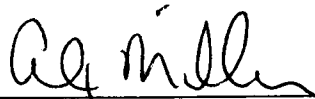


To the Graduate Council:

I am submitting herewith a dissertation written by Patrick R. Rogers entitled "Strategy, Strategic Planning, and Performance: An Information Processing View." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy with a major in Business Administration.

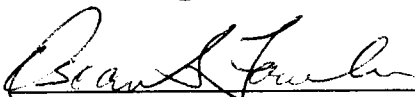


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Accepted for the Council



Associate Vice Chancellor
and Dean of the Graduate School

**STRATEGY, STRATEGIC PLANNING, AND PERFORMANCE:
AN INFORMATION-PROCESSING VIEW**

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

PATRICK R. ROGERS

May 1995

DEDICATION

To my wife Rachel, and our children Lauren, Jordan, Salem and Mollie, for their sacrifice and support. As always I can do few things well without their support and love. I dedicate this work and this degree to them. We chose this path as a family, pursued it together, and hope to reap its rewards as a family.

ACKNOWLEDGEMENTS

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ABSTRACT

This study examines the relationship between strategic planning processes and the strategic orientations of 157 banks. Information-processing theory is used to develop specific hypothesis regarding the information needs of differing strategies and planning's ability to meet those needs. The performance implications of the fit between strategic information requirements and planning process capabilities are addressed. Findings suggest that planning processes are different when strategy is different, and that there is an appropriate fit between planning systems and the strategy they support.

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CHAPTER 1

INTRODUCTION

A consistent characteristic of the strategy paradigm is the assumption of a connection between a firm's strategic orientation and its environmental context (Miles and Snow, 1978; Venkatraman and Prescott, 1990). A important catalyst of this active organizational search to align strategy and structure with environmental variation is the strategic planning process (Steiner, 1979).

The strategic planning process has been described as the fundamental means by which an institution learns about its environment (de Geus, 1988). The capacious nature of planning is well represented in the following definition of formal strategic planning:

Process of determining the mission, major objectives, strategy and policies that govern the acquisition and allocation of resources to achieve organizational aims.

(Pearce, Freeman and Robinson, 1987:658)

Indeed, such a definition is so broad that it clearly reveals the permeative nature of strategic planning within organizations. Steiner suggests that strategic planning is

"inextricably interwoven into the entire fabric of management; it is not something separate and distinct from the process of management" (Steiner, 1979, p. 3). Likewise, many other writers have supported the contention that formal strategic planning is a useful, integrative tool that can benefit the entire strategy process (Andrews, 1971; Ansoff, 1965; Schendel and Hofer, 1979).

Specifically, the literature has presented four primary roles that planning plays in the strategy process. First, planning is an environmental scanning mechanism that assists in the alignment of the organization with its environment (Ansoff, 1965; Gilmore and Brandenburg, 1962; Ackoff, 1970; Malm, 1975; Grinyer, 1971). Second, planning is a means to diminish the potential risk of uncertainties, through its predictive nature (Bright, 1958; Thompson, 1967). Third, planning can be an implementation and integration device (Steiner, 1969; Warren, 1966, Lawrence and Lorsch, 1967; Mintzberg, 1981; Athreya, 1970). Finally, planning can provide a control mechanism throughout the organization (Berg, 1973; Channon, 1973; Lorange, 1979; Lorange and Vancil, 1977; Ansoff, 1965; Steiner, 1979).

Strategic planning has been represented in the management literature to be all-pervading and unusually

important process. Consequently, it has become one of the strategy literature's most extensively researched issues. Nevertheless, this plethora of research, while useful for establishing general understanding of strategic planning, adds marginal clarity to our understanding of the relationship between strategic planning and strategy.

Moreover, it is still empirically unclear what role planning may play in both strategic decision making and strategy implementation processes. For example, researchers have devoted most of their effort to addressing planning-performance relationships (see reviews by Armstrong, 82; Pearce, et al., 87). Although the relationship between strategic planning systems and strategy has been conceptually engaged, little empirical effort has been expended to add insight to the planning-strategy relationship.

Research into the relationship between planning processes, strategic decisions and the implementation of those decisions can benefit from the groundwork established by Mintzberg (1981) and Quinn (1980). They have argued that planning, although useful, is clearly a separate and distinct process from crafting strategy, and should be distinguished from the creative process of strategy making.

Although Andrews (1971) suggested this distinction in his early writing, the concept of strategy making as a creative, non-programmed process has been most clearly ascribed to Mintzberg (1989) and Quinn (1980).

Quinn (1980) argues that most important strategic decisions seem to be made outside the formal planning structure. He suggests that planning systems have often become quite rigid and bureaucratized, divorced from the actual strategic decision processes. Quinn describes the main elements of this formal planning approach as follows:

1. Analyzing one's own internal situation.
2. Projecting current product lines' profits, sales and needed investments
3. Analyzing selected external environments.
4. Establishing broad goals as targets for subordinate groups' plans.
5. Identifying gaps between expected and desired results.
6. Communicating assumptions, goals and policies.
7. Generating proposed plans.
8. Asking for or generating special studies of alternatives, contingencies, or longer term opportunities.
9. Reviewing and approving divisional plans.
10. Developing long-term budgets.
11. Assigning implementation of plans to specific groups.
12. Monitoring and evaluating performance, usually against budgets. (Quinn, 1980:14)

In sum, Quinn believes that planning has an important informational role. Although believing in its value, he

argues that it "tends to focus unduly on measurable quantitative forces" while neglecting or interfering with the creative processes of strategy making (Quinn, 1980, p. 14).

In a similar fashion, Mintzberg describes planning as a separate system of supports for the strategic decision-making process (Mintzberg, 1989). In fact, Mintzberg has gone so far as to refer to "strategic planning" as an oxymoron, believing that formal, rational planning can not, in most instances, be equated with the actual crafting of strategy (Mintzberg, 1990).

Like Quinn, Mintzberg (1981) describes planning as having primarily an informational role. Pre-decision planning provides information to decision makers. The activities of scanning and analysis provide information that can be assimilated into the decision making process. Post-decision planning provides the necessary implementation (programming) and control of those decisions. Figure 1 represents Mintzberg's view of planning.

Viewing planning as an informational support mechanism leads the theorist to exam the "fit" between planning system design and the strategy being pursued by an organization.

Clearly, different strategies have different information needs, as well as different implementation actions (Miles &

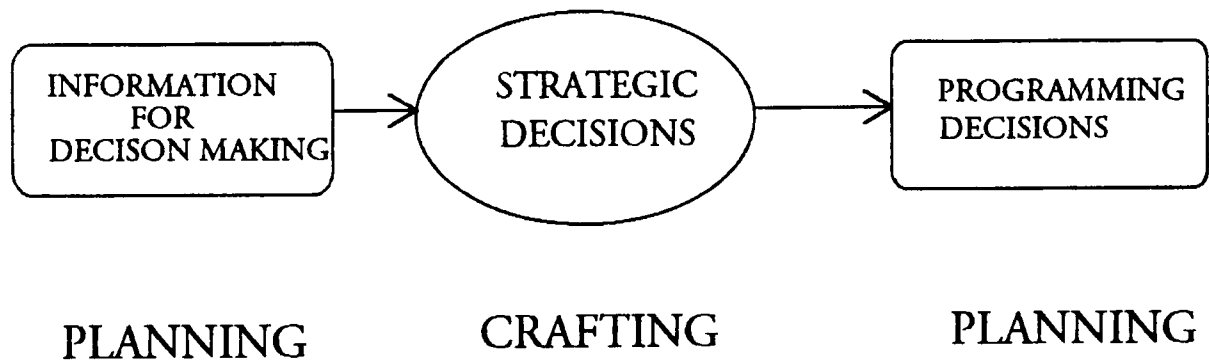


FIGURE 1: Planning's Support of Strategy Crafting

Snow, 1978; Galbraith & Kazanjian, 1986). Therefore, firms pursuing different strategies should have different planning system designs. Accordingly, as strategies change, so should planning systems. This fit perspective, a foundational concept in the strategy literature, is the basis of this study's approach to studying planning.

PURPOSE

The purpose of this research is to address the following question: **Should organizational planning systems fit strategy?** To answer this question, an information-processing view of planning will be used to develop a model

of strategy-planning system fit. The research will clarify the role planning has in supporting strategic decision-making, and more importantly, this research will clarify planning's role in *programming* those decisions. The performance implications of strategy/strategic planning system coalignment will also be addressed.

SIGNIFICANCE

This study has important implications for both managers and organizational theorists. The findings of this research should help clarify the role planning plays in the strategy process. It is true that many firms diligently plan (Ansoff, 1991; Daniel, 1992; Mintzberg, 1991; Powell, 1992). Carlson (1990) suggests that, not only do most firms plan, these firms are beginning to better understand the key role strategic planning plays in achieving a balance between short- and long- term economic returns.

Despite research over an extensive time period, academics have limited understanding of planning's role in the strategy process and how that role might affect organizational performance. Most research has focused on planning formality and its role in increasing performance (see Armstrong, 1982; Hofer & Schendel, 1978; Lorange, 1979

for complete reviews). Those studies that have attempted to delineate the important planning dimensions have not examined these in the context of strategy being pursued (Ramanujam & Venkatraman, 87; Chakravarthy, 87).

The significance of this study lies in its comprehensive examination of the informational role of planning in the context of a given strategy. Moreover, a significant attribute of the approach of this study will be controlling for environmental variation. Lack of environmental control has probably produced confounding effects on many previous planning studies (Pearce et al., 1987).

SUMMARY

No single area of strategy research has been debated more than planning. Part of this study's quest is to address problems with previous research by approaching the research question with a more integrative, comprehensive research design. In addition, the author desires to begin to unify the significant body of planning literature and to provide focus for further research.

CHAPTER 2

LITERATURE REVIEW

Strategic planning has been studied extensively, beginning with studies in the 1970's which examined planning formality and any association it might have with performance (Thune & House, 1970; Ansoff et al., 1970; Herold, 1972; Rue & Fulmer, 1973; Fulmer & Rue, 1974; Grinyer & Norburn, 1975; Karger & Malik, 1975; Wood & LaForge, 1979). Much of this empirical examination was in direct response to increased use of formal strategic planning by firms in the very late 1950s, and through the 1960s (Henry, 1980).

These studies are all similar in that they examined the degree of formality of the process of strategic planning and attempted to link this formalized process to improved organizational performance. Formality was usually defined in terms of environmental scanning activities, competitive intelligence gathering, SWOT analysis, time devoted to planning, amount of planning interaction, written plans, goals and budgets. Performance was measured in terms of the financial consequences of the degree of use of this formalized process.

There have been a number of exhaustive reviews of the planning-performance literature including Armstrong (1982),

Kudla (1980), Armstrong (1986), Pearce, et al. (1987), Shrader, Taylor & Dalton (1984), Pearce, Robbins & Robinson (1987), and Ryhne (1986). These reviews have each reached similar conclusions: that no clear conclusions can be made from the planning formality-performance literature. The studies cite methodological problems, inconsistent measures of planning formality, too great a reliance on financial measures of performance, cross-sectional studies with no control for environmental differences across firms, and small sample sizes.

Pearce, et al. (1987) is one of the most extensive and critical reviews of the strategic planning literature. The 18 studies reviewed were assessed based on their conceptual definition of planning, operational definition of planning, sources of data, methods of acquiring data and methodological rigor. The review reached the conclusion that there is little support to assert that formal strategic planning leads to increased economic performance. Notably, their review offers important suggestions for future research.

For example, the lack of attention to contextual influences is offered as the principal methodological concern of the studies examined. Pearce, et al. argue that

the exclusion of the corporate context was done without apparent justification. Citing Rumelt (1974), Chandler (1962), and Wrigley (1970), they suggest that an unjustified, simple picture of an "unfettered relationship between a business's context and strategy and financial performance" is reported in most of the planning studies (Pearce et al., 1987:671).

In particular, industry context is cited as an ignored factor. Building on Porter (1985), Caves (1980), Scherer (1980), Bain (1956) and others, industry context is presented as a necessarily important, yet ignored, factor in planning research. Even when controlled for, no description of the role a specific industry might play in the planning-performance relationship is offered by any of the studies reviewed.

Beyond industry context, Pearce, et al. argue that researchers have operationalized the construct of planning in many different and confusing fashions. In other words, there has been no consistent pattern of measurement of planning beyond the rather simplistic reliance on formality. They assert that "this lack of uniformity may have obfuscated the true planning-performance relationship, and it has undoubtedly contributed to a nonsystematic pattern of

empirical results regarding the link between strategic planning and firm economic success" (p. 671).

Implementation is offered as a third area of concern and required focus for future research. The planning process produces plans and these plans have to be implemented. Curiously, researchers have generally ignored the process of implementing strategic decisions. Most of the planning research has focused on planning's support of strategic decision making while ignoring the post-decision implementation aspects of planning, including the function of control in monitoring deliberate strategic decisions. Pearce et al. (1987) call this a lack of distinguishing within the literature between effective and ineffective planning within its strategic context. That is, firms with a given strategic orientation should have in place a planning process that is designed to specifically address the implementation of that chosen strategy. Researchers have not examined the planning aspects of implementation and their impact on the effectiveness of strategic decision implementation.

Two final issues are presented as concerns for further research: 1) the appropriate time frame over which the

effects of strategic planning should be anticipated and measured, and 2) consideration of organizational size.

Firm size appears to be a critical issue in most strategy research. It has pervasive effects throughout organizations. Hofer (1975) suggested that firm size may be an important contingency variable to be considered when designing planning systems. Robinson and Pearce (1983) suggest that size may be an important control variable. They argue that small firms may not plan formally at all and that as size increases, the degree of planning formality may also increase. It would appear that any further research into strategic planning must include a consideration of firm size.

Finally, time appears to be a critical, but neglected element in planning research. Pearce et al. argue that "because strategic planning typically is intended to improve a firm's economic performance by the end of a three- to five-year period, measuring the impact of planning outside the targeted time period may give a distorted view" (1987, p.672). They argue that researchers should compare firms that have similar economic objectives and similar time horizons.

Clearly many of the cross-sectional planning studies have been unable to control for these differences. Many of these studies have included time in some crude fashion. However, our understanding of performance lags is still unclear.

A brief recapitulation of the shortcomings of the early planning studies follows:

- Lack of attention to contextual influences, including lack of control of, or description of industries examined.
- Lack of uniformity in planning measurement.
- Lack of focus on a rich, complex definition of planning.
- Inordinate attention to formality/informality.
- Little attention given to implementation.
- Little control for organizational size.
- Poor measurement of time, no time element, or no description of time's importance.

RECENT PLANNING RESEARCH

Since the critical reviews of the planning research mentioned above, strategy researchers interest in planning-performance relationships has subsided. However, some empirical studies have attempted to address some of the problems associated with this stream of research.

Ramanujam, Venkatraman & Camillus (1986) attempted to examine strategic planning with a different and more holistic approach than had been done previously. The most

significant advancement offered by their study was a definition of planning. Rather than use the standard formal/informal representation, they reviewed the planning literature and captured seven planning dimensions: 1) system capability, 2) use of techniques, 3) attention to internal facets, 4) attention to external facets, 5) functional coverage, 6) resources provided for planning, 7) resistance to planning.

They used these dimensions of planning to discriminate the effectiveness of planning systems. That is, they investigated which dimensions were more important in satisfying different effectiveness criteria. Effectiveness was defined much more holistically than in previous planning studies. The effectiveness criteria included: 1) fulfillment of planning objectives, 2) satisfaction with planning systems, 3) economic performance. This broad definition of planning effectiveness was an important contribution to strategic planning research.

Although this study did not endeavor to produce any substantive statement about planning-performance relationships, the findings were nonetheless quite useful. They found that the most discriminating criteria of planning effectiveness were (1) resistance to planning, (2) system

capability, and (3) resources provided for planning. Resistance to planning describes the degree to which organizational planning is resisted by organizational members. Examples of planning resistance might be lack of acceptance of the outputs of planning or nominal participation in planning activities.

Planning system capability refers to the extent to which the planning system emphasizes creativity as opposed to control. Over emphasis on either creativity or control might be dysfunctional to the planning system capability. Resources provided for planning are described by Ramanujam et al. (1986) as being either physical (a separate planning staff) or intangible (time spent by the CEO in planning activities). Many authors have argued that organizations must provide adequate resources for planning if planning is to be effective (King & Cleland, 1978; Steiner, 1979). Interestingly, resources provided for the planning process was found to be the key discriminator of economic performance. Ramanujam et al. suggest that recent criticism of the technique orientation in contemporary management may be valid, especially in light of their findings that planning resources, rather than planning techniques, have a greater influence on economic performance. They argue that

"effective planning requires the infusion of adequate resources for planning efforts" (pp. 367).

Despite these useful insights, Ramanujam, et al.'s study did not address all of the criticisms of earlier planning research. A survey instrument was provided to a cross-section of firms in multiple industries without description or regard for industry contextual differences. In addition, single source responses were used without any particular validation of the responses (this has been a common flaw in planning research, and we will address this issue more fully later). Most firms in the study were quite large, however statistics revealed little significant differences across firm size on the planning dimensions. The time relationship between planning and effectiveness was not discussed or measured.

Statistical techniques used provided an interesting new approach as compared to previous analytical techniques, yet many of the requirements of the models used were violated. This was accepted due to the fact that their "primary concern was descriptive rather than predictive" (Ramanujam, et al. 1986, p. 357).

Dutton and Duncan (1987) produced a useful, but not yet tested, framework for analyzing the influence of the

strategic planning process on strategic change. The authors argue that each firm is faced by an array of strategic issues that can be defined by their size (large or small array), scope (narrow or broad), variety (diversity) and turnover (frequency of replacement). A strategic issue can be any development, event or trend that has the potential to impact an organization's strategy.

Dutton and Duncan argue that not all issues are dealt with by organizations and that the issues (internal or external) that are dealt with are selected by the strategic planning process. They suggest the strategic planning process differs from organization to organization along the dimensions of focus (top-down/bottom-up), formality (techniques/ documents), diversity (horizontal involvement) and intensity (contact frequency) of the process (see Table 1).

Table 1: Issue array and planning system

STRATEGIC ISSUE ARRAY		PLANNING PROCESS FORM	
Size:	large or small array	Focus:	top-down/bottom-up
Variety:	diversity of issues	Formality:	techniques/documents
Turnover:	frequency of replacement	Diversity:	horizontal involvement
Scope:	narrow vs broad	Intensity:	contact frequency

The authors believe that selected strategic issues, if acted upon, produce strategic change. Since strategic planning systems assist in filtering and selecting issues, these planning systems drive organizational change. We find the arguments made by Dutton and Duncan to be very important to the study of strategic planning systems. Ansoff (1990), as well as others, has written extensively regarding the importance of perceiving and responding to strategic issues. This perception process is clearly informational in nature, and as Dutton and Duncan (1987) suggest, it is driven by the strategic planning process.

Dutton and Duncan argue that the the strategic planning process has great influence on organizational change because it is the planning system that defines the strategic issue array that an organization will deal with. Moreover, they argue that it is the design of the planning system that determines what array of issues will be perceived. This is a powerful description of how strategic planning systems can fill the roles of information generators for the process of strategic management.

Reid (1989) argued the importance of "culturizing" the strategic planning process. He suggests that the benefits of strategic planning are not realized unless the process is

totally integrated with current operations. This rich descriptive work, produced from structured interviews with many CEO's, clearly describes the many pitfalls associated with strategic planning. It suggests ways to make the process 'living' within organizations and offers arguments for the many potential benefits of a well **implemented** planning process.

Although the generalizability of this theory building study is in question, Reid's research makes a useful contribution by documenting the importance managers place on the planning process within their firms. In addition, he also identifies hurdles that managers must overcome if strategic planning systems are to be effective.

Recently, Powell (1992) offered further insight into the planning-performance relationship. From a resource perspective, Powell argues that "strategic planning does not satisfy the criteria for sustainable competitive advantage", and that, "although it may produce economic value, it is easily imitated and may be substitutable" (Powell, 1992:551). The article suggests that previous studies produced inconsistent results because they did not account for the dissemination of strategic planning over time, or

for industry differences in strategic planning factor markets.

Powell tests these perceptions by examining two industries selected on the basis of one having planning "equilibrium" and the other having planning "disequilibrium." Findings suggest that the planning equilibrium industry has no real strategic planning-performance association while the industry with planning factor market imperfections has positively related planning-performance outcomes.

Although the application of the resource-based view of the firm may be an interesting direction for planning researchers to pursue, there is further conceptualization necessary to adequately apply resource theory to strategic planning research. Powell's argument that strategic planning is easily imitated and may be substitutable is questionable. So much strategic planning, even in "planning equilibrium" industries is so poorly done (see Mintzberg, 1991; Reid, 1989), that it might be better said that only poor planning is easily imitated.

Good strategic planning takes extreme effort and attention (Ansoff, 1990). Reid (1989) argues that it must become living and embedded in the culture of an organization

before it can be effective, or, as Powell might say, a competitive advantage. For every firm in the grocery industry to imitate some of Food Lion's simple cost-cutting measures (like recycling grocery carts) is easily plausible. However, it is less plausible that those firms could also easily imitate a given firm's strategic planning system and the necessary implementation of that system.

The most compelling argument that Powell makes is that there are good reasons for examining planning on an industry by industry basis. This direction has been suggested by many planning researchers (as shown above), and Powell has added strong theoretical logic to the methodological problems of past planning research. As Pearce et al. (1987) suggested, researchers do, in fact, need to carefully study and describe the industries they examine. Rich descriptions of the industries examined and the role planning may play for firms in those industries are quite important.

The most recent broad review and empirical examination of strategic planning is a theory based meta-analysis (Miller & Cardinal, 1992). The conflicting findings in the strategic planning literature marked it as fertile ground for meta-analytic techniques. Miller and Cardinal empirically tested their broad, potentially more

encompassing planning-performance model by using meta-analytic data drawn from 24 previously published studies.

Their broad contingency approach to planning allowed them to reveal a more complete picture of the nature of the planning-performance relationship and its important contingency factors. Contingency factors examined were: (1) definition of planning, (2) firm size, (3) environmental turbulence, (4) capital intensity, (5) performance subconstructs: sales growth, earnings growth, and profitability, (6) planning horizons, (7) industry effects, and (8) data sources- multiple vs single informant.

All of these factors were prevalent in most previous planning studies except for capital intensity and planning horizon. Capital intensity is the most interesting of the new contingencies. The authors argue that capital-intensive industries will find strategic planning to be much more critical due to the large fixed expenditures necessary and the binding, long-term nature of these expenditures. More labor intensive or low capital industries are less restrictive, allowing firms the flexibility to change strategic direction more easily while making long-range strategic planning somewhat less important.

Interestingly, the key contingencies were found to be industry effects, sources of data, definition of planning used, and environmental turbulence. The other contingencies examined (firm size, capital intensity, planning horizon) appeared to have no significant association with any of performance subconstructs (growth, profitability, performance). Table 2 lists which contingency variables were associated with which performance subconstructs.

Table 2: Contingency variables and performance constructs

PERFORMANCE CONSTRUCT	CONTINGENCY VARIABLES
Growth	Industry effects Sources of data Definition of planning
Profitability	Sources of data Environmental turbulence
Overall performance	Industry effects Sources of data Definition of planning Environmental turbulence

Miller and Cardinal's findings regarding organizational size were interesting. As mentioned above, previous planning research frequently cite firm size as a factor that influences linkages between planning and performance. Strategic planning is considered by many to be more important in large firms than in small firms because of the

complexity, both internally and externally that they must deal with (see Pearce, et al., 1987). Miller and Cardinal did not find size to have significant impact on the planning-performance relationship.

They argue that planning may be critical for small firms for the following reasons: First, outside constituents often closely monitor the activities of smaller firms due to the high failure rate of these firms. These constituents expect to see "rational" approaches to management followed. Constituents perceive management activity to be legitimate if it adheres to this rational behavior (see Langley, 1989, and Feldman & March, 1981, for detailed discussions of the legitimizing effects of comprehensive, rational analysis). Second, as Aram and Cowan (1990) have offered, small firms may be more vulnerable to volatility and change in the competitive environment than larger firms are, due to differences in organizational slack. Planning may, therefore, be a critical tool for small firm survival.

SUMMARY

The literature reviewed above reveals the lack of unity in strategic planning research. Moreover, one can see where there is a need for a fresh approach which addresses many

previous problems and adds clarity and unity to planning research.

Clearly, some concerns must be addressed. First, planning must be defined much more practically and comprehensively, rather than in terms of formality or sophistication continuums. Second, data must be collected from multiple sources and the sources used must address the theoretical implications of the research design. Third, industry context must be adequately described and controlled for. Fourth, it is imperative that detailed descriptions of organizational environment be included. Fifth, multiple measures of performance must be used and those selected measures must be theoretically sound for the industry(s) examined. And finally, strategy, or strategic decision-making, the ultimate outcome of the strategic planning systems, must be included in any comprehensive examination of planning-performance relationships.

The inclusion of strategy in the examination of strategic planning systems may be the most important issue to address. It seems reasonable to conclude that studying the strategic planning process without including strategy is like examining the lines of a computer program without knowing what the program is suppose to accomplish. We can

examine each line of computer code for clarity and correctness, yet we can not know whether the combined code will fulfill its purpose. Likewise, planning systems must be examined in the context of the strategy to which they are married. We must remember that we call them *strategic* planning systems because they are intended to support the strategic management process.

CHAPTER 3

THEORETICAL MODEL

One of the central tenets of strategic management theory is that an organization must find a effective "fit" between itself and its environment (Pfeffer & Salancik, 1978; Aldrich, 1979; Lawrence & Lorsch, 1967; Miles & Snow, 1978; Venkatraman & Prescott, 1990). Theory and research suggest that fit means an organization's structure is well suited to exploiting the resources of its environment (Miles & Snow, 1984). Likewise, if environmental contexts are subject to the strategic choices of organizations (Child, 1972) and strategy is viewed as alignment mechanism between the organization and its environment (Mintzberg, 1979), then an organization's strategy should reflect the most crucial elements of its environment.

Some theorists have proposed that information is the key element involved in this process of aligning environment, strategy, and structure (Galbraith, 1969; Galbraith & Nathanson, 1979). The Information Processing Perspective (IPP) attempts to understand organizational behavior by examining information flows in and around organizations (Knight & McDaniel, 1979). The IPP incorporates such organizational activities as the analysis

and transfer of environmental data to organizational managers, and feedback from monitoring and control mechanisms within organizations.

Thompson (1967) conceptualized some of the initial information-processing ideas, and Galbraith (1973, 1977) and Tushman and Nadler (1978) refined and developed these concepts, adding specificity. Numerous studies have indirectly used some form of IPP to examine organizations (Burns & Stalker, 61; Lawrence & Lorsch, 1967; Duncan, 1973; Van de Ven, Delbecq, & Koenig, 1976), while others have used it much more explicitly (Egelhoff, 1982; Smith, Grimm, Gannon, & Chen, 1991).

As mentioned previously, many writers have viewed strategic planning as primarily an information-based managerial system (Andrews, 1971; Steiner, 1979; Mintzberg, 1981). Mintzberg has argued that planning consists of information gathering and decision programming (as represented in Figure 1 above). It is imperative that planning be examined in this broader informational role, rather than its narrower treatment as being in some state of formality or sophistication. In other words, the IPP approach may provide much greater clarity to the role

planning plays in organizations and address some of the voids in previous strategic planning literature.

For macro level studies such as this one, the difficulty in measuring detailed information-processing phenomena within firms is evident (see Tushman, 1978 or Van de Ven, et al., 1976 for examples of micro information-processing studies). Instead of attempting to directly measure information-processing events, this study uses information-processing as a theoretical framework to specify and explain relationships between planning process variables and strategy, both of which have information-processing implications.

Accordingly, organizations are viewed here as an information-processing system (Galbraith 1969, 1973, 1977). Viewing organizations as information-processing systems requires a contingency approach to theory development. That is, the information requirements of a firm are contingent upon the combination of strategy/strategic decision processes, structure and the environment of that firm. Moreover, a firm's strategy requires specific information, and this information is provided in a large part by the strategic planning system (Steiner, 1979). Therefore, strategic planning system design and focus is often driven

by the specific strategy pursued (Miles & Snow, 1978; Steiner, 1979; Ansoff, 1990; Mintzberg, 1981).

In sum, there is good fit between strategy and the strategic planning system when the information-processing requirements of a firm's strategy are satisfied by the information capacities of its strategic planning system. As we will develop in more detail shortly, pursuit of a given strategy requires appropriate informational support systems. The primary information system within organizations is the strategic planning system. Information critical to sustaining the organization's strategic orientation is received (Lenz & Engledow, 1986) and interpreted (Daft & Weick, 1984) by the strategic planning process.

Mintzberg argues that planning has an inherently informational role with regard to strategic decision-making. Although it is still somewhat unclear how or why top managers come to certain strategic decisions, what happens before and after those decisions are made is more clearly understood. Mintzberg (1981) argues that decision makers receive large amounts of information from the scanning function of the strategic planning system.

In addition, he suggests that strategic planning also plays the role of decision programmer. Information about

strategic decisions permeates the organization by way of goals, plans, and budgets, and, each of these are often generated by the strategic planning system. This is clearly a formal information transfer that clarifies to the entire organization the logic and need for implementing strategic decisions.

Miles and Snow (1978) argued that different strategic approaches require different organizational systems. Their widely used typology is driven by the recognition that as the strategic orientation of a firm changes the systems necessary to support that orientation change. They provide specific descriptions of how strategic planning systems can be anticipated to be structurally different across firms with different strategic orientations (Miles & Snow, 1978:42,61,75).

Implicit in the Miles and Snow's theoretical perspective is the role of information in the organizational adaptive cycle. Using a strategic-choice perspective of organizational alignment processes (Child, 1972), Miles and Snow emphasize "the role of the top decision makers who serve as the primary link between the organization and its environment" (Miles & Snow, p:20). The dominant coalition of an organization enacts (Weick, 1977) its environment by the

way it perceives its external context given the information generated through scanning activities. This coalition segments the environment based on the degree of importance ascribed to the information generated by different segments.

Miles and Snow argue that firms must address three major problems of adaptation: the entrepreneurial problem, the engineering problem, and the administrative problem. The entrepreneurial and administrative problems are inherently informational problems, while the engineering problem often concerns structural and technological concerns (although communication and control linkages necessary to ensure proper operation of technologies is important, information is not as critical to the engineering problem).

Entrepreneurial decisions involve domain or product/service selection based on the information provided by the organization's environment. Administrative decisions are concerned with the rationalization and articulation of the solutions produced by the entrepreneurial and engineering phases. Information based activities such as goal generation, coordination, monitoring, and control are attended to in the administrative phase.

There are clear similarities in Mintzberg's and Miles & Snow's view of the role of information in the strategy

making process, and how strategic planning systems help to provide this information. Mintzberg sees strategists being provided information from the scanning and analysis activities of the strategic planning system, as do Miles & Snow (Miles & Snow refer to the information gathering necessary to provide the dominant coalition with timely information during the entrepreneurial phase).

The implementation activities that are attended to, after strategic decisions have been made, are also part of the strategic planning process. Mintzberg describes this form of strategic planning activity as the programming of strategic decisions, while Miles & Snow refer to the rationalization and articulation of organizational decisions made during the entrepreneurial and engineering phases. A theoretical model, representing the information-processing role of planning is shown in Figure 2.

This model represents a holistic yet concise, information-based perspective of the strategic planning cycle. As mentioned above, planning as information gathering (CAPABILITY I) is concerned with environmental scanning and competitor analysis. This information is collected and injected into the strategic decision-making process, and

adjustments are made to the planning function as information inadequacies develop or information needs change.

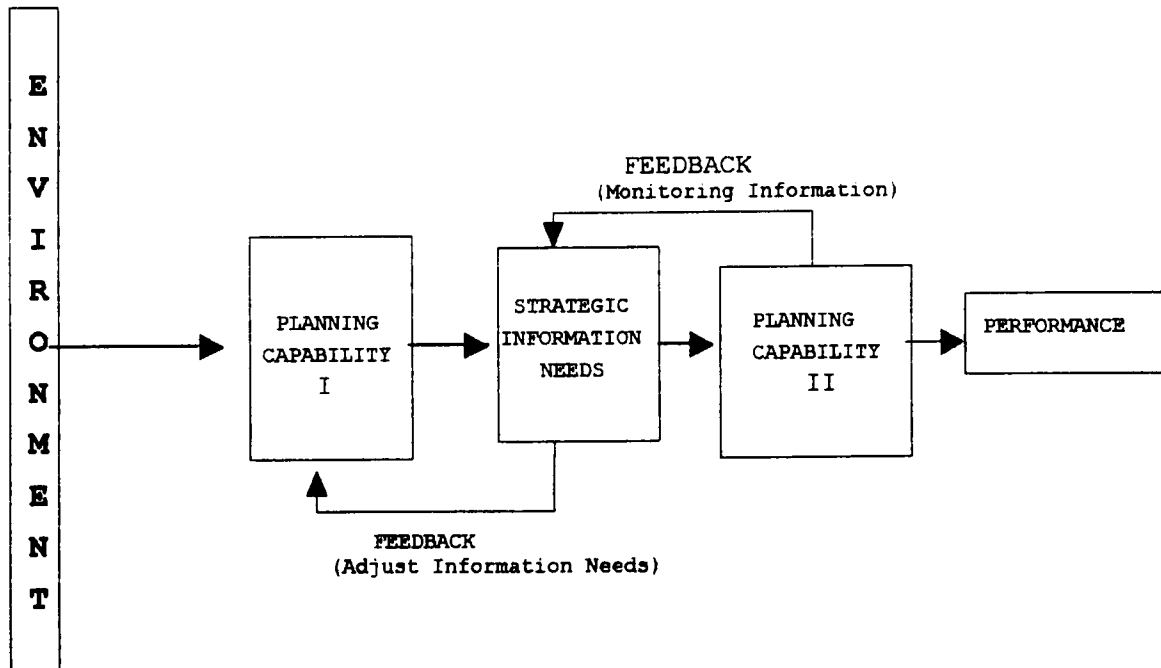


FIGURE 2:
Planning's role before and after strategic decisions

Planning as programming (CAPABILITY II) represents the multitude of functions performed by planning to assist in the implementation of strategic decisions. Specific goals are generated to meet the objectives set by strategic directives. Planning also has been argued to be, not separate from, but synonymous to both coordination and

control (Anthony and Dearden, 1980). In fact, Hrebiniak and Joyce (1984:114-123) argue that poor or unsuccessful strategic implementation may be due, in part, to the breakdown of the control and coordination functions of planning.

All of the dimensions of planning CAPABILITY II in the model are, in fact, quite closely linked together. Hrebiniak and Joyce (1984) suggest that successful implementation may be described as follows. Information about current operations is gathered and analyzed such that specific goals (objectives) can be established which will help to generate achievement of strategic decision outcomes. These goals (objectives) must be measurable so that they provide an opportunity for quantifiable measurement for the control process. Coordination of activities across functional areas produces consistency of purpose and equitable controlling functions. Control itself becomes an intensely information driven process as goals are measured against actual outcomes.

The feedback loop from the implementation side of planning becomes a critical function as decision-makers receive information about gaps between objectives and actual performance outcomes. Adjustments can be made to allow the

implementation process to be more dynamic and fluid, much as Miles and Snow (1978) described it, and other strategy researchers have concurred (Mintzberg, 1991; Quinn, 1980).

Given that information-processing theorists have argued that different strategies require different types of information (Thompson, 1962; Galbraith, 1973; Galbraith and Kazanjian, 1986), and by arguing herein that planning fills primarily an information-processing role in organizations, this paper is designed to determine the nature and extent of differences in the planning systems of firms that pursue different strategies. Moreover, we endeavor to reveal the performance implications of creating a congruent relationship between strategy and strategic planning systems.

The Miles and Snow typology has been chosen to be used to represent strategy types in this study. This typology is quite advantageous for a number of reasons. First, it has been empirically examined extensively and has been determined to be relatively sound and inclusive in representing organizational strategy (Zahra & Pearce, 90). Second, specific information flows are described for each of the strategic types. Third, there are clear and useful descriptions of the anticipated strategic planning systems

for each type. Given this papers purpose of examining differences in information provided by strategic planning systems, the typology becomes a beneficial tool for analyzing strategy-planning relationships.

Strategic typologies have been used extensively by strategy researchers (Mintzberg, 1973; Utterback & Abernathy, 1975; Miller & Friesen, 1978; Miles & Snow, 1978; Porter, 1980). Each of these theorists have sought to understand the strategic orientation of firms in relation to multiple variables relevant to firm effectiveness. Specifically, these authors have sought to understand the relationship between strategy type, firm specific variables, and performance.

The complete descriptions of each strategy type provided by Miles and Snow reveal the nature of many strategy variables and strategic systems within each type of firm. They based these descriptions on research in four industries: college textbook publishing, electronics, food processing, and health care. The key element of this typology is the adaptive cycle firms move through as they change products or markets. Miles & Snow identified three successful strategy types which they named Prospectors, Defenders, and Analyzers. A fourth type, Reactors, have a

weakly articulated strategy and can be described as unstable and potential precarious.

Prospectors compete through new products, product innovation, and market development. Products change often in the Prospector firm and new markets are continually explored and developed. Defenders compete in relatively stable product markets. They offer a much more narrow range of products than competitors, and compete through cost leadership, quality, and service. They do not channel great amounts of resources into product or market development. Analyzers are an intermediate form, combining elements of both Defenders and Prospectors.

The Miles and Snow typology has been used extensively in strategy research (see Zahra and Pearce, 1990 for a recent review; see Shortell & Zajac, 1990 regarding reliability and validity). Although there have been numerous occasions of poor administration of this typology, the general consensus is that the typology is useful, especially given its parsimonious descriptions and attention to adaptability cycles in organizations.

The Prospector and Defender types identified by Miles & Snow have been similarly represented in other studies by other theorists including differentiation and cost

leadership types (Porter, 1980), entrepreneurial and planning mode (Mintzberg, 1973), innovators and dominant firms (Miller & Friesen, 1978), and performance maximizing and cost minimizing firms (Utterbeck & Abernathy, 1975). Analyzers and Reactors do not have specific counterparts in other empirical or theoretical organizational examinations. However, this may be, in part, due to Defenders and Prospectors being clear opposites, while firms that lie in between them may be more muddled or mixed types.

There are both theoretical precedence and sound reasons for limiting analysis to the two most different types. Some studies, such as Hambrick (1980,1983), Simon (1987), have argued for the usefulness of examining Prospectors and Defenders because of their clearly defined differences. In these studies, the empirical interest was directed toward specific organizational constructs anticipated to be different between different firms. Like this study, they did not try to specifically examine the Miles and Snow typology. The typology was simply a useful framework for examining other organizational phenomena. Additionally, there is substantial theoretical and empirical organizational descriptions, such as those earlier, that similarly describe both Prospector and Defender strategy types.

There are two additional reasons for using the typology in this study. First, numerous studies have found the typology to be a useful means of classifying generic strategy types across diverse industry settings (Hambrick, 1983; Snow & Hambrick, 1980; Hambrick, 1982). Second, Miles and Snow give clear representation of the planning function in each strategy type. They also argue that the planning system of a firm should fit the firm's strategic orientation. This paper argues the same point, and therefore, finds the Miles and Snow typology to be a valuable tool to use in exploring the information-processing role of strategic planning within a specific strategic context.

It should be noted here that on only two occasions has strategic planning/strategy "fit" been examined. Pearce, Robbins, and Robinson (1987) examined the relationship between grand strategy and planning formality, and their effect on performance. Robinson and Pearce (1988) examined how strategy and planning formality work to affect firm performance. Both studies concluded that planning can increase performance, yet both studies were limited in that they examined planning in terms of formality rather than

revealing its dimensions and how those dimensions interact differently with different strategic orientations.

HYPOTHESES

Using Miles and Snow's typology will allow for the explication of specific hypothesis about the anticipated relationship between the information needs of given a strategy type and the planning system design necessary to provide such information. Both the theory and research of Miles and Snow, as well as subsequent empirical and theoretical examination of the typology can be used to develop these arguable relationships.

Substantial differences between the types have been suggested by both Miles and Snow's descriptions and subsequent research (Zahra & Pearce, 1990). Miles and Snow argue that Prospectors and Defenders are the most noticeably different types. Prospectors are product and market driven, while Defenders are efficiency and process driven. Analyzers are a hybrid mixture of both the Prospector and Defender types, paying attention to both product/market development and process/efficiency. Miles and Snow argue that Reactors have no coherent strategy. This study will strive to reveal planning differences by examining the two strategy types

that Miles and Snow proposed would be the most different, especially different in terms of planning system design.

Miles and Snow describe planning in the Defender to be "intensive rather than extensive, oriented toward problem solving rather than problem finding, and undertaken prior to organizational action" (Miles and Snow, 1978:42). They argue that planning is intensive and takes a more narrow spectrum of efficiency and process factors into consideration. For Prospectors, "planning is broad rather than intensive, oriented toward problem finding, and contingent upon feedback from experimental action" (Miles & Snow, 1978:61).

Odom and Boxx (1988) found that Defenders emphasized more informal planning methods, while Prospectors used more sophisticated, formal planning approaches. They also argued that since Prospectors and Defenders view the importance of the environment differently, their planning systems will necessarily be different. Shortell and Zajac (1990) found Prospectors to be more formal and innovative in their planning methods than Defenders, while Floyd and Woolridge (1992) found Defenders and Prospectors differ regarding implementation and information processing activities of middle managers.

The dichotomy presented above is of two strategic orientations with markedly different information needs and substantially different methods of meeting those needs. Prospectors incorporate a broad base of information into the strategy process while Defenders are much more focused on information related to efficiency. Consequently, it is hypothesized here that:

Hypothesis 1: Strategic planning system attributes will differ significantly between Prospector firms and Defender firms.

Previous literature suggests that Prospector firms will place a greater emphasis on scanning the external environment than Defender firms. Miles and Snow argue that the Prospector's orientation toward products and new market development will drive them to pay particular attention to scanning the general environment for new opportunities. They suggest that "because the Prospector continuously monitors an eclectic array of external organizations and events, it must process a diverse and sometimes contradictory flow of information about conditions in current and potential domains" (Miles & Snow, 1978:61).

Hambrick (1982) made a similar argument although his unit of analysis was the CEO rather than the firm and its

strategic planning system. Hambrick found that CEOs in Prospector firms did spend more time and effort monitoring the external environment as a whole. However, he also found that Defenders monitor specific segments of the external environment quite intensely.

For example, Defenders were found to scan the "engineering" environmental segment, hoping to find new technologies and processes than might be use to enhance efficiency capability (Hambrick used four environmental segments in his analysis based on the Miles and Snow typology descriptions; Those environmental segments were: entrepreneurial, engineering, administrative, regulatory). Prospector CEOs, however, examined a broader range of the environment just as Miles and Snow suggested they would.

A substantial number of studies which examined the differences in scanning activity between the Miles and Snow types had similar findings (Hawes & Crittenden, 1984; Zahra, 1987; McDaniel & Kolari, 1987; Conant, et al., 1987; Zajac & Shortell, 1989). Generally, they found that the information required by Prospectors and Defenders was different and that scanning activity was different for the different types.

This study suggests that Prospectors are more intensive environmental scanners and cover a broader range of

environmental segments. Their strategic planning systems will reflect this intensive focus by design. We suggest the following hypothesis:

Hypothesis 1a: Prospector firms will be more intensive environmental scanners than Defender firms.

Strategic planning systems often have a strategic control component that is designed to benefit the implementation of strategic decisions. Although control systems and planning systems have often been thought of as separate processes, here control is represented much as Anthony and Dearden (1980) represented it. That is, control can be seen as a dimension of the overall strategic planning system.

This is more evident in the following definition of control: "the formalized procedures and systems that use information to maintain or alter patterns in organizational activity" (Simons, 1987:358). This definition excludes informal control systems such as social control and cultural control (See Jaeger (1983) for a description of social and cultural control). Because we are primarily concerned with the formal strategic planning processes within organizations, our analysis will concern itself with only

the formal control systems associated with these systems. We do not suggest that social and cultural control are unimportant, they are simply outside the scope of this research.

Many studies have examined control system attributes and organizational design choices (Merchant, 1984; MacIntosh, 1981; Gordon, et al., 1978; Tushman & Nadler, 1978; Ansari, 1977; Bruns & Waterhouse, 1975; Gorry & Scott Morton, 1971). These studies argue that control system attributes such as tightness of budget goals, use of cost controls, reporting frequency and levels of monitoring intensity vary across organizational design choices, and also differ given organizational strategic orientation. Miles and Snow suggest that control system design differs with a firm's strategy. Generally, this differentiation occurs because of the nature of the information required by the pursuit of a given strategy (Khandwalla, 1972; Miller & Friesen, 1982).

Previous theory suggests that Defenders will place heavier reliance on formalized accounting procedures used in the post-decision planning process to implement strategic control (Miles & Snow, 1978; Simon, 1987). Specifically, Defenders will emphasize cost control, trend monitoring and

efficiency. Efficiency information is supremely valuable in the Defender type as it monitors its cost position.

Prospectors, on the other hand, will emphasize accounting control systems less than Defenders. As Simons (1987) argued, Prospectors place greater emphasis on fostering individual creativity and innovation. His findings supported this position. Furthermore, Thompson (1967) argued that innovation and administrative control are to a great degree incompatible.

Differences in the emphasis of control within the strategic planning process are expected across strategy types because of the efficiency information needs of the Defender. Therefore, the following hypothesis is suggested.

Hypothesis 1b: Defender firms will place greater emphasis on the accounting control dimension of strategic planning than Prospector firms.

Miles and Snow argue that Prospectors and Defenders are markedly different in their need to coordinate and integrate across functional areas. Being oriented more towards market/product adaptability, Prospectors tend towards organic flexibility. With many decentralized activities subject to only general top management control, "Prospectors must employ complex and often expensive forms of information

coordination in order to manage subunit interdependence" (Miles & Snow p.63). Information flows are often horizontal and decentralized. The information integration necessary across functional areas is, in part, due to the many highly interrelated operational activities (Thompson, 1967; Lawrence & Lorsch, 1967). Simple coordination mechanisms may not provide the necessary integration.

Researchers have generally found that increased rates of product and process change (Prospector) require more information processing coordination between interdependent subunits (Burns & Stalker, 1961; Emery & Trist, 1965; Lawrence & Lorsch, 1967). Galbraith (1977) argued that increased levels of product introduction, as in the Prospector type, necessarily requires more integration and coordination mechanisms. Accordingly, McDaniel and Kolari (1987) found high horizontal integration in Prospector banks.

Unlike Prospectors, Defenders are much more control oriented, needing far less across-function coordination. In fact, the very hierarchical and centralized nature of the information flows in the Defender type is somewhat opposed to broad coordination and integration (Thompson, 1967). The resolution of conflict associated with decision

implementation is often achieved by chain of command in the Defender type, whereas Prospectors make greater use of integrators to help alleviate conflict and improve information communication.

As mentioned earlier, strategic planning systems often incorporate a dimension which attends to coordination and integration (Steiner, 1969; Warren, 1966, Lawrence and Lorsch, 1967; Mintzberg, 1981; Athreya, 1970), especially across functional areas. Given Miles and Snow's descriptions of coordination and integration within the Prospector and Defender types, substantial differences within strategic planning activities of coordination can be expected.

As represented above, we anticipate that strategic planning in the Prospector type will incorporate intense horizontal, across-function information coordination to improve the integration of multiple projects. Defenders will require less integration because of the vertical nature of information flows within their centralized organizational structure. The following hypothesis is suggested.

Hypothesis 1c: Prospector firms will place greater emphasis on the coordination and integration activities of strategic planning than Defender firms.

As the uncertainty of the organization's task increases, planning increasingly takes place to specify outputs, increase analysis, generate goals and the plans associated with those goals (Galbraith, 1977). As the information processing needs of a firm increase due to task uncertainty, planning becomes more critical as decision-makers become overloaded with the complexity of multiple decision criteria (Galbraith, 1977; Tushman & Nadler, 1978). Decision-makers must make more decisions with more information as task uncertainty increases, and planning becomes a vehicle for reducing information overload as well as programming some decisions.

Gupta and Chin (1991) found substantial support for the argument that task complexity, and the associated decision complexity, leads to marked increases in information processing requirements. They examined the information processing requirements associated with firms in different stages of the organizational life cycle. They found that firms in the maturity stage of the organizational life cycle tend to invest more in information processing due to increased environmental uncertainty, differentiation, task variety, and task complexity. Galbraith (1982) found similar increases in planning and communication processes as firms

moved further along the life cycle. Much like Gupta and Chin, he argued that increased task uncertainty, environmental scanning requirements, and integration needs produced the increased use of these information processing systems.

Prospectors are much more dynamic and adaptively oriented than Defenders, and hence face greater task uncertainty. Defenders are a more stable type, placing greater focus and resources on maintaining proficiency in a more narrow competence set. This narrow focus reduces task uncertainty.

Prospectors will allow plans to coalesce through intense internal and external analysis of information, whereas Defenders will focus analysis on monitoring the achievement of efficiencies (Miles & Snow, 1978). Miles and Snow argue that Prospectors are extensive analyzers. Information is valued, in general, and is acquired by the strategic planning system from multiple sources. Defender's analyze in a more narrowly focused manner. For example, they monitor a narrow segment of the external environment, looking for process innovations rather than monitoring competitors or seeking domain changes. Miles and Snow suggest Defenders really focus on the engineering segment of

the external environment, where they can find product or process innovation that may improve efficiency. Otherwise, they do not attempt to clearly perceive their environment, and consequently, they become internally focused.

Regarding implementation, Defenders narrow their analysis down to specific, critical cost centers and resources so that efficiency can be achieved in those critical tasks. Prospectors use breadth of analysis rather than intensive, focused analysis. They analyze the external environment in a broad fashion while their implementation analysis is extensive and oriented toward uncovering problem areas associated with multiple projects. Products and processes may change often increasing task uncertainty and requiring continuous communication regarding implementation activities. Integration across subunits becomes critical, and information becomes a key tool in facilitating integration and coordination (Miller, 1989).

Floyd and Wooldridge (1992) found the tasks of information synthesis and decision implementation to be more strongly associated with the Prospector type. Shortell and Zajac (1990) argued that Defenders, because of their emphasis on stability and efficiency and their need for predictability, would exhibit the greatest degree of

planning formality. They predicted Prospectors would exhibit less planning formality, yet more planning innovativeness. They found that Prospectors were inclined to have significantly more planning formality as well as planning innovativeness (as Galbraith {1977} implied).

We agree with the explanation proposed by Shortell and Zajac that Prospectors may require a more formal planning system than other strategic types to improve their response to the uncertainties of new market opportunities. Findings which indicate Prospectors are more information intensive and sophisticated planners are consistent with hypothesis 1a and 1c above and also with the proposed description of strategic planning as a key alignment mechanism between strategy, structure and the environment.

As previously mentioned, Prospectors are a more dynamic and adaptive type. Accordingly, one can anticipate greater use of planning in its informational role so as to facilitate new product and market discoveries as well as implementation of multiple product or market accessing projects.

Moreover, the dynamic information-processing model presented above represents two feedback loops that clearly become more critical to the Prospector type. The feedback

loop from strategic decision making back to the environmental scanning and analysis activities of the planning system is arguably more critical for the Prospector type, as Miles and Snow so argued. Additionally, the second (post decision) feedback loop provides information from the eclectic array of product and market projects being pursued by Prospectors. Its own criticality is clear. This information allows decision-makers to make adjustments regarding potentially risky projects (Simon, 1987).

Miller (1989) found that a strategy of innovative differentiation (Prospector) is associated with more information processing needs and subsequent capacities than cost leadership strategies (Defender). He argued this was in part due to the strategy's need to scan, plan, and analyze, as well as its desire to "direct and integrate the conceptualization, commercialization, and implementation phase of innovation" (Miller, 89:245). Likewise, Miller (1987) found the complexities and uncertainties facing innovation and differentiation strategies required sophisticated systems of information processing. We associate those information processing systems with sophisticated strategic planning processes.

Consistent with Galbraith (1973,1977) and with Miller's (1987,1989) findings, we propose the following hypotheses:

Hypothesis 1d: Prospectors will place greater emphasis on goal and plan generation as a means of reducing uncertainty.

Hypothesis 1e: Prospectors will incorporate broad information analysis while Defenders will focus their analysis on a more narrow stream of information.

Hypothesis 1f: Prospectors will exhibit a more flexible planning system that requires more information adjustment and feedback.

Coalignment, or "fit", is a central concept in organizational research. Strategic management researchers have argued that strategic fit is an important precursor to firm effectiveness (see Venkatraman & Camillus, 1984 for a review). They argue for the importance of an efficient alignment of organizational resources and capabilities with environmental opportunities and threats (Andrews, 1980; Bourgeois, 1980; Schendel & Hofer, 1979). Snow and Miles (1983) invoke this concept of coalignment in positioning the role of strategy in the development of general organizational theory. Venkatraman (1989) suggest research results of the "fit" hypothesis have not been unequivocal. However, in his recent empirical examination (Venkatraman,

1990), general support was found for the assertion that strategic coalignment enhances performance.

Underlying the majority of strategic planning research is the assumption that planning system design contributes to the successful operation and profitability of the firm (Ramanujam, Venkatraman & Camillus, 1986). In the context of this study, a unique planning system design should be found in firms that are pursuing a specific strategy.

Since an information-processing approach to understanding planning/strategy interaction is proposed, firms who pursue a given strategy and achieve a planning system that feeds appropriate information throughout the organization will be better performers (Miller, 89; Simon, 1990). This is certainly a coalignment argument.

This study desires to determine whether or not there is a relationship between economic performance, planning system attributes and strategy. The following hypothesis is suggested.

Hypothesis 2: Firms whose strategic planning systems' information output is congruent with the firm's strategy will be higher economic achievers than firms with poor planning/strategy coalignment.

Summary

The information-processing perspective has been used to develop an integrative model of strategic planning systems. Moreover, strategy has been included as an important variable and key determinant of the appropriate form that strategic planning should take. Our model and hypothesis produce a more clear representation of how strategy must be aligned with an appropriate set of planning system attributes if planning is to be the information generator that it has been described to be.

CHAPTER 4

METHODOLOGY

Sample

Our sample was chosen so that we could control potential environmental variability. Selection of a single industry seemed like a reasonable method for accomplishing this. As mentioned previously, a deficiency of many previous planning studies has been lack of control of environmental variability (Pearce et al, 1987). One cause of this problem has been the extensive use of cross-sectional studies. Ginsberg and Venkatraman suggested that "any theory of organizational strategy would appear to be enhanced if it is generalized across industries, but moving from one industry to another may cause problems in terms of comparability among measures of strategy and its correlates" (1985:429).

Furthermore, they argue that multi-industry samples pose problems in terms of sample homogeneity/heterogeneity and are susceptible to the ecological fallacy (see Datta, 1980). Pearce et al. (1987) argued for single industry approaches to examining strategic planning, as did Powell (1991) in his recent empirical examination of strategic planning. We agree with the usefulness of producing "industry recipes", as Spencer (1983) has called them, for

furthering the understanding of strategic planning as well as other strategy concepts. These recipes will allow us to make stronger statements about the relationships between constructs within a particular industry context.

As a result of the increasing deregulation of banking, increased competition, and subsequent industry volatility, various environmental management strategies (as proposed by Zeithaml & Zeithaml, 1984), including increased strategic planning, can be anticipated on the part of banks. It is important to examine an industry where strategic planning may be an integral part of the strategic process, rather than a budgetary aside.

Also, the study is restricted to one industry because it is useful to frame questions that will have a common meaning among respondents and common measures of performance (see Harrigan, 1983 for a discussion). This approach is common in the strategy literature because it allows for some environmental control (Harrigan, 1983; Hambrick, 1980). This control enhances internal validity, but may reduce the ability to generalize results to other contexts.

A sample of 924 U.S. banks randomly selected from all fifty states was used (banks were randomly selected from the 1990 Rand McNally Bank Directory). Banks of medium size (\$50

million to \$1 billion in assets) were selected. Small banks are excluded because, as Robinson and Pearce (1983) argued, there may not be a consistent incidence of strategic planning in smaller firms. Large banks are diversified such that it becomes difficult to accurately determine appropriate measures of performance, strategy, and strategic planning systems. Therefore, they are also excluded.

Data

Data was collected through both primary and secondary sources. A survey method was used for gathering primary data. A questionnaire (see Appendix A) was sent to the CEO of each bank in the sample. This individual was asked to indicate the strategic orientation of their bank (based on written descriptions of Miles & Snow types) as well as answer 40 scaled questions about the strategic planning system used by their banks.

255 bank CEOs responded to the survey (eight surveys were determined to be unusable). The 255 responding banks classified themselves as follows: Prospectors - 71, Defenders - 86, Analyzers - 80, Reactors - 18. 157 CEOs classified their banks as either Prospectors or Defenders, and therefore, are useful for the remainder of this study.

Banks were examined to see if there were any particular response irregularities in the response patterns. Of particular interest were any differences in size of responding firms and regional disparities. We found no significant size differences between responding and nonresponding firms. Moreover, no significant size differences were found between between Prospectors, Defenders or Analyzer banks. There were no particular differences in regional response rates, although certain states had somewhat lower numbers of responding banks (for example: Kansas, Kentucky, Maine, Missouri, New Jersey, North Carolina, Utah).

Archival performance data was gathered for each responding bank from multiple sources including the American Bank Directory, Rand McNally's Bank Directory, and Standards and Poors. Two variables of interest were not available from these sources (capital/asset ratio and loan loss percentage), and resource constraints did not allow the researcher to gather this data.

Variables and Measures

Strategy: Strategy will be a binary categorical dependent variable. There are at least four common

alternative approaches for identifying and measuring strategy variables: (1) investigator inference (i.e., the researcher, using all the information available, assesses the organization's strategy); (2) self-typing (i.e., the organization's top managers characterize the organization's strategy); (3) external assessment (i.e., experts external to the organization characterize the organization's strategy); (4) objective indicators (i.e., strategy is measured using secondary sources rather than relying on the perceptions of individuals) (Snow & Hambrick, 1980).

Some researchers have argued that CEO's should have the most realistic representation of a firm's strategic orientation because they are the prime strategist (Andrews, 1971). In addition, others have suggested that the CEO is the chief *strategic* planner (Steiner, 69).

However, Snow & Hambrick (1980) pointed out that self-typing is not without its limitations. First, there is possible variance among managers' perceptions of strategy within the same organization. However, Snow and Hrebiniak (1980) found consistent agreement among top managers in the 88 firms they examined. A second limitation is that top managers may tend to report intended rather than emergent or realized strategies (see Mintzberg, 1978 for a discussion of

intended, emergent and realized strategies). Validation through separate sources is probably the best way to overcome this limitation.

Zahra and Pearce (1990) argued that determining which of Miles and Snow's strategic orientations a firm adheres to should be accomplished using multiple measures. This study responded to this suggestion by determining strategic type in two ways: (1) self-type, (2) expert validation. First, CEOs were given descriptive paragraphs of each of Miles and Snow's four strategic types and asked to select their strategic orientation. Snow and Hrebiniak (1980) and McDaniel and Kolari (1987) used this method with success, and we have used McDaniel and Kolari's descriptors because they are tailored to the banking respondents. Although banks were allowed to choose any of the four Miles and Snow strategy types, the focus of this study is on the differences between the two pure types anticipated to be the most different, Prospectors and Defenders.

State bank supervisors (or a recommended and qualified substitute within the supervisory office) were chosen as an appropriate expert group to use for to validate the strategy type chosen by CEOs. Forty-one state bank supervisory offices agreed to participate through telephone contact. The

experts were given a list of the banks which responded from their state and they were then asked to classify each based on brief oral descriptions given by the researcher of a product/market type or a cost/efficiency type. Expert and CEO agreed 84% of the time leading the researcher to the conclusion that the CEO choice of strategy type was, in fact, tapping into realized strategy.

Planning: The second half of our questionnaire requested the CEO to characterize the strategic planning process in his firm. Forty 5-point Lickert scale (5=strongly agree with statement; 1=strongly disagree with statement) items were used. The majority of these items were selected from previous studies that have investigated either strategic planning or strategic information systems (Miller, 1987, 1989; Simons, 1987; McKee et al., 1989; Robinson & Pearce, 1988).

Factor analysis was performed using varimax rotation on the scaled planning system variables (We used the varimax orthogonal method as suggested by Green, 1978:377). An examination of factor solutions with eigenvalues >1 revealed six specific planning system dimensions (see Table 4). Reliability of measures (Cronbach's alpha) ranged from .68 to .94, all close to or well above Nunally's (1978)

suggested minimum reliability score of .70 for exploratory research.

Performance: Three archival measures of performance were gathered: (1) Return on Assets 90-92, (2) Return on Equity 90-92, (3) Loan Growth 90-92. An aggregate measure of performance was calculated by averaging the scores of the three years. All three measures are predominant measures of financial performance in studies relating planning processes and strategy content to organizational performance (Shrader et al., 1984). The advantages of using these three ratios are that they often are publicly reported and they allow comparisons across organizations of different size.

Long and Ravenscraft (1984) argue that there is no preferable alternative measure of profitability. Yet, strategy researchers have long held that reliance on purely accounting measures of performance weakens the representation of firm performance. Nevertheless, this disadvantage was addressed by McKee et al. (1989) when they argued that bank industry studies were unique because (1) the research is conducted in a single industry, rather than across different types of industries, producing a situation especially conducive to financial comparisons (see Price & Mueller, 1986) and (2) banking industry financial reporting

is especially well regulated (Roussakis, 1984) and standardized through the Uniform Bank Performance Report (Garcia, 1985).

To strengthen the accounting measures of performance, CEOs were asked to provide a subjective evaluation of the firm's performance on three performance dimensions in comparison to its primary competitors (see questionnaire in Appendix A). This supports the suggestion by Venkatraman and Ramanujam (1986, 1987) for greater use of perceptual measures in strategy research. Moreover, the technique was used and validated by the planning study of Robinson and Pearce (1988), as well as in studies by Dess and Robinson (1984) and Venkatraman and Ramanujam (1986,1987).

Summary

We believe that the chosen sample, data gathering methods, and measurement of variables presented above add strength to this study. The sample allows us to control for environmental variability which has been a consistent weakness of previous strategic planning studies. We believe it is critical that this issue be addressed in sample selection and we have done so.

We have paid close attention to the validation of our

strategy classification. The use of expert validation strengthens the measure. Moreover, we have used both the planning literature and the information-processing literature to produce a strong set of planning items. These items cover a number of the planning dimensions revealed in the planning literature, and we have linked them by way of the information-processing perspective.

CHAPTER 5

ANALYSIS AND RESULTS

Statistical analysis began with a thorough examination of the individual strategic planning item responses on the CEO questionnaire (see Table 3). As the table shows, we created a chi-square test of significant differences in response patterns for Prospector and Defenders. It is interesting to note that we found significant differences in the response patterns for 38 of the 40 items (some small cell sizes suggest cautious interpretation). We standardized the Likert scaled items before further analysis. This was useful because it allowed positive scores to be representative of agreement on an item, while negative scores represented disagreement.

Table 3 Questionnaire Item Analysis

86 Defenders, 71 Prospectors Response given in percentages DA=Disagree N=Neutral A=Agree (Disagree is the sum of disagree & strongly disagree; Agree is the sum of agree & strongly agree) Items have been shortened somewhat from how they appeared on the instrument D=Defender P=Prospector					
		DA	N	A	χ^2 pvalue
1) Broad, long-range goals known to all managers.	D	9.3	20.9	69.8	.001
	P	32.4	15.5	52.1	
2) Specific, short-range goals known to all mgrs.	D	18.6	8.1	73.3	.001
	P	1.4	2.8	95.8	

Table 3 continued

		DA	N	A	χ^2 pvalue
3) Formal planning rather than intuition.	D	11.6	32.6	55.8	.001
	P	40.8	31.0	28.2	
4) Manager or dept. devoted to formal planning.	D	80.2	4.7	15.1	.006
	P	57.7	5.6	36.6	
5) Regular meetings held to discuss overall strategy.	D	10.5	23.3	66.3	.001
	P	52.1	15.5	32.4	
6) Math & computer models used as planning aids.	D	22.1	23.3	54.7	.001
	P	66.2	7.0	26.8	
7) Written plan covering next twelve months.	D	9.3	14.0	76.7	.001
	P	35.2		64.8	
8) Planning outlook is more long-term.	D	26.7	32.6	40.7	.001
	P	62.0	5.6	32.4	
9) We search systematically for info about competitors.	D	30.2	36.0	33.7	.444
	P	22.5	35.2	42.3	
10) We use market research studies.	D	61.6	24.4	14.0	.001
	P	7.0	7.0	85.9	
11) Search systematically for products, acq & investments.	D	55.8	23.3	20.9	.001
	P	2.8	31.0	66.2	
12) We use tight budget goals.	D	3.5	15.1	81.4	.001
	P	42.3	33.8	23.9	
13) We rely heavily on planning manuals.	D	80.2	17.4	2.3	.001
	P	52.1	11.3	36.6	
14) Trends in perf. closely monitored.	D	1.2	11.6	87.2	.001
	P	56.3	16.9	26.8	
15) Use cost centers & control cost through variance analysis.	D	12.8	10.5	76.7	.001
	P	71.8	9.9	18.3	
16) Our control system monitors nearly all tasks.	D	22.1	43.0	34.9	.001
	P	74.6	12.7	12.7	
17) Forecast data is important to decision-making.	D	18.6	26.7	54.7	.001
	P	50.7	33.8	15.5	
18) We intensely monitor profit centers.	D	10.5	25.6	64.0	.001
	P	69.0	15.5	15.5	

Table 3 continued

		DA	N	A	χ^2 pvalue
19) We develop formal plans for potential prod/mkts.	D	39.5	32.6	27.9	.001
	P	5.6	9.9	85.5	
20 Control reports relate outputs produced to inputs consumed.	D	26.7	30.2	43.0	.001
	P	77.5	14.1	8.5	
21) External data are important to us.	D	4.7	58.1	37.2	.717
	P	2.8	54.9	42.3	
22) Planning helps integrate depts. thru info exchange.	D	26.7	45.3	27.9	.001
	P	1.4	40.8	57.7	
23) Info sharing is critical to our operation	D	20.9	20.9	58.1	.001
	P		2.8	97.2	
24) Our planning is more top-down.	D	18.6	9.3	72.1	.001
	P	69.0	14.1	16.9	
25) Planning primarily concerned with critical organizational functions.	D	12.8	24.4	62.8	.001
	P	63.4	23.9	12.7	
26) Planning helps generate broad goals & plans.	D	16.3	23.3	60.5	.001
	P	1.4		98.6	
27) Planning initiates coordination of projects & objectives.	D	25.6	41.9	32.6	.001
	P		2.8	97.2	
28) Planning sys. is stable, only periodic adjustments.	D	23.3	11.6	65.1	.002
	P	49.3	12.7	38.0	
29) Planners uncover potential new markets.	D	60.5	22.1	17.4	.001
	P	7.0	12.7	80.3	
30) Planning focuses on broad plans, not narrow budgets.	D	32.6	33.7	33.7	.001
	P	11.3	8.5	80.3	
31) Planning helps us achieve coordination & org. unity.	D	27.9	32.6	39.5	.001
	P	1.4	1.4	97.2	
32) We often adjust planning to meet changing needs.	D	25.6	27.9	46.5	.002
	P	5.6	25.4	69.0	
33) Planning's critical role is facilitating info sharing.	D	25.6	29.1	45.3	.001
	P		9.9	90.1	
34) We closely monitor a narrow set of critical tasks.	D	26.7	39.5	33.7	.005
	P	49.3	19.7	31.0	

Table 3 continued

35) Planning is important for achieving efficiency.	D	2.3	14.0	83.7	.001
	P	49.3	23.9	26.8	
36) Our planning systems captures a small array of issues.	D	37.2	19.8	43.0	.001
	P	88.7	5.6	5.6	
37) Planning deals w/ a great variety of strategic issues.	D	41.9	26.7	31.4	.001
	P	4.2	8.5	87.3	
38) Planning must deal with high strategic issue turnover.	D	39.5	23.3	37.2	.001
	P	31.0	4.2	64.8	
39) We really plan all the time rather than at regular intervals.	D	30.2	24.4	45.3	.001
	P	8.5	43.7	47.9	
40) Our strat issues are broad rather than specific	D	62.8	20.9	16.3	.001
	P	18.3	18.3	63.4	

Our factor analysis of these 40 items produced six factors with eigenvalues greater than 1 (see Table 4). The factors represented the following six planning dimensions: accounting control, integration & coordination, flexibility, goals & plans, scanning, broad analysis. All factors had acceptable reliability scores (Cronbach alphas were near or well above Nunally's (1978) suggested minimum of .70). "Goals & Plans" and "Broad Analysis" appear to be comparatively weak factors with only two questionnaire items making up each factor. Lower reliabilities are also associated with these factors. The majority of the variance (79%) in the items is explained by the 6 factors. The six factors represent the anticipated planning dimensions.

Table 4 Factor analysis outcome - Planning dimensions

ACCOUNTING CONTROL (alpha = .94)		Factor loading
• We use tight budget goals.		.82
• Trends in performance closely monitored.		.88
• Use cost centers & control cost through variance analysis.		.90
• Our control system monitors nearly all tasks.		.83
• We intensely monitor profit centers.		.89
• Control reports relate outputs produced to inputs consumed.		.74
• Planning is important for achieving efficiency.		.82
INTEGRATION AND COORDINATION (alpha = .87)		
• Planning helps integrate departments through information exchange.		.89
• Information sharing is critical to our operation.		.77
• Planning initiates coordination of projects & objectives.		.75
• Planning helps us achieve coordination & organizational unity.		.78
• Planning's critical role is facilitating information sharing.		.70
FLEXIBILITY (alpha = .74)		
• We often adjust planning to meet changing needs.		.74
• Planning must deal w/ high strategic issue turnover.		.86
• We really plan all the time rather than at regular intervals.		.78
GOALS & PLANS (alpha = .68)		
• Specific, short- range goals known to all mgrs.		.81
• We develop formal plans for potential products & markets.		.77
SCANNING (alpha = .80)		
• Search systematically for products, acquisitions & investments.		.63
• Planning deals w/ a great variety of strategic issues.		.88
• Our planning systems captures a small array of issues(reverse scored).		.87
BROAD ANALYSIS (alpha = .71)		
• Our strat issues are broad rather than specific.		.97
• Planning focuses on broad plans, not narrow budgets.		.66
** ALL FACTORS HAVE EIGENVALUES > 1		
** 79.6% OF TOTAL VARIANCE EXPLAINED BY THE SIX FACTORS		

We examined the six factors to see if there might be significant correlation among them. Although we did find correlation, no correlation was greater than .38 and most were well below this level (Table 5).

Partial correlations controlling for strategy type produced even lower correlation coefficients. Although the variance of the estimated regression coefficients can increase substantially when there is evidence of multicollinearity, Hanushek and Jackson (1977:88) argue that this tendency does not become pronounced until the correlation between any two variables exceeds 0.50. Even then, the increase in variance is true only for the correlated variables.

Table 5 Means, standard deviations & correlations of factors

DEFENDERS	MEAN	SD	1	2	3	4	5	6
1 BROAD	-.3528	.87	1.000					
2 CONTROL	.4888	.68	.149	1.000				
3 FLEX	-.4327	.92	-.138	-.102	1.000			
4 GOALS	.0504	1.08	-.105	-.375***	.157	1.000		
5 INTEGRA	-.4458	1.03	-.322**	.121	-.038	.018	1.000	
6 SCAN	-.3040	1.12	.029	.081	.197	.067	-.204	1.000
PROSPECTORS	MEAN	SD	1	2	3	4	5	6
1 BROAD	.4535	.96	1.000					
2 CONTROL	-.6353	.95	.159	1.000				
3 FLEX	.6556	.73	.128	-.297*	1.000			
4 GOALS	-.0283	.92	.204	.344**	-.134	1.000		
5 INTEGRA	.3541	.81	.105	.292*	.110	.100	1.000	
6 SCAN	.3717	.70	-.294*	.023	.012	-.008	-.066	1.000

***P < .001 **P < .01 *P < .05

Analysis of variance was performed on the six factors as an initial test of hypothesis 1a through 1f. Factor scores for each bank were used, with strategy type as the grouping variable (see Table 6). Hypotheses 1a, 1b, 1c, 1e, and 1f were all supported at $p < .001$. An examination of the standardized means indicates that, not only is there significant differences in the strategy types on each of these five dimensions, the dimensions scanning, integration & coordination, broad analysis, and planning flexibility all show positive means for Prospectors and negative means for Defenders. The planning dimension of accounting control has a positive mean for Defenders and a negative mean for Prospectors. Hypothesis 1d was not supported by the analysis of variance.

Table 6 Planning Dimension ANOVAs

PLANNING DIMENSION	Prospector (n=71)	Defender (n=86)	F-value
Scanning	.5424 ^a	-.4478	50.13 ***
Accounting Control	-.5998	.4952	66.10 ***
Integration&Coordination	.5839	-.4820	61.25 ***
Goals&Plans	.05	-.04	.26 ns
Broad Analysis	.6863	-.5666	99.65 ***
Planning Flexibility	.2757	-.2276	10.45 ***

^a standardized scale scores were used in the factor analysis

*** $p < .001$

ns = not significant

We used a logistic regression to test hypothesis 1 and reexamine hypotheses 1a through 1f. The logit model took the form:

$$\ln \frac{P}{1-P} = \beta_0 + \beta_1 F_1 + \dots + \beta_6 F_6 + E$$

where P is the probability that the bank is a Prospector, 1-P is the probability that the bank is a Defender, $F_1 \dots F_6$ are factor scores of strategic planning system attributes. β_0 through β_6 are parameters to be estimated.

The logit model presumes that the binary dependent variable (coded "0" for Defenders or "1" for Prospectors) is drawn from logistic cumulative function distributions with selection probabilities conditioned on the observed values of the independent variables (see Pindyck & Rubinfeld, 1981, for a discussion of the logit model). Discriminant analysis is often used in strategy research to test hypotheses with binary dependent variables. However, a distinct advantage of logit analysis is that unlike discriminant analysis, it does not assume normally distributed independent variables (Pindyck & Rubinfeld, 1981).

The null representation of hypothesis 1 (i.e. that there is no differences in the strategic planning system attributes of Prospectors and Defenders can be rejected if the β coefficients of the factor scores in the estimated

model are significantly different from 0. Factor scores were used as independent variables in the analysis while the binary strategy variable was used as the dependent variable (see Table 7). The chi-square statistic for the model ($\chi^2 = 147, 6 \text{ df}$) was significant at $p < .0001$. Additionally, the classification accuracy of the model was 91.08% suggesting the strength of the models ability to predict strategy type given the five planning dimensions. Hence, hypothesis 1 appears to be well supported by our data.

Five of the six planning dimension variables were significant in the model. The "goals & plans" dimension did not come into the model as a significant variable, as would be expected given the earlier analysis of variance. The classification table shows that 81 of 86 Defender firms were correctly classified by the model while 62 of 71 Prospectors were correctly classified.

The logistic model is useful for reexamining hypothesis 1a through 1f. It can be seen from an examination of the betas for each independent variable that 5 of 6 are significantly different from zero. Given that Defender banks were coded "0" and entered into the model as "0", and Prospector banks were coded "1" and entered into the model as "1", we would expect that any variable with a negative

beta is a critical variable for determining the probability of the Defender type. Likewise, any positive beta suggests a critical variable for determining the probability of a Prospector type. We found positive and significant betas for the planning dimensions of scanning, breadth of analysis, planning flexibility, and integration & coordination. The planning dimension accounting control had a negative and significant beta. Clearly, we have additional statistical support for hypotheses 1a, 1b, 1c, 1e, and 1f.

Table 7 Logistic Regression of Strategy Type: CEO determined

Dependent "TYPE" Defender = 0, Prospector = 1							
-2 Log Likelihood	69.213	Goodness of Fit	209.054				
Model Chi-Square	Chi-Square	df	Significance				
	147.000	6	.00001				
Classification Table for TYPE							
		Predicted					
		.00	1.00	Percent Correct			
Observed		+-----+	+-----+				
.00	0	81	5	94.19%			
		+-----+	+-----+				
1.00	1	9	62	87.32%			
		+-----+	+-----+				
		Overall		91.08%			
----- Variables in the Equation -----							
Variable	B	S.E.	Wald	df	Sig	R	Exp(B)
F.BREADT	1.5864	.3709	18.2942	1	.0000	.2745	4.8860
F.CONTRO	-2.3271	.5133	20.5562	1	.0000	-.2930	.0976
F.FLEX	1.3189	.4631	8.1108	1	.0044	.1681	3.7393
F.GOALS	-.0165	.3141	.0028	1	.9581	.0000	.9836
F.INTEGR	1.7289	.4234	16.6698	1	.0000	.2605	5.6343
F.SCANNI	1.3040	.3789	11.8446	1	.0006	.2134	3.6839
Constant	-.2140	.3364	.4046	1	.5247		

Critical to the robust application of the logistic regression model is the reliability of the categorization of the binary dependent variable. Although it is not necessary that the independent variables be normally distributed, the researcher must be confident that the classification of the binary variable is accurate.

We previously mentioned that we used an expert validation procedure for our strategy variable. Although we had a significant level of agreement between CEO and expert, we decided to run our logistic regression a second time using the classification provided by our bank industry experts. Although the model is weakened somewhat, all significance levels are within acceptable standards and the predictive ability of the model is still quite strong (see Table 8). Moreover, strong support is still in evidence for hypotheses 1, 1a, 1b, 1c, 1e, and 1f. Hypothesis 1d is still unsupported in the second logistic regression.

The original research question that directed this research asked "should planning fit strategy". We are not only interested in the hypothesized differences in strategic planning systems associated with different strategic orientations. We want to know if there are planning dimensions that can be associated with increased

Table 8 Logistic regression of Strategy Types: Expert determined

-2 Log Likelihood	88.222						
Goodness of Fit	125.434						
	Chi-Square	df	Significance				
Model Chi-Square	92.464	6	.0001				
Improvement	92.464	6	.0001				
Classification: Percent correct = 87.31%							
----- Variables in the Equation -----							
Variable	B	S.E.	Wald	df	Sig	R	Exp(B)
F.BREADT	.5706	.2737	4.3472	1	.0371	.1140	1.7693
F.CONTRO	-1.1090	.3126	12.5897	1	.0004	-.2421	.3299
F.DYNAMI	1.0604	.3728	8.0924	1	.0044	.1836	2.8875
F.GOALS	.3164	.2857	1.2264	1	.2681	.0000	1.3722
F.INTEGR	1.6802	.3870	18.8537	1	.0000	.3054	5.3667
F.SCANNI	.7560	.3098	5.9536	1	.0147	.1479	2.1297
Constant	-.7340	.2952	6.1806	1	.0129		

effectiveness for a given strategic orientation. With this in mind, we proceed to examine the performance implications of strategy/strategic planning coalignment.

Regression analysis was performed as an initial examination of the relationship between strategic planning dimensions and performance. These regressions investigated the relationship between our three performance variables (ROA, ROE, LOAN GROWTH) and the six strategic planning dimensions. We examined the Prospector group first and found significant models for all three performance variable, although there was mixed evidence of the significance of individual independent variables. The planning variables

explained nearly 50% ($R^2=.4970$, $F=10.57$, $p<.0001$) of the variance in ROA (see Table 9). Scanning, breadth of analysis, and integration were all positive significant terms, while accounting control was a significant negative term.

Planning flexibility was not significant at the 0.05 level ($p=.067$), yet it did have a positive beta. The goals&plans factor was not significant. We recall that these two factors were the weakest produced by the factor analysis.

Table 9 Planning Capability and Performance for Prospectors

	ROA	ROE	LOANGROWTH
R^2	.498	.43	.178
F value	10.57***	8.05***	2.31*
Independent Variables:			
Scanning	.222* ^a	.226*	.21†
Goals&Plans	.129ns	.061ns	.258*
Flexibility	.193†	.134ns	.114ns
Broad Analysis	.421***	.300**	.026ns
Acct. Control	-.358***	-.303**	-.202ns
Integration	.375***	.438***	.193ns

*** $p<.001$ ** $p<.01$ * $p<.05$ † $p<.10$ ns = not significant

^a Standardized beta coefficient

We had similar findings for ROE (see Table 9). The model for Prospectors explained 43% of the variance in ROE ($R^2=.43$, $F=8.05$, $p<.0001$). We had similar results regarding

the individual independent variables. Scanning, breadth of analysis, and integration were all positive and quite significant, while accounting control was negative and significant. Both planning flexibility and goals&plans were not significant terms in the model.

Loan growth produced a weak model (see Table 9). Only 18% of the variance in loan growth could be explained by the planning variables ($R^2=.178$, $F=2.31$, $p<.05$). The betas of the individual terms were in the same direction as the previous models, with accounting control being the only negative beta. Interestingly though, only one term, goals&plans was significant ($p<.05$). The only other term approaching significance was scanning ($p<.10$). We will discuss the possible reasons for this later in detail, however it is easy to speculate that organizations set goals for loan growth and plans for the achievement of those goals, and increased scanning activity to search for loan opportunities.

We examined the Defender group next, and found the regression models for ROA and ROE to be weaker than the models produced for the Prospector type. The loangrowth model was slightly stronger. The planning system variables explained 29% of the variance in ROA ($R^2=.293$, $F=5.44$,

$p < .0001$). Accounting control was the only significant positive planning variable in the model as expected (see Table 10). There were three significant planning variables with negative betas: scanning, breadth of analysis, integration. Goals&plans and planning flexibility were not significant terms in the model.

The ROE model for the Defender type was much weaker than the ROE model for Prospectors (see Table 10). The planning variables explained 20% of the variance in ROE ($R^2 = .195$, $F = 3.19$, $p < .01$). Only two terms were significant in this model. Accounting control was a significant predictor with positive influence, while scanning was negative and significant. Goals&plans, breadth of analysis, integration and planning flexibility were all insignificant terms.

22% of the variance in loan growth for Defenders was explained by the regression model ($R^2 = .22$, $F = 3.72$, $p < .01$). The only term of real significance in this model is accounting control (see Table 10). The strongest of the remaining terms was scanning and breadth of analysis, however no term other than accounting control met minimum significance standards of $p < 0.05$.

We completed this stage of the performance analysis by examining the performance/planning relationship without

Table 10 Planning Capability and Performance for Defender

	ROA	ROE	LOANGROWTH
R ²	.292	.195	.22
F value	5.44***	3.19**	3.72**
Independent Variables:			
Scanning	-.270*** ^a	-.262*	-.183†
Goals&Plans	.021ns	-.040ns	.017ns
Flexibility	-.023ns	-.047ns	-.102ns
Broad Analysis	-.261*	-.009ns	-.167ns
Acct. Control	.482***	.356**	.424***
Integration	-.209*	-.161ns	-.051ns

***p<.001 **p<.01 *p<.05 †p<.10 ns = not significant

^a Standardized beta coefficient

control for strategy type. That is, we pooled the two strategy subsamples together and look at the planning factor's ability to explain variance in performance. Those regressions (see Table 11) produced no significant models suggesting that the planning/performance relationship must be examined in the context of strategy, as we have argued throughout this research.

In sum, we found that there are particular dimensions of planning that are associated with higher performance, given a organization's strategy. A summary of these results can be seen in Table 12.

With these findings in mind, we directed our analysis toward a clear test of hypothesis 2 and its supposition that there will be greater economic performance realized by firms

Table 11 Performance regressions - Combined sample

	ROA	ROE	LOANGROWTH
R ²	.043	.067	.02
F value	1.12ns	1.81ns	.637ns
Independent Variables:			
Scanning	-.088ns ^a	-.085ns	.021ns
Goals&Plans	-.092ns	-.184*	-.313ns
Flexibility	.127ns	.008ns	.020ns
Broad Analysis	.098ns	.155ns	-.065ns
Acct. Control	.080ns	.062ns	.108ns
Integration	.054ns	.029ns	.111ns

***p<.001 **p<.01 *p<.05 ns = not significant

^a Standardized beta coefficient

Table 12 Planning Capability effect on performance variables

	ROA	ROE	Loan Growth
PROSPECTOR	Scanning(+)	Scanning(+)	Scanning(+)
	Flexibility(+)	Flexibility(+)	Goal&Plan(+)
	Broad Analysis(+)	Broad Analysis(+)	
	Integration(+)	Integration(+)	
	Control(-)	Control(-)	
DEFENDER	Scanning(-)	Scanning(-)	Scanning(-)
	Broad analysis(-)	Control(+)	Control(+)
	Integration(-)		
	Control(+)		

that design their strategic planning systems so that they fit the information needs of their strategic orientation. We want to know if there is a specific planning profile that is best suited for the pursuit of a particular strategy.

We chose to follow the "profile analysis" as outlined by Venkatraman (1989), and successfully used by Venkatraman

(1990), and Venkatraman and Prescott (1990) (see also Drazin & Van de Ven, 1985). Venkatraman (1989:29) suggests that coalignment can be viewed "as the degree of adherence to a specified profile with the expectation that deviations from this 'ideal' profile should result in lower performance."

An ideal profile may be defined as an optimal configuration of resources, when delineated as such, produces enhanced performance. We seek to use this analytic approach to determine if there is an optimal way in which to configure strategic planning resources so that planning can enhance performance. Given our information-processing theoretical approach, we believe that there is a deployment of planning resources that optimally supports the strategic information needs of a firm. Accordingly, we use profile analysis to reveal the critical planning dimensions and their relative degree of importance within an optimal mix.

The ideal profile can be defined either empirically or theoretically. The research cited above used an empirically based method for producing a profile. Venkatraman suggested that theory based profile determination is "intuitively appealing" although quite difficult (Venkatraman, 1989:434). We believe that it is important to allow theory to justify the empirically based profile deviation analysis. The lack

of theoretical support appears to be a weakness of previous profile analysis. With this in mind, we endeavored to produce a profile analysis that incorporates rich theoretical argument for the empirically derived profile.

Our analysis began with the selection of an ideal profile group from each strategy subsample. A subgroup is selected based on a criterion performance variable. We selected the top twenty percent of each subsample based on their ROA three year aggregate score produced earlier in the study. ROA has consistently been used by the banking industry as the most accepted accounting measure of performance. We took the factor scores for each planning dimension of the profile group and produced a mean for each dimension (see table 13). The means on each of the six planning dimensions for each strategy type, depicted in table 13, represent the empirical ideal profile based on performance. We examined the profiles of Prospectors and Defenders to see if these profiles fit the theoretically based descriptions and distinctions made earlier in this research (see hypotheses 1a-1f). The Defender 'ideal' profile fits well with the theoretical arguments made earlier. The mean for accounting control is strong and positive as would be expected. Each of the other dimension

means, argued previously to be more critical for Prospectors, are negative for the top performing Defenders.

Table 13 Top performers planning dimension means

TOP PERFORMER PROFILE MEANS (top 20%)				
	DEFENDERS (n=19)		PROSPECTORS (n=15)	
Planning Dimension:	Mean	SD	Mean	SD
Integration & Coordination	-.72	.77	.94	.67
Breadth of Analysis	-.56	.90	.98	.93
Scanning	-.52	.56	.70	.60
Flexibility	-.45	.34	1.15	.32
Goals&Plans	-.25	.90	.08	1.18
Accounting Control	.82	.56	-.60	.65

Likewise, the Prospector profile is well supported by earlier theoretical argument. The only negative mean for this group is for the dimension of accounting control. The hypothesized critical dimensions of integration & coordination, breadth of analysis, scanning, and flexibility are all have large positive means. Interestingly, the planning flexibility dimension is the largest mean for this group of higher performing Prospector banks. The goals& plans dimension is almost neutral for this group, and was also quite weak for the Defender group.

In sum, we believe the two empirically defined groups fit well with the theoretical arguments made earlier

regarding the optimal planning profile for each strategy type. Our Defender profile group is more control and efficiency oriented, directing few resources toward other planning dimensions. The Prospector profile group, on the other hand, is less control oriented, with planning resources invested in multiple critical planning dimensions. We believe that theory supports the empirically revealed profiles.

Next, we produced a measure of misalignment based on the means scores for the six planning dimensions. These means represent the ideal profile, which has been likened to the statistical approach of a 'best fit' regression line (Venkatraman, 1990; Dewar & Werbel, 1979). The means for the profile group were used to calculate Euclidean distances for each planning dimension for the rest of the study group. Consequently, a new misalignment variable was produced for each of the six planning dimensions based on the profile means. The proposition is, as the magnitude of this misalignment variable increases, an observable decrease in performance should be in evidence. Descriptive statistics for these misalignment variables can be seen in table 14.

If coalignment has important performance implications for banks, as hypothesis 2 suggests, the measures of

Table 14 Misalignment variables for profile analysis

<u>Variable</u>	DEFENDER		PROSPECTOR	
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>
MIS-CONTROL	.59	.54	.75	.59
MIS-BREADTH	.68	.58	.88	.65
MIS-FLEXIBILITY	.75	.52	.60	.64
MIS-GOALS&PLANS	.85	.69	.79	.55
MIS-INTEGRATION	.85	.61	.79	.53
MIS-SCANNING	.95	.63	.58	.52
TOTAL MISALIGN	4.67	1.57	4.40	1.52

misalignment should be negatively related to performance. Accordingly, we began our test of the importance of coalignment by using regressions to examine the relationship between performance and the misalignment variables for each planning dimension. We took the study group (the bottom 80%) for each strategy type and ran regressions with ROA as the dependent variable, and the planning dimension misalignment values as independent variables. Table 15 represents the outcomes of this analysis.

Both models were significant. Fifty-five percent of the variance in performance for Prospectors was explained by the planning misalignment variables. Significant variables in the model are misalignment of accounting control, planning flexibility, and integration and coordination. Examining the standardized betas for these variables reveals that the

Table 15 MisAlignment Regressions

	<u>PROSPECTOR (n=57)</u>	<u>DEFENDER (n=69)</u>
R ²	.553	.383
Fvalue	10.10***	6.21***
Independent Variables:		
MISCONTROL	-.460*** ^a	-.305**
MISBREADTH	-.043ns	-.292**
MISFLEX	-.387***	.036ns
MISGOALS	.146ns	-.159ns
MISINTEGRATION	-.323**	.114ns
MISSCAN	-.162ns	-.307**

***p<.001 **p<.01 ns = not significant

^a Standardized beta coefficient

larger the misalignment variable placed into the predictive model, the greater the reduction in the performance variable (given the negative standardized betas). Arguably, these three dimensions have a particular positive impact on performance when resources devoted to them are deployed in a fashion similar to the top performing profile group of Prospectors. Deviation from this profile appears detrimental to performance.

Thirty-eight percent of the variance in performance for Defenders was explained by the regression model. Significant variables in the model are misalignment of accounting control, breadth of analysis, and scanning. Again, given the negative standardized betas, it appears that the greater the magnitude of misalignment on these variables, the greater

the reduction in performance. Profile deviation on these particular dimensions has a negative impact on performance.

Finally, we created a total misalignment variable by aggregating the six misalignment variables for each strategy type. To get a representation of the magnitude of effect of total misalignment across the six variables, we correlated ROA with the total misalignment variable. For the Defender study group (without the profile group), the correlation coefficient was $-.49$ ($p < .0001$, $n=67$). The Prospector study group's correlation coefficient was $-.54$ ($p < .0001$, $n=56$). Clearly, given the negative significant correlation, as total planning misalignment from the profile group increases, performance decreases.

We believe that the profile analysis performed above presents significant evidence in support of hypothesis 2. There does appear to be an optimum level of coalignment between the strategy chosen by a bank and the way that it structures its' strategic planning process to support the information needs of that strategy.

Summary

The results of our analysis clearly suggest that there is a strong association between strategic orientation and

strategic planning system dimensions. Both the analysis of variance and the logistic regression support the our contention that planning systems are different when strategic orientation is different.

Recall that our primary research question was, "should planning fit strategy?" The profile analysis presented above suggests that the answer may be that there is an optimal way to configure the resources allocated to strategic planning given the strategic orientation of the firm.

CHAPTER 6

Conclusions and Implications

Hypothesis 1

We argued that Prospectors and Defenders operate with quite different information requirements. Because these requirements are different, we suggested that information support mechanisms would be different for the two types. Given that planning has a critical information role, we hypothesized that there would be substantial differences in planning processes between the two types. We have found strong empirical support for this argument.

Using logistic regression analysis, we found that the planning systems for the two types are quite different. However, examination of the actual individual items of the questionnaire presents a clearer picture of the nature of these differences.

For example, when asked whether their bank used 'formal planning rather than intuition', 55.8% of Defender CEOs said they did, while only 28.2% of Prospector CEOs agreed (see Table 3). Moreover, 72% of Defender CEOs said that their planning was more top-down, while 69% of Prospector CEOs disagreed with this statement. These responses could be

interpreted to mean Defenders have more formal, sophisticated planning systems. Yet, when the range of responses are examined within the information processing perspective, it becomes clear that Prospectors use more dynamic planning processes to provide the information that drives the intuitive decision process.

These findings are consistent with Shortell and Zajak's (1990) results which indicated that Prospectors were both more innovative and formal in their planning processes. However, our data suggest even a greater degree of sophistication is present in the strategic planning processes of the Prospector type than previous theory or research indicate.

For example, 97.2% of Prospector CEOs said that information sharing was critical to the operation of their banks. In contrast, only 58% of Defender CEOs responded the same. Also, 97% of Prospector CEOs argued that coordination and organizational unity was an important outcome of the planning process, while only 39% of Defender banks agreed with this statement. Furthermore, 90% of Prospector CEOs said that planning's critical role in their banks is facilitating information sharing. Only 45% of Defender CEOs felt this was correct.

Defender bank CEOs painted quite a different picture of their planning systems. For example, 81% said that they used tight budget goals and 87% said that trends in performance were closely monitored (Prospectors: 24% & 27% respectively). In addition, 84% of Defender CEOs responded that planning is important for achieving efficiency, while only 27% of Prospector CEOs responded in kind.

It appears from the statistical evidence that there are certainly substantial differences in planning system attributes between the two Miles and Snow strategy types. Moreover, these differences are clearly distinguishable along the lines of information requirements. In sum, information type and information volume appear to differentiate Prospectors from Defenders.

Hypothesis 1a (Scanning)

Both the analysis of variance (Table 5) and logistic regression (Table 6) found significant differences in the scanning factor across the two strategy types. The scanning function appears to be different for Prospectors and Defenders. Those differences seem to fit well within the Miles and Snow framework.

When we asked CEOs if external data were important to

them, we found no significant differences in the response patterns of Prospectors and Defenders (see Table 3, item 21).

However, a closer examination of other survey items shows that the scanning activity of the two types is quite different. Nearly 86% of Prospector CEOs said that they used special market research studies, and 66% of them responded that they searched systematically for new products, acquisitions, and investments. Also, 62% of Defender CEOs said they did not use market research studies and 56% said they did not search for new products etc.

We also asked about the strategic issues captured by this scanning activity and found significant differences. Notably, 43% of Defenders said scanning captured a small array of issues while 89% of Prospectors did not agree with this suggestion of a small array. Prospectors said they had great variety in their issue array (87% agreed), yet Defenders disagreed with the item on issue variety 42% of the time. Interestingly, we found no significant response pattern differences between the two types when we asked them if they scanned for information about competitors. Both types seemed to scan at similar rates for this information.

The descriptions above fit well with what Miles and

Snow suggested in their typology regarding scanning activities. Miles and Snow argued that Prospectors would be intensive environmental scanners, capturing a broad range of information. Defenders, on the other hand, would scan less, with a more focused effort. Some previous researchers have examined the two types within a dichotomous framework of scanner/nonscanner.

We have found that Defender banks appear to fit well within the descriptions provided by Miles and Snow of this strategy type. Although Defenders do not seem to be as broad and intensive in their scanning activities as Prospectors, they do scan with purpose. Our Defenders appear to value external data as long as it comes from selected areas that support the Defender strategy. Miles and Snow suggested that Defenders would focus their scanning efforts on process oriented information such as within the technological environmental segment.

We found that Defenders are focusing on a more narrow stream of strategic issues. Although we cannot definitively say that these issues come from any specific area of the external environment, they **do not** appear to be associated with product or market development. Clearly though, the issue array is more narrow. In addition, information about

competitors appears to be just as important to Defenders as it is to Prospectors.

Katz and Khan (1978) suggested that there are two measures of boundary spanning. These they termed intensity (amount of time spent in scanning activities) and extensity (number of contacts). Hambrick (1982) reported differences in the intensity of scanning efforts among the Miles and Snow strategy types. Recently, Doty, et. al. produced similar findings (Doty, et. al., 1993). Our data suggest that Prospectors and Defenders may be similar in intensity of scanning, yet different in terms of extensity. Scanning focus (extensity) may provide the critical demarcation of the two types.

Zahra and Pearce (1990) suggested that future research should address how firms with different strategic orientations scan the environment, rather than addressing only magnitude. Our findings begin to address this suggestion by proposing that true differences may be found in scanning focus rather than scanning intensity.

Hypothesis 1b (Accounting control)

The analysis of variance of the accounting control variable revealed significant differences between

Prospectors and Defenders (see Table 5). Notably, this variable was the most significant variable for indicating a Defender type in the logistic regression represented in Table 6.

An examination of the individual survey items reveals the particular focus that Defenders have on the control aspect of planning. Some 81% of these banks said they used very tight budget goals, and 87% indicated that trends in performance were closely monitored (Prospectors 24% & 27% respectively). Moreover, 84% of Defender CEOs said that "planning was important for achieving efficiency." In contrast, only 27% of Prospectors agreed with this statement.

These findings are similar to those reported by Simon (1987). Also, Miller (1988) found that firms pursuing cost leadership used significantly more formal controls than firms using differentiation strategies. It appears that Defenders value accounting control information more than Prospectors do. Also, Defenders appear to focus more on this kind of information in their quest for efficiency.

Roughly two-thirds of Defenders said that planning was primarily concerned with critical organizational functions, while nearly 64% of Prospectors disagreed with that

statement. We find support for earlier arguments we made that Defenders are more focused in their planning analysis because of the critical nature of cost and efficiency information to the Defender strategy type.

Using a contingency perspective, Miller and Friesen (1982) suggested that control systems were important for both product innovation oriented firms and for more conservative firms. They found that control systems in innovative firms monitored the excesses of innovative activity while more conservative firms actually uncovered potential areas of opportunity through control devices.

We believe our data suggests that Defenders may use control systems in this fashion. Control devices may reveal opportunities to enhance efficiency by revealing controllable excesses. In this sense, controls may support innovation.

Khandwalla (1972) found that elaborate controls are often associated with product innovative firms. These firms use control devices for the purpose of integration. We note that we did find a significant correlation between accounting control systems and integration in our Prospector group.

In sum, our data suggests that accounting control

systems are of significant importance to Defender banks. The level of resources devoted to the control dimension of planning appears to be much greater in the Defender type. We believe that information is critical to the Defenders innovative pursuit of efficiency.

Hypothesis 1c (Coordination & integration)

The analysis of variance for the integration/coordination variable indicated significant differences between the two strategy types (see Table 5). Moreover, this variable produced the largest positive beta in the logistic regression analysis, indicating the value of this variable for determining a Prospector bank (see Table 6). Both of these statistical models suggest strong differences between the two strategy types given this variable.

Some of the most marked differences in the responses made by bank CEOs are found in the items that make up the integration/coordination variable. We asked bank CEOs if information sharing was critical to their bank's operations. Prospectors agreed that information sharing was critical to their banks operation and they agreed 97% of the time. They also responded that planning helped them integrate their departments through information exchange (58% agreement) and

that planning initiates the coordination of projects and objectives (97% agreement). Defenders agreed with these statements much less than half of the time.

We also found that over 90% of our Prospector CEOs believed that planning helped their banks achieve coordination and some degree of organizational unity. Less than 40% of Defenders agreed. It appears that as Prospectors' attention is pulled in multiple directions by multiple markets, products, and projects, the coordination and integrative activities of planning help produce critical organizational unity. This effort toward producing unity is more important to the Prospector than the Defender. Unity is no less important to the Defender type, yet the effort necessary to produce unity may not be as pronounced in this more focused strategy type.

When we asked whether planning's critical role in their bank was to facilitate information sharing, twice as many Prospectors as Defenders responded affirmatively (90% to 45%). Clearly, Prospectors use planning as an implementation tool, allowing it to foster information exchange to produce integration and coordination and, consequently, increased organizational unity.

The unity of direction becomes more critical given the

eclectic array of resource allocations and activities. Daft and Lengel (1984) argued that coordination and integration activities reduce equivocality (a biproduct of the Prospector type), and therefore produce greater organizational unity. Miller (1987) examined Porter's (1980) three generic types for differences in information usage and found significantly more information exchange in those forms following a differentiation strategy.

Our data support the the suggestion of Tushman and Nadler (1978) that increased interdependence produces a increased need for integration and coordination. Prospectors exhibit increased interdependence and, therefore, must coordinate interdependent groups/projects. The need for communication between groups increases, so the volume of information processed to achieve coordination and integration increases (see Van de Ven, Delbecq, and Koenig, 1976).

Hypothesis 1d (Goals & plans)

Analysis of variance for this variable produced no significant results (see table 5), indicating little difference among the two strategy types. Accordingly, we found the plan/goal variable to be the only insignificant

variable in the logistic regression, as would be expected given the ANOVA.

If we return to the factor analysis we see that this variable is probably the weakest of the six factors. Only two items makeup the factor and the reliability score was the weakest of the six factors. Although the survey instrument had multiple items written regarding this variable, we were unable to produce a factor which contained these items.

If we look more closely at the individual items we begin to see the hypothesized relationship between this variable and strategy type. We asked CEOs if they developed formal plans for potential new products or markets and 86% of Prospectors said they did. In contrast, Defenders agreed only 28% of the time with this statement. We argued that broad goals and plans would be critical to the Prospector type because of the greater degree of uncertainty in both its external and internal environment. We asked CEOs whether planning helped their banks generate broad goals and plans and Prospectors responded in agreement 98.6% of the time (Defenders agreement: 60%).

Prospectors also said that their planning systems focus on broad plans rather than narrow budgets (80% agreement).

Only 34% of Defenders said that their planning systems generated broad plans, and as mentioned above, they focused more on narrow budgetary goals.

Although the items written to produce the goal and plan variable did not factor well, there appears to be some evidence within the individual items to suggest that Prospectors and Defenders are indeed different when it comes to use of plans and goals. We believe that better written items would help establish the variable.

We also feel that there is another plausible explanation for the lack of significant differences between the two strategy types on this planning dimension. It may be that the language of goals and plans is so imbedded in organizational life that it is difficult to uncover potential differences between firms on this variable. In other words, organizational members may have a tendency toward always responding in the affirmative when asked if they use different types of goals and plans. This is why we believe a better set of items are needed to uncover differences in firms along this dimension of planning.

Hypothesis 1e (Broad analysis)

Breadth of analysis appears to be one of the strongest

discriminators of the two strategy types. As can be seen in Table 5, analysis of variance for this variable suggested quite significant differences across the two types. In addition, the variable was a significant independent variable in the logistic regression and its positive beta suggests that significant breadth of analysis indicates the Prospector type (see Table 6).

Nearly 64% of Prospector CEOs responded that the strategic issues facing their strategic planning systems were broad rather than specific. Some 62% of Defenders disagreed with this statement. Also, 80% of Prospectors said that Planning focuses on broad plans within their banks, while only 34% of Defenders suggested the same. When we asked Defenders if their planning systems monitor a narrow set of critical tasks we got mixed results. Yet, almost 50% of Prospector CEOs said they did not focus on a narrow set of critical tasks.

Although the broad analysis factor is somewhat weak given it consists of only two items and has a lower reliability score ($\alpha=.71$), the marked difference found between the two strategy types suggests that indeed there are differences in analysis breadth. We argued earlier that Prospectors would be more intense internal and external

analyzers, while Defenders would be more focused. Prospectors would, in fact, be more information intensive regarding all forms of information.

Our findings suggest that there are differences between the two types in the process of gathering information. Prospectors scan the external environment more broadly. They value information from multiple sources. Defenders appear more focused, probably scanning for engineering (process technology) information as Miles and Snow suggested.

Internally, Prospectors seem to analyze broadly while Defenders appear to focus more of their analysis on more critical cost and efficiency issues.

These findings are in agreement with Miller's (1987) study of information-processing activities within Porter's (1980) generic strategies. Miller found that differentiating firms used information of all types to a greater degree than either cost leadership or focus strategies. More specifically, firms pursuing differentiation strategies used more general analysis, scanned the environment more, and used large quantities of information in a predictive, future-oriented fashion.

Hypothesis 1f (Planning flexibility)

Analysis of variance found significant differences between Prospectors and Defenders in the planning flexibility variable, with Prospectors having positive standardized means and Defenders having negative standardized means (see Table 6). Additionally, planning flexibility was a significant variable in the logistic regression analysis (see Table 7). Moreover, the positive beta represented in the logistic regression for this variable suggests increased planning flexibility is indicative of the Prospector type.

Three items make up the planning flexibility variable. We first CEOs if they adjust their strategic planning systems to meet the changing needs of the organization. We believe that Prospectors would do this more often than Defenders because of the greater degree of change and uncertainty faced by this strategy type. 69% of Prospectors responded that they did adjust planning to meet changing needs while less than 47% of Defenders responded that they changed planning systems.

We asked bank CEOs if their planning systems must deal with high strategic issue turnover. It appears that if the strategic planning system must deal with Considerable

strategic issue turnover then it would be important to design in some degree of flexibility. Nearly 65% of Prospectors said that their planning systems must deal with high strategic issue turnover. Less than 37% of Defenders agreed. When asked if they plan all the time rather than at regular intervals, Prospector CEOs said they did (48% agreement).

There are some clear distinctions here that are quite interesting. Prospectors appear to design in planning flexibility so that they can meet changing demands placed upon the organization. Since this strategic orientation does in fact select uncertainty and change as its domain, planning systems are designed to meet organizational member needs to deal with uncertainty. Defenders choose a domain with less uncertainty and change, and may, therefore, be able to use planning systems which do not need an ability to be as flexible.

We find these differences analogous to the distinct responses available to firms facing either routine or nonroutine decisions (programmable and nonprogrammable). Management theory suggests that more routine decisions are, by their repetitive, familiar nature, more apt to be programmable (Huber, 1980). Nonroutine decisions are less

familiar and are much more difficult to routinize. It appears that Prospectors, by virtue of having chosen a greater degree of uncertainty in their domain, have more opportunity for dealing with nonroutine, nonprogrammable decisions. Therefore, their strategic planning systems must have the flexibility to work within this potentially uncertain environment.

Unlike Prospectors, Defenders have chosen a domain with less uncertainty and consequently have fewer nonroutine decisions. Thus they need less flexibility within their strategic planning systems. Miller (1987) suggested the need for flexibility in organizational structure and processes given increased environmental uncertainty. In addition, our findings and arguments support the findings of Shortell and Zajac (1990) who found that Prospectors had the greatest degree of planning innovativeness of the Miles and Snow types.

Planning innovation is probably related to our flexibility dimension, since designing in flexibility is probably innovative in its own right. Some researchers have focused on the outcomes of strategy-making and attributed these outcomes to the innovativeness of the strategic planning system (King, 1983; Segev, 1989). Miles and Snow

(1978) suggested that planning innovativeness was more important for firms facing increased uncertainty. Additionally, Miles and Snow suggest that Prospectors rely on constant change as a solution to their entrepreneurial problem, and this change is partly driven by an innovative and flexible strategic planning system. They argue that planning reveals extrasystemic information that allows strategy-makers to key into potential misalignment between the organization and its environment.

Sokol (1993) examined a successful Canadian bank facing substantial environmental uncertainty due to the deregulation of the Canadian banking industry. The planning process of this bank had gone through considerable changes as the bank moved strategically away from a Defender-like strategy toward a more Prospector-like strategy. His description of the new planning system follows:

"Toronto-Dominion's approach to strategic planning did not readily fit into any of the classic views of formal planning, such as portfolio or value-added analysis. It could best fit Professor Mintzberg's (1985) category of an 'unbrella' process in which 'leadership, in partial control

of organizational actions, defines strategic boundaries or targets within which other actors respond to their own forces or to a complex environment'. With a premium given to **flexibility**, the TD bank planning process also could be said to be 'organic'. All parts of the company tried to adapt quickly and smoothly to a changing external environment".

(Sokol, 1993:67)

We are inspired by this description as it not only supports our findings regarding the importance of planning flexibility in uncertain environments, it further supports our contention that planning is best described as an information support mechanism. Planning flexibility appears to allow the planning system to change its information capacities so that the requirements of the organization are met.

Hypothesis 2 (Performance)

Prospector Performance: Prospector performance analysis produced mixed results. We examined Prospector banks using regression analysis (see Table 9) and there were some very

interesting findings. Critical planning dimensions for both return on assets and return on equity were scanning, breadth of analysis, integration/coordination, and accounting control. Of these four, only accounting control had a negative effect on ROA and ROE. Nearly 50% of the variance in ROA was explained by the regression model, while 43% of the variance in ROE was explained.

It appears that scanning activities, a broad base of internal and external analysis, and the use of planning as an integration and coordination device all produce enhanced financial performance. It also appears that considerable emphasis on the accounting control aspects of planning decreases performance in the Prospector type. Clearly some degree of accounting control must be prudent; however it appears that at some point an over-emphasis on accounting control may negatively impact competitive advantage, especially if those resources could have been used to support evidently more important planning dimensions.

Ramanujam, et al. (1986) found empirical support for the association between the level of resources provided for planning and increased financial performance. They did not examine the distribution of those resources. They simply examined total resources and compared them across firms. Our

findings suggest that not only is the level of resources important, it is also important that these resources also be properly directed and utilized.

Ramanujam, et al. (1986) also found that too much emphasis on control might come at the expense of the potentially fictive nature of planning. Although their research suggested such, it did so outside the context of strategy. We believe that our research not only supports this finding, it adds a great deal of clarity by suggesting that the degree of control and/or creativity is directly linked with the strategy being pursued. In other words, the degree of control or the amount of creativity produced by the strategic planning system must fit the requirements of the strategy being supported by the planning system.

Scanning and goals & plans were found to be significant terms in the regressions we ran with loan growth as the dependent variable. This is in clear contrast to the findings of the previous two regression on ROA and ROE. The differences found appear to have plausible explanations. We believe that both scanning activities and goal and plan usage might be critical to increasing loan volume.

Scanning activities might be directly linked to uncovering potential new loan opportunities. The author's

experience in the industry suggests that much of the external scanning activities within banks are focused toward finding new markets for current loan products. This supports this studies finding of an association between loan growth and scanning activies. In addition, Sokol's (1993) findings suggest that a bank pursuing a Prospector-like strategy will focus scanning activities in part on growth opportunities for loan products.

Moreover, specific loan growth goals are often established by banks. These goals become a focal point and may increase activities in pursuit of loan growth. In addition, plans for the achievement of loan growth targets are often established at the branch level so that overall loan growth objectives can be met. This process is probably more critical for the Prospector bank whose orientation is toward growth. We believe this may explain the significance of this variable in the loan growth regression equation for Prospector banks.

Defender Performance: Interestingly, the examination of performance and planning for Defender banks produced weaker regression models (except for the loan growth model which had a slighly greater R^2) . Slightly more than 29% of

the variance in ROA was explained by the planning dimensions while these same dimensions explained 19.5% of the variance in ROE (refer to Table 10). Significant terms for ROA were accounting control, scanning, broad analysis, and integration. Only accounting control, however, produced a positive beta suggesting a positive effect on ROA. Scanning, broad analysis, and integration all had negative betas.

Significant terms in the ROE model were scanning and accounting control. For Defenders, scanning was negatively related to ROE, and accounting control was positively related for these firms. As hypothesized, accounting control appears to be the critical planning dimension for the Defender type. In addition, the regressions suggest that an over emphasis in allocating resources to other planning dimensions might be detrimental to financial performance for the Defender type.

Defenders did not produce a loan growth regression similar to Prospectors. The only significant term in this regression was the accounting control variable, which appears to be the overwhelming performance influencer in all the Defender performance regressions. The only other variable that approached significance in the Defender loan growth regressions was scanning ($p = .083$). Scanning

activities may be important to uncovering loan possibilities regardless of strategy type. Although growth is assumed in the Prospector type, certainly it is also important to the long term survival of all banks. Thus, scanning activities could be viewed as generally important to loan growth, regardless of the rate of growth pursued.

Profile Analysis: Having made the argument throughout this research that strategic planning cannot be realistically examined without considering the strategy firms are pursuing, we next considered the relationship between our planning dimensions and performance, without control for strategy. We did this as a test of our assumption that planning performance relationships are important only in the context of strategy.

The results of the combined sample regressions can be seen in Table 11. None of the performance regressions produced a significant model. In fact, the only independent variable which produced a significant t-test was goals & plans in the ROE regression. We believe these findings are extremely interesting, and may provide a clear reason for much of the muddled and conflicting findings of previous planning/performance research.

Much of the previous planning performance research assumed planning to be a generic process which could be adequately defined in terms of its formality or sophistication (see reviews by Armstrong, 82; Pearce, et. al., 87). In fact, many of these studies took what might have been interesting and important planning dimensionality data and turned it into aggregate measures of formality/informality. Hence, much important information may have been lost through this aggregation process.

Having revealed that important associations exist between specific planning dimensions and performance given strategic context, we next examined whether or not an optimal fit might be achieved between planning system design and strategic orientation.

It is important to reemphasize that we produced profiles that could be clearly justified by our theoretical arguments in this study. We believe that a critical problem with the previous use of profile analysis has been the reliance on purely empirical profile determination without a theoretical justification. Our profiles for both Prospectors and Defenders fit well with the information processing assumptions that we have made about both types.

An examination of the profiles in Table 13 reveals some

interesting information. Although planning flexibility did not quite achieve significance in the Prospector performance regressions, the profiles of the top performing Prospector banks shows that the highest planning dimension profile mean was produced for the planning flexibility dimension (produced from standardized factor scores). High performing Prospector banks appear to design flexibility into their strategic planning systems. Given the assumption of greater uncertainty facing the Prospector type, planning flexibility may allow the system to change as information requirements change.

Table 13 reveals that the largest negative mean for the Defender high performance profile group was produced for the integration/coordination planning dimension. This makes sense for this strategy type. Where we have seen in previous analysis that focused scanning and focused analysis may be important to Defenders, it is difficult to argue for the importance of devoting scarce planning resources to integration and coordination aspects of strategic planning. Especially if these resources could be more responsibly directed toward the control dimension so as to enhance efficiency.

Both of the misalignment regression models explained a

significant amount of the variance in ROA ($p < .001$). For the misalignment sample of Prospector banks, critical dimensions planning dimensions were accounting control, planning flexibility, and integration/coordination. Given the negative standardized beta coefficients for each of these planning variables, we believe the argument can be made that the larger the misalignment variable, the greater the negative impact on performance.

Consequently, it does appear that there is a critical level of planning flexibility and integration/coordination that must be met to enhance performance. Deviation below this level may not allow for adequate information generation and thus negatively impact performance. On the other hand, investing scarce planning resources above this level, or into accounting control aspects of planning may waste resources and adversely impact Prospector performance.

Defenders appear to need a specific level of accounting control along with adequate scanning activity and focused analysis. Unlike the Prospector type, planning flexibility and integration/coordination do not appear to be critical planning dimensions for top performing Defender banks. All the significant planning dimensions have negative standardized betas and suggest that the larger the deviation

from the ideal mean, the greater the negative impact on performance.

To get a true combined effect of deviation from the ideal profile for strategic planning dimensions, the total misalignment (Euclidean distance) variable was correlated with ROA. Negative correlations were produced (Defender $-.49$, Prospector $-.54$) suggesting that as total misalignment from the ideal planning profile increased, performance decreased.

Final Summary

Our original question, which provided the impetus for pursuing this research, asked whether strategic planning should fit the strategy a firm pursues. We approached this study by suggesting that information processing was the key theoretical mechanism for revealing an answer to the question. Information-processing theory has been a useful framework for analyzing strategic planning processes in the context of strategy. We believe that the validity of the information-processing model has been enhanced by our study.

The results of this study clearly suggest that the strategic planning system's information capacities for Prospector and Defender banks are quite different. Moreover,

there does appear to be a performance enhancing ideal distribution of planning resources across specific planning dimensions given strategic orientation. We argued previously that the information processing requirements of a particular strategy must be met by designing the appropriate information generation capacity into the strategic planning system. Our findings support this contention.

This study has produced results that indicate that the Prospector type requires a more information intense, flexible, and formalized planning system than does the Defender strategy. These findings are in agreement with recent research conducted by Shortell and Zajac (1990) and Veliyath and Shortell (1993). These studies found the Prospector firm to have more planning innovativeness, planning formality, and planning implementation focus. Combined with their work, our study further advances the notion that planning systems differ across firms of different strategic orientation.

Planning has often been viewed as rather formal and inflexible. Some have described it as an overtly rational and predictive process which is diametrically opposed to the process of "strategic thinking" (Mintzberg, 1994). However, this study supports the notion that strategic planning is

potentially much more of a dynamic process that can be designed to be flexible in light of greater organizational uncertainty.

Moreover, information-processing has added a great deal to the usefulness of this study. Conversely, this study has added to the body of research that has successfully used information-processing as a theoretical framework for explaining organizational processes. Within the context of information processing, planning can clearly be viewed as a mechanism which supports strategic thinking. We believe that further study into the informational role of planning is warranted.

One of the most important revelations of this research is that strategy matters when planning is studied. Increasing numbers of researchers are combining both content and process perspectives of strategy into more comprehensive studies (Robinson and Pearce, 88; Pearce, et. al., 87; Powell, 92; Shortell and Zajac, 1990; Veliyath and Shortell, 1993). So much of the confusing findings or lack of findings in planning/performance research may be attributable to the neglect to include strategy content as an important variable. In fact, as we demonstrated above, we would **not** have produced a significant statistical association between

performance and planning if we had studied planning without consideration of strategy.

The process of strategic planning is clearly driven by its informational nature. The content of a given firm's choice of strategy certainly produces different information requirements. We have shown that these information requirements must be addressed in some fashion and the primary vehicle for meeting the requirements is the strategic planning process.

Further research into the relationship between strategic decision-making and the strategic planning process is warranted. This study focused on a single industry and, therefore, may be limited in its generalizeability. Another limitation is the use of only two of Miles and Snow's strategy types. Any future study of the should incorporate all four strategy types. The studies by Shortell and Zajac, and Veliyath and Shortell mentioned above both examined hospitals and had some similar findings. The next step for this research is to test whether the findings here are generalizeable to another industry. We would also like to refine the survey instrument by building a more useful instrument around the outcome of our factor analysis.

As is the case with most research, this study has

created new questions that are intriguing and should be addressed. We wonder if the information processing differences between firms that we have seen at the macro level would be in evidence at the micro level. It would be interesting to examine the perceived value of information exhibited by organizational members in firms with different strategic orientations. We wonder if the use of goals and plans is different when strategy is different. Information-processing theorists (Galbraith, 74; Thompson, 67) have argued that as uncertainty increases for an organization the use of goals and plans will increase. We could not clearly determine if this is the case. Again, we believe this study did not adequately address this issue.

We believe that the planning flexibility dimension is worthy of further analysis. If planning flexibility is important to the Prospector strategy because of its increased internal and external uncertainty, then this dimension may become a more critical component of any firm's strategic planning system as we progress toward greater overall uncertainty. Would planning flexibility be a critical performance enhancer to firms operating in highly uncertain environments? Recent popular books like Richard D'Aveni's Hypercompetition: Managing the dynamics of

strategic maneuvering and James Brian Quinn's Intelligent enterprise have argued that firms must allow themselves to be flexible enough to respond to changing competitive conditions. We believe that planning systems can be designed to allow for this flexibility. Our data suggests that this flexibility may enhance effectiveness in some firms.

This is important information for managers. It appears that bank management can design strategic planning systems so that they provide the information strategy-makers need. Also, planning systems apparently need to fit the strategic posture of the firm. A certain strategic orientation that increases uncertainty may require a more flexible planning system.

Surely there is more research and detail that can be added to the body of knowledge concerning strategic planning processes. Although planning has been studied extensively, we believe this study reveals that further examination is certainly warranted. Information-processing theory has proved to be a valid framework for examining strategic process. We feel that information-processing theory has added to this studies understanding of strategic planning processes. We also believe we have added strength to the framework through our findings.

LIST OF REFERENCES

REFERENCES

- Ackoff, R. L. 1970. A concept of corporate planning. New York: Wiley
- Agresti, A. 1990. Categorical data analysis. New York: John Wiley & Sons, Inc.
- Aldrich, H.E. 1979. Organizations and environments. Englewood Cliffs, NJ: Prentice Hall.
- Andrews, K. R. 1971. The concept of corporate strategy. Homewood, Illinois: Dow Jones-Irwin.
- Andrews, K. R. 1980. The concept of corporate strategy. New York: Dow Jones-Irwin.
- Ansari, S.L. 1977. An integrated approach to control system design. Accounting, Organizations and Society, pp. 101-112.
- Ansoff, H. Igor 1965. Corporate strategy. New York: McGraw-Hill.
- Ansoff, H.I., Avner, J., Brandenburg, R.G., Porter, F.E., & Radosevich, R. 1970. Does planning pay? The effect of planning on success of acquisitions in American firms. Long Range Planning, 3(2): 2-7.
- Ansoff, H. Igor 1991. Critique of Henry Mintzberg's 'The design school: Reconsidering the basic premises of strategic management'. Strategic Management Journal, 12:449-461.
- Anthony, R.N. & Dearden, J., 1980, Management control systems: Text and Cases, Irwin, Homewood, Illinois.
- Aram, J.D., & Cowen, S.S. 1990. Strategic planning for increased profit in the small business. Long Range Planning, 23: 63-70.
- Armstrong, J.S. 1982. The value of formal planning for strategic decisions: Review of the empirical research. Strategic Management Journal, 3:197-211.
- Armstrong, J.S. 1986. The value of formal planning for strategic decisions: Reply. Strategic Management Journal, 7: 183-185.

- Athreya, M. 1970. Planning as integration. in Lorsch, J. W. and Lawrence, P. R. (eds), Studies in organizational design, Homewood, Illinois: Richard Irwin.
- Bain, J.S., 1956, Barriers to new competition, Cambridge: Harvard University Press.
- Berg, N. 1973. Corporate role and diversified companies. in Taylor, B., and Macmillan, K., Business policy: Teaching and research. Crosby Lockwood, University of Bradford Press.
- Bourgeois, L.J. III 1980. Strategy and environment: A conceptual integration. Academy of Management Review, 5: 25-39.
- Bright, J. R. 1958. Automation and management. Boston: Harvard University Press.
- Bruns, W.J., & Waterhouse, J.H. 1975. Budgetary control and organizational structure. Journal of Accounting Research, Autumn: 177-203.
- Burns, T., & Stalker, G.M. 1961. The management of innovation. London: Tavistock.
- Carlson, F.P. 1990. The long and short of strategic planning. Journal of Business Strategy, May/June:15-19.
- Caves, R.E. 1980. Industrial Organization, corporate strategy and structure. Journal of Economic Literature, 88:64-92.
- Channon, D. 1973. The strategy and structure of British enterprise. London: Macmillan Press.
- Chakravarthy, B.S. 1987. On tailoring a strategic planning system to its context: Some empirical evidence. Strategic Management Journal, 8:517-534.
- Chandler, A., 1962, Strategy and structure: Chapter in the history of the industrial enterprise, Cambridge: MIT press.
- Chandler, C. (1988). Risk-based capital guidelines: Issues and implications. Issues in Bank Regulation, Fall, 12(2): 5-7.

- Child, J. 1972. Organizational structures, environment and performance: The role of strategic choice. Sociology, 6: 1-22.
- Conant, J.S., Mokwa, M.P., & Wood, S.D. 1987. Management styles and marketing strategies: An analysis of HMOs. Health Care Management Review, 12(4): 65-75.
- Daft, R. L., & Lengel, R. H. 1984. Information richness: A new approach to managerial behavior and organizational design. In Research on Organizational Behavior: JAI Press, volume 6, 191-233.
- Daft, R.L., & Weick, K.E. 1984. Toward a model of organizations as interpretation systems. Academy of Management Review, 9: 284-296.
- Daniel, A.L. 1992. Strategic planning - the role of the chief executive. Long Range Planning, 25(2): 97-104.
- Datta, Y. 1980. New directions for research in business strategy. Journal of General Management, 6: 48-60.
- de Geus, A.P. 1988. Planning as learning. Harvard Business Review, 88: 70-74.
- Dess, G.G., & Robinson, R.B. 1984. Measuring organizational performance in the absence of objective measures: the case of the privately-held firms and conglomerate business unit. Strategic Management Journal, 5: 265-273.
- Dewar, R., & Werbel, J. 1979. Universalistic and contingency predictions of employee satisfaction and conflict. Administrative Science Quarterly, 24: 426-48.
- Doty, D. H., Glick, W. H., & Huber, G. P. 1993. Fit, equifinality, and organizational effectiveness: A test of two configurational theories. Academy of Management Journal, 36: 1196-1250.
- Drazin, R., & Van de Ven, A. H. 1985. An examination of alternative forms of fit in contingency theory. Administrative Science Quarterly, 30: 514-539.

- Duncan, R.B. 1973. Multiple decision-making structures in adapting to environmental uncertainty: The impact of organizational effectiveness. Human Relations, 26: 273-291.
- Dutton, J.E., & Duncan, R.B. 1987. The influence of the strategic planning process on strategic change. Strategic Management Journal, 8: 103-116.
- Egelhoff, W.G. 1982. Strategy and structure in multinational corporations: An information-processing approach. Administrative Science Quarterly, 27: 435-458.
- Emery, F.E. & Trist, E.L. 1965. The causal texture of organizational environments. Human Relations, 18: 21-31.
- Floyd, S.W., & Wooldridge, B. 1992. Middle management involvement in strategy and its association with strategic type: A research note. Strategic Management Journal, 13: 153-167.
- Fredrickson, J.W. 1984. The comprehensiveness of strategic decision processes: Extension, observations, future directions. Academy of Management Journal, 27: 445-466.
- Fulmer, R.M., & Rue, L.W. 1974. The practice and profitability of long range planning. Managerial Planning, 22:1-7.
- Galbraith, J.R. 1969. Organizational design: An information-processing view. Working Paper # 425-69 MIT, Sloan School of Management.
- Galbraith, J.R. 1973. Designing complex organizations. Reading, MA: Addison-Wesley.
- Galbraith, J.R. 1977. Organization design. Reading, MA: Addison-Wesley.
- Galbraith, J.R., & Kazanjian, R. K. 1986. Strategy implementation: Structure, systems and process. St. Paul, MN: West Publishing.

- Galbraith, J.R., & Nathanson, D. 1979. The role of organizational structure and process in strategy implementation. In D. Schendel & C.W. Hofer (Eds.), Strategic management: A new view of business policy and planning. Boston: Little, Brown 249-283.
- Garcia, F.L. 1985. How to analyze a bank statement. 7th ed. Boston: Bankers Publishing Co.
- Gilmore, F. F., & Brandenburg, R. G. 1962. Anatomy of corporate planning. Harvard Business Review, 40(6):61-69.
- Ginsberg, A, & Venkatraman, N. 1985. Contingency perspectives of organizational strategy: A critical review of the empirical research. Academy of Management Review, 10: 421-434.
- Gordon, L.A., Larcker, D.F., & Tuggle, F.D. 1978. Strategic decision processes and the design of accounting information systems: Conceptual linkages. Accounting, Organizations and Society, pp. 203-213.
- Gorry, G.A., & Scott Morton, M.S. 1971. A framework for management information systems. Sloan Management Review, Fall: 55-70.
- Green, P.E. 1978. Analyzing multivariate data. Hinsdale, IL.: Dryden Press
- Grinyer, P. H. 1971. The anatomy of business strategic planning reconsidered. Journal of Management Studies, 8(2):199-212.
- Grinyer, P.H., & Norburn, D. 1975. Planning for existing markets: Perceptions of executives and financial performance. Journal of the Royal Statistical Society, 138(1): 70-97.
- Gupta, Y.P., & Chin, D.C.W 1991. An empirical examination of information systems expenditures: A stage hypothesis using the information processing and organizational life cycle approaches. Journal of Information Science, 17: 105-117.
- Hambrick, D.C. 1982. Environmental scanning and organizational strategy. Strategic Management Journal, 3:159-174.

- Hambrick, D.C. 1983. Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. Academy of Management Journal, 26:5-26.
- Hanusek, E. A., & Jackson, J. E. 1977. Statistical methods for social scientists. New York: Academic Press.
- Harrigan, K.R. 1983. Research methodologies for contingency approaches to business strategy. Academy of Management Review, 8: 398-405.
- Hawes, J.M., & Crittenden, W.F. 1984. A taxonomy of competitive retailing strategies. Strategic Management Journal, 5: 275-287.
- Henry, H. 1980. The evolution of strategic planning in major corporations. *Proceedings, American Institute of Decision Sciences*, 454-456.
- Herold, D.M. 1972. Long range planning and organizational performance: A cross-validation study. Academy of Management Journal, 17: 784-810.
- Hofer, C.W. 1975. Toward a contingency theory of business strategy. Academy of Management Journal, 17: 784-810.
- Hofer, C.W. & Schendel, D.E. 1978. Strategy formulation: Analytical Concepts. St. Paul, MN: West Publishing Company.
- Hosmer, D.W. & Lemeshow, S. 1989. Applied logistic regression. New York: Wiley & Sons.
- Hrebiniak, L.G. & Joyce, W.F. 1984, Implementing strategy. New York: Macmillan.
- Huber, G. P. 1980. Managerial decision making. Glenview, Ill: Scott, Foresman.
- Jaeger, A. 1983. The transfer of organizational culture overseas: An approach to control in the multinational corporation. Journal of International Business Studies, Fall: 91-114.
- Khandwalla, P.N. 1972. The effects of different types of competition on the use of management controls. Journal of Accounting Research, Autumn: 275-285.

- Karger, D.W., & Malik, Z.A. 1975. Long range planning and organizational performance. Long Range Planning, 8: 60-64.
- Katz, D., & Kahn, R. L. 1978. The social psychology of organizations. 2nd ed. New York: Wiley.
- King, W.R. & Cleland, D.I. 1978. Strategic planning and policy. New York: Van Nostrand Reinhold Co.
- King, W. R., 1983. Evaluating strategic planning systems. Strategic Management Journal, 4: 263-277.
- Knight, K.E., & McDaniel, R.R. 1979. Organizations: An information systems perspective. Belmont, CA: Wadsworth Publishing Company.
- Kudla, R. 1980. The effects of strategic planning on common stock returns. Academy of Management Journal, 23(1): 5-20.
- Lawrence, P.R., and Lorsch, J. 1967. Organization and environment. Cambridge, MA: Harvard University Press.
- Lenz, R.T., & Engledow, J.L. 1986. Environmental analysis: the applicability of current theory. Strategic Management Journal, 7: 329-346.
- Long, W.F., & Ravenscraft, D.J. 1984. The misuse of accounting rates of return: comment. American Economic Review, 74: 494-500.
- Lorange, P. 1979. Formal planning systems: their role in strategy formulation and implementation. in Schendel, D.E., and Hofer, C. W. (Eds.), Strategic management: A new view of business policy and planning, Boston: Little, Brown and Co.
- Lorange, P., & Vancil, R. F. 1977. Strategic planning systems. Englewood Cliffs: Prentice-Hall.
- MacIntosh, N.B. 1981. A contextual model of information systems. Accounting, Organizations and Society, pp. 39-53.
- Malm, A. T. 1975. Strategic planning systems: A framework for Analysis. Studentlitteratur: Lund.

- McDaniel , S.W., & Kolari, J.W. 1987. Marketing strategy implications of the Miles and Snow strategic typology. Journal of Marketing, 51(4): 19-30.
- McKee, D.O., Varadarajan, P.R., & Pride, W.M 1989. Strategic adaptibility and firm performance: A market contingent perspective. Journal of Marketing, 53: 21-35.
- Merchant, K.A. 1984. Influences on departmental budgeting: An empirical examination of a contingency model. Accounting, Organizations and Society, pp. 291-307.
- Miles, R.E., & Snow, C.C. 1978. Organizational strategy, structure and processes. New York: McGraw Hill Book Company.
- Miles, R.E., & Snow, C.C. 1984. Fit, failure and the hall of fame. California Management Review, 26(3): 10-28.
- Miller, D. 1987. The structural and environmental correlates of business strategy. Strategic Management Journal, 8: 55-76.
- Miller, D. 1988. Relating Porter's business strategies to environment and structure: Analysis and performance implications. Academy of Management Journal, 31: 280-308.
- Miller, D. 1989. Matching strategies and strategy making: Process, content, and performance. Human Relations, 42(3): 241-260.
- Miller, D., & Friesen, P.H. 1978. Archetypes of strategy formulation. Management Science, 937-948.
- Miller, D., & Friesen, P.H. 1982. Innovation in conservative and entrepreneurial firms. Strategic Management Journal, pp. 1-27.
- Miller, C.C. & Cardinal, L.B. 1992. Understanding the linkages between strategic planning and firm performance: A synthesis of more than two decades of research. Working paper, Southern Methodist University. Presented at the 1992 Academy of Management national meetings, Las Vegas.
- Mintzberg, H. 1973. Strategy making in three modes. California Management Review, Winter: 44-53.

- Mintzberg, H. 1978. Patterns in strategy formation. Management Science, 24: 934-948.
- Mintzberg, H. 1979. The structure of organizations. Englewood Cliffs, NJ: Prentice-Hall.
- Mintzberg, H. 1981. What is planning anyway? Strategic Management Journal, 2:319-324.
- Mintzberg, H. 1989. Mintzberg on management: Inside our strange world of organizations. New York: Free Press.
- Mintzberg, H. 1990. The design school: Reconsidering the basic premise of strategic management. Strategic Management Journal, 11:171-195.
- Mintzberg, H. 1990. The fall and rise of strategic planning. Harvard Business Review, Jan-Feb:107-114.
- Mintzberg, H., & Waters, J. 1985. Of strategies, deliberate and emergent. Strategic Management Journal, 6:257-272.
- Nunally, J.C. 1978. Psychometric theory. 2nd ed. New York: McGraw-Hill.
- Odom, R. & Boxx, W.F. 1988. Environment, planning processes, and organizational performance of churches. Strategic Management Journal, 9: 197-205.
- Pearce, J.A., Freeman, B., & Robinson, R.B. 1987. The tenuous link between formal strategic planning and firm financial performance. Academy of Management Journal, 2:297-311.
- Pearce, J.A., Robbins, D.K., & Robinson, R. 1987. The impact of grand strategy and planning formality on financial performance. Strategic Management Journal, 8: 125-1343.
- Pfeffer, J, & Salancik, G.R. 1978. The external control of organizations. New York: Harper & Row.
- Pindyck, R.S., & Rubinfeld, D.L. 1981. Econometric models and economic forecasts. New York: McGraw-Hill.
- Porter, M.E. 1980. Competitive strategy. New York: The Free Press.

- Porter, M.E. 1985. Competitive Advantage. New York: Free Press.
- Powell, T.C. 1992. Strategic planning as competitive advantage. Strategic Management Journal, 13:551-558.
- Price, J.L., & Mueller, C.W. 1986. Handbook of organizational measures. Marshfield, MA: Pitman Publishing Inc.
- Quinn, J. B. 1980. Strategies for change: Logical incrementalism. Homewood, Illinois: Irwin.
- Ramanujam, V., & Venkatraman, N. 1987. Planning system characteristics and planning effectiveness. Strategic Management Journal, 8: 453-468.
- Ramanujam, V., & Venkatraman, N., & Camillus, J. 1986. Multi-objective assessment of effectiveness of strategic planning: A discriminant analysis approach. Academy of Management Journal, 29(2): 347-372.
- Reid, D.M. 1989. Operationalizing strategic planning. Strategic Management Journal, 10: 553-567.
- Rhyne, L. 1986. The relationship of strategic planning to financial performance. Strategic Management Journal, 7: 423-436.
- Robinson, R.B., & Pearce, J.A. 1983. The impact of formalized strategic planning on financial performance in small organizations. Strategic Management Journal, 4: 197-207.
- Robinson, R.B., & Pearce, J.A. 1988. Planned patterns of strategic behavior and their relationship to business-unit performance. Strategic Management Journal, 9: 43-60.
- Roussakis, E.N. 1984. Commercial banking in an era of deregulation. New York: Praeger Publishers.
- Rue, L.W. & Fulmer, R. 1973. Is long range planning profitable? *Proceedings of the Academy of Management*, 66-73.
- Rumelt, R.P. 1974. Strategy, structure, and economic performance. Boston: Harvard University Press.

Schendel, D. E., & Hofer, C. W. 1979. Strategic management: A new view of business policy and planning. Boston: Little, Brown and Co.

Scherer, F.M., 1980, Industrial market structure and economic performance, 3rd ed., Houghton Mifflin Company, Boston.

Segev, E., 1989. A systematic comparative analysis and synthesis of two business-level strategic typologies. Strategic Management Journal, 10: 487-505.

Shortell, S.M. & Zajac, E.J. 1990. Perceptual and archival measures of Miles and Snow's strategic types: A comprehensive assessment of reliability and validity. Academy of Management Journal, 33: 817-832.

Shrader, C.B., Taylor, L., & Dalton, D.R. 1984. Strategic planning and organizational performance: A critical appraisal. Journal of Management, 10: 149-171.

Simon, R. 1987. Accounting control systems and business strategy: An empirical analysis. Accounting Organizations and Society, 12(4): 357-374.

Smith, K.G., Grimm, C.M., Gannon, M.J., & Chen, M. 1991. Organizational information-processing, competitive responses, and performance in the U.S. domestic airline industry. Academy of Management Journal, 34: 60-85.

Snow, C.C., & Hambrick, D.C. 1980. Measuring organizational strategies: Some theoretical and methodological problems. Academy of Management Review, 527-538.

Snow, C.C., & Hrebiniak, L.G. 1980. Strategy, distinctive competence, and organizational performance. Administrative Science Quarterly, 25: 317-336.

Snow, C.C., & Miles, R.E. 1983. The role of strategy in the development of a general theory of organizations. In Lamb, R. (Ed.), Advances in Strategic Management, 2. New York: JAI Press, 231-259.

Sokol, R. J. 1993. Strategic planning for deregulation in a Canadian bank. Long Range Planning, 26: 67-75.

- Spencer, J.C. 1983. The business policy problem and industry recipes. In R. Lamb (Ed.) Advances in Strategic Management, 2: 211-229. Greenwich, CT: JAI Press.
- Steiner, G.A. 1969. Top management planning. New York: Macmillan.
- Steiner, G.A. 1979. Strategic planning: What every manager must know. New York: Free Press.
- Thompson, J.D. 1967. Organizations in action. New York: McGraw-Hill.
- Thune, S.S & House, R.J. 1970. Where long-range planning pays off - Findings of a survey of formal and informal planners. Business Horizons, 13(4): 711-740.
- Tushman, M.L. 1978. Technical communication in research and development laboratories: Impact of project work characteristics. Academy of Management Journal, 21: 624-645.
- Tushman, M.L., & Nadler, D.A. 1978. Information processing as an integrating concept in organizational design. Academy of Management Review, 3: 613-624.
- Utterbeck, J. M., & Abernathy, W.J. 1975. A dynamic model of process and product innovation. Omega: 639-656.
- Van de Ven, A.H., Delbecq, A.L., & Koenig, R. 1976. Determinants of coordination modes within organizations. American Sociological Review, 41: 322-338.
- Veliyath, R., & Shortell, S. M. 1993. Strategic orientation, strategic planning system characteristics and performance. Journal of Management Studies, 30: 359-381.
- Venkatraman, N. 1989. The concept of fit in strategy research: toward verbal and statistical correspondence. Academy of Management Review, 14(3): 423-444.
- Venkatraman, N. 1990. Performance implications of strategic coalignment: A methodological perspective. Journal of Management Studies, 27: 19-41.

- Venkatraman, N., & Cammillus, J.C. 1984. Exploring the concept of "fit" in strategic management. Academy of Management Review, 9: 513-525.
- Venkatraman, N., & Prescott, J.E. 1990. Environment-strategy coalignment: An empirical test of its performance implications. Strategic Management Journal, 11: 1-23.
- Warren, E. K. 1966. Long range planning: The executive viewpoint. Englewood Cliffs: Prentice-Hall.
- Weick, K.E. 1977. Enactment processes in organizations. In Staw, B. and G. Salancik (eds), New Directions in Organizational Behavior. Chicago, IL: St. Clair Press.
- Wood, D.R., & LaForge, R.L. 1979. The impact of comprehensive planning on financial performance. Academy of Management Journal, 22: 516-526.
- Wrigley, L. 1970. Divisional autonomy and diversification. Unpublished doctoral dissertation, Harvard University.
- Zahra, S.A. 1987. Corporate strategic types, environmental perceptions, managerial philosophies, and goals: An empirical study. Akron Business and Economic Review, 18(Summer): 64-77.
- Zahra, S.A., & Pearce, J.A. 1990. Research evidence on the Miles-Snow typology. Journal of Management, 16: 751-768.
- Zajac, E.J., & Shortell, S.M. 1989. Changing generic strategies: Likelihood, direction, and performance implications. Strategic Management Journal, 10: 413-430.
- Zeithaml, C.P., & Zeithaml, V.A. 1984. Environmental Management: Revising the marketing perspective. Journal of Marketing, 48: 46-53.

APPENDIX

Dear Bank CEO:

Would you like to know the most effective way to align your organizations strategic planning system with your chosen strategy? Each participant in the attached survey will receive important findings of the first comprehensive field research seeking to determine how to fit strategic planning systems to the strategic needs of an organization.

We have directed this correspondence to you because, as CEO, you are the primary strategist in your bank. Based on extensive pre-testing, the survey should take about 12-15 minutes to complete. Your responses will be combined with those of CEOs in other banks. After completing the questionnaire, please return it in the enclosed post-paid envelope.

You may be assured of complete confidentiality. Your survey has been numerically coded so that we can check you off our mailing list when your questionnaire is returned.

A managerial report detailing the results of this research will be made available to you as soon as the surveys are analyzed. We would be most happy to answer any questions you might have in the meantime. Please write or call at the phone number or address listed above.

Thank you very much for your assistance.

Sincerely

Patrick R. Rogers
Ph.D. Candidate
Department of Management

Alex Miller
Associate Professor
Department of Management

WHICH ONE OF THE FOLLOWING DESCRIPTIONS MOST CLOSELY FITS YOUR BANK COMPARED TO OTHER BANKS IN THE INDUSTRY? (PLEASE CONSIDER YOUR BANK AS A WHOLE AND NOTE THAT NONE OF THE TYPES LISTED BELOW ARE INHERENTLY "GOOD" OR "BAD.")

- ___ TYPE 1 This bank attempts to locate and maintain a secure niche in a relatively stable product or service area. The bank tends to offer a more limited range of products or services than its competitors, and it tries to protect its domain by offering higher quality, superior service, lower prices, and so forth. Often this bank is not at the forefront of developments in the industry--it tends to ignore industry changes that have no direct influence on current areas of operation and concentrates instead on doing the best job possible in a limited area.
- ___ TYPE 2 This bank typically operates within a broad product-market domain that undergoes periodic redefinition. The bank values being "first in" in new product and market areas even if not all of these efforts prove to be highly profitable. The organization responds rapidly to early signals concerning areas of opportunity, and these responses often lead to a new round of competitive actions. However, this bank may not maintain market strength in all of the areas it enters.
- ___ TYPE 3 This bank attempts to maintain a stable, limited line of products or services, while at the same time moving out quickly to follow a carefully selected set of the more promising new developments in the industry. The bank is seldom "first in" with new products or services. However, by carefully monitoring the actions of major competitors in areas compatible with its stable product-market base, the bank can frequently be "second in" with more cost-efficient product or service.
- ___ TYPE 4 This bank does not appear to have a consistent product-market orientation. The bank is usually not aggressive in maintaining established products and markets as some of its competitors, nor is it willing to take as many risks as other competitors. Rather, the bank responds in those areas where it is forced to by environmental pressures.

In the previous question, you selected a particular description of your organization. Which description (i.e., Type 1,2,3, or 4) best fits your organization for the period:

1-3 years ago _____
1-3 years from now _____

The purpose of this section of the questionnaire is to compare YOUR bank with similar banks in your competitive region

Please circle the number (from 1 to 5) which you feel *best* describes how YOUR BANK currently compares to similar banks in your competitive region.

	Top 20%	Next 20%	Middle 20%	Lower 20%	Lowest 20%
1. After-tax return on total assets	1	2	3	4	5
2. After-tax return on equity	1	2	3	4	5
3. After-tax return on investment	1	2	3	4	5
4. Overall firm performance/success	1	2	3	4	5

PLEASE PROCEED TO THE NEXT PAGE.

VITA

Patrick Randall Rogers was born in Munich, Germany on January 3, 1959. His father was a career US Air Force officer, and consequently, he has lived in many communities both in the US and over seas. He attended high school at Upper Heyford American High School in England, and graduated in 1977. He attended Western Carolina University from 1978 to 1982 and received a Bachelor of Science in Business Administration. He reentered Western Carolina University in 1986 and received a Masters of Business Administration in 1989. In August 1990 he entered The University of Tennessee, Knoxville and in May, 1995 received a Doctor of Philosophy in Business Administration with a concentration in Strategic Management.

He is currently employed as an Assistant Professor of management at North Carolina A&T State University, in Greensboro, North Carolina.