

The External Ties of Top Executives: Implications for Strategic Choice and Performance

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We examine the extent to which executives' boundary spanning relations inside and outside their industry affect organizational strategy and performance. We posit that the informational and social influences of external ties will be reflected in the degree to which the organization's strategy conforms to or deviates from the central tendencies of its industry and that the alignment of executives' external ties with the firm's strategy will be beneficial to firm performance. Using a multiyear sample of firms in the branded foods and computer industries, we find that executives' intraindustry ties are related to strategic conformity, that extraindustry ties are associated with the adoption of deviant strategies, and that alignment of executives' external ties with the informational requirements of the firm's strategy enhances organizational performance. Our results also show that a unique or differentiated strategy is not universally advantageous and that the benefits accruing from strategic conformity are especially strong in the more uncertain computer industry.*

The ability of executives to formulate and implement strategic initiatives that capitalize on environmental opportunities, while mitigating external threats, is vital to organizational success. The factors that affect strategic choice are therefore of central concern, and a large body of work has explored the determinants and processes of strategic decision making, with particular attention paid to the role of senior executives and top management teams in shaping organizational outcomes. Building largely on the conceptual arguments of Cyert and March (1963), Child (1972), and Hambrick and Mason (1984), researchers have found considerable empirical support for the view that organizational profiles reflect the characteristics and processes of senior management.

While prior studies have provided important insights, an understanding of the executive-level factors affecting strategic choice nevertheless remains limited. Empirical research on strategic choice and upper echelons has tended to focus on factors endogenous to the firm's senior executives (i.e., their backgrounds and personal characteristics) (e.g., Bantel and Jackson, 1989) and the social processes within top management teams (e.g., Eisenhardt and Schoonhoven, 1990). Yet research on executives, dating back to early studies, suggests that senior managers operate in a social context that spans organizational boundaries (e.g., Barnard, 1938) and that perhaps up to 50 percent of all executive time and effort is spent in boundary-spanning interaction (Mintzberg, 1973). Executives' boundary spanning activities and their associated interactions with external entities are of consequence to organizational outcomes. Study suggests that they are critical to executive effectiveness along numerous dimensions, including strategy formulation and implementation (Kotter, 1982). Yet despite the known importance of executives' boundary spanning ties on firm-level outcomes of strategy and performance, surprisingly little research has focused on these important links.

The purpose of our study is to address this oversight. We draw on complementary literatures to develop and test the

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idea that strategic choices are affected by the external ties of top management team members and that the informational and social influences arising from external interactions will be reflected in strategic profiles, particularly the degree to which the firm's strategy conforms to or deviates from central tendencies in an industry. We propose that an improved understanding of strategic choice can be gained by examining the effects of the executive team's external ties on organizational strategy and performance. Further, by examining the effects of a diverse set of external ties—directorship ties, as well as other boundary spanning relations assumed by senior executives—we extend understanding of the implications of several interorganizational relations maintained by top executives.

THEORY AND HYPOTHESES

As first elaborated by the Carnegie School (e.g., Cyert and March, 1963), top executives tend to make strategic choices under conditions of information overload and ambiguity. Apart from the inherent complexity of the decision-making process—monitoring of external contingencies, interpreting their significance to the firm, formulating viable strategic alternatives, and finally selecting an appropriate course of action—factors such as changing environments, conflicting informational cues, and competing goals and expectations tax the cognitive limitations of strategic decision makers (March and Simon, 1958; Cyert and March, 1963). Accordingly, strategic decisions are the result of behavioral factors rather than the result of techno-economic, rational optimization. Decision makers selectively perceive only a limited number of available cues (Simon, 1955) and adopt simplified models of reality (March and Simon, 1958; Finkelstein and Hambrick, 1996) shaped largely by their prior knowledge and experience. Additionally, strategic decision makers economize on search and choice processes, relying on established channels to acquire information and on external referents for insight into plausible alternatives (Cyert and March, 1963).

The logic of the Carnegie School served as the main foundation for Hambrick and Mason's (1984) upper echelons model of the relationships between top executives' characteristics and organizational outcomes. Both the Carnegie School and upper echelons research have been notably silent, however, on the influence of external referents and contacts on strategic choices. The promise of such a perspective is suggested by several literatures in which external ties are seen as important conduits for informational and social influences on executive decision making.

External Ties: Informational Influences on Strategic Choice

Executives' interactions with external entities provide access to several types of informational cues. Two themes particularly germane to strategic choice recur in the literature. They suggest that executives' external ties serve as conduits for information that shapes managerial views of the environment and contributes to the set of alternatives from which strategic choices are made.

Shaping managerial views of the environment. Among the most critical functions of boundary spanning activity and the interaction it accords is the acquisition of environmental information (e.g., Mintzberg, 1973). Through their interaction with outside entities, executives derive important insight into their external context. While documentary media also convey information about environmental changes and trends, research into environmental scanning suggests that executives greatly prefer information from personal contacts (Aguilar, 1967). Contributing to this preference are several advantages personal transmissions offer over documentary media, including timeliness, richness, and the circumvention of intraorganizational biases (e.g., O'Reilly, 1983; Daft and Lengel, 1984).

The influence of external contacts extends beyond information acquisition, however, to affect interpretation as well. Under conditions of bounded rationality, decision makers look to their counterparts in an effort to draw meaning from the numerous and often ambiguous cues drawing their attention (Festinger, 1950, 1954). They construct a logic for their own immediate contexts by relying on the experiences, definitions, and interpretations bestowed on similar contexts by their counterparts (Berger and Luckmann, 1967). In this manner, external contacts convey information about the environment and its changing contingencies. At the same time, they shape the frames of reference by which executives understand the external context.

Providing examples of strategic alternatives. Executives reduce the level of uncertainty with which they must contend by turning to external referents for cues on appropriate courses of action. Cyert and March (1963) described the tendency for decision makers to economize on the uncertainty-laden processes of alternative generation and evaluation by turning to outside referents for cues on viable approaches. DiMaggio and Powell (1983) expanded on this premise in their theory of institutional isomorphism, arguing that one explanation for organizational homogeneity is the tendency for managers to look to other firms occupying their environs to learn about policies and practices that appear to deal effectively with critical environmental contingencies. Havenman's (1993) study of savings and loan associations supports these assertions, showing that firms often mimic the actions of larger, more successful organizations.

Apart from helping executives cope with the uncertainty inherent in the choice process, external referents offer models that expand the range of strategic options available for selection. This is particularly important given the barriers to adaptation posed by executives' cognitive limitations (Child and Smith, 1987). Executives tend to become committed to the organizational status quo, including existing strategies and policies (Hambrick, Geletkanycz, and Fredrickson, 1993), which compromises their ability to recognize the need for and institute adaptational adjustments. Child and Smith (1987) argued that external ties provide a means to compensate for such tendencies, allowing executives firsthand insight into the need for change, as well as approaches other firms have used to negotiate critical contingencies. In many cases, this insight includes concepts and practices that ex-

tend beyond executives' limited repertoires. Together, the above themes suggest that boundary spanning interaction will impart a significant informational influence relevant to strategic choice. A second literature suggests that external interaction also conveys formidable social influence.

External Ties: Social Influences on Strategic Choice

Early work on social influences addressed the role external ties play in the absorption of uncertainty associated with critical resource dependencies. Building on Selznick (1949), Thompson (1967), and Zald (1969), studies have demonstrated that firms tend to establish ties—particularly interlocking directorates—with sectors that provide or withhold access to critical resources (e.g., Pfeffer, 1972, 1974; Burt, 1980). Perhaps the greatest volume of research in this stream centers on organizations' capital dependencies and linkages with financial institutions, arguing that directorate ties, through cooptation or control, reduce the uncertainty associated with interfirm resource transfers (e.g., Dooley, 1969; Mizruchi and Stearns, 1988). Findings not only show that directorate ties change in concert with shifts in critical external contingencies (e.g., Boeker and Goodstein, 1991) but also that directorate ties facilitate access to the essential resources provided by outside concerns (Stearns and Mizruchi, 1993; Mizruchi and Stearns, 1994).¹

More germane to our focus on strategic choice, however, is a stream of research arguing that external ties serve as conduits for social influence, promoting the diffusion of views and practices across firms. It builds on observations that social interaction encourages homogeneity (or conformity) in actors' perspectives and behaviors (e.g., Festinger, 1950; Coleman, Katz, and Menzel, 1966; Janis, 1972). Much as the actions and perspectives of social referents are especially salient in uncertain contexts (Cyert and March, 1963), social influences encouraging conformity tend to be strongest when individuals face uncertainty (Festinger, 1954). Conformist influences are spread in the course of the social construction of reality (Berger and Luckmann, 1967), as well as institutional conceptualizations of organization (e.g., Fligstein, 1985), and are reinforced through the use of common language (Pondy, 1977), shared experiences, and professional networks (DiMaggio and Powell, 1983; Galaskiewicz, 1985). In short, social interaction not only helps to shape executives' frames of reference, it brings their views and insights into close alignment with those of their contacts.

Relatedly, research has found that external ties affect the interfirm transfer of a wide range of organizational innovations. Arguing that directorate ties constitute important conduits of social influence, researchers have found evidence that firms will often adopt the same practices, including poison pills (Davis, 1991) and multidivisional structures (Palmer, Jennings, and Zhou, 1993), as those organizations to which they are linked via director networks. Similarly, directorate ties have been shown to play an important role in the spread of corporate acquisitions (Haunschild, 1993; Palmer et al., 1995) and political activity (Mizruchi, 1992). Together, this evidence suggests that through their interaction with outside entities, executives are exposed to social information con-

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In recent research, directorships have been examined from a number of different, yet complementary social perspectives. For example, one stream has focused on the social influence dynamics between boards and chief executive officers (CEOs). It has produced evidence suggesting that the relative balance of power between the board and the CEO affects a broad host of organizational practices, including the adoption of executive perquisites and incentives (e.g., Cochran, Wood, and Jones, 1985; Beatty and Zajac, 1994; Westphal and Zajac, 1994) and the selection of both CEOs and new board members (Westphal and Zajac, 1995; Zajac and Westphal, 1996).

cerning other firms' policies and practices, which they then often emulate in their own organizations. Accordingly, the external ties of top management teams should have significant effects on their decisions and should be reflected in organizational strategy and performance outcomes.

Executives' External Ties and Strategic Choices

Research in recent years has found that the characteristics of the top management team are highly predictive of a wide array of organizational outcomes and are substantially more predictive than characteristics of the CEO alone (e.g., Bantel and Jackson, 1989; Finkelstein and Hambrick, 1990; Smith et al., 1994). Empirical evidence reveals that executive team attributes are significant determinants not only of organizational strategy, but also of firm-level performance outcomes (e.g., Eisenhardt and Schoonhoven, 1990). Yet none of these studies has considered the role of the executive team's external ties in affecting organizational outcomes.

Concurrent with this void in the strategic literature is a relative inattention in the interorganizational relations literature to the broader set of boundary spanning ties of executive teams and its effects on organizational outcomes. Existing research into external ties focuses almost exclusively on directorship linkages, allowing only narrow insight into the effects of executives' external relations. As Haunschild (1994: 392) noted, "this focus on interlocks ignores the fact that firms have many other types of interorganizational relationships" likely to convey similar informational and social influences. Her study of acquisition premiums demonstrated that, in addition to directorship ties, relationships with outside (investment banking) professionals contributed to the premium decision. With relatively rare exceptions (Galaskiewicz and Wasserman, 1989; Mizuchi, 1992; Palmer, Jennings, and Zhou, 1993), a larger complement of external ties has yet to be examined for its effects on strategy.

A company's strategy can be considered on any number of dimensions, including whether it emphasizes product differentiation or low cost (Porter, 1980), innovation or reliability (Miles and Snow, 1978), innovation timing or focus (Maidique and Patch, 1982), domestic or international activity (Bartlett and Ghoshal, 1989), and so on. Recently, a growing stream of research (e.g., Miller and Chen, 1995; Deephouse, 1996; Henderson, 1996) has suggested that an important way to conceptualize a firm's strategy is according to the extent to which it adheres to or deviates from the central tendencies of the industry, what Finkelstein and Hambrick (1990) called strategic conformity. As noted earlier, executives tend to develop a limited repertoire of strategic alternatives and often become wedded to one particular strategic approach, thus limiting their capacity to envision alternate courses of action. In a study of firms operating in three industries, Finkelstein and Hambrick (1990) observed that the top management team's firm tenure was related to strategic conformity. Consistent with observations that prolonged tenure is associated with restricted information processing, reliance on habits and routines, and reduced willingness to take risks (Katz, 1982), their analyses revealed that firms headed by teams with long tenures adhered closely to industry aver-

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ages. Thus, Finkelstein and Hambrick concluded that prolonged firm experience induces an inward or restricted mindset, which ultimately limits the potential for more novel strategic endeavors, while encouraging greater adherence to an industry's central tendencies.

Other literature suggests that the executive team's external ties are also likely to affect strategic conformity. As noted earlier, external ties constitute important channels for the transfer of informational and social influences that help to shape decision makers' frame of reference, thus affecting the policies and practices adopted by firms. Granovetter (1973) observed that personal contacts may alternately reinforce existing perspectives and insights or may expose actors to novel ideas and opportunities. The key to this distinction is the location of outside contacts, whether they cohabit the same environment or operate in different contexts. Contacts who share the same operating environment often provide little information that is new or different from actors' own knowledge base. By contrast, contacts operating in other contexts travel in different circles; they interact with different individuals and are exposed to alternate sources of ideas. Accordingly, the insights they provide are more novel.

Consistent with these arguments, senior executives' external ties are likely to affect strategic conformity, though we expect that their effects will vary. Specifically, ties to entities within the firm's industry subject executives to an abundance of information about the practices common to the industry, while ties to entities outside the industry impart more novel information and exposure to diverse profiles and practices. Consequently, intraindustry and extraindustry ties are expected to have different effects on strategic conformity, or the extent to which the firm adheres to the average, or typical, strategy of the industry. Here, we use the term strategy to refer to a firm's realized strategy, an observable post hoc pattern in major choices made by the firm (Mintzberg, 1978). With this conceptualization, we are not focusing on a firm's intended strategy, or a priori guidelines and plans. The latter constitute perceptual phenomena which, as Mintzberg (1978: 935) argued, are incapable, alone, of capturing the complex nature of strategy. Rather, as a pattern in a stream of decisions, strategies tend to form gradually, and thus often unintentionally. Accordingly, a firm may or may not intend to be highly conformist or deviant, and its decision makers may or may not even think in terms of conformity, but objective indicators allow us to assess the extent to which the firm exhibits observed, realized conformity. Thus, although the word strategy often connotes intention and purposive design, consistent with the vast majority of empirical research on strategic management, we examine organizations' realized strategies.

Intraindustry ties, or linkages to entities operating within the same competitive field, facilitate interaction among managers who face the same contingencies. Several studies have shown that a significant amount of commonality characterizes the perceptions and definitions of managers operating within the same industry. Spender (1977), labeling these common views shared recipes, suggested that they emerge as a function of managers' similar experiences amassed

through industry tenure. Hambrick (1982) noted a comparable homogeneity in views fostered by executives' reliance on common sources of industry information.

The tendency for shared industry views, coupled with the homogenizing influences that emerge in social interaction, suggests that intraindustry interaction is likely to solidify or reinforce dominant industry perspectives. In turn, the ability of executives to identify novel opportunities or conceive of innovative strategic options is likely to diminish with greater intraindustry social contact, making executives less likely to envision and implement alternatives that deviate from the most common tendencies in the industry:

Hypothesis 1a: An executive team's intraindustry ties will be positively related to strategic conformity.

Extraindustry ties, or linkages to entities operating outside of the firm's competitive field, by contrast, should increase managers' ability to formulate strategies that deviate from common practice in the industry. Extraindustry contacts do not rely on the same frame of reference shared by members of the focal industry. Rather, their views of the environment, business practices, and even goal setting are shaped by different experiences and diverge from those in the focal industry. Moreover, because they function in disparate environs, the media that extraindustry contacts use for environmental scanning and the signals they attend to are likely to vary as well. As a result, in the course of extraindustry interaction, executives gain exposure to varied information and perspectives. Such cosmopolitan interaction is noted for challenging longstanding beliefs and assumptions, opening the way for greater innovation (Rogers, 1983). Finally, extraindustry contacts are likely, albeit not certain, to employ a different set of competitive practices. Thus, extraindustry interaction provides an opportunity to acquire insight into courses of action that extend beyond prevailing industry practice:

Hypothesis 1b: An executive team's extraindustry ties will be negatively related to strategic conformity.

Implications for Organizational Performance

In considering the performance implications of strategic conformity, an important paradox arises. On one hand, strategy scholars have typically maintained that differentiation or uniqueness is the path to competitive advantage and high performance (e.g., Porter, 1980). On the other hand, researchers have argued that important advantages accrue from strategic conformity. Evolutionary economists have observed that firms within an industry tend to converge upon superior practices, specifically those behaviors that efficient market forces have selected and retained (Alchian, 1950; Hirschleifer, 1977, 1985). By extension, firms conforming to prevailing practice should, on average, accrue positive returns. Deviant firms, by contrast, not only assume the risks associated with divergent and often suboptimal approaches, but they also incur the costs and inefficiencies of experimentation (e.g., Anderson, 1988).

Conformity to industrywide tendencies also enhances organizational legitimacy. In a recent study of banking firms, Deephouse (1996) found that organizations whose strategic em-

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phases adhered to the industry average were conferred greater legitimacy by key constituencies than firms with more deviant profiles. While institutional scholars have noted that conformity to prevailing norms may reduce technical efficiency (Meyer and Rowan, 1977), they have also contended that the legitimacy accruing to conformist firms may be advantageous to economic performance for several reasons. First, legitimacy enhances external constituencies' confidence in the viability of the firm, rendering the firm and its outputs more attractive to outsiders (Oliver, 1991). Second, legitimacy reduces the uncertainty surrounding critical dependencies, lending greater stability to interorganizational exchanges and superior access to resources (DiMaggio and Powell, 1983). Firms that deviate from prevailing practice forego the benefit of legitimacy and its related advantages. In doing so, these deviant firms incur real and often significant costs in obtaining the requisite support of key constituencies, including customer groups, suppliers, and skilled employees (Meyer and Rowan, 1977: 350; Zucker, 1987).

On balance, then, the main effect of strategic conformity on performance is unclear. Research does suggest, however, that under conditions of greater environmental uncertainty, the benefits of conformity are likely to be especially pronounced. Because uncertainty increases the ambiguity surrounding means-ends linkages, it confounds the task of formulating approaches that are superior to conventional, or average, practice (Cyert and March, 1963; DiMaggio and Powell, 1983). Also, uncertainty increases the difficulty external constituencies face in assessing the viability of firms (Meyer and Rowan, 1977). By conforming to average or accepted practice, firms not only avoid the heightened risks associated with novel approaches that depart from collective industry wisdom, but also the accompanying elevated costs their more deviant counterparts face in attracting the endorsement and support of customers, high-quality employees, and other critical resource providers. Consistent with these arguments, Henderson (1996) recently observed that computer firms whose technology strategies conformed to widely accepted standards best endured disruptive events; they gained not only enhanced survival prospects but also greater sales growth.

In a reconciliation of the performance paradox, then, we propose that while firms may at times succeed in tapping a unique performance advantage through deviation, conformity is not without its own performance benefits. In particular, we expect the benefits of conformity to be especially advantageous to performance in a context of relative environmental uncertainty:

Hypothesis 2: The association between strategic conformity and organizational performance will be more positive for firms operating in a more uncertain environment than for firms operating in a less uncertain environment.

Strategic Conformity, External Ties, and Organizational Performance

The implications of external ties for organizational performance can be traced to the well-established concept of managerial fit. Researchers have found, in an array of con-

texts, that organizations perform well to the extent that the competences and profiles of their senior executives align with, or fit, the strategies they are pursuing (e.g., Gupta and Govindarajan, 1984; Michel and Hambrick, 1992). Moreover, Pfeffer (1972) observed that organizations that had a better match between their board structures—or external links via directorate ties—and their firms' critical resource dependencies reaped superior returns. This suggests that it is beneficial for the senior executive team to have the types of external ties that will support the firm's strategic profile. This is evident in the case of an executive team pursuing a highly conformist strategy, adhering closely to industry conventions. Unless the team has substantial intraindustry ties, there is a great risk that the firm will imitate the readily apparent aspects of industry practice but fail to comprehend the details or subtleties of execution. Competitive advantage often lies in the less evident aspects of a strategic approach, including, for example, the configuration of internal systems, processes, and resources necessary for effective implementation (Barney, 1991; Porter, 1996). Intraindustry interaction provides the opportunity to glean insight into other firms' experiences with strategic practices, including the trials they have encountered in implementational efforts (e.g., Burt, 1987). An executive team lacking in such ties fails to benefit from these insights and may suffer a relative informational disadvantage in implementing a conformist strategy.

Similarly, a top management team pursuing a highly nonconformist (or deviant) strategy benefits greatly from extraindustry ties. These linkages provide a stream of firsthand information and ideas from other arenas that help to support both the formulation and implementation of strategies that depart from common industry practice. As argued earlier, extraindustry ties inform executives about other environments and the different competitive practices pursued within them; as such, they expand the set of strategic alternatives available for selection and executives' knowledge about their use. Research suggests that managerial effectiveness, and organizational success, is in part determined by executives' abilities to envision and implement a broad range of strategic options (Hambrick and Finkelstein, 1987). Extraindustry ties not only increase managerial awareness of different strategic alternatives, they provide firsthand insight into the subtleties of those strategic practices that would otherwise only be obtained at the expense of often costly experimentation or trial and error learning (e.g., Burt, 1987). Consequently, we expect that extraindustry ties will improve the team's ability to pursue a deviant, nonconformist course of action successfully:

Hypothesis 3: Intraindustry ties will moderate the relationship between strategic conformity and organizational performance. The greater the combination of strategic conformity and executive team intraindustry ties, the higher the firm's performance.

Hypothesis 4: Extraindustry ties will moderate the relationship between strategic nonconformity (deviance) and organizational performance. The greater the combination of strategic nonconformity (deviance) and executive team extraindustry ties, the higher the firm's performance.

Although we posit that the external ties of senior executives affect strategic choice, and thus will be reflected in organiza-

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tional outcomes of strategy and performance, we do not expect this relationship to be total or complete; hence, those firms that have the greatest alignment between their strategic profiles and their executives' external ties will perform the best.

METHODS

Sample

We drew samples from the branded food and computer industries to examine the generalizability of our ideas across environments varying in dynamism and uncertainty. Each of these industries is a widely accepted, recognized industry grouping among both managerial and financial communities. As a result, considerable information on each industry and its member firms is widely available. We used several independent sources to draw a sample comprising the 30 largest publicly traded firms in each of the two industries for 1983–1987, including industry rosters reported in *Fortune* and analysts' surveys reported in *Standard and Poor's Industry Surveys*. Consistent with observations that Standard Industry Classification (SIC) codes are helpful in resolving the problem of industry (boundary) definition (e.g., Porter, 1980; Scott and Meyer, 1991), we then confirmed industry classification by examining primary SIC codes at the 4-digit level (SIC 3573) for computer firms and at the 2-digit level (SIC 20) for branded food firms. The use of a broader SIC grouping for food firms was mandated by the small number of publicly owned firms assigned to specific 4-digit categories. We excluded conglomerate firms and holding companies. Our sample was limited to larger firms because data on senior executives and their external ties are often unavailable for smaller organizations; consequently, it is biased toward large firms. Five firms originally included were later dropped for varied reasons (e.g., leveraged buy-out, merger), leaving a total of 55 firms that we examined over a baseline five-year period (fiscal years 1983–1987). With pooling (discussed below), we examined a total of 275 firm-year observations.

As noted above, our choice of industries was designed to test the generalizability of our hypotheses across contexts differing in levels of uncertainty, as well as to explore hypothesized differences between such contexts. Prior research suggests that a host of factors contributes to environmental dynamism and uncertainty, with perhaps the most commonly cited including: innovation, technological discontinuity, demand instability, supply instability, competitive rivalry, and market growth (e.g., Aldrich, 1979; Dess and Beard, 1984). Over the study period, 1983–1987, the computer and branded foods industries differed substantially across many of these factors. For example, the computer industry was characterized by rapid technological change, volatile growth, and demand instability. At the same time, according to *Standard and Poor's Industry Surveys*, market share positions were subject to frequent changes. These conditions stand in stark contrast to the significantly less turbulent characteristics of the branded foods industry. This sector experienced slower, more consistent growth and far less technological disruption. Moreover, the market share positions of major food firms were relatively static. Reflect-

ing these differences in dynamism across the two environments, *Value Line* reported average industry betas—a summary of uncertainty used by investment analysts—of 1.3 and 0.8 for the computer and food industries, respectively (market beta = 1.0). Together then, industry reports and analyses suggest that the conditions faced by firms in these two industries differed substantially over the study period, with computer firms facing far more turbulent and uncertain circumstances than firms in branded foods.

While sociometric surveys are often used for studying interpersonal ties, they are not feasible for examining past ties. Moreover, senior executives of major firms are generally reluctant to submit to detailed questionnaires, and surveys of senior-most executives typically produce low response rates. Therefore, all data used in this study were archival. All information related to top management team members (including their external ties) was drawn from Dun and Bradstreet's *Reference Book of Corporate Management*, Standard and Poor's *Register of Corporations, Directors and Executives*, as well as corporate proxies and 10-K statements. In determining top management team membership, we included all individuals with titles above and including senior vice president (e.g., chairman, vice chairman, president, CEO, COO), for an average team size of 6.2. We gathered data pertaining to strategic profiles and organizational performance from COMPUSTAT files.

Measures

This study focuses on the external or boundary spanning linkages previously identified as (1) common at the senior executive level, (2) central to the interorganizational exchange of information relevant to strategic choice (e.g., Pfeffer and Salancik, 1978; Child and Smith, 1987), and (3) available through archival sources. These decision rules excluded some broader forms of interpersonal linkage, including elite ties (Domhoff, 1967), personal acquaintanceships (Galaskiewicz and Wasserman, 1989), and relationships with professional service firms (Haunschild, 1994). For each year (time t), we calculated the total number of external ties of all members of the top management team for each form of intra- and extraindustry linkage examined (specified below). Since the number of external ties covaries with top management team size, we divided intra- and extraindustry tie measures by team size.

Intraindustry ties. Two types of ties have repeatedly been cited in the literature for facilitating the transfer of information across firms operating in the same industry: the interorganizational mobility of executives—or intraindustry importation—and trade association ties.

Intraindustry importation, or the hiring of executives from other firms in the same industry, is a primary means by which firms glean insight into their counterparts' actions and policies (e.g., Baty, Evan, and Rothermel, 1971; Aldrich, 1979; Child and Smith, 1987). Imported executives bring with them knowledge gained through personal experience with other firms' policies and practices, as well as relationships with former contacts and associates (Granovetter, 1988). Research suggests, however, that while newly im-

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ported executives initially retain their external communication links (e.g., Virany, Tushman, and Romanelli, 1992), over time their attention becomes increasingly inward-focused, and external links are gradually abandoned (Katz, 1982). For these reasons, the measure of importation was limited to those top management team members who within the previous 10 years were hired from firms whose primary industry was the same as the focal firm's. Each of these executives received a score of 1 (i.e., one intraindustry tie), which was then adjusted for recency by a factor taking the form: $(10 - \text{firm tenure})/10$. Thus, an executive who had been with the focal firm for five years received an importation score of .5.

Trade association leadership ties capture officerships in industrywide organizations (e.g., president of the Grocery Manufacturers of America). Trade associations constitute vehicles for the exchange of information concerning environmental contingencies (Porter, 1980). They also constitute a forum for the establishment and proliferation of industry rules of behavior (Herman, 1981; DiMaggio and Powell, 1983). To capture active participation and interaction, rather than nominal membership alone, the measure counted the number of trade association leadership positions held by executives.

Extraindustry ties. Researchers have identified a second array of linkages central to the transfer of information and social influence across firms operating in different industries. They include the extraindustry importation of executives into the top management team, outside directorships (to and from the focal firm), and memberships in professional and general business associations.

Extraindustry importation, or the hiring of executives from outside the focal firm's primary industry, introduces an infusion of strategic information that differs from the industry recipes shared by existing top management team members (Hambrick, Geletkanycz, and Fredrickson, 1993). We measured extraindustry importation like intraindustry importation, using a count of extraindustry hires added to the top management team within the previous 10 years, adjusted for recency.

Top management team outside directorships, or service on other firms' boards is an important means by which executives scan their business environment (Useem, 1984) and gain firsthand insight into other organizations' activities (e.g., Burt, 1983). Citing motivations for outside board service, Mace (1986: 105) quoted an executive: "because I want to learn, I want to broaden my contacts and to get inputs from outside the group I live with and work with on a daily basis. I went on the board of a company recently which is strong on consumer marketing—that's an area I want to know more about." Haunschild (1993) argued that executives' outside directorships are likely to be the most influential of external ties, given the direct involvement of executives both in the acquisition of information and in internal decision making (circumventing intermediaries and gatekeepers). Evidence shows that outside directorships (or "sent" interlocks) facilitate the interorganizational transfer of numerous practices

(e.g., Davis, 1991; Haunschild, 1993). This measure was a count of all top management team members' directorships in outside firms. Consistent with prior research (e.g., Zajac, 1988), our data revealed that executives in the sample had a small number of directorship ties (fewer than 10 percent) to firms operating in their same industry. We excluded these, ensuring that the measure reflects only extraindustry linkage.

Outside directors serving on the focal firm's board, or "received" interlocks, have also been cited as important conduits for the interfirm exchange of social information leading to the promulgation of shared views among business leaders (Domhoff, 1970) and the transfer of organizational practices across industry boundaries (e.g., Davis, 1991; Haunschild, 1994; Palmer et al., 1995). Though outside directors are not responsible for creating strategic policy, they act as advisers and counselors to senior management (Mace, 1986; Lorsch and MacIver, 1989) and thus help shape managerial thinking by bringing external information and insight to the attention of executive team members, as well as unique (outside) perspectives. As one executive summarized in Mace (1986: 14), "the board can do wonders for the management by providing wisdom from the outside world—windows through which other points of view are added to management thinking, which is a multiplication of the sources of information for better management decisions." We measured this variable by counting all outside directors with primary responsibilities outside of the focal firm's industry, excluding the very few within-industry directorships.

Professional association ties, or memberships in organizations that draw executives from diverse industries for professional discourse, are primary mechanisms for the exchange of social information among organization leaders (e.g., Aldrich and Pfeffer, 1976; DiMaggio and Powell, 1983). To measure these ties, we counted top executives' memberships in industry-spanning associations such as the Conference Board and the Business Roundtable.

Strategic conformity. Strategic conformity is the degree to which the firm's business strategy profile adheres to central tendencies of the industry. We employed a method of measuring firm-level strategic conformity developed and validated by Finkelstein and Hambrick (1990) that has close analogues in research examining strategic homogeneity at the industry level (e.g., Miles, Snow, and Sharfman, 1993; Dooley, Fowler, and Miller, 1996). The construct is consistent with the view that strategy is an observed pattern in an array of actions (Mintzberg, 1978). For the single-business firm, which we studied, these actions are particularly reflected in firms' strategic resource deployments across key functional activities—including marketing, production, research and development (R&D), and finance. It is through the deployment of organizational resources across these activities that firms manifest their competitive approaches (Chandler, 1962; Bower, 1970; Hofer and Schendel, 1978; Hambrick, 1980; Porter, 1980, 1985; Oster, 1982).

We identified indicators of key strategic resource deployments from previous empirical research (e.g., Schendel and Patton, 1978; Harrigan, 1985). The strategic dimensions in-

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cluded: advertising intensity (advertising expense/sales), capital intensity (fixed assets/number of employees), plant and equipment newness (net plant and equipment/gross plant and equipment), R&D intensity (R&D expense/sales), overhead efficiency (selling, general, and administrative expense/sales), and financial leverage (total debt/equity). Advertising intensity, capital intensity, plant and equipment newness, and R&D intensity are indicators of the allocation and management of firm resources across marketing, innovation, and capacity expansion activities. Overhead efficiency captures the expense structure of the firm, while financial leverage reflects the organization's approach to capital management. As noted earlier, each constitutes a salient dimension of business strategy. When considered together, the dimensions provide an overview of sample firms' competitive profiles, or *how* they are configured to compete in their chosen domains. We did not examine the product-market arrays of the firms, since these choices reflect *where* the firms competed, rather than the type of competitive weaponry and resource deployments they used.

Following Finkelstein and Hambrick (1990), we measured conformity in the firm's strategic resource deployments by standardizing, for each year of study, each strategic indicator by industry (mean = 0; standard deviation = 1) and then calculated absolute differences of each firm's score from the industry averages. To create a single, composite indicator of conformity, we summed together all six difference measures (Cronbach alpha = .62) and multiplied by minus one to convert the construct's meaning to one of conformity. The strengths of this approach are several. First, the measure taps an array of meaningful competitive dimensions, each of which reflects important strategic choices by the firms' executives. Further, it reflects realized dimensions, rather than executives' perceptions or intentions. Thus, the measure effectively captures actual organizational outcomes, consistent with strategic choice arguments. Second, the component metrics are not only widely recognized as important by executives and other constituencies but are pertinent across industries. This is important for two reasons. Unlike factors that are idiosyncratic to specific industries, these dimensions are susceptible to broad (including extraindustry) interorganizational influence. Also, the generalizability of the dimensions across environments renders them conducive to cross-industry study. Third, the acceptable Cronbach alpha (Nunnally, 1978) indicates that the several dimensions of strategic conformity examined do in fact covary, confirming that an overall pattern has been captured.

A potential concern with this approach is whether industry means capture modal tendencies.² If firms simply vary widely on a dimension, without any clear central tendency, it would be inaccurate to speak in terms of conformity or deviance. To alleviate these concerns, we examined histograms of the component strategy dimensions. Plots of each industry's data revealed distinct central peaks for each dimension; none of the distributions was without a peak, and none was bimodal. In a few cases, however, the distribution was skewed. Therefore, we also conducted all of our analyses using median-based conformity measures. The average cor-

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We could not construct a conformity measure based on differences from the mode because the individual strategic dimensions constitute ordinal data; hence, no two firms had identical values in any given year.

relation between the median- and mean-based measures was .87. Tests of hypotheses using the median-based scores produced results consistent with those reported here for mean-based conformity.

We measured strategic conformity at time $t+2$ because a two-year lag allows for delays from the time executives participate in external interactions that might affect their strategic thinking, engage in decision making activities, and then have those decisions become manifested in observable indicators. While ties are often stable and enduring, executives are most likely to recall and use information derived from recent interactions. Further, each of the strategic dimensions we examined is amenable to change in a relatively short time, suggesting that a short lag is appropriate. Analyses examining strategic conformity with a one-year lag produced results highly consistent with those reported here.

Performance. Performance was measured as the firm's average return on assets (ROA) in years $t+2$ and $t+3$. A common gauge of organizational profitability, ROA captures the degree to which management has effectively deployed firm assets; thus, it is useful in assessing the performance implications of business strategies (Oster, 1990). The measure was taken for $t+2$ and $t+3$ in recognition of the delay between the time when strategic actions are undertaken and their impact is reflected in performance data. Because it is widely acknowledged that extraneous factors can introduce variability into single-year measures, we used two-year averages (e.g., Oster, 1990; Meyer and Gupta, 1994). We also performed a second set of analyses using two-year averages of return on sales (ROS). The two performance measures were highly correlated (.91), and the pattern of results was substantively unchanged.

Control variables. *Top management team firm tenure* has been shown to exhibit a positive relationship with strategic conformity (Finkelstein and Hambrick, 1990). It was measured as the mean number of years members of the executive team had spent in the firm. *Firm age* was measured as the number of years since the firm was founded. *Firm size* was measured as the log of total assets. We examined other indicators of size, including total sales and number of employees, and obtained similar patterns of results. *Strategic conformity at time t* was measured using the method cited above. *Current performance (t)* was measured as return on assets (ROA) at time t . We used a dummy variable to designate environmental uncertainty (0 = stable food industry; 1 = uncertain computer industry).

To clarify the temporal ordering of our measures, we observed external ties in year t , strategic conformity in $t+2$, and performance for $t+2$ and $t+3$, while controlling for additional factors, including strategic conformity and performance, present in year t . With this design, and the support of a relatively strong theoretical foundation, we enhance our ability to interpret the external ties as influences on strategy and performance, rather than the reverse. Nevertheless, these measures cannot rule out other causal directions or explanations.

Data Analysis

The data contain both cross-sectional and time-series components, which are amenable to a pooled time-series meth-

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odology in which cross-sections are aggregated across years. Employed by a growing number of organizational researchers (e.g., Eisenhardt and Schoonhoven, 1990; Finkelstein and Hambrick, 1990), this method permits consolidated use of the full dataset. The pooled results reflect the average effect of the independent variables over the full study period, yielding more precise statistical estimates than would year-by-year subsamples.

Because pooling violates OLS assumptions of independence of observations, we tested hypotheses using a generalized least squares (GLS) model incorporating corrections for firm-specific autocorrelation, as well as for heteroscedasticity among interfirm residuals. We employed Kmenta's (1986) autoregressive-heteroscedastic model for pooled time series data:

$$Y_{it} = b_1X_{it,1} + b_2X_{it,2} + \dots + b_kX_{it,k} + E_{it}$$

where i equals 1, 2, . . . , N , t equals 1, 2, . . . T , k equals 1, 2, . . . K . N equals the number of cross-sectional units or firms contained in the sample (55), T equals the number of time periods (5), and K equals the number of explanatory variables. The model was applied to data corrected for autocorrelation and heteroscedasticity. Following Kmenta, we applied the Cochrane-Orcutt transformation to correct for firm-specific serial correlation, and used the Prais-Winstone adjustment for first-year observations. We examined Durbin-Watson statistics to verify that autocorrelation had indeed been corrected. Subsequently, we corrected for cross-sectional heteroscedasticity by dividing the independent and dependent variables by firm-specific error variances obtained from regressions on the autocorrelation-corrected data. Plots of residuals confirmed that heteroscedasticity had been removed. Tests of hypotheses 3 and 4 called for the use of interaction terms between strategic conformity and executives' external ties. To alleviate multicollinearity, each of the variables was mean-centered prior to forming the multiplicative term (Cronbach, 1987). Because we used corrected GLS models, R-squares cannot be reliably interpreted (Kmenta, 1986) and, therefore, are not reported here.

RESULTS

Table 1 presents descriptive statistics and correlations for the study's key variables.

Table 2 reports GLS regression results with strategic conformity as the dependent variable. Hypothesis 1a posited that an executive team's intraindustry ties would be positively related to strategic conformity. The results provide only partial support for this proposition. Consistent with expectations, intraindustry linkages via trade association ties were positively related to strategic conformity ($p < .10$), suggesting that executive leadership of industry trade associations encourages adherence to the industry's prevailing strategic tendencies, though the effects are not very strong. Intraindustry importation ties were not significantly related to firms' adherence to the industry's strategic tendencies, indicating that intraindustry hires into the top management team do not play a major role in conformist tendencies.

Table 1

Descriptive Statistics and First-order Correlations*

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Strategic conformity (t + 2)	-4.50	1.78													
2. Average ROA (t + 2, t + 3)	.05	.09	-.02												
3. Intraindustry importation	.11	.16	-.10	-.29											
4. Trade association ties	.13	.21	.02	.19	-.30										
5. Extraindustry importation	.09	.16	-.10	-.01	.03	-.17									
6. Top team outside directorships	.64	.62	-.11	.09	-.14	.15	-.13								
7. Outside directors on firm's board	1.42	1.12	-.14	-.14	.21	-.04	-.05	.44							
8. Professional association ties	.21	.28	-.05	-.04	-.18	.33	-.18	.31	.15						
9. Top team firm tenure	16.27	8.44	.16	.29	-.66	.40	-.54	.36	-.05	.23					
10. Firm age	40.80	30.19	.15	.25	-.37	.21	-.10	.33	.19	.31	.44				
11. Firm size	2.10	2.01	.15	.18	-.28	.11	-.07	.16	.06	.26	.23	.37			
12. Strategic conformity (t)	-4.43	1.80	.66	.06	-.13	.03	-.18	-.07	-.07	.06	.17	.19	.18		
13. Current performance	.06	.09	-.08	.65	-.29	.16	-.11	.10	-.11	.06	.28	.22	.21	.11	
14. Computer industry dummy	.51	.50	.16	-.30	.46	-.51	.10	-.26	-.01	-.31	-.51	-.47	-.24	.15	-.24

* Correlations greater than .12 are significant at the .05 level; pooled sample: $N = 275$.

Hypothesis 1b posited that extraindustry ties would be negatively related to strategic conformity. The results offer strong support for this hypothesis, with three of the four measures of extraindustry ties exhibiting a significant negative relationship with strategic conformity. The importation of executives from outside the firm's focal industry, outside directors serving on the firm's board, and participation in general professional associations each appear to accord executives exposure to influences facilitating a departure from prevailing industry strategies. Top executives' service on outside

Table 2

GLS Regressions on Business Strategy Conformity (t + 2) (N = 275)*

Intercept	.195*	(.102)
Intraindustry importation	-1.097	(.675)
Trade association ties	.776*	(.462)
Extraindustry importation	-3.295****	(.561)
Top management team outside directorships	-.084	(.153)
Outside directors on firm's board	-.347****	(.089)
Professional association ties	-.992***	(.315)
Top management team firm tenure	-.319****	(.036)
Tenure ²	.007****	(.001)
Firm age	.009**	(.004)
Firm size	.116*	(.063)
Strategic conformity (t)	.336****	(.049)
Computer industry dummy	-.300	(.225)

* $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$.

* Unstandardized regression coefficients are reported. Standard errors are in parentheses.

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boards, however, unlike the other extraindustry ties, does not appear to affect the tendency to conform to or deviate from prevailing industry practice.

Several control variables also showed significant effects on strategic conformity. Predictably, strategic conformity at time t was positively related to strategic conformity at $t+2$. Both firm size and age were positively related to conformity. Top management team firm tenure was significantly associated with strategic conformity, but unlike the positive and linear findings reported by Finkelstein and Hambrick (1990), a curvilinear relationship was observed here. In particular, teams with moderate tenure were found to adopt more deviant strategies, while those with very short or very long tenures followed more conformist approaches.

Hypothesis 2 predicted a more positive relationship between strategic conformity and performance for firms operating in the more uncertain computer industry. The GLS results in table 3 support this proposition. Model 1 reports results for a basic model consisting of all variables. Model 2 then adds the interaction term of the computer industry dummy and strategic conformity. Consistent with expectations, computer firms had markedly better performance if they adhered to industry tendencies. This is demonstrated by the strong positive effect of the interaction of the computer industry dummy and strategic conformity on firm performance ($p < .001$). As the interaction terms do not allow an interpretation of the absolute association between conformity and performance in each of the two industries, we conducted a separate analysis of the two industry subsamples (not shown). It confirmed that conformity was positively related to performance for computer firms; however, in the less uncertain foods industry, strategic conformity was negatively related to performance. Hence, as with many other strategic behaviors, it appears that the relative advantages and disadvantages of strategic conformity over deviance are largely contingent on environmental characteristics. Firms operating in a more uncertain environment accrue substantially more benefits from a strategy of adherence to industrywide tendencies.

Several control variables were also found to be important determinants of performance. Current performance was positively related to future performance. Firm age had a positive and significant effect on performance; however, firm size was unrelated to performance. Finally, both intra- and extraindustry executive importation were positively related to performance, as was top management team participation in professional business associations.

Finally, hypotheses 3 and 4 posited that external ties would moderate the relationship between strategic conformity and performance. As reported in table 4, the results of moderator tests provide some evidence of a contingency alignment among the executive team's external ties, strategy, and performance. Hypothesis 3 argued that firms pursuing high-conformity strategies would accrue incremental benefits from executive team members' intraindustry ties. The interaction of strategic conformity and intraindustry ties, both through the importation of executives and trade association leader-

Table 3

GLS Regressions on Average ROA (t + 2, t + 3) (N = 275)*

	Model 1	Model 2
Intercept	-.002 (.004)	-.003 (.004)
Strategic conformity (t + 2)	.004** (.002)	-.008*** (.003)
Intraindustry importation	.117**** (.026)	.057** (.024)
Trade association ties	.042 (.025)	.023 (.026)
Extraindustry importation	.042* (.025)	.097**** (.027)
Top management team outside directorships	-.001 (.007)	.001 (.007)
Outside directors on firm's board	-.003 (.004)	-.005 (.004)
Professional association ties	.034** (.016)	.029* (.016)
Firm age	.001**** (.0002)	.001**** (.0002)
Firm size	-.004 (.003)	-.003 (.003)
Current performance (t)	.113*** (.039)	.087** (.038)
Computer industry dummy	-.026*** (.009)	.018 (.011)
Computer industry dummy × strategic conformity (t + 2)		.021**** (.003)

* $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$.

* Unstandardized regression coefficients are reported. Standard errors are in parentheses.

ship positions, was positive, but only the product-term with importation achieved significance, and this at a marginal level ($p < .10$).

Hypothesis 4 proposed that firms pursuing nonconformist strategies would obtain significant benefits if their executive teams maintained greater extraindustry ties. The expected sign for the interaction terms in table 4, then, is negative. The table indicates that two of the four effects were significant in the expected direction. Specifically, a negative rela-

Table 4

GLS Regressions on Average ROA (t + 2, t + 3) (N = 275)***Interaction of strategic conformity with:**

Intraindustry importation	.020* (.011)
Trade association ties	.017 (.014)
Extraindustry importation	-.018*** (.006)
Top management team outside directorships	-.008*** (.003)
Outside directors on firm's board	.003** (.002)
Professional association ties	-.001 (.007)

* $p < .10$; ** $p < .05$; *** $p < .01$; **** $p < .001$.

* Interaction terms were added alternately to model 2 in table 3. Unstandardized regression coefficients are reported. Standard errors are in parentheses.

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tionship was observed for conformity in combination with extraindustry importation and with the top management team's outside directorships. The direction of these findings implies that, consistent with expectations, nonconformist or more deviant firms gain added performance benefits from interindustry linkages. The interaction of conformity and professional association ties, while negative, was nonsignificant.

The results also indicate that one type of extraindustry linkage had an effect opposite of our prediction in hypothesis 4. Specifically, the variable for outside directors serving on the firm's board, in interaction with strategic conformity, was positively related to performance ($p < .05$), indicating that outside directors contribute incremental performance benefits to conformist organizations.

Considered collectively, these results suggest that some forms of extraindustry linkage accord information and exposure to novel ideas that enhance success in the implementation of nonconformist strategies. This is not the case for all types of industry-spanning ties, however, as outside directors appear mostly to benefit conformist organizations.

DISCUSSION

In this study, we sought to extend understanding of the factors that influence strategic choice by considering the role of executives' boundary spanning ties. Using data from two contrasting industries, the stable and relatively certain branded foods industry and the dynamic and uncertain computer industry, yielded three major findings. First, the external ties of executive team members contribute to the shaping of organizational strategy, particularly the degree of conformity to the industry's central tendencies. Second, strategic conformity is relatively beneficial to firm performance in uncertain industries. Third, it is generally beneficial for executives' external ties to align with, or fit, the firm's strategy.

The first major conclusion of our study, that top executives' boundary spanning ties are related to organizational outcomes, is consistent with research in the upper echelons tradition and affirms prior observations that executive team characteristics are reflected in strategic choices. Extending Hambrick and Mason's (1984) original thesis, however, our findings highlight the importance of considering executives' external contacts, what social researchers label social capital (e.g., Coleman, 1988; Burt, 1992), and they illustrate the implications of executives' functioning in a social and informational context that transcends organizational boundaries. Our findings suggest that external interactions contribute information that complements other forms of executive experience; together, these bases of knowledge and information help to shape organizational outcomes.

Similarly, our findings contribute greater understanding of interorganizational relations and the implications of external ties. Consistent with prior theory, our results suggest that executives' ties impart informational and social influences that have strategy-shaping effects. For the most part, prior research has focused attention on the social influences associated with directorate and ownership ties (e.g., Davis, 1991;

Haunschild, 1993; Palmer et al., 1995). Our study extends this work and suggests the need to recognize that executives maintain a broader set of boundary spanning roles and that the ties associated with these responsibilities influence organizational strategy and performance. For example, trade associations have been recognized to constitute important forums for the interchange of information and coordination of action among industry members (Aldrich and Pfeffer, 1976). Our results suggest that executive involvement in these organizations partly contributes to strategic conformity. The effect, however, is only marginally significant. This may be due to several factors. First, while executives interact within such settings to contend with mutually threatening external challenges (Herman, 1981), they may guard against excessive disclosure of information about their specific company practices. The relatively small number of trade association leadership positions held by executive teams in our sample (an average of less than one tie per team) also bears noting. These ties may not be of sufficient magnitude to influence executive decision making significantly.

Interestingly, our results indicate that intraindustry importation does not contribute to strategic conformity. Though some have argued that executive importation facilitates information sharing and coordination across firms (e.g., Baty, Evan, and Rothermel, 1971), the hiring of senior executives from firms occupying the same industry environment does not seem to promote strong adherence to prevailing industry tendencies. One possible explanation for this finding is that executives operating in the same industry are all sufficiently like-minded that the addition of new members from within the same industry has little incremental impact. This interpretation is consistent with DiMaggio and Powell's (1983) assertions that normative influences foster the development of a cadre of essentially interchangeable professionals who need not operate in the same firm, merely in the same environment. It may be that existing top management team members' knowledge of the industry, gained over the course of their tenures, is highly similar to and as entrenched as that of new intraindustry imports, such that newcomers add no substantive reinforcement. Clearly, controlling for executives' background origins (as well as other forms of external linkage) in future studies of interorganizational relations and strategic outcomes is warranted.

Our tests reveal that at least three types of extraindustry linkage are strongly related to the adoption of deviant, or nonconformist strategies. These findings are consistent with prior observations that the importation of new members from outside industries (e.g., Hambrick, Geletkanycz, and Fredrickson, 1993), the service of outside board members (e.g., Aldrich, 1979), and memberships in professional associations consisting of participants from diverse environments (Scott, 1985) constitute important means of gaining divergent insights and perspectives. It appears that the social interaction facilitated by such ties introduces views and information that challenge, or at least complement, a focal industry's wisdom; in turn, they enhance the ability of executives to envision, create, and implement strategies that depart from typical industry practice. This finding is of consider-

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able importance in light of the tendency for entire industries, such as steel, banking, and automobiles, to become trapped in spirals of excessive like-mindedness, even as they pursue outmoded strategies (e.g., Yates, 1983; Goodman, 1988; Newell, 1989). One apparent way out of the spirals is to seed the top management team with abundant stimuli from outside the industry, including hires from other industries, interaction with outside directors, and involvement in cosmopolitan business associations.

One form of extraindustry linkage we examined—top executives' service on outside boards—failed to show a significant relationship with strategic conformity. This finding challenges assertions that such ties are especially potent channels of influence leading to strategic imitation (e.g., Haunschild, 1993), as well as evidence of their role in the interorganizational transfer of firm practices (e.g., Davis, 1991; Haunschild, 1993, 1994). Our finding is not alone, however, in showing that when other types of ties are controlled, executive team members' service on outside boards (or "sent" interlocks) are not major conduits of influence (e.g., Palmer et al., 1995). A plausible explanation for such findings may lie in the fact that invitations to participate on outside boards are extended by those outside organizations (e.g., Lorsch and MacIver, 1989; Palmer et al., 1995). Hence, unlike the other types of extraindustry linkage examined here, they are not under top executives' direct control. Consequently, they may have more symbolic than substantive effect, with executives placing little emphasis on the information and insights that outside board service offers. While executives attend to the obligations of outside board service, contributing their thoughts and perspectives in other boardrooms, they appear to bring back to their respective firms few insights from those experiences. Thus, outside board service may involve less learning than is often assumed. Clearly, further research into this interpretation and its implications is warranted. At the same time, these findings again emphasize the importance of examining a broader array of ties in future studies of external linkages, as all forms do not convey the same degree of influence.

The second major conclusion of our study concerns the performance implications of strategic conformity. Our findings indicate that for firms operating in more uncertain industries such as computers, a conformist approach is especially advantageous. Several factors may account for these findings. First, effective formulation of strategy requires a careful and systematic matching of internal capabilities with external threats and opportunities (e.g., Hofer and Schendel, 1978). This task is more straightforward in stable environments, such as the foods industry, wherein executives can more readily map their environment and identify promising opportunities. Strategic choice under such conditions entails less complexity and ambiguity. Executives operating in the computer industry, however, face far more difficult circumstances. Rapid changes in technology, demand, and competition lead to frequent, discontinuous shifts in critical contingencies (e.g., Tushman and Anderson, 1986; Bourgeois and Eisenhardt, 1988). Information is often ambiguous and quickly rendered obsolete. Thus, the challenge of formu-

lating and implementing a timely and unique strategic approach more often exceeds top executives' decision-making capacity. In essence, a deviant, idiosyncratic strategy in a turbulent industry has a higher likelihood of being wrong and impairing performance. The complex array of organizational interdependencies characterizing the computer industry may also account for some of the advantages of strategic conformity. Products such as microprocessors, memory devices, monitors, and software must be compatible. A strategic deviant in this industry runs the risk of being incompatible—left out of an intricately interconnected commercial web. Moreover, strategic deviance introduces extreme technical, economic, strategic, and administrative complexity (Stinchcombe and Heimer, 1988). In adhering to prevailing norms, computer firms are likely to achieve greater efficiencies in procuring standardized components from outside sources and in marketing their own products in a highly interconnected system (Williamson, 1975; Henderson, 1996).

Equally important to consider are the legitimacy benefits conferred by strategic conformity (Deephouse, 1996), particularly in an uncertain setting. Scholars have long argued that legitimacy is an important organizational resource (Parsons, 1956; Perrow, 1970), helping to sustain the firm's operations by engendering the support and endorsement of key external constituencies. In the absence of legitimacy, firms are forced to undertake efforts to instill confidence in the firm's viability and mobilize the commitments of its stakeholders, a process carrying significant, real costs (Meyer and Rowan, 1977). Consistent with this view, our findings suggest an inherent economic value underlying strategic conformity, particularly in an uncertain industry. Uncertainty introduces greater ambiguity into stakeholders' efforts to assess the fitness of the firm, its products and services (DiMaggio and Powell, 1983). In turn, the costs of attracting and engendering the support of customers, employees, suppliers, investors, and other critical constituencies are elevated. Under more uncertain conditions, then, conformity to prevailing practice, and the legitimacy it accords, appears to be especially valuable.

Our third major finding was that strategy and external ties interact to affect performance. The results primarily support the argument that external links should exist to support the informational requirements of the firm's strategy. Conformist firms gain incremental benefits from the importation of intraindustry hires, while nonconformist firms generally benefit from executives' connections outside the industry. Together, these results suggest that ties that match the demands of the firm's strategy are helpful to performance.

One significant finding deviated from the consistent set we have just discussed: the beneficial effects of outside director ties ("received" interlocks) for conformist firms. Prior research on the role of outside directors may provide the most plausible explanation. Several scholars have argued that outside directors are relatively passive participants in the strategic management of firms (e.g., Herman, 1981; Mace, 1986). While they bring to the firm unique perspectives and insights, outside directors are not assumed to play an active role in strategy implementation. Consequently, the advan-

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tage they convey may well be more specific to helping executives make better strategic choices—whether by providing information on the environment or alternative strategic approaches—rather than aiding in the effective implementation of chosen strategies. Such explanation could account for the incremental benefits outside directors contribute to conformist firms. It may be that outside directors contribute to the executives' ability to make a more informed choice about conformity. Alternatively, other factors may be at play, including, for example, the ability of outside directors to help attract resources to the firm (e.g., Aldrich, 1979). Outside directors may confer the added legitimacy or support that serves to set the conformist firm apart from its similar counterparts. In effect, they may provide the leverage needed to attract incremental resources, including customer support, that might otherwise be directed to other firms sharing a similar conformist profile.

Our results provide several insights for managers. We present evidence that organizations are affected by the social interactions that executives experience in their boundary spanning activities. Thus, the social capital that senior managers bring to the firm may complement the human capital they provide. Ideally, top management teams should be composed with a consideration of executives' personal ties, and there should be a market value for those ties. As our results indicate, however, the value of such ties will not be the same for all firms but, rather, will vary depending on the firm's strategic posture. The external ties of senior executives are of great importance to the form and fate of their organizations; they should receive much more attention from those involved in executive selection and development.

Our findings also raise questions for future investigation. In this study, we have limited our attention to some key forms of informational and social influence executives' external ties impart to organizational outcomes of strategy and performance. Yet evidence suggests that numerous motivations underlie the formation of external ties. For example, literature suggests that apart from organizational concerns, executives' personal interests (e.g., Zajac, 1988), including the support needed to advance individual agendas (e.g., Kotter, 1982; Burt, 1992), and relative social status (Domhoff, 1967) drive the formation of ties. Consideration of these motivations and their consequences would not only facilitate greater understanding of the nature and composition of executives' networks but would also lend greater insight into their complex effects.

Similarly, greater attention to the patterns of similarity and association between executive teams and their various external contacts seems warranted. Our study, with its focus on intra- and extraindustry ties, draws attention to the immediate operating environment of the focal firm and entities with which its executives share linkages. Other bases of similarity and dissimilarity may be equally relevant and should be considered. One possibility is to look beyond industry-level to field-level membership. Research suggests that firms frequently establish external ties with constraining (buyer or supplier) sectors (e.g., Burt, 1983). Though beyond the scope of the present investigation, an analysis of the in-

fluence of ties to entities in related sectors might contribute greater understanding of the development and proliferation of norms spanning broader organizational fields (DiMaggio and Powell, 1983).

The concept of strategic conformity, including its antecedents and implications, also deserves greater research attention. There is a relative dearth of research on the development, proliferation, and consequences of strategic norms. Our findings add to those of previous research by suggesting that organizations can accrue benefits from a conformist competitive stance. Further inquiry into the genesis of prevailing practices and their implications might further our understanding of the relative benefits of strategic conformity and its more commonly heralded antithesis, differentiation.

Finally, our findings suggest the need for a broader conceptualization of executive experiences and activities in future research on top management teams and their effects on organizational outcomes. The traditional internal lens applied to top management team research—focusing on executives' intraorganizational roles and their accompanying social interactions—is too narrow. Our findings show that executives' boundary spanning activity plays an important role beyond reducing environmental uncertainty. Further inquiry into executives' external ties would not only extend our understanding of the benefits of boundary spanning but would also lend new insight into executives' effects on organizational strategy and performance.

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