

The Strategic Decision Process and Organizational Structure

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Contributions from the strategic decision process literature are synthesized and integrated with literature on organizational structure. Propositions emerge that describe how the characteristics of an organization's strategic decision process are affected by its structure. Also discussed are the patterns of strategic process characteristics that are likely to be associated with different types of structures. Conclusions are reached on issues such as the accuracy of alternative models of the strategic decision process, and the appropriate unit of analysis for studying that process.

For many years authors have suggested that the relationship between organizational strategy and structure is reciprocal. Only recently has there been widespread agreement that structure can have a profound impact on strategy through its direct effect on the strategic decision-making process (Bourgeois & Astley, 1979; Burgelman, 1983; Fahey, 1981). A variety of strategic process and structural variables have been used in describing isolated aspects of this relationship, and competing explanations have been provided. However, most of this work remains fragmented and major theoretical gaps persist.

This paper addresses the above problems by synthesizing and integrating previous work; it also offers new explanations to fill critical gaps. This is a "first step" to encourage investigation and debate on how an organization's strategic decision process is affected by its formal struc-

ture. It also attempts to encourage a broader debate, by assuming a perspective that is in sharp contrast to both the "structure follows strategy" view and work regarding the effect that environment and other variables may have on structure. The paper begins with a review of literature that traces the strategy/structure debate, identifies important characteristics of the strategic decision process, and describes those dimensions of structure that are most likely to affect strategic decision making. The second section draws on contributions from several areas to develop propositions that describe how the characteristics of an organization's strategic decision process are affected by individual dimensions of structure. In the final section, a link is established between each of the previously discussed dimensions and Mintzberg's (1979) well-known structural "types." This makes it possible to describe the pattern of strategic process characteristics that is likely to occur in each type, and to understand why different structures are typically more successful in different contexts.

The arguments presented here lead to several conclusions. Among them are that the accuracy of alternative models of the strategic decision-

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making process (Allison, 1971; Mintzberg, 1973), as well as the appropriate "unit of analysis" for understanding that process, vary with the type of structure.

Strategic Process and Structure

Historical Relationship

In studying the development of America's dominant industrial organizations, Chandler (1962) observed that major increases in unit volume, geographic dispersion, and vertical and horizontal integration were eventually followed by changes in structural form. Although a new structure was adopted only after a change in strategy made its predecessor dysfunctional, the logic of a relationship was compelling. In addition, several early studies confirmed an association between these variables (Fouraker & Stopford, 1968; Rumelt, 1974), and the proposition that "structure follows strategy" became widely accepted.

In spite of the widespread acceptance of the above relationship, there is a growing body of literature that suggests that there is a major effect from structure to strategy (i.e., once a structure is in place it will influence a firm's strategic decision process, and ultimately its strategy). For example, Bower (1970) characterized structure broadly, as the context within which decisions are made, and observed that ". . . structure may motivate or impede strategic activity. . ." (p. 67). Numerous other contributors (Bobbitt & Ford, 1980; Duncan, 1979; Hedberg, Nystrom, & Starbuck, 1976; Jelinek, 1977) have argued simply that structure constrains strategic choice.

To understand why it is logical for the strategic decision process to be affected by structure, one must understand the relationship between decision making and structure. March and Simon (1958) get to the heart of this relationship by arguing that an organization's structure imposes "boundaries of rationality" that accommodate members' cognitive limitations. By delimiting responsibilities and communication channels, structure allows organizations to achieve "organi-

zationally rational outcomes" in spite of their members' cognitive limitations (Simon, 1976). It also helps management to control the decision-making environment and facilitate the processing of information. This link is apparent in Bower's (1970) comment that "when management chooses a particular organization form, it is providing not only a framework for current operations but also the channels along which strategic information will flow . . ." (p. 287).

Organizations often have some units whose structures are different from that which characterizes the organization as a whole (e.g., while the organization is generally decentralized, some units may be very centralized). However, this paper is concerned with the structure that best describes the whole organization, a concept that will be referred to as its "dominant" structure. Therefore, it is argued that the characteristics of a firm's strategic decision-making process are affected by its overall, *dominant* structure. This will undoubtedly seem like an ill-founded assertion if one believes that (a) all strategic decisions are made by one or a very few top-level executives, or that (b) such decisions are made outside of the dominant structure. As a result, it is important to illustrate that in many instances it is these beliefs that are ill-founded.

Regarding the first issue, it should be recognized that "choice" is only one of many activities that are involved in the decision-making process (e.g., information search). Moreover, numerous authors (Crozier, 1964; Mintzberg, 1979; Simon, 1976; Thompson, 1967) agree that only in the most simple of organizations are all of the activities controlled by one individual. Therefore, because it is difficult to obtain and comprehend all of the information that is needed to make strategic decisions in a large organization (Quinn, 1980), the strategic process typically requires contributions from people with a wide range of expertise and from numerous levels (Carter, 1971; Crozier, 1964).

The second issue that warrants clarification concerns the strategic impact of a firm's dominant structure. It is recognized that organizations

may deal with strategic decisions by creating task forces, committees, and project teams (Thompson, 1967) and by using nominal group (Delbecq, Van de Ven, & Gustafson, 1975) or related techniques. However, the very nature of the strategic process makes it unlikely that such mechanisms can fully negate the impact of the dominant structure. For example, Mintzberg (1979) has argued that a strategic issue can "emerge" from anywhere in an organization; it is not necessarily recognized first by those at the top of the organization. Therefore, the issue may become evident to top-level managers, and may become the focus of a specially formed task force or committee, only after it has been filtered through the organization's dominant structure. Moreover, it is suggested that the likelihood of a firm's using such mechanisms can be predicted by the characteristics of its dominant structure (e.g., a firm that is highly centralized is unlikely to create special committees). As the first step in understanding precisely how a firm's strategic decision process is affected by its structure, the next section identifies several important characteristics of that process.

Strategic Process Characteristics

Most studies of the strategic decision process have produced either a very "focused" set of observations regarding one process question, or a very rich but "loose" description of the entire decision process. An example of the latter is the "phases" and "routines" identified by Mintzberg, Raisinghani, and Theoret (1976). However, a recent comparison (Fredrickson, 1983) of the two types of models—the synoptic and incremental—that appear most frequently in the strategy formulation literature, identified several conceptually distinct though related characteristics on which they differ. That comparison drew on the work of numerous authors, but was based most directly on contributions by Lindblom (1959) and Mintzberg (1973). In examining alternative descriptions of the strategic decision-making process, those authors reached very similar conclusions regarding the critical characteristics on which such processes could be differentiated.

The stream of work identified above concluded that the dominant models of strategy formulation differ on the following six characteristics: (a) process initiation, (b) the role of goals, (c) the means/ends relationship, (d) the explanation of strategic action, (e) the comprehensiveness of decision making, and (f) comprehensiveness in integrating decisions. A description of these characteristics is provided in Table 1, which also identifies critical questions regarding each. Although these six characteristics and their accompanying questions are certainly not an exhaustive list, it is suggested that their basis in the theoretical literature makes them particularly important. Therefore, this paper will focus on how they are affected by organizational structure, following a brief discussion of that topic.

Structural Dimensions and Types

Structure refers to an organization's internal pattern of relationships, authority, and communication (Thompson, 1967). It has been characterized on a variety of dimensions and illustrated using a variety of "types" (e.g., functional or divisional). Moreover, debate continues regarding the validity of measures that have been used to assess structure's dimensions (Blackburn, 1982; Fry, 1982; Walton, 1981), and the link between the dimensions and types is often ignored. However, three dimensions of structure—centralization, formalization, and complexity—have received more attention than any others (Child, 1974; Ford & Slocum, 1977; Fry, 1982; Hage & Aiken, 1967; Hall, 1977; Van de Ven, 1976) and they appear to have the greatest implications for strategic decision making. Each of these dimensions is also the dominant characteristic of a well-known structural type.

Centralization refers to the degree to which the right to make decisions and evaluate activities is concentrated (Fry & Slocum, 1984; Hall, 1977). A high level of centralization is the most obvious way to coordinate organization decision making, but it places significant cognitive demands on those managers who retain authority.

Table 1
Critical Strategic Decision Process Characteristics

<u>Process Characteristics</u>	<u>Description and Questions</u>
1. Process initiation	<u>Concerned with how and where the process is initiated.</u> Is the process initiated as a reaction to problems/crises, or the proactive pursuit of opportunities and interests? At what level (operating or strategic) would a stimulus have to appear before members would recognize it as being strategic? What level assumes primary responsibility for initiating the process?
2. Role of goals	<u>Issues regarding the role that goals play in the decision process.</u> Will decisions be made to achieve individual versus organization-level goals? Will goals be "remedial" changes from the status quo, or "positive," future intended states? Are the goals likely to be conceptualized in precise versus general terms?
3. Means/ends relationship	<u>Concerned with the relationship that exists between means (alternatives) and ends (goals).</u> What is the likelihood that means will displace ends (goals) in the decision process? Will goals persist in the face of significant changes in the available means?
4. Explanation of strategic action	<u>Considers alternative explanations of the process that resulted in strategic action.</u> Is strategic action most accurately characterized as intendedly rational strategic choice, the result of standardized organizational processes, an internal process of political bargaining, or some other explanation? What is the likelihood that strategic moves will be incremental versus major departures from the existing strategy?
5. Comprehensiveness in decision making	<u>Attempting to identify the factors that limit the comprehensiveness of the strategic decision process.</u> Is the primary constraint on the comprehensiveness of the strategic process top management's cognitive limitations, the detail achieved in the design of standardized organizational processes, or managers' parochial perceptions?
6. Comprehensiveness in integrating decisions	<u>Concerned with how comprehensively individual decisions are integrated.</u> What level of integration is achieved to form an overall strategy?

Mintzberg (1979) has discussed this issue by suggesting that an individual does not have the cognitive capacity or information that is needed to understand all the decisions that face a complex organization. Therefore, it is not surprising that a negative relationship has been reported between an organization's size and its degree of centralization (Pugh, Hickson, Hinings, & Turner, 1968).

The degree of formalization specifies the extent to which an organization uses rules and procedures to prescribe behavior (Hage & Aiken, 1969; Hall, 1977). Therefore, formalization has signifi-

cant consequences for organizational members because it specifies how, where, and by whom tasks are to be performed. A high level of formalization has the benefit of eliminating role ambiguity, but it also limits members' decision-making discretion. Therefore, it is generally argued that the level of formalization must be matched with the level of professionalism because formalization threatens professional autonomy (Perrow, 1972).

Complexity refers to the condition of being composed of many, usually interrelated, parts. Regarding organizational structure, Hall (1977)

suggests that there are three potential sources of complexity—horizontal and vertical differentiation, and spatial dispersion. Therefore, an organization that simultaneously has numerous levels, broad spans of control, and multiple geographic locations would be considered highly complex. While such a structure is often considered appropriate for firms that compete in highly differentiated environments, it is important to recognize that a high level of complexity makes it difficult to coordinate and control decision activities (Lawrence & Lorsch, 1967).

The above arguments suggest that the three dimensions of organizational structure have major implications for decision making. Therefore, in the following discussion each of these conceptually independent dimensions—centralization, formalization, and complexity—is discussed in terms of its likely impact on the strategic process characteristics and questions identified earlier in Table 1 (i.e., how and where the process is initiated, the role of goals, and so on). Table 2 summarizes the dimension-specific propositions that emerge from that discussion.

Table 2
Propositions Regarding the Effects of Three Dimensions of Structure

<u>Centralization</u>	<u>Formalization</u>	<u>Complexity</u>
<p><u>Propositions 1.A-D.</u> As the level of centralization increases, so does the probability that—</p>	<p><u>Propositions 2.A-D.</u> As the level of formalization increases, so does the probability that—</p>	<p><u>Propositions 3.A-D.</u> As the level of complexity increases, so does the probability that—</p>
<p><u>1-A.</u> the strategic decision process will be initiated only by the dominant few, and that it will be the result of proactive, opportunity-seeking behavior;</p>	<p><u>2-A.</u> the strategic decision process will be initiated only in response to problems or crises that appear in variables that are monitored by the formal system;</p>	<p><u>3-A.</u> members initially exposed to the decision stimulus will not recognize it as being strategic, or will ignore it because of parochial preferences;</p>
<p><u>1-B.</u> the decision process will be oriented toward achieving "positive" goals (i.e. intended future domains) that will persist in spite of significant changes in means;</p>	<p><u>2-B.</u> decisions will be made to achieve precise, yet remedial goals, and that means will displace ends (goals);</p>	<p><u>3-B.</u> a decision must satisfy a large constraint set, which decreases the likelihood that decisions will be made to achieve organization-level goals;</p>
<p><u>1-C.</u> strategic action will be the result of intendedly rational, "strategic choice," and that moves will be major departures from the existing strategy; and</p>	<p><u>2-C.</u> strategic action will be the result of standardized organizational processes, and that moves will be incremental; and</p>	<p><u>3-C.</u> strategic action will be the result of an internal process of political bargaining, and that moves will be incremental; and</p>
<p><u>1-D.</u> top management's cognitive limitations will be the primary constraint on the comprehensiveness of the strategic process. The integration of decisions will be relatively high.</p>	<p><u>2-D.</u> the level of detail that is achieved in the standardized organizational processes will be the primary constraint on the comprehensiveness of the strategic decision process. The integration of decisions will be intermediate.</p>	<p><u>3-D.</u> biases induced by members' parochial perceptions will be the primary constraint on the comprehensiveness of the strategic decision process. In general, the integration of decisions will be low.</p>

Effects of Structure's Dimensions

Impact of Centralization

As mentioned earlier, a centralized structure is one in which the right to make decisions and evaluate activities is concentrated. However, because one person seldom controls all strategic process activities even in a highly centralized organization (Mintzberg, 1979), in this section it is assumed that decision making rests with a small coalition of top-level executives. Such a view is probably the one that most people have of the strategic decision process, but few have considered how structural centralization affects the characteristics of that process. The first column of Table 2 indicates that the strategic impact of centralization is significant, and it first becomes apparent in its effect on how and where the process is initiated.

As is the case in any organization, members throughout a centralized firm are intermittently exposed to stimuli (e.g., problems and opportunities) that have strategic implications for their firm. However, with such a structure strategic problems and opportunities are likely to go unrecognized and ignored until they appear before a coalition member. This is because *knowledge* regarding the likely implications of individual stimuli, as well as decision-making *authority*, is concentrated in the hands of very few people. Therefore, although centralization is a means of ensuring that decisions are tightly coordinated, it may delay the start of the process or it may result in a complete failure to respond to some strategic stimuli.

Several authors have observed that strategic decisions, in addition to being a *reaction* to stimuli (problem and opportunity) can be *proactively* initiated by the interests of coalition members. For example, the great "leaps" of Mintzberg's (1973) "entrepreneurial" mode represent the proactive interests of a leader/founder who dominates a small firm. A similar phenomenon has been observed in larger organizations by Carter (1971) and Gerwin and Tuggle (1978). The latter authors suggest that the strategic process can

be initiated when the innovation interests of a critical mass of coalition members "coalesce" to yield proactive behavior. It should be emphasized that coalition members may not be proactive (e.g., some managers are very conservative) and that the environment may not be receptive to such behavior. However, if they do indeed have proactive interests, their interests are most easily pursued when those same members dominate the decision process. Therefore, it is suggested that centralization increases the likelihood that strategic decision making will be a proactive, opportunity-seeking process.

As implied above, structural centralization also can affect the role that goals play in strategic decision making. For example, under conditions of centralization there are finite limits to the amount of diversity that can exist in the goals of coalition members. As a result, it is realistic to think of members' goals as "intended future domains" (Thompson, 1967) that decisions are attempting to achieve. This is in sharp contrast to an organization that is not centralized, where the diverse preferences of individual members serve not as goals to be achieved, but as "constraints" on the decision process (Simon, 1964). It is only when the dominant group is small, as it is under conditions of centralization, that strategic decisions are likely to be made with their "positive" (i.e., intended future domains) preferences in mind.

Simon (1976) has argued that all decisions have fact (means) and value (ends) elements, and that in a rational model of decision making, ends are identified before the means for achieving them are evaluated. In a centralized structure this means/ends relationship is closely related to the issue described above. Specifically, the goals of coalition members will guide strategic decision making and they will have more impact on the strategic process than under other structural conditions that are discussed later. Coalition members will also exhibit strong commitment to the goals because they are their own (Latham & Yukl, 1975), even though they may be stated as simply "to survive" or "be number one." Because

of this fact, goals are likely to persist in the face of significant changes in means, and the organization may continue to pursue strategic goals that have been rendered obsolete by changes in the means of competition.

It is widely acknowledged that a rational explanation of action, where an alternative is "chosen" based on its ability to achieve a desired goal, does not capture the reality of organizational decision making. Instead of goal "maximizing" it is characterized as a process of "satisficing," and instead of being "rational" it is "intendedly rational" (March & Simon, 1958). However, even though the decision process may not mirror a rational model, a centralized structure gives top-level management an opportunity to make conscious choices. Those choices are based on the preferences of an individual or small group, but they are directly reflected in the organization's moves. Therefore, structural centralization facilitates "strategic choice" (Child, 1972) and provides a modified (i.e., intendedly) "rational actor" (Allison, 1971) explanation of strategic action. In addition, because centralization makes it easier for those who dominate to pursue any proactive, opportunity-seeking interests that they may have, it increases the likelihood that organizational moves will be major (e.g., Mintzberg's leaps), as opposed to incremental, departures from the existing strategy.

It was suggested in the introduction that a *decentralized* structure accommodates members' cognitive limitations by factoring decision process responsibilities (March & Simon, 1958; Thompson, 1967). In contrast, a *centralized* structure is uniquely susceptible to those limitations, and they affect how comprehensive the organization is in making strategic decisions. Many contributions that question the ability of organizations to make decisions comprehensively are grounded in well-documented work with individuals. For example, Steinbruner (1974) has argued that the characteristics of his "cybernetic" model of organizational decision making are consistent with numerous cognitive theory principles that describe a noncomprehensive decision

process. In addition, experiments like those of Bruner, Goodenough, and Austin (1956) support theoretical arguments regarding individuals' tendency to simplify decision situations (Braybrooke & Lindblom, 1970; Schwenk, 1984). Therefore, in an organization with a centralized structure, the cognitive limits of those few who dominate will determine how comprehensive the organization is in making strategic decisions.

The final issue regarding centralization concerns its effect on an organization's ability to comprehensively integrate decisions to form an overall strategy. Mintzberg (1979) points out that elaborate structural configurations (e.g., matrix organizations) are sometimes used to ensure that strategic decisions are integrated, but he argues that centralization offers a better solution. With such a structure, the comprehensiveness of integration is still subject to the cognitive limitations of the dominant managers, but it may be higher than if more formalized mechanisms are relied on. For example, Quinn (1980) has suggested that strategic planning systems are helpful, but that integration is generally accomplished only in the mind of the top executive. Mintzberg (1978) has provided support for this observation by arguing that a highly integrated "gestalt" strategy is likely only when the organization is controlled by a powerful leader. Therefore, while cognitive limits may restrict comprehensiveness in a centralized structure, they may have less impact on the process of integration.

Impact of Formalization

Structural formalization is characterized by the presence of rules and procedures that influence decision-making behavior. As mentioned earlier, even when it exists only at low and intermediate levels, formalization can affect an organization's strategic process as participants gather and process information that is passed up the hierarchy (Carter, 1971). Moreover, Mintzberg (1979) has observed that firms that are highly formalized in their "operating core" tend to be more formalized at *all* levels. In addition, the presence of upper-level mechanisms such as budgeting sys-

tems are known to have an impact on the strategic process (Bower, 1970), and strategic planning systems are a clear attempt to formalize decision making at even the highest levels. The second column of Table 2 suggests that the impact of formalization can indeed be far-reaching.

Regarding issues of process initiation, it appears that formalization increases the likelihood that the strategic process will be motivated by reactive (e.g., solving problems or crises), as opposed to proactive (e.g., searching for opportunities), behavior. For example, Steinbruner (1974) has characterized organizational decision making as a "servo-mechanism" whose programmed responses are activated only when critical variables get outside some specified range. As is the case with Cyert and March's (1963) description of problems triggering standard operating procedures, decision stimuli may be ignored if they are not monitored by the formal system. In addition, it has been argued that strategic planning systems can become so formalized that they drive out creative, proactive behavior (Lenz & Lyles, 1983; White, Dittrich, & Lang, 1980). This suggests that a formalized structure has the inherent ability to discourage the pursuit of opportunities.

A high level of formalization also affects the role that goals play in the strategic process. For example, by prescribing bounds of behavior, formalized bureaucracies reduce goal incongruities among members and provide reasonably well-defined expectations about performance evaluation (Ouchi, 1978). Because of this fact, it is expected that strategic decisions will be made with precise, as opposed to general, goals in mind and that efficiency criteria will dominate (Simon, 1976). However, based on the above argument regarding the reactive nature of the strategic process, under conditions of formalization these goals are more likely to be "remedial" corrections of the present state, and not "positive," future intended states.

The increased goal awareness that is brought on by formalization ultimately affects the relationship between means and ends (i.e., the third

characteristic of interest). For example, formalization can produce what Merton (1940) has characterized as the "bureaucratic personality." In this instance prescribed behaviors become ends in themselves, and means become more important than ends. This phenomenon helps explain why formalized strategic planning processes sometimes degenerate into exercises that produce little more than a bound document. However, Quinn (1980) suggests that the problem cannot be overcome by simply formalizing strategic-level goals, because doing so activates organizational processes that are difficult to reverse.

Most strategic management literature explains action as being the result of a conscious choice. However, discussion in this section has pointed out that an organization that has a formalized structure is likely to respond to decision stimuli by employing standardized procedures (Cyert & March, 1963; Steinbruner, 1974). The variables that trigger the process are predetermined, and so are the possible responses. Therefore, strategic action in an organization with a formalized structure is most accurately characterized by Allison's (1971) "organization process" model. It is the "outcome" of a limited cadre of capabilities. In addition, the actions themselves are likely to be incremental. Quinn (1980) has pointed out that formalized strategic planning processes tend to institutionalize incrementalism because they produce actions that are only marginal departures from the existing state. Similarly, the presence of formal monitoring mechanisms encourages such organizations to make incremental adjustments in response to feedback.

As implied above, the degree of structural formalization will also affect how comprehensive an organization is in making individual strategic decisions. Rules and procedures contribute to the development of a firm's repertoire of behaviors, and they dictate how various decision-making activities will be handled. For example, formalized search procedures increase the likelihood that information will be sought from areas previously utilized, and that solutions that were successful in the past will be used again (Cyert

& March, 1963). Similarly, Carter (1971) has described how strategic alternatives are evaluated by applying "threshold level" analysis that allows projects to be automatically accepted or rejected if they are above or below certain levels on a specified variable. Therefore, although formalized, "planned behavior" is instituted to achieve rationality in decision making (Simon, 1976), the comprehensiveness of an organization's strategic process will be determined by the spectrum of behaviors that are accounted for in its rules and procedures (i.e., the level of detail achieved).

In addition to affecting how comprehensive organizations are in making individual strategic decisions, evidence suggests that formalization can also affect how well those decisions are integrated. For example, Schendel and Hofer (1979) point out that formal policies have been replaced by formal planning systems as the primary tool for trying to ensure that strategic decisions are comprehensively integrated. Although such systems may offer numerous benefits, their ability to achieve a high level of integration is again determined by the detail of their design. Moreover, even the most elaborate planning system may not be able to achieve comprehensive integration because ". . . strategic decisions do not lend themselves to aggregation into a single massive decision matrix where all factors are treated simultaneously in order to arrive at a holistic optimum" (Quinn, 1978, p. 17).

Impact of Complexity

An organization's structure offers three potential sources of complexity: horizontal and vertical differentiation, and spatial dispersion. However, the present description considers only horizontal and vertical differentiation because they best illustrate the dilemma that structure poses as organizations try to accommodate members' cognitive limitations. Specifically, increased division of labor, which is manifest as increased horizontal and vertical differentiation, requires increased coordination (Galbraith, 1973). However, the pervasive effects of such

complexity do not become clear until each strategic process characteristic is considered individually. (These effects are summarized in the final column of Table 2.)

The impact of complexity first becomes apparent in its effect on how and where the strategic decision process is initiated. Specifically, because an organization's structure imposes boundaries of rationality on its members (Thompson, 1967), the degree of complexity specifies how wide or how narrow those boundaries will be (i.e., a highly complex structure has many, narrowly bounded positions). Therefore, since decision stimuli (e.g., problems, opportunities) may make their initial appearance at any location in the organization, the cognitive and motivational orientation that is induced by a particular structure will affect how a stimulus is perceived and acted upon (Simon, 1974). Similarly, since strategic issues can emerge from anywhere in an organization (Mintzberg, 1979), the degree of complexity will be a major determinant of whether members who are initially exposed to those issues recognize them as having strategic significance, or ignore them because of parochial perceptions. Therefore, if structurally imposed bounds are narrow, as they are with a high level of complexity, members' self-interests may lead them to take no action, thereby leaving critical problems and opportunities unattended or unexploited.

It is suggested that structural complexity also has an impact on the role that goals play in the strategic decision process. For example, Lawrence and Lorsch (1967) reported that a high level of complexity resulted in different goal orientations across departments. This may explain Bower's (1970) observation that different people involved in the strategic process are motivated by different preferences. Therefore, in a complex organization the broad array of members' preferences or goals does indeed become a series of "constraints" on the decision process (Simon, 1964), which makes it unlikely that strategic decision making can successfully achieve some specific future state. In addition, by restrict-

ing areas of responsibility and interest, a high level of complexity increases the salience of individuals' goals, and makes it increasingly difficult for organization-level goals to influence decision making.

Regarding the relationship between means and ends, logic suggests that the level of complexity will also have a strong influence on this characteristic. Task specialization accompanies increased complexity, and specialization fosters parochial perceptions. Therefore, it is expected that members in an organization that has a complex structure will have difficulty agreeing on goals, and that the decision process will be iterative and political. Furthermore, because vast goal differences may make it difficult to achieve consensus on ends, managers may have to be satisfied with obtaining agreement on means, even though they accept the means for different reasons. It is therefore suggested that the multiple effects of structural complexity will combine to produce strategic moves that are incremental, but for reasons (i.e., goal differences) that are different than was the case with a formalized structure (i.e., institutionalization).

As implied above, conscious choice is also not likely to be an accurate explanation of strategic action in an organization with a complex structure. First, because information may have to pass through multiple organizational levels, the outcome of a strategic process can be affected (Carter, 1971). More importantly, horizontal and vertical differentiation not only create differing preferences among organizational members, they also disperse power. These factors produce a constraint set that is not likely to be satisfied and that must be attended to sequentially (Cyert & March, 1963). Therefore, as argued by Pettigrew (1973), the division of labor that is manifest in a complex structure explains strategic action as the result of an internal political process, a description that is consistent with Allison's (1971) "bureaucratic politics" model.

As with the explanation of strategic action, the boundaries imposed by structural complexity also have an impact on how comprehensive an orga-

nization is in making individual strategic decisions. For example, Cyert and March (1963) have argued that the "search" for decision-making information is "biased" because participants' selective perceptions cause them to focus on information that is salient to the interests of their department or unit. As mentioned above, individual and unit biases are also introduced at multiple levels as information is "preprocessed" on its way to the top (Carter, 1971). Therefore, the comprehensiveness of the strategic decision-making process will be affected by the extent to which structural complexity evokes parochial (either individual or work unit) behavior from participants.

The final issue regarding structural complexity concerns the extent to which this dimension affects an organization's ability to comprehensively integrate decisions to form an overall strategy. Although organizational strategy is usually characterized as a consciously integrated set of decisions, complexity creates problems for integration. As discussed earlier, a complex structure assigns a restricted range of decision process activities (e.g., information gathering or analysis) to members in a variety of locations (i.e., departments and levels). While this addresses members' cognitive limitations, it also increases the probability that actions taken in one unit will not be consistent with those in another. Therefore, Mintzberg, (1978) has argued that a highly integrated gestalt strategy will only be common early in an organization's life, when structural complexity is low and power is centralized.

It is hoped that the dimension-specific propositions presented in this section seem important and interesting. However, while these dimensions are frequently used in empirical research, practitioners and academics often think of structure in terms of different "types" (e.g., functional or divisional). Therefore, it could be both practically and theoretically useful if the previous discussion could be extended to describe how the overall strategic process would look in organizations that have different types of structures. Such

an extension would attempt to further illustrate the strategic process/structure relationship and present it in a context that has meaning for more readers. Therefore, the arguments presented above provide the basis for the next section, which discusses the "patterns" of strategic process characteristics that are likely to develop when different types of structures are used.

Patterns of Process Characteristics

Alternative Structures and Patterns

During the 1960s and 70s, several authors (Burns & Stalker, 1961; Chandler, 1962; Lawrence & Lorsch, 1967; Pugh, Hickson & Hinings, 1969; Rumelt, 1974) described alternative types of structures. As a result of their contributions, investigators routinely refer to different structures with names such as "organic" and "mechanistic," "functional" and "divisional," or "workflow bureaucracy," with the expectation that readers will have a basic understanding of their characteristics and implications. Therefore, it would be helpful if a link could be established between some of these well-known forms and the strategic process characteristics that were discussed in the previous section. For example, how and where is the process initiated? What role do goals play, and so on, in an organization with an organic structure? How do these characteristics differ in an organization with a mechanistic structure? The empirical "archetypes" generated by Miller and Friesen (1977) represent one of the few attempts that have been made to establish a link between structure and distinct patterns of strategic process characteristics, but they differentiated structures primarily on the centralization dimension.

In addition to the structural types described by the above authors, Mintzberg's (1979) synthesis of previous research (including those types) produced five forms that have begun to appear in the literature. The "Simple Structure," "Machine Bureaucracy," and "Professional Bureaucracy" are the "purest" forms, while the "Divisional Form" simply uses an over-arching administra-

tive structure to loosely link some combination of the other three. The "Adhocracy" is a large-scale matrix. Mintzberg also suggests that each structural form results when one of several competing "pulls" dominates the others. If this argument is interpreted to mean that these structures tend to be dominated by one dimension, there is a basis for hypothesizing about the strategic process impact of different structural types.

It is suggested that Mintzberg's (1979) purest forms—the Simple Structure, Machine Bureaucracy, and Professional Bureaucracy—are in fact structures whose dominant dimension is one of the three that were previously discussed. More specifically, centralization is the dominant dimension in a Simple Structure, formalization dominates in a Machine Bureaucracy, while a Professional Bureaucracy is characterized first and foremost by complexity. This link is illustrated in Figure 1, where the three types are mapped against the dimensions of structure. It is important to note that these structures are widely distributed across the matrix, which emphasizes that they are very different. Also, it is later illustrated that these types are the most common among organizations.

The relationship that appears to exist between Mintzberg's (1979) three types and the three dimensions of structure suggests that the aggregate of propositions that were previously attributed to each dimension can be used to produce a pattern of characteristics that describe how strategic decisions are made in each type. In the final section each structural type is described, its pattern of strategic process characteristics is discussed, and the context where it can be expected to be most successful is characterized. It is important to note that the discussion of patterns draws heavily on the arguments that were developed in the previous section. Therefore, only the primary conclusions (and not the supporting literature) are provided.

Centralization and Simple Structure

Mintzberg (1979) has argued that the Simple Structure is best characterized by what it is not.

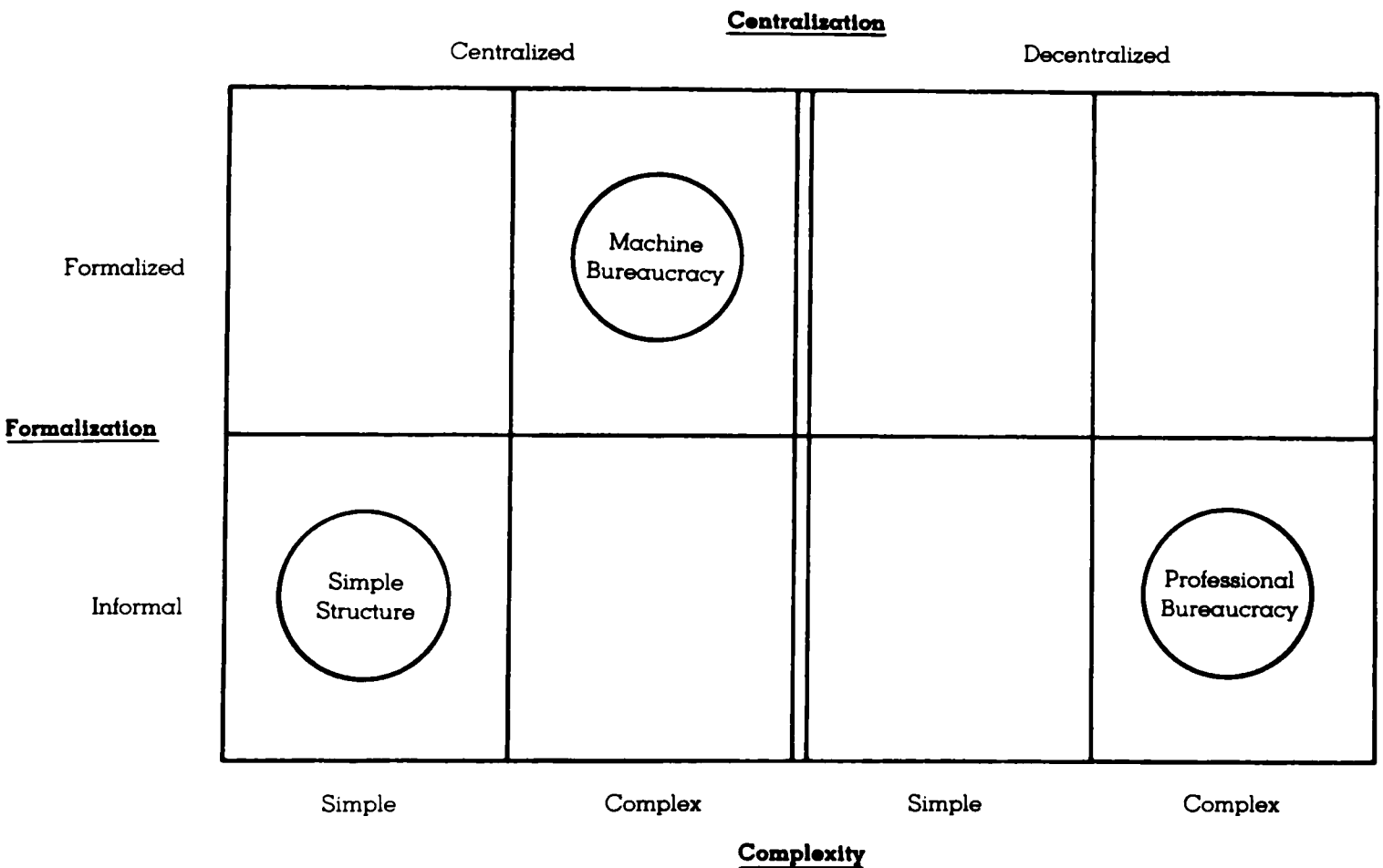


Figure 1. Relative dimensions of three structural types.

Specifically, it has little or no technical or administrative support staff, little differentiation between units, a "loose" division of labor, and a very small managerial hierarchy. In addition, "little of its behavior is formalized, and it makes minimal use of planning, training, and . . . liaison devices" (p. 306). The Simple Structure is a form where all important decisions are centralized in the hands of a dominant executive (CEO), who informally coordinates the organization's functional units. It is clearly a structure that is high in centralization and low in both formalization and complexity. Therefore, it is similar to Pugh et al.'s (1969) "implicitly structured organizations."

Since the Simple Structure is dominated by centralization, its pattern of strategic process characteristics can be predicted from the propositions provided earlier in the first column of Table 2. For example, because power and knowl-

edge are concentrated, only the CEO can initiate a response to problems or opportunities. The dominance of the CEO is also reflected in the explanation of strategic action—organizational actions reflect his or her intendedly rational choices. Similarly, with such a structure the actions that are chosen may be motivated by the proactive, personal interests of the CEO, and they will be made to achieve a "positive," though general, goal. This argument illustrates Mintzberg's (1979) observation that a potential benefit of the simple structure is its "sense of mission." However, because the goal reflects the CEO's personal preferences, the organization may continue to pursue it long after it should have been abandoned.

An organization with a Simple Structure is not restricted by formalized procedures or forced to bargain among members who have different

preferences, so when it takes strategic actions they are more likely to be major departures from its existing strategy. Moreover, the success or failure of those actions can be directly attributed to the CEO because his or her cognitive limitations are the primary constraint on the comprehensiveness of the strategic decision process. In addition, the CEO dominates the entire decision process, and may well have an intimate knowledge of the firm's daily operations. Therefore, it is more likely that decisions will be consistent and integrated.

The Simple Structure is most successful in an environment that is, using Duncan's (1972) dimensions, both simple (i.e., it has relatively few critical variables) and dynamic (i.e., those variables are shifting). Its pattern of strategic process characteristics helps explain why. First, the CEO's dominance makes the organization directly dependent on his or her preferences and cognitive capabilities, but the CEO has a realistic chance to understand a simple environment. Moreover, the high level of centralization equips the CEO with an understanding of both operating and strategic-level issues, which when combined with the need for only one individual to decide, enables the organization to move quickly when faced with environmental change. Therefore, strategic decisions in a Simple Structure tend to be made quickly, in pursuit of positive opportunities, and with a sense of direction and integration. However, a complete dependence on the CEO is a constant source of risk with this type of structure.

Formalization and Machine Bureaucracy

A Machine Bureaucracy is a structure that relies on the standardization of work, which makes it similar to the structures previously described by Inkson, Pugh, and Hickson (1970) and Pugh et al. (1969). Its most distinguishing features include ". . . very formalized procedures in the operating core, a proliferation of rules, regulations and formalized communication throughout. . ." (Mintzberg, 1979, p. 315). In addition, this structure tends to have large, func-

tionally grouped units at its lower levels, as well as an elaborate administrative staff. Although the work of those at the lowest levels may be the most directly controlled by formalization, it is important to recognize that ". . . at every hierarchical level, behavior in a Machine Bureaucracy is *relatively* more formalized than in other structural configurations" (Mintzberg, 1979, p. 318).

The propositions previously presented in the second column of Table 2 capture the pattern of strategic process characteristics that a Machine Bureaucracy is likely to exhibit. For example, because this structure is above all else formalized, it is likely that the process will be initiated only when the condition of some formally monitored variable indicates a need for action. In addition, the strategic action ultimately taken will reflect the application of one standardized response from among those that the organization has developed. In combination, the above observations also suggest that the action will be taken to achieve a precise goal (e.g., a specified growth or profitability level), but that the goal will be remedial (i.e., a correction to the initially monitored deviation). However, because members recognize that their decision-making behavior is supposed to conform to specified rules and procedures, there is an increased likelihood that means will displace ends in a Machine Bureaucracy.

As pointed out above, the dominating influence of formalization in this structure explains strategic action as the output of standardized organizational processes. These institutionalized processes have the added effect of producing strategic actions that are only incremental departures from the existing state. Moreover, the appropriateness of the actions taken in a Machine Bureaucracy is constrained, not by the CEO's cognitive limits, but by the level of detail that is achieved in its many systems (e.g., planning, information) and processes. However, because such systems rely almost entirely on aggregated, quantitative data that must be passed through multiple levels, they can be expected to yield only a moderately integrated strategy.

A Machine Bureaucratic structure has its greatest success in a simple, stable environment; the characteristics of its strategic decision process suggest why. An organization using this structure responds to formally monitored variables and applies established standards in performing its work. Therefore, the environment must be simple enough to allow critical variables to be identified, and stable enough so that they can be tracked and standards developed. However, if the environment changes, even the highest levels of the organization may be unresponsive because the need for change may be masked by a dependence on information systems that gather data on a restricted range of variables. Moreover, there is an expectation among organizational members that strategic decision making should proceed through formally established channels, which may contribute to costly delays in a changing environment.

Complexity and Professional Bureaucracy

The "Professional Bureaucracy" is the name that Mintzberg (1979) gave to the structure most frequently used in organizations such as general hospitals, universities, school systems, and social service agencies. These organizations rely on highly trained professionals who control their own work, so the structure can accurately be described as very decentralized. Similarly, because the work requires detailed knowledge of specialized topic areas, the resulting structure is horizontally complex and differentiated; vertical differentiation is limited. It should be emphasized that Professional Bureaucracies require standardized behavior from their members, but that behavior is achieved much differently than in a Machine Bureaucracy. Members in this third structural type are expected to enter with skills and behavior standards established by their professions. However, these standards are not just another type of formalization; they reflect a separate, independent dimension—complexity/specialization (Reimann, 1973). (The terms complexity and specialization are often used interchangeably in the literature, and they have been

shown by Grinyer and Yasai-Ardekani, 1980, to be related.)

Since complexity is the dominant dimension of a Professional Bureaucracy, the propositions presented earlier in the final column in Table 2 highlight its pattern of strategic process characteristics. Specifically, strategic problems or opportunities may go unrecognized or ignored because members' interests are highly specialized, and their perceptions parochial. This high level of horizontal specialization also increases the likelihood that strategic action will be taken only after extensive political bargaining among members, or as the result of individual members applying solutions from their collective "garbage can" of skills (Cohen, March, & Olsen, 1972). In addition, diversity among members and the salience of their personal goals is likely to decrease the impact of organization-level goals and produce strategic actions that are only incremental departures from the organization's current state. Similarly, parochial perceptions are the primary constraint on the comprehensiveness of the strategic decision process, and they contribute to making the integration of decisions quite low. These observations are reflected in Mintzberg's (1979) conclusion that ". . .the notion of a strategy—a single, integrated pattern of decisions common to the entire organization—loses a good deal of its meaning in a Professional Bureaucracy" (p. 363).

The work performed by Professional Bureaucracies is typically difficult to learn, yet quite well defined (e.g., even complex surgical procedures use widely agreed-upon techniques). Therefore, the environment is accurately described as complex and stable. It is complex because it requires skills learned only through advanced training, and stable because the necessary skills are enduring enough to allow the profession to develop performance standards. In addition, the strength and divergence of members' goals make such organizations highly political. Therefore, the only apparent way that the executive-level management of a Professional Bureaucracy can develop an overall strategy is by "patching"

together the disparate project and program preferences of the professionals, or by allocating resources only to those that offer apparent synergies.

Concluding Observations

This paper takes only a "first step" to encourage investigation and debate on the strategic process/structure question. It is suggested, though, that many critical issues have been raised, and some answers have been offered. For example, firms have been observed which exhibit consistent "patterns of behavior" in making strategic decisions (Fredrickson & Mitchell, 1984). The arguments presented here suggest that structure's pervasive impact offers a reasonable explanation of why a firm develops a particular way of making strategic decisions. More importantly, these same arguments also suggest that alternative models of strategic decision making (Allison, 1971; Mintzberg, 1973) are more than just different perspectives on the same phenomenon. Organizations that differ in their dominant structure are likely to make strategic decisions using a very different process.

The arguments presented here also provide a description that is richer than those previously available to explain why different structures have been associated with varying levels of performance in different contexts (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Khandwalla, 1977; Woodward, 1965). For example, it is the combination of a dominant decision maker, who is pursuing positive goals, is willing to make major departures, has detailed knowledge of the entire organization, and is faced with a situation that can be understood, that enables some small organizations to succeed in a rapidly changing industry in spite of being constrained by the decision maker's cognitive limitations. This example also sheds light on the recurring "unit of analysis" issue that was most recently summarized by Pfeffer (1982). More specifically, a firm that is highly centralized is likely to have a strategic decision process that is best understood by using an individual unit of analysis, while an organiza-

tional perspective sheds light on the same process in a firm that is dominated by formalization. In contrast, the small group, with all its sociopolitical phenomena, is the basic unit of analysis for understanding the strategic process in an organization whose dominant dimension is complexity.

This paper also encourages a broader debate by assuming an uncommon perspective on organizational structure. Most strategic management scholars continue to see structure as simply a tool for implementing strategy, while organization theorists discuss the relative effects that environment, technology, or size have on structure. It is suggested that each of these views is unbalanced in its portrayal of structure. The arguments presented here emphasize that a balanced view of the strategy/structure relationship must acknowledge that the strategic decision process and its outcomes can be facilitated, constrained, or simply shaped by structure's direct effects. In accepting this argument, investigators are not being asked to reject evidence that led to the "structure follows strategy" proposition. They are asked to recognize that there is a sizable body of contributions which argues that an organization's structure may have important deterministic effects of its own. These effects have neither been widely recognized nor investigated because the literature has been extremely fragmented and underdeveloped.

While this paper may have raised some critical issues and offers a few tentative answers, it is only a first step. For example, the propositions presented here describe the strategic decision process in organizations where one of three structural dimensions dominates. There may be circumstances where these dimensions interact to produce a strategic process whose pattern of characteristics was not described. The empirical questions: when does structure follow strategy, and when does structure, through its direct effect on the strategic decision process, determine strategy, remain. It is suggested that structure is most likely to dominate in organizations where an overall strategy is not institutionalized (i.e.,

either no explicit strategy has been articulated or it is in the process of changing). Similarly, there may be contexts such as crisis situations where the effects of structure are subservient to variables such as environment. Therefore, it is hoped that investigators will not only challenge

and test the primary arguments and ideas presented here, but that they will also refine and extend them. Such efforts are critical to understanding the effects of structure and to developing a balanced view of the strategy/structure relationship.

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