effort norms, cognitive conflict, and the use of knowledge and skills will be positively related to board task performance.*

> *Proposition 2: Cognitive conflict will be negatively related to board cohesiveness.*

> *Proposition 3a: Board cohesiveness will be related in a curvilinear manner to board task performance.*

> *Proposition 3b: The relationship between cohesiveness and board task performance will be moderated by cognitive conflict—that is, cohesiveness will be less likely to detract from board task performance when the board has a high level of cognitive conflict.*

In addition to the effects captured in these propositions, we note that the processes discussed above have the potential to influence one another. For example, to the extent that high-effort norms result in more intense participation among members, they may stimulate cognitive conflict and lead to an increased use of members' knowledge and skills. Similarly, cognitive conflict may surface task-relevant information, and, conversely, the elicitation of members' knowledge may give rise to further conflict. However, the exact nature and strength of these relationships are likely to vary. For example, when a board's meetings are dominated by prolonged debates between two individuals, cognitive conflict may actually inhibit the use of members' knowledge and skills. Simi-

larly, the collective experience of cognitive conflict may enhance board effort norms when disagreements are moderate in scale, but conflict may also diminish effort norms if disputes seem unresolvable.

Figure 1 presents a graphical depiction of the relationships proposed in this section.

THE EFFECTS OF BOARD DEMOGRAPHY

In this section we illuminate the complexity of board dynamics by showing how a single aspect of board demography can have multiple and contrasting effects on different mediating constructs. This point contradicts the prevailing view, which holds that either (1) there exist unequivocal relationships between board demography and firm performance or (2) demography does not exert a significant influence on board performance (Johnson et al., 1996: 433). We maintain that demography is very likely to be a significant predictor of board behavior but that its effects are too fine grained to be revealed by tests of the demography-performance relationship.
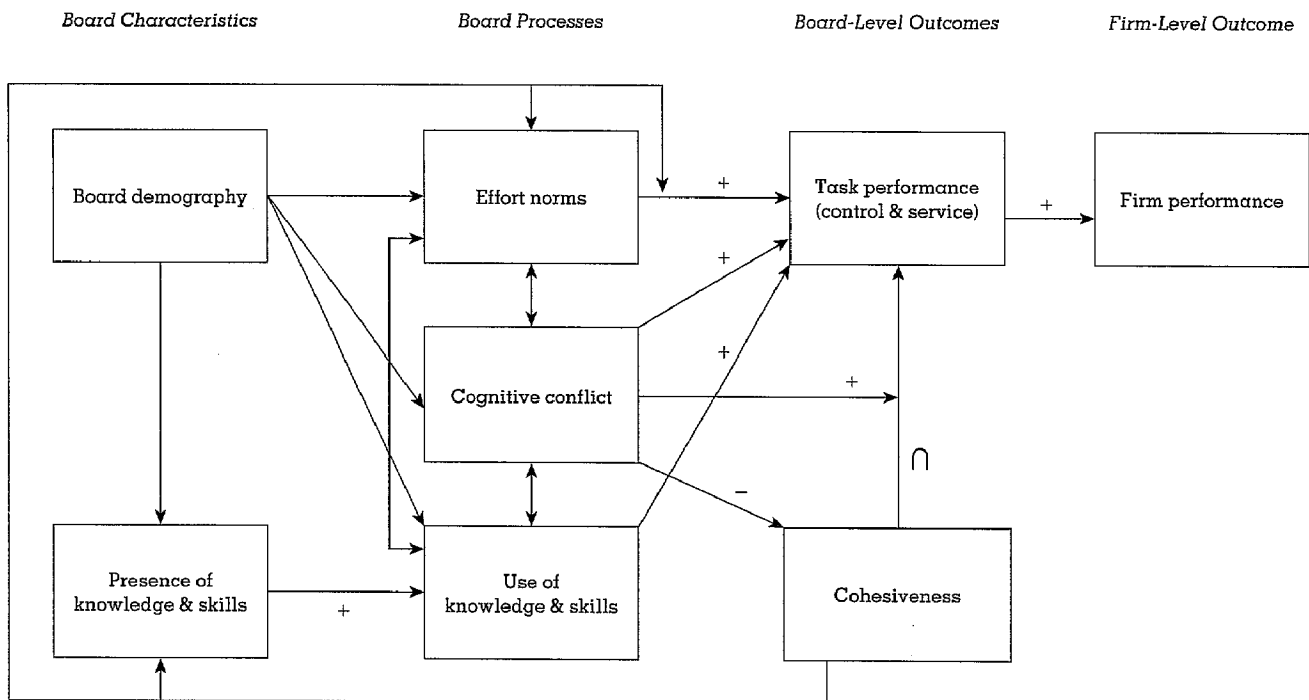
We begin by making a detailed case for the effects of a specific aspect of board demography—job-related diversity—and then offering some speculations regarding the effects of other demographic variables.

Job-Related Diversity

Forms of diversity that are job related in the context of board work include functional background, industry background, and educational background. Boards exhibit a considerable degree of diversity on these dimensions. Contemporary boards include CEOs who represent a variety of industries and functional backgrounds, as well as significant numbers of lawyers, investment bankers, academics, and nonprofit executives who represent diverse educational and industry backgrounds. Diversity of this sort clearly enhances the presence of functional area knowledge and skills on the board, although diversity is likely to have other influences on board functioning as well.

In their recent review of the literature on the effects of diversity in organizational groups, Milliken and Martins (1996) note that diversity is a "double-edged" sword for groups: although it increases the aggregate level of resources at the group's disposal, it is also associated with

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FIGURE 1
A Model of Board Processes and Their Impacts on Board Effectiveness

Board Characteristics   *Board Processes*   *Board-Level Outcomes*   *Firm-Level Outcome*

higher levels of conflict, interaction difficulties, and lower levels of integration. These double-edged consequences are likely to be particularly pronounced in board settings. Because boards comprise part-timers who interact only periodically, board members have few opportunities to diminish or smooth over the differences that separate them. Thus, consistent with the findings of recent studies on the effects of diversity in organizational groups, diversity can be expected to increase the level of cognitive conflict present on the board and to decrease the board's level of cohesiveness and its use of knowledge and skills.

To the extent that board members have different educational, functional, and industry backgrounds, they are more likely to experience differences in the ways that they perceive, process, and respond to issues they confront on the board (Milliken & Martins, 1996; Williams & O'Reilly, 1998), and these differences are likely to precipitate higher levels of cognitive conflict. Empirical support for this argument can be found in studies of the influence of functional background on executive perception (Dearborn & Simon, 1958; Waller, Huber, & Glick, 1995), as well as in more recent studies of conflict in groups (Eisenhardt & Bourgeois, 1988; Pelled, 1993; Jehn,

Northcraft, & Neale, 1997). Moreover, groups with diverse backgrounds are more likely to have access to information and perspectives drawn from outside the group (Ancona & Caldwell, 1992), and attempts to pool and integrate these "exotic" contributions may lead to higher levels of cognitive conflict.

Diverse boards are also more likely to experience communication and coordination difficulties that inhibit the effective use of knowledge and skills, because their members may be unaware of each others' expertise or unable to appreciate its applicability to issues facing the board. In addition, diverse board members may have difficulty understanding one another because of differences in jargon or terminology. These difficulties may prove frustrating to board members, making them less inclined to offer information or opinions that highlight their diversity and more inclined to discuss information that is already shared by the group (Stasser, 1992). A laboratory study by Wittenbaum and Stasser (1996) shows that group members are less likely to share unique information when it is distributed among group members.

Finally, boards whose members have diverse backgrounds are also likely to be less cohesive. Williams and O'Reilly (1998) conclude that de-

mographic diversity is associated with lower levels of interpersonal attraction within groups. The most common explanation for this effect is that demographic differences are associated with differences in attitudes (O'Reilly et al., 1989) and language (Wiersema & Bantel, 1992), which, in turn, lead to less mutually satisfying interactions among members and, ultimately, psychological ties among members that are fewer in number and weaker in strength than they are in more homogeneous groups (Shaw, 1981). Because boards are large groups that meet only episodically, they are unlikely to have time to fully resolve the attitudinal and linguistic differences that divide them, and board cohesiveness will suffer as a result.

> *Proposition 4: The degree of job-related diversity on the board will be positively related to the presence of functional area knowledge and skills and cognitive conflict on the board but negatively related to the board's cohesiveness and its use of its knowledge and skills.*

We have confined our attention to job-related diversity because, unfortunately, the amount of visible diversity on American corporate boards remains very low (Dalton & Daily, 1998). In general, however, the effects of visible diversity are likely to be similar to those that we have outlined for job diversity (Milliken & Martins, 1996). It should be noted that visible diversity is significantly more common on nonprofit boards—a point we return to later.

Other Aspects of Board Demography

As with diversity, other aspects of board demography are likely to have similarly complex effects on board processes. We briefly discuss three of these effects below.

Proportion of outsiders. Outsiders may enhance the effort norms of the board in that they are inclined to conceive of the board's task as a task separate from and complementary to that of management, whereas insiders may view their governance responsibilities as simply an extension of their managerial duties (Mace, 1986). In addition, the presence of outsiders may stimulate a desire on the part of insiders to show that they have their "house in order," leading to higher expectations of effort among them. The presence of outsiders is also likely to enhance the levels of cognitive conflict on the board, because outsiders share significantly fewer experiences with management and are liable to think more freely with regard to the firm's goals and the range of alternatives available to it.

At the same time, however, the presence of outsiders is likely to reduce the presence of firm-specific knowledge on the board, for outsiders lack the intimate understanding of the firm's affairs that insiders possess. Finally, the percentage of outsiders on a board is likely to have a direct negative effect on board cohesiveness. Whereas insiders are well acquainted and must work together regularly, outsiders have their primary affiliations dispersed across many different organizations and are likely to interact only periodically with insiders or with each other.

Board size. Board size is not truly a demographic attribute, but it is an important and much-studied board characteristic that is likely to have important effects on board functioning. Larger boards are likely to have more knowledge and skills at their disposal, and the abundance of perspectives they assemble are likely to enhance cognitive conflict. However, at the same time, the difficulty inherent in coordinating the contributions of many members is likely to make it difficult for them to use their knowledge and skills effectively. Large boards also may have difficulty building the interpersonal relationships that further cohesiveness, or maintaining high board effort norms, owing to the potential for "social loafing" that exists in large groups (Latané et al., 1979).

Board tenure. Boards that have served together for a long time are likely to have acquired a high level of firm-specific knowledge and skills. In addition, their members' familiarity with one another is likely to lead to higher levels of cohesiveness and, possibly, to the better use of their knowledge and skills. However, long-tenured boards are also likely to experience lower levels of cognitive conflict, because in working together they are likely to have developed a shared understanding of the issues facing the firm and the appropriate repertoire of responses available to it. In contrast, board members who have only served together a short time will draw more strongly on the understandings they bring with them from their nondirector experiences; therefore, they are likely to have more diverse perspectives on these matters.

In summary, each of the aspects of board demography discussed above is likely to have multiple and contrasting effects on the processes that contribute to effective board performance. Table 1 summarizes our expectations regarding the effects of board demography on board processes.

BOARD DYNAMICS ACROSS DIFFERENT TYPES OF BOARDS

In our effort to develop a model of boards as groups that is widely applicable and readily testable, we have been guided by a rather generic conception of the corporate board. This conception is drawn from quantitative and qualitative descriptions of the boards of large, for-profit corporations, such as those in the Fortune 500. We acknowledge, however, that these organizations represent only part of the wide world of organizations and that the functioning of boards as groups may be different in organizations of different types. We address some of these differences below.

Boards of Nonprofit Organizations

The tasks of nonprofit boards differ in important respects from those of for-profit boards. First, the control function of nonprofit boards must be revised to account for the distinctive legal status of nonprofits, and the service function must be expanded to account for the fact that nonprofit boards typically exert more influence over operat-

ing functions than do for-profit boards (Oster, 1995). Second, because of the multifaceted nature of performance in the nonprofit sector (Stone & Brush, 1996), the relationship between board performance and organizational performance may be quite complex. For example, the board's performance of its service function may have a strong influence on certain operational measures of organizational performance, such as the quality of services, but little or no influence on financial measures, such as funding levels, which instead depend heavily on the board's performance of its external functions. In addition, it may actually be part of the control function of nonprofit boards to not only monitor organizational performance but to define and measure it in appropriate ways. In dealing with complexities of this sort, researchers should consider how issues of board effectiveness have been addressed in the nonprofit literature (e.g., Jackson & Holland, 1998).

Demographic differences between nonprofit boards and for-profit boards are also significant. Nonprofit boards include considerably more women and minorities (National Center for Nonprofit Boards, 1996), are larger (averaging 17 members, and often including 30 or more), and consist almost entirely of outsiders (Oster, 1995). Thus, to begin with, nonprofit board processes are likely to be affected by visible diversity, as well as job-related diversity.

Although the impact of these types of diversity is likely to be similar initially (Milliken & Martins, 1996), the salience of visible diversity may decline over time, as Pelled (1996) suggests. In

TABLE 1
The Effects of Board Demography on Board Processes

Board Process	Job-Related Diversity	Proportion of Outsiders	Board Size	Board Tenure
Effort norms	No hypothesized relationship	Positive	Negative	No hypothesized relationship
Cognitive conflict	Positive	Positive	Positive	Negative
Presence of functional area knowledge & skills	Positive	No hypothesized relationship	Positive	No hypothesized relationship
Presence of firm-specific knowledge & skills	No hypothesized relationship	Negative	No hypothesized relationship	Positive
Use of knowledge & skills	Negative	No hypothesized relationship	Negative	Positive
Cohesiveness	Negative	Negative	Negative	Positive

addition, the sense of commitment to organizational objectives that is shared by nonprofit board members may be associated with high levels of cohesiveness. Golden-Biddle and Rao (1997) note that many nonprofit board members face a sharp conflict between the personal aspects of their association and the trusteeship duties their board service carries.

Boards of Small Firms

The governance of small firms, defined as those with revenues of $25 million or less (d'Amboise & Muldowney, 1988), is distinct from that of larger firms. First, because these firms tend to be undiversified, less structurally complex, and less formalized than their Fortune 500 counterparts, the range and depth of service activities available to the boards of small firms are likely to be greater (Castaldi & Wortman, 1984; Judge & Zeithaml, 1992). Second, because firm size and age are generally thought to be negatively related to the inertial forces that constrain organizational action, there may be a stronger link between the board's service contributions and firm performance (Hambrick & Finkelstein, 1987). Third, because the managers of small firms may be entrepreneurs with relatively little general management experience, the board's own knowledge and skills may be a particularly critical ingredient of its own service effectiveness (Gorman & Sahlman, 1989).

Demographically, the boards of small firms are small, averaging 6 members for *Inc.* 100 companies (Daily & Dalton, 1993), and even fewer for less-developed firms (Rosenstein, 1988). More important, because the ownership of small firms usually is much more concentrated than that of larger firms, shareholders often are represented directly on the boards of small firms. For example, firms backed by venture capitalists routinely have some or even a majority of their board seats held by their investors (Fried, Bruton, & Hisrich, 1998)—a condition certain to enhance the board's effort norms and to diminish the likelihood of groupthink. However, in owner-managed firms the board may simply have no control function in the conventional sense, because shareholder rights and managerial responsibilities will reside in the same persons.

Boards of High-Technology Firms

It is possible for industry-based differences among boards of directors to impact their functioning as groups. Perhaps the best illustration of such differences is provided by the boards of high-tech firms. If these boards are to assess the competence of management and provide advice on such issues as a firm's competitive environment, their members must have knowledge and skills that exceed the ordinary requirements of board service (Kotz, 1998). In particular, high-tech boards must have firm-specific knowledge that encompasses the technological intricacies of their firms' products and their production and development (McKenna, 1995). In addition, they may need additional functional area skills that are specific to high-tech environments, such as intellectual property law.

Because of these requirements, the presence and use of the board's knowledge and skills are likely to figure more prominently in these boards than in most others. These requirements may have indirect effects on board functioning as well, because many high-tech boards attempt to address these needs by adjusting the demographics of their boards. For example, high-tech firms tend to enhance the firm-specific knowledge of their boards by including a higher percentage of insiders and by favoring younger directors with current technological knowledge over older directors with prestigious appointments (Kotz, 1998). Finally, because many high-tech firms occupy industry environments characterized by high levels of growth and product differentiability, the boards of such firms may enjoy higher levels of discretion, thereby exerting a stronger influence on firm performance (Hambrick & Abrahamson, 1995).

LIMITATIONS AND BOUNDARY CONDITIONS OF THE MODEL

The model we have presented is characterized by several limitations and boundary conditions that deserve note. First, our discussion is rooted in the upper echelons (Hambrick & Mason, 1984) and strategic choice (Child, 1972) perspectives of organizations. Consistent with these orientations, we have emphasized those aspects of boards that pertain to their ability to influence firm performance by influencing strategic decisions. In this respect our approach differs from

other perspectives, such as the institutional (Pfeffer, 1982) or resource dependence perspectives (Pfeffer & Salancik, 1978), which, historically, have emphasized the symbolic and external functions of boards, respectively.

Second, although our model is predicated on the argument that boards can exert a significant influence on organizational performance through the fulfillment of the control and service functions, we acknowledge that, in practice, boards often do not fulfill this potential. We further acknowledge that this potential is not invariant across boards. As we have noted, factors relating to sector, size, and industry may confer on boards a greater or lesser ability to exert this influence. Other factors may influence this ability as well.

Third, the model we have developed is intended to apply primarily to the boards of U.S.-based firms. Boards in other countries often operate in legal, historical, and financial contexts that are very different from those of the United States (Roe, 1993), and for this reason applications of our model to the study of boards in other countries should be undertaken with special care.

Finally, although we are optimistic about the prospects for understanding boards as groups, we caution researchers that not all group processes apply to boards. For example, existing theories of group socialization typically have focused on members' decisions to join or leave groups on the basis of their personal satisfaction with the group experience (Moreland & Levine, 1989). Given that members of boards join as much for organizational as for personal reasons, and serve for specified terms, such theories do not readily explain the dynamics of board membership.

CONCLUSION

Understanding the nature of effective board functioning is among the most important areas of management research on the horizon. William T. Allen, former Chancellor of the Delaware Chancery Court, noted in a recent speech that "the role of outside director [is] a private office imbued with public responsibility" (Allen, 1992). The same can be said for the role of inside directors. When directors are seen as stewards of organizational resources that impact, for better or for worse, the whole of society, the importance of understanding and improving the way they discharge their responsibilities becomes

readily apparent. We believe that management researchers can inform the work of boards in ways that go beyond arguing for the manipulation of composition ratios. By treating boards as decision-making groups and by drawing on existing knowledge of group dynamics in this article, we encourage researchers to focus directly on what boards need to do in order to discharge their responsibilities more effectively.

Future research based on the process-oriented model we have developed here will enable researchers to better explain inconsistencies in past research on boards, to disentangle the contributions that multiple theoretical perspectives have to offer in explaining board dynamics, and to clarify the tradeoffs inherent in board design. Such research will complement and inform the growing interest in opening up the "black box" of organizational demography that has been manifested in recent research on various kinds of organizational groups (Hambrick, 1994; Lawrence, 1997; Pelled, 1996). We have sought to facilitate future empirical research by incorporating established, measurable constructs into our model, as well as by developing and proposing measurement guidelines for several new or adapted constructs.

From a practical standpoint, knowledge of the roles of board processes can help to clarify the complexity of board design to practitioners concerned with the composition of boards and may induce boards to consider adopting process-related interventions to enhance board effectiveness. In these ways research on board processes can help to bring a measure of sophistication and balance to an area of corporate governance that is all too often fraught with contention and ideology.

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