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Environment, decision making and consensus in the strategic process : an empirical study of seventeen organizations.

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ENVIRONMENT, DECISION MAKING AND CONSENSUS IN THE STRATEGIC PROCESS: AN EMPIRICAL STUDY OF SEVENTEEN ORGANIZATIONS

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by

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To my husband David, whose understanding, patience, humor and love provided me solace for the duration of my studies.
And to my children Jen and Greg, who grew to be fine, young people during the course of my studies.

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ABSTRACT

ENVIRONMENT, DECISION MAKING AND CONSENSUS
IN THE STRATEGIC PROCESS:
AN EMPIRICAL STUDY OF SEVENTEEN ORGANIZATIONS

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This study explored relationships surrounding consensus on strategic priorities among top and middle managers. It examined relationships among involvement, commitment, and agreement on strategic priorities under conditions of environmental dynamism and complexity. The stage of the firm's strategic process was also considered.

Ten banks and seven mature manufacturing firms were studied. Each CEO was interviewed on his firm's strategic priorities and strategic processes. Top and middle managers from each firm were surveyed to obtain measures of perceived environmental dynamism and complexity, perceived level of involvement in the strategic process, commitment to strategic priorities, and understanding of strategic priorities.

The results suggested that perceived involvement in the strategic process and agreement with the CEO on

strategic priorities were greater at top management levels. However, commitment to strategic priorities was not significantly different between the top and middle management levels. When top management perceived the environment to be dynamic, there were increased levels of involvement in the organization. When middle management perceived the environment as complex, their commitment to strategic priorities will be greater with higher levels of perceived involvement in the strategic process. Perceived involvement was not related to shared understanding, nor was strategic process stage related to agreement with the CEO on strategic priorities.

Contrary to the thrust of the consensus literature, low levels of agreement rather than high levels of agreement appear to be more normal during the strategic process and could be an important factor for building in flexibility for organizations in dynamic environments.

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CHAPTER I

INTRODUCTION AND OVERVIEW

Introduction

This study examined consensus on strategic assumptions among top and middle level managers in 17 organizations. Specifically, it explored factors that affect the dimensions of consensus and the interaction of these dimensions. The focus was primarily on the role consensus played in the strategic decision process.

Background

The traditional, literature in strategic management depicted the strategic process as directive, comprehensive and primarily the concern of top management (Andrews, 1971; Schendel & Hofer, 1979; Steiner, Miner & Gray, 1982). As Fredrickson (1983) and Wooldridge and Floyd (1989) pointed out the traditional (or synoptic) model assumed a rational approach to decision making and was characterized by two separate process stages. Strategic formulation involved comprehensive analysis to identify strategic goals and methods. The second process stage, implementation, was characterized as involving a variety of administrative tactics that differ according to who was involved in the process and the nature of the involvement (Nutt, 1987). Based on this traditional model, much of the early research on the strategic process examined the performance effects of "formal" versus "informal" planning (Fulmer and Rue, 1974; Grinyer and Norburn, 1975; Herold, 1972; Karger and Malik, 1975; Kudla, 1980; Leontiades and Tezel, 1980; Scheehan, 1975; Thune and House, 1970; Wood and LaForge, 1979). This stream of research showed no conclusive evidence that a particular style of planning was more beneficial to performance than another. The strategic process was effectively a "black box" with no true indication of the process within.

Another group of scholars (e.g. Quinn (1980), Mintzberg (1978), Braybrooke and Lindblom (1970), Steinbruner (1974), and Wrapp (1967)), however, have observed a much less structured process. In general, these writers have described the strategy process as evolutionary rather than deliberate and sequential. Strategy formation occurred in increments across a series of molecular decisions based on comparing alternative actions to the current situation and situational constraints. Actions were chosen that fit these constraints and could be rationalized to fit the current concept of strategy within the organization. Viewing strategy in this way, Mintzberg (1978) described strategy as a "pattern in a stream" of strategic actions.

These two descriptions need not be considered contradictory but merely alternative perspectives regarding how long range decisions are made and combined. In reality most organizations mixed modes of strategy making (Fredrickson, 1983; and Mintzberg, 1973). Further, the mix varied depending on the stage of the decision-making process (Nutt, 1977) and the nature of the decision and the organizational department involved (Mintzberg, 1973).

The traditional view of the strategic process continued to emphasize goals, plans and resource allocations by its continuing emphasis on the designing of a "grand plan". Fredrickson (1981), however, has called for a decision based perspective. Upon reviewing the principal characteristics of the traditional, synoptic model, Fredrickson (1983) found that the model is not realistic as it pertains to the current needs and patterns now existing in organizations. All organizations do not plan formally but all make strategic decisions.

Thus, Fredrickson (1983) argued for a decision based perspective that would allow strategic research to continue in firms attempting to use a synoptic process for decision making but more importantly would allow more thorough and comparative research in firms not employing formal planning methods. Under a decision based perspective, researchers study the process of making individual strategic decisions. The focus was not on the planning process. Since all firms make strategic decisions (Fredrickson, 1984) and a firm's pattern of behavior across decisions (Fredrickson and Mitchell, 1984) was consistent, a decision based perspective allows for potential strategic research across virtually all firms.

Fredrickson (1983) also suggested that researchers emphasize the development of concepts, constructs and measures. Since the concepts that are of particular importance to strategic process research are likely to be "intangible", they are likely to be difficult to objectively measure. Thus, Fredrickson argued that research use both quantitative and qualitative methods.

The study described here took a decision based perspective, and used a variety of methods to examine the dimensions of consensus and their relationship to decision making in the strategic process. Measures for the dimensions of consensus covered in the study evolved from previous research in a variety of areas. Given the conflicting results of prior studies, the assumption that consensus is "good" for strategy was not made and, therefore, there was no emphasis on performance at this point in time. Rather, the emphasis was in trying to develop appropriate measures of the consensus constructs. Additionally, the study attempted to determine some of the important factors that affect consensus. It would then be hoped that factors shown to affect consensus could be used to predict or influence the direction of the strategic decision within particular settings.

Previous Consensus Research

Questions Addressed

Since strategy is the culmination of individual decisions, consensus building can be seen as an important part of the strategic process. Research on consensus-building has been important for a long time. As early as 1969, Stagner investigated consensus in organizations. Previous consensus research as reviewed by Dess and Origer (1987) primarily dealt with consensus in parts of the strategic process itself such as consensus on dimensions in the decision making process: cohesiveness, formality and centralization (Stagner, 1969) and consensus on the degree of perceived formality of the planning systems (Grinyer and Norburn, 1975). This study considered another dimension of the strategic decision making process, the weighting of strategic priorities for the evaluation of alternatives in decision making. Consistent with suggestions that environmental dynamism and complexity affect consensus (Bourgeois, 1983, 1985; Hrebiniak and Snow, 1982; Dess, 1987), this study examined relationships between dynamism, complexity and consensus.

Measures Used

Both "agreement" and "disagreement" have been used as measures in consensus research. The dependent measures have not been consistent but can generally be categorized as based on an objective "performance" measure (Stagner, 1969; Grinyer and Norburn, 1975; DeWoot, Haevert and Martou, 1977-78; Bourgeois 1980, 1985; Bourgeois and Singh, 1983; Hrebiniak and Snow, 1982; Dess, 1987). A few have dealt with both dimensions of consensus: understanding of that which is agreed upon and attitude toward the agreement (Whitney and Smith, 1983; Tjosvold and Field, 1983). In this study the degree of consensus (level of agreement and commitment) and the scope of consensus (who participates in the agreement) was measured. Performance was not used as a dependent variable because as previously mentioned it was not assumed that consensus was "good" in all stages and for all types of strategy.

Conflicting Findings

It would seem that some form of consensus or agreement on purpose or objective would be necessary if the firm is to achieve its goals. Grinyer and Norburn (1975) and DeWoot, Heyvaert and Martou (1977-78) have investigated links between consensus and organizational effectiveness. Still others have discussed outright the importance of consensus in strategic decision making (Barnard, 1938; Hrebiniak & Joyce, 1984; Steiner, 1979; Tilles, 1963). However, actual research findings on consensus were conflicting. DeWoot et al. (1977-78) found that disagreement on means was found in firms with long-term profitability. Bourgeois (1980) found that consensus on objectives and methods was positively related to firm performance. In contrast, Bourgeois (1985) found consensus on goals was not related to firm performance. Since most of the consensus research is similar to the "black box" approach of traditional strategic process research (Fredrickson, 1983), it is not surprising that here too conflicting findings were found. Research dealing with the decision making process as it relates to strategic process has been sparse.

Possible Explanations

Dess (1987) suggested that future consensus research find the limits of the negative and positive relationship of consensus. In an attempt to explain these findings, Wooldridge and Floyd (1989) provided a description of how the strategic process affects consensus. In addition to the degree of consensus among the top management (TM) covered in the Dess and Origer (1987) review of previous consensus literature (Bourgeois, 1980, 1985; Bourgeois & Singh, 1983; Dess, 1987; Grinyer & Norburn, 1975), Wooldridge and Floyd (1989) propose that content and scope of consensus were relevant in a strategic context.

Consensus: Degree

Consensus research has focused primarily on understanding of strategy even though commitment to the strategy is an important dimension in the degree of consensus (Dess, 1987). A high degree of consensus is achieved when both commitment and understanding are high (Wooldridge and Floyd, 1989). Other combinations of these dimensions can and do occur and may be important in the dynamics of achieving high firm performance. Finally, Wooldridge and Floyd (1989) suggested that the content of the consensus goes beyond shared understandings about ends and means and includes commitment to strategy. Guth and MacMillan (1986) noted that understanding without commitment can result in "counter effort".

Consensus: Content

Wooldridge and Floyd (1989) suggest that the content of consensus (referring to what decision makers agree on) may be different at different stages of the rational-comprehensive strategic process and may differ for other process types such as Quinn's incrementalism. Focus on ends and means of previous studies seemed relevant to later stages of the rational comprehensive process. Exploration was needed to discover the importance which content of consensus in earlier stages of the rational process and under other types of processes.

Consensus: Scope

The scope of consensus (who participates) may include more than top management. Fredrickson (1984, p. 459) emphasized "that participation in the strategic process is not limited to a few individuals who are located at the very top of the organization." The literature covering alternative decision processes (Deal & Kennedy, 1982; Ouchi, 1981; Quinn, 1980; Frederickson, 1986) suggested that the scope of consensus on strategy was important beyond the top management. Mintzberg (1973, 1978) has shown that strategic participation beyond the top management was important in complex and uncertain environments.

Consensus: Strategic Process Stage

Finally, Wooldridge and Floyd (1989) suggested that both understanding and commitment were likely to be low in the initial stages of the strategic process and increase as the opportunities to improve understanding and commitment occurred. As suggested earlier, assuming a rational process model, consensus on environment, goals and means was only appropriate at later stages of the process. Early consensus may be lead to premature closure and have dysfunctional consequences (Bourgeois, 1985; Janis, 1972; Allison, 1971; Loasby, 1967).

In an incremental context, initial consensus may be built up outside top management. Eventually, top management would have to ratify and agree to the strategic initiative but commitment would still be low because of the existence of competitive strategic initiatives. As a common ground among these strategic initiatives appeared, consensus was likely to increase towards the priorities implicit in the realized strategies.

Environment

Several authors have suggested that environment was a critical contingency affecting decision making (Thompson, 1967; Aldrich, 1979; Nutt, 1976). Environment affected the difference between the information available for decision making. Stability was the environmental dimension which has been most often found to affect decision making (Duncan, 1972). Stability increased the likelihood of gaining knowledge about critical variables. In an unstable environment not only were the critical decision variables not readily apparent but the cause and effect relationships were difficult to understand (Fredrickson and Mitchell, 1984). It has been suggested (Anderson and Paine, 1975; Hatten and Schendel, 1976; Mintzberg, 1973; Nutt, 1976) that under certainty, the traditional, synoptic decision model is more appropriate. Under uncertainty the incremental model may be more appropriate (Mintzberg, 1973; Nutt, 1976).

Summary

In summary, possible explanations for conflicting findings in consensus research could have been due in part to lack of consideration of the degree of consensus, scope of consensus, and the process stage of consensus. Further, environment may have been a critical contingency factor in the importance of these additional considerations of consensus.

Problem Statement

This study used both quantitative and qualitative methods to examine consensus in seventeen organizations. The primary objective was to answer the following questions:

-does involvement in the strategic process increase commitment and understanding (consensus) of strategic priorities?

-does the business environment as perceived by top management have an effect on who participates in the strategic process?

-how does the stage of the strategic process affect understanding and commitment of strategic priorities?

Design of the Study

The population from which the sample was drawn consisted of small and medium size savings banks and small and medium size manufacturing firms. The savings banks were a mix of mutual savings banks and publicly held savings banks. The mix of the manufacturing firms included both private and publicly held firms. The manufacturing firms were taken from mature industries. The selection of firms from mature manufacturing industries and the dynamic banking industry was done in order to sample a broad range of environmental settings.

Data on consensus in the strategic process was gathered through the use of a survey distributed to all management staff including the president. The survey was coded by level of management and organization. The survey was developed through a deductive process by reviewing prior, related research and constructing a six-part survey instrument. A panel of three academic researchers and three business executives reviewed and critiqued the closed-answer questions and suggested critical modifications regarding wording of instructions, wording of questions, format and appearance of the survey. The final revised survey was distributed to top and middle management levels in 10 banks and 7 manufacturing firms.

Before distributing the survey in an organization an interview with the president or one of the chief executives of the organization was conducted. Open ended questions concerning the business environment, strategic priorities and strategic process of the organization were asked. This coupling of both qualitative information from CEOs and quantitative information from multiple respondents within a firm helped to enrich the data collected.

Contributions of the Research

The value of this study lay in its intent to provide quantitative as well as matching qualitative documentation of the strategic process within both similar and contrasting organizations. Further, its value lay in the depth of research within each of the organizations of the study. There was currently relatively little documentation or theoretical development of consensus in the strategic process at the time of the study. This study will help both scholars and practitioners to understand better the effect of strategic management processes in the organization. Scholars will have documented evidence of the effect of involvement in the strategic processes on commitment and understanding of strategic priorities; practitioners will have information on how these processes are developed to fit particular settings.

Limitations of the Research

Executive interviews were subject to the biases of the interviewer. The survey instrument and its distribution could not isolate and control for all causal factors. Therefore, the results could be due to a number of factors such as self-selection at the organization level and self-selection within the organization, the biases of the interviewer, the communication skills of the executive or a number of other confounding influences. However, by combining an depth survey of each organization with an in depth interview with each organization president the impact of these influences has likely been reduced.

Though sampling techniques have not been randomized, all historically mutual-type savings banks within a certain size range and a certain geographic location were asked to participate in the study. All manufacturing firms within a certain size and within certain industries as well as within the same geographic location as the banks were asked to participate in the study. Further, all top and middle managers within each of the organizations studied were surveyed.

The intention of this study was to run a preliminary test of propositions for exploring the strategic process. However, no simple causal statements concerning these propositions can be made without replication of this study in other settings and without conducting other confirmatory research in other geographical areas, and other industries as well as other types of banks.

Overview of Subsequent Chapters

The rest of this document is divided into five sections. Chapter II discusses the pertinent theory and literature on consensus and consensus building processes and develops the particular hypotheses being explored. Chapter III discusses the relevant research methodology used in this study. Chapter IV presents the results of the data analysis and provides a discussion of those results. It also includes interpretation of the executive interviews based on the hypothesis studied. Chapter V contains a summary and conclusions of the study. Finally, the bibliography and appendices related to the study are included.

CHAPTER II

LITERATURE REVIEW

Introduction

The purpose of this chapter is to review the relevant literature. First, the key factors in the industrial environments are discussed. Second, current descriptive and normative literature on approaches to the strategic process are reviewed. Third, the literature on strategic consensus is considered. Finally, hypotheses concerning these concepts are developed and proposed.

An early definition of strategy (Von Neumann and Morgensterm, 1947) portrayed strategy as a series of actions by a firm that were guided by the situations the firm found itself in. In this definition, actions were the key to strategy. Later Chandler (1962) added the concept of formulating long range goals and objectives to guide strategic actions. Strategy formulation became formula based and attempts were made to accomplish strategic formulation outside the line management of the organization. The need for a bridge between the strategic idea and strategic realization became apparent and the concept of strategic implementation developed.

As the literature progressed, strategy formulation and strategy implementation were conceptualized as separate and distinct functions. The assumption was that an objective environment existed. Enough information could be found. Strategy was considered a sequential process where goals (ends) were first fully developed and then the means for attaining them established. Implementation was generally thought to take place through organizational structures, control systems, and corporate edicts. Given these assumptions the term rational was associated with the strategic process. Further, the process was considered comprehensive. It was assumed that important aspects of the environment could be nearly completely known and that the formulation and implementation design could be completely or nearly completely determined before beginning implementation.

In summary, the traditional rational-comprehensive strategic literature depicted a process where strategy was developed by planning specialists located at the top of the organization and implemented by the issuing of corporate edicts (Andrews, 1971; Schendel & Hofer, 1979; Steiner, Miner & Gray, 1982). This model portrayed the process as predominantly directive and not involving a great deal of middle management participation.

Mintzberg (1978), Quinn (1980), and others observed that regardless of the preciseness of the developed strategic design, organizations were unlikely to fully achieve their intended strategy. In many organizations, strategy formulation did not exist apart from implementation. Rather, realized strategies evolved from a combination of intended and emergent influences that guide numerous decisions made over time. This view implied that the strategic process may involve not only top management decisions but decisions of managers at various organizational levels. Decisions were blended and smoothed as part of the strategic process and the pattern that emerged became the organization's realized strategy.

In summary, this model depicted strategy as evolving over time with the process occurring at various levels of management.

Over time these descriptions began to be viewed as theoretical ends of a continuum. That is, the processes used in real world organizations seemed to have elements of both the rational and incremental models. However, very little research had been done at the time of this study that investigated how the two descriptions actually combine. Mintzberg and Waters (1985) suggested that organizations mix these pure forms producing relatively unique processes. Both Fredrickson (1983) and Mintzberg (1973) noted this blending or mixing. Fredrickson (1983) holds that a blending of those two models may be found even within a single decision. Because of this belief, Fredrickson (1983) argued for a decision based perspective for strategic research.

Others have suggested that consensus in strategic decision making (Hrebiniak and Joyce, 1984; Nielsen, 1981; Steiner, 1979) was an important concept for this area of research. Consensus building provided an important aspect to combining individual strategic decisions to form organizational strategy.

Thus, this study used a decision based perspective as emphasized by Fredrickson (1983). In particular it investigated the linkages between several dimensions of consensus and the strategic decision making process.

Environment

The environment has been considered an important contingency in strategy research (Hofer, 1975; Aguilar, 1967; Porter, 1980; and Huff, 1982). Dess and Origer (1987) developed a theoretical framework of consensus (see figure 1) in strategy formulation, and emphasized the importance of industry environments in influencing

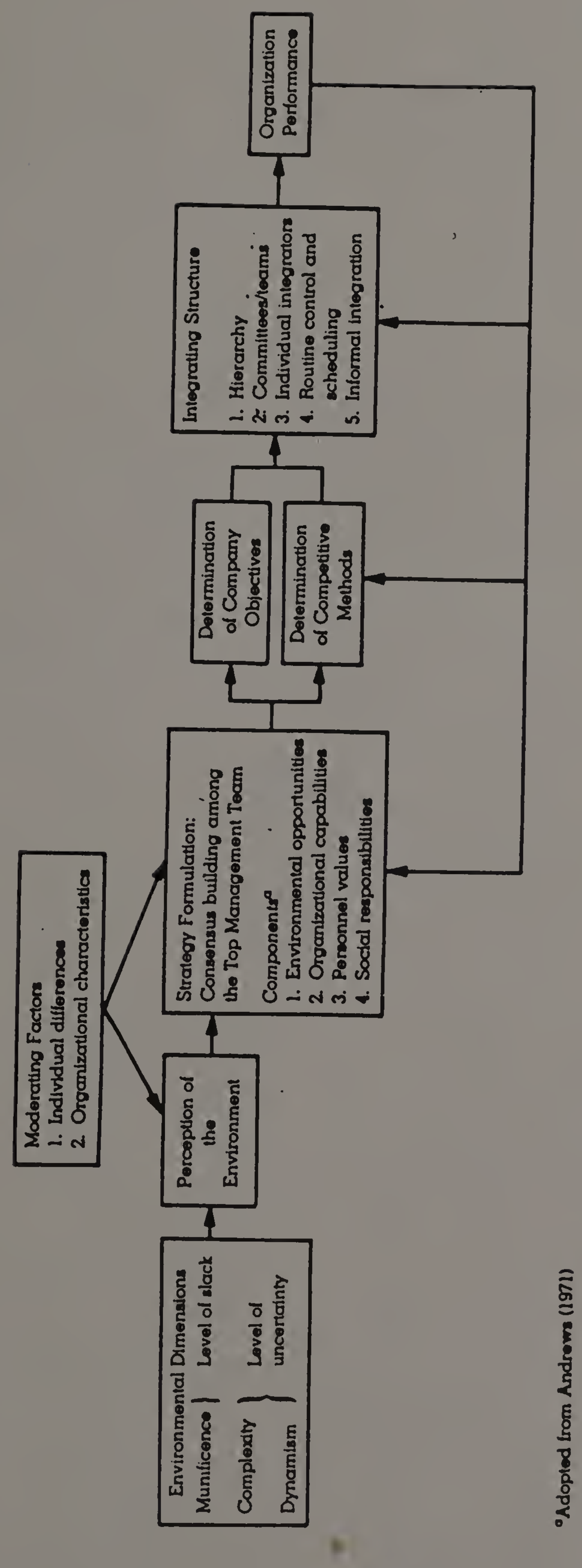

Figure 1. Consensus in strategy formulation (Dess and Origer, 1987, p.324).

the strategic alignment options available to the organization.

Environmental Dimensions

Dess and Beard (1984) identified three environmental dimensions that affect an organization's task environment; dynamism, complexity, and munificence. Dynamism was defined as the degree of stability in the environment. The degree of stability affected the likelihood of identifying critical information for a task. Complexity was related to the heterogeneity of the organization's activities. With greater heterogeneity the manager faced a more complex information need with information coming from many different sources concerning many different areas. Together, dynamism and complexity resulted in environmental uncertainty. Uncertainty has been defined as the difference between the information needed to perform a task and the information available (Galbraith, 1973). Dynamism directly affects uncertainty. Under a stable environment the likelihood of identifying the critical information is increased. Therefore, uncertainty is likely to decrease. Complexity increases uncertainty by increasing the number of factors likely to be critical for performing the task.

The third factor, munificence, is defined as the extent to which the environment can sustain growth. Growth stability may allow the organization to generate slack resources which can provide a buffer during relative scarcity. It does not affect the information needed for a task but it affects the relative outcome of decisions based on the information used for the task. Poor decisions may have a less dramatic effect on the business if slack resources are available.

Under slack conditions more options can be considered and used. Bourgeois and Singh (1983) found that slack provides the necessary resources for policy conflicts to occur and for coalitions to form. Slack could explain the difference in findings between DeWoot, Heyvaert, & Martou (1977-78) and Dess (1987). More efficient groups were characterized by frequent disagreement on means (DeWoot et al., 1977-78) but agreement on strategic methods was positively related to firm performance (Dess, 1987). Dess's findings were based solely on privately held organizations. Generally, privately held organizations have little financial slack due to limited financial resources. Therefore, this low slack demanded consensus on methods to conserve resources. Reinforcing this, Lawrence and Lorsch (1967) found that high differentiation required high integration if it was to be effective. However, the high integration had a high cost factor which would not be available under low slack conditions. Therefore, availability of slack may have more effect on the outcome of strategy than it would on the building of consensus.

Perception of the Environment

Managers "enact" (Weick, 1969) their environment by attending to different segments of the organization's environment, (Cyert & March, 1963). Because of this, objective measures of the environment must be distinguished from subjective measures, i.e. perceived by the members of the organization (Dess and Origer, 1987). Perception of the organizational environment has been recognized as an important first step to the strategy making process (Aguilar, 1967; Anderson & Paine, 1975; Andrews, 1971; Bourgeois, 1980; Hambrick, 1982; Uyterhoeven, Ackerman, & Rosenblum, 1977). Similarly perceived environments would seem to lead to coordinated strategies. However, if enough information concerning the strategic task were to be available then a number of individuals must be involved in the process. Since the executives were likely to represent various areas of the organization, they would bring with them a wide variety of environmental perceptions due to their differing functional tracks, career paths and formal roles (Hambrick & Mason, 1984; Beyer, 1981; Astley, Axelsson, Butler, Hickson, & Wilson, 1982). Individual differences could also be attributed to individual repertoires and social expectations (Downey & Slocum, 1975). During the strategic process some of these differences would be negotiated in order to develop common goals. Bourgeois (1985) found empirical evidence to support this expected variance in the executive's perceptions. He goes on to say that variance being necessary for effective performance of the organization, overall the subjective measures of the environment needed to be congruent with the objective environment.

Evidence has been found (Tjosvold & Field, 1983) that although the same decision might be made, the general understanding and commitment to the decision differed under differing environmental subsystems. These environmental subsystems resembled the "local" perspectives of Astley et al. (1982) or the functional departmentalization found by Lawrence and Lorsch (1967) that created variance in perceived environment. Therefore, combining this evidence with the already determined importance of environmental uncertainty, perceived environmental uncertainty was included as a key variable in this study. Munificence was not considered because of its primary effect on the outcome of the decision process rather than on the decision process itself.

Strategic Process Effects on Consensus

Importance of Involvement

Barnard (1938) took note of the potential limitations on the accuracy of individual perception by placing importance on the process of cooperation. He noted that the individual "possesses a limited power of choice" in dealing with situations and "is limited by all the factors in the situation, especially an individual's own biological limitations." According to Barnard, cooperation was the most effective method for overcoming these limitations. Cooperation required the "adoption of a group, or non-personal, purpose" (Barnard, 1938, p.60). Barnard implied that the interaction for achieving this group purpose (coordination) involved changes in the "motives and interests of those participating in the cooperation" (p.60). Barnard further stated that cooperation would not survive if the process used for achieving cooperation did not relate to the environmental situation.

Later Argyris (1966) and Likert (1967) argued that participation in decision making was essential in obtaining employee commitment. Ouchi's (1981) Theory Z based on Japanese management techniques boosted the importance of participation in decision-making. From their research, Locke and Latham (1984) concluded that although participation in decision making may be important it was not a panacea. More research was needed to determine when participation would be most effective.

Consensus: Scope

The discussion of participation highlights an area of concern for consensus, scope, i.e., who participates in consensus (Wooldridge and Floyd, 1989). Traditional strategic literature emphasized the importance of top management in the strategic process by emphasizing their role in strategy formulation. Mintzberg (1978) introduced the concept of middle management playing a role in the strategic process with the concept of "realized strategy". This concept emphasized that strategy was the pattern in a stream of individual decisions that were made by both top and middle management. Though Mintzberg recognized the role of middle management in the strategic process, his separation of intended and emergent influences suggested a stronger role in the process for top management.

While previous consensus research has focused on top management (Dess & Origer, 1987), Fredrickson (1984) has emphasized that participation in the strategic process is not limited merely to top management. Nutt's (1987) research suggested the possibility of a wide range of involvement of middle management in the strategic process. Further, broad participation could be expected to lead to higher performance in complex and uncertain environments (Mintzberg, 1973, 1978). Therefore, "consensus scope may be more closely related to performance than consensus degree." (Wooldridge and Floyd, 1989: p. 299)

Consensus among initiating coalitions may have been more important than consensus in the top management team when the strategic process emphasized such coalitions (Wooldridge & Floyd, 1989). However, middle management may have difficulty in perceiving the effect their decisions may have on realized strategy (Litterer, Miyamoto, Verge, & Voyer, 1985). Though the middle managers may actually have had a strong effect on strategy their perception of the situation was very narrow. Middle management makes decisions that corrected specific situational problems, that satisfy political factors and that can be rationalized to fit corporate strategy (Narayanan and Fahey, 1982; Burgelman, 1983). Middle management would, therefore, perceive less involvement in the strategic process than top management.

Bringing together the effect involvement has on strategy and the effect that hierarchical level has on the perception of that involvement, the following hypothesis is put forth:

Hypothesis 1: Perceived involvement in the strategic process will be greater at higher levels of management. Top management will perceive higher levels of involvement in the strategic process. Middle management will perceive lower levels of involvement in the strategic process.

Fit Between Task Environment and Involvement

Of special concern was the work done by Vroom and Yetton (1973; 1975) on the situational contingencies important to fitting decision making styles to the task environment. The patterns of decision styles they explored paralleled closely the implementation tactics observed by Nutt (1986, 1987). The situational variables Vroom and Yetton considered were the quality of the decision needed, the kind and amount of information needed, the problem structure and acceptance/commitment to the decision needed. Vroom (1975) found that most managers used all methods under some circumstances. Vroom's model suggested that there are specific problem situations that call for certain decision styles. Vroom's (1975) findings strongly suggest that the decisions made by typical managers were more likely to be ineffective due to being unacceptable to subordinates than due to poor decision quality. The managers neglected to follow the rules necessary for obtaining subordinates' commitment. In order to obtain commitment, the Vroom model prescribed more participative approaches when the decision was not likely to be accepted if it was made by the manager alone. The model did not suggest the situational factors that would allow the determination of whether or not the decisions would be accepted by subordinates.

Brodwin and Bourgeois (1984) discussed five patterns of strategic formulation and implementation that existed within organizations. These were the Commander, Organizational Change, Collaborative, Cultural and Crescive approaches. Each of these approaches used different types of participation in the strategic process. At one end of the spectrum of patterns was Commander which was strictly top-down management. At the other end of the spectrum of patterns was Crescive approach which was primarily a bottom-up approach to management.

Brodwin and Bourgeois' (1984) suggested that various strategic management processes may be more effective under differing industrial environments. Directive approaches attempted to reduce uncertainty through environmental analysis and selection of appropriate strategic action. This action was planned for in detail and then carried out by edict.

Under a dynamic environment, changes in the environment were frequent and occurred over many aspects of the environment. This requires many alternate "views" of the environment in order to broaden the perspectives of the decision makers. Though trying to reach agreement was helpful to decision makers under a dynamic environment, agreement was harder to achieve because each participant would have different information concerning the situation. Bourgeois' (1985) research suggested that although reduction of uncertainty may be appropriate under stable environmental conditions, it could be dysfunctional under volatile environments:

> Uncertainty should not be reduced if it is, in fact, an accurate manifestation of the objective situation. In fact, uncertainty may be functional in volatile environments, at least when it is

> experienced at the strategy-making level of the organization. (Bourgeois, 1985: p.570)

Brodwin and Bourgeois (1984) have addressed the appropriateness of these five patterns to the industrial environment and drew the conclusion from their research that the Commander, Organizational Change, and the Collaborative Approaches which were more directive were most effective for smaller industrial firms. The Cultural and Crescive techniques which were more participative were important for complex organizations. For the small and the complex organization, the environment was still an important factor.

Under a nearly stable environment the structure of problems is very well-defined. If top management perceives high stability in the environment, they will assume changes occur infrequently and that analysis of the environment is possible and the problem can be well-defined. Therefore, directive approaches may be used to reduce uncertainty in the organizational setting. Such techniques are based on extensive independent analysis; quality, comprehensive decisions can be made using fairly complete information.

Under dynamism the manager faces a task environment in which the likelihood of identifying critical information for a decision is low and there is a greater need for more complex information. Alternate views of the environment can broaden the perspective of individual decision makers and improve the quality of the information considered. Participation in the strategic process increases the number of alternate views of the environment individual decision makers are exposed to. If top management perceives high environmental dynamism, the information needed for making strategic decisions will not be readily available. In seeking out more relevant and timely information, top management will seek participation from other parts of the organization in order to make knowledgeable, higher quality decisions.

In summary, top management in attempting to make decisions with appropriate information will select decision making techniques that most match their information needs created by their perception of dynamism in the environment. Therefore, the following hypothesis is put forth:

Hypothesis 2: Involvement in the strategic process will be greater for organizations whose top management perceives the environment to be relatively dynamic. Involvement in the strategic process will be less for organizations whose top management perceives the environment to be relatively stable.

Consensus: Content

The importance of consensus in the strategic process has been stressed by Hrebiniak and Joyce (1984), Nielsen (1981), and Steiner (1979). However, previous studies have resulted in conflicting findings on the importance of this variable.

Research concerned with consensus as an outcome has generally defined consensus as agreement. However, the subject matter of agreements varied widely. The subjects of agreement according to Dess and Origer (1987, p. 317) included

> satisfaction with decision making (Stagner, 1969), objectives and role perception (Grinyer & Norburn, 1977-78), means for accomplishing innovation activities (DeWoot, Heyvaert, & Martou, 1977-78), goals and means (Bourgeois, 1980; Dess, in press), firm strengths and weaknesses (Hrebiniak & Snow, 1982), and perceived environmental uncertainty (Bourgeois, 1985).

The importance of finding appropriate areas of agreement for the strategic process followed from the fact that common understanding allowed for coordinating individual decisions and making individual decisions consistent across decision makers. Decision makers must come to see the organization in a consistent manner. Top management must develop a shared understanding of the organizational priorities. This leads to coherent emerging organizational strategy which further increases the level of shared understanding among top management for a given strategy. A high level of consensus and shared understanding of a given strategy facilitates implementation of the strategy (Hall, 1982).

Perhaps some of the differences in the findings of the consensus research can be attributed to different approaches to strategic processes. Some organizations selecting a very rational deductive process for strategy formulation may have used very specific formulated ends and means. Others may have used an informal process and may have depended on a general understanding of what the organization values. But to achieve cooperation especially where there are conflicts, Dess and Origer (1987) argued for the use of "superordinate goals". Sherif (1966) emphasized the "realization of a common lot". The use of priorities as a content area of organizational consensus would allow for the measurement of consensus in various settings covering both "superordinate goals" or simply the "common lot".

Organizational priorities were distinct from organizational goals. Priorities did not depend on formulated ends and means but could be derived from ends and means. They were observable from decisions made (Wooldridge & Floyd, 1989) and, therefore, they were translated throughout the organization. Priorities being more generic would be less biased toward various strategic processes. Priorities could range from explicit goals to mere organizational momentum (Mintzberg & Waters, 1985); from a formal statement of philosophy (Thompson & Strickland, 1986) to a vague understanding of organizational history (Peters & Waterman, 1982); or from an awareness of some acute need (Porter, 1980).

Priorities were important points that were considered by the decision maker to weigh alternatives, to guide the direction of information searches, and to evaluate projected outcomes. The concept of managerial priorities has been discussed in the literature over a long period of time (Smith, Mitchell, and Summer, 1985). Representative of much of this literature was Deising's, (1962) typology of three types of priorities: (1) technical efficiency, (2) organizational integration, and (3) political support. The increasingly turbulent environment that firms found themselves in led to the consideration of other major types of priorities, such as product and process innovation. Additionally, market differentiation could be added (Porter, 1980) to take contemporary strategy content theory into account.

Hambrick (1981) has labeled this degree of agreement "between an executive's perception and the chief executive's perception of the organization's strategy as strategic awareness" (p.263) and found that strategic awareness was positively related to hierarchical level. In the Hambrick study strategy was represented by a one item measure developed from the Miles and Snow typology (i.e. Defender, Analyzer, Prospector).

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Organizational priorities were distinct from organizational goals. Priorities implied rank ordering and did not depend on formulated ends and means but could be derived from ends and means. Priorities could be represented by explicit goals or mere organizational momentum (Mintzberg & Waters, 1985); by a formal statement of philosophy (Thompson & Strickland, 1986) or a vague understanding of organizational history (Peters & Waterman, 1982); or by an awareness of some acute need (Porter, 1980). Priorities were observable from decisions made (Wooldridge & Floyd, 1989) and, therefore, they were translated throughout the organization. Priorities were a way of ordering options. Priorities were important points that were considered by the decision maker to weigh alternatives, to guide the direction of information searches, and to evaluate projected outcomes. Priorities being more generic would be less biased toward various strategic processes.

Using the more complex approach of weighting and ranking priorities as another method of measuring strategic awareness and hypothesizing that this too would be affected by hierarchical level, the following hypothesis is made:

Hypothesis 3: Agreement with the CEO on strategic priorities will be greater at higher levels of management. Agreement with the CEO on strategic priorities will be greater for top management and lower for middle management.

Additionally, under the incremental model the CEO's perception of strategic priorities may not have been important to developing a common understanding of strategy. Coalition formation about a particular strategy may have required that the CEO not be involved in the setting of the priorities for the strategy. However, because of the nature of strategy the top management team would be heavily involved allowing for the airing of a variety of alternate views. This leads to a more complex and thorough understanding of the organization's strategic priorities. Rather than consider agreement with the CEO necessary, simply "shared understanding" of the priorities would be important to the strategic process. Therefore, the following hypothesis is put forth:

Hypothesis 4: Perceived individual involvement in the strategic process will be positively related to shared understanding. Higher levels of perceived involvement will be related to higher levels of shared understanding. Lower levels of perceived involvement will be related to lower levels of shared understanding.

Consensus: Degree

Consensus research had focused primarily on understanding of strategy even though commitment to the strategy was an important dimension in the degree of consensus (Dess, 1987). A high degree of consensus is achieved when both commitment and understanding are high (Wooldridge and Floyd, 1989).

The acceptance of managerial decisions was important to the strategic process because of the extra effort needed to encourage cooperation to obtain behaviors such as helpfulness, suggestions and gestures of goodwill that provided flexibility to cope with unforeseen situations and enable individuals to deal with their interdependences. This kind of coordination required changes in the interests and motives of those participating in cooperation (Barnard, 1938). When a degree of effort was extended toward a goal, motives and interests were implied from that effort and commitment was said to occur (Reichers, 1985; Porter, Steers, Mowday, & Boulian, 1974).

Wooldridge and Floyd (1989) proposed that consensus varies according to the type of strategic process used. The type of process used also had implications for the speed of the implementation. Hrebiniak and Snow (1982) found that commitment among managers had a positive influence on implementation of strategy. Acceptance and commitment to decisions was higher under early agreement than disagreement (Schweiger, Sandberg, & Ragan, 1986; Tjosvold & Field, 1983). Decisions were implemented more rapidly under a cooperative climate with mandatory consensus as opposed to majority rule (Tjosvold & Field, 1983). In contrast to this, high levels of commitment could be detrimental to the strategic process at certain points. Too much commitment could have engendered too much trust in past policies and procedures (Salancik, 1977). It could also have kept out important discordant information (Whitney & Smith, 1983). Undercommitment may have resulted in an internal environment of conflict which could have promoted originality and innovation (Randall, 1987) so necessary for early stages of a new strategic direction.

Throughout the commitment literature and research the concentration has been on organizational commitment which has been portrayed as having three components: (a) acceptance of the organization's goals, (b) willingness to exert effort for the organization, and (c) desire to maintain membership in the organization. This study argued for a more specific commitment to strategic priorities as being more important to strategic implementation than commitment to the organization in general. This would be important in the early stage of the strategic process because strong commitment to the organization may imply too much trust in past policies and procedures (Salancik, 1977). Undercommitment to the organization did not necessarily imply undercommitment to a strategic priority. Therefore, commitment to the priority as opposed to commitment to the organization may have been more important to the implementation of a new strategy.

Due to the nature of the top management's role in the strategic process, it was expected that top management would have exerted extra effort to bring about changes in the middle management and the organization. It was expected that top management would achieve higher levels of commitment to strategic priorities than middle management. Therefore, the following hypothesis was made:

Hypothesis 5: Commitment to strategic priorities will be greater at higher levels of management. Commitment will be greater for top management and lower for middle management.

Further, commitment could be enhanced by a number of factors: satisfaction with the level of participation, political access, belief in the soundness of a decision, and ability to see the connection to personal goals (Guth & MacMillan, 1986; Alutto & Acito, 1974; Cook & Wall, 1980; Buchanan, 1975; Mohrman, 1979).

For example, complexity in the environment increases the number of factors likely to be critical for performing the task. This leads to more unstructured problems and solutions do not follow as logically from available information. This may lead to the soundness of the decision being suspect. A broader forum would deal with the greater information needs of the more complex environment. However, the individual's access to a broader forum for discussing his/her job needs under complexity would allow for complex understanding of the problems and solutions of their job situations. Participation in the strategic process would, therefore, increase commitment in a complex environment by increasing belief in the soundness of the decisions.

While it might seem that participation techniques would build commitment under nearly simple conditions, there are potential problems with this approach. If managers perceive an inappropriate level of participation in the strategic process, they may lose faith in senior management. They may conclude that top management is shirking their job and lacks competence. Second, if the managers don't feel qualified to make strategic decisions, they may lack confidence in the final decisions resulting from this process (Litterer, 1987). Finally, the enormous amount of time and energy participation takes may create ill will because of a sense of wasted time and effort. Using the research findings on commitment and the inferences developed from the concepts of environmental complexity and involvement, the following hypothesis is made:

Hypothesis 6: In organizations where middle management perceives the environment as relatively complex commitment to strategic priorities will be positively related to perceived involvement in the strategic process. When middle management perceives the environment as relatively less complex commitment to strategic priorities will not be related to perceived involvement in the strategic process.

Interaction of Commitment and Shared Understanding

Though the previous discussion has pointed out the importance of commitment to and shared understanding of strategic priorities, the potential dynamics of the interaction of varying levels of the two factors is important as well (see figure 2). A high level of commitment and a high level of shared understanding brings about a high level of consensus. This gives the organization both the common direction and force needed

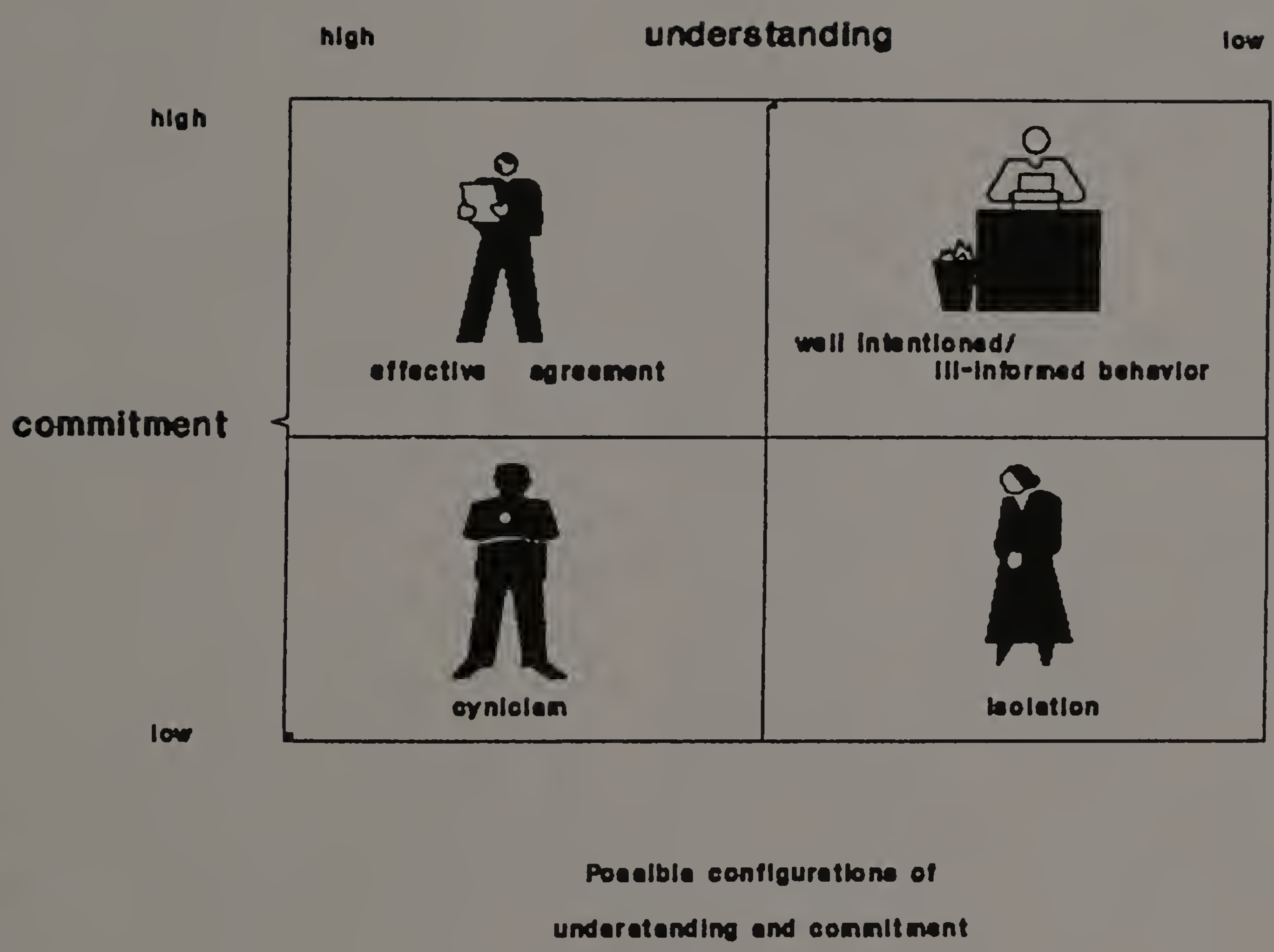


Figure 2. Configurations of shared understanding and commitment (Adapted from Wooldridge and Floyd, 1989, p.299).

to sustain attempts at implementation or continued support of attempts to fulfill priorities. When shared understanding of strategy is low but commitment is high, there may be well intentioned but ill informed behaviors and decisions leading to less intentional strategy being present in the "realized" strategy. When understanding is high but commitment is low, there may be "counter effort" (Guth & MacMillan, 1986) and cynicism negatively affecting performance. When both are low, there will be very weak consensus.

Consensus: Process stage

Earlier discussion dealt with the factors of commitment and understanding across different situations. These factors may also have changed across time in the same situation. The stage of the strategic process could have a great effect across time. Alternative strategic processes determine the stages found and their sequence and, therefore, affect commitment and understanding over time. The rational model described activities which included goal identification, alternative generation, analysis, evaluation, and choice (Andrews, 1971). The incremental model (Quinn, 1980; Narayanan & Fahey, 1982) was more of a political process set with the forming of small coalitions who foster and nourish an idea or concept and obtaining agreement from top management on its adoption as a direction for the company.

Under the rational model top management simply made a choice based on detailed analysis and the rest of the implementation was simply done through edict. Consensus was likely to be high within the top management early in the process because of their access to the logic of the decision but the consensus was not likely to be present at lower levels. As the results of the implementation of a particular strategy become known, its positive effect on the performance of the firm could increase the commitment of the lower level managers to the strategy because positive firm performance would often affect their bonus pay situation, promotion availability and at the very least, job security because the firm was likely to remain in business if it was performing well.

For the incremental model, high consensus of the top management team was not likely to be present in the early stages because the strategic idea and concept was likely to be located at a lower level management situation where there was likely to be high consensus among the initial coalition members at the early stage and little or no consensus among the top management team. Later stages would show some increase in the consensus of the top management team but would never reach the high consensus of the top management team of an organization using the rational approach.

Selected decision making techniques could be used at different stages of a process. Devil's advocate and dialectic inquiry could be used at early stages of the strategic process to obtain more alternatives and information (Schweiger, Sandberg, & Ragan, 1986). After the selection of several good alternatives, the process could switch to forced consensus which brings about higher acceptance of the decision (Schweiger, Sandberg, & Ragan, 1986) making implementation easier.

In Stagner's (1969) study, firms at both the bottom and top third of profitability showed high cohesiveness. This conflicting finding could have been due to importance of consensus coming at the appropriate stage. Too early consensus could bring about the phenomena of "groupthink" (Janis, 1972; Allison, 1971) and result in low performance. Further, when performance is good there is little desire for change (Grinyer & Norburn, 1977-78) and most of the various options available under slack conditions may have been played out.

Struggling companies in earlier stages would be searching for new solutions to their problems and the management would be anxious for change (Grinyer & Norburn, 1977-78) and bring about conflicts. If the industry as a whole was struggling, it was likely that there would have been "breaks" in the industry environment, which has been shown to lower agreement (Grinyer & Norburn, 1977-78). Therefore, the following hypothesis is given:

Hypothesis 7: Agreement with the CEO will be higher for firms in later stages of the strategic process than for firms in early stages.

In summary, environment should affect the appropriateness of strategic processes. The effect of the strategic processes should be measured under differing conditions across time. Further, the consensus effect should be measured in terms of content, degree, and scope. The hypotheses are reviewed below:

Hypotheses

Hypothesis 1: Perceived involvement in the strategic process will be greater at higher levels of management. Top management will perceive higher levels of involvement in the strategic process. Middle management will perceive lower levels of involvement in the strategic process.

Hypothesis 2: Involvement in the strategic process will be greater for organizations whose top management perceives the environment to be relatively dynamic. Involvement in the strategic process will be less for organizations whose top management perceives the environment to be relatively stable.

Hypothesis 3: Agreement with the CEO on strategic priorities will be greater at higher levels of management. Agreement with the CEO on strategic priorities will be greater for top management and lower for middle management.

Hypothesis 4: Perceived individual involvement in the strategic process will be positively related to shared understanding. Higher levels of perceived involvement will be related to higher levels of shared understanding. Lower levels of perceived involvement will be related to lower levels of shared understanding.

Hypothesis 5: Commitment to strategic priorities will be greater at higher levels of management. Commitment will be greater for top management and lower for middle management.

Hypothesis 6: In organizations where middle management perceives the environment as relatively complex commitment to strategic priorities will be positively related to perceived involvement in the strategic process. When middle management perceives the environment as relatively less complex commitment to strategic priorities will not be related to perceived involvement in the strategic process.

Hypothesis 7. Agreement with the CEO will be greater for firms in later stages of the strategic process than for firms in early stages.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this chapter is to describe the methodology used to test the hypotheses developed in Chapter II. First, the research design, methods and strategies for obtaining sample data are covered. Next, the instrumentation and variable measurement are detailed. Finally, techniques used for the operationalization of variables are reported.

Research Design

The hypotheses listed at the conclusion of Chapter II have not been empirically tested prior to this study. The research study used a combination of qualitative and quantitative procedures. An open-ended interview of the CEOs of the firms in the sample obtained the CEO's view of the strategic priorities, the strategic process, and the business environment of the firm. Following this, a survey instrument was administered to the firm's top management and middle management. The survey instrument measured perceived management process, perceived involvement, commitment to strategic priorities and individual understanding of priorities.

It was hypothesized that the strategic management processes used by the firm to establish consensus on strategic priorities was related to the organizational environment. In order to establish that environments have an influence on strategic management processes, two widely different settings were selected.

The survey instrument included both established measures and items designed specifically for this study. Organizational level (top management versus middle management) was established through coding.

Sample

In order to observe perceptions within a wide range of environments, firms were selected from different environmental settings. Dess and Origer (1987) assert that uncertainty comes about principally through two environmental factors, dynamism and complexity.

Uncertainty is an important environmental concern because uncertainty decreases the possibility of obtaining accurate and timely information. High velocity (dynamic environments with sharp and discontinuous change) further affect information gathering in the same way.

In general the banking industry can be considered high in both dynamism and velocity. The environment is one in which competitive information is often inaccurate, unavailable or obsolete (Bourgeois and Eisenhardt, 1988) due to changing competitors, technology, and government regulations.

The banking industry has been operating under a continually changing environment since 1973. That year brought the end of fixed currency exchange rates and 1973 through 1982 were characterized by heavy inflation (ranging from 5 3/4% to over 15%). Technological changes made it possible for the customers to interact directly with banking computers (such as ATMs). Electronic communications integrated the world's capital markets into a single global system. Electronic technology in all financial sectors became a necessity and increasingly affected greater portions of the business. In the mid '70's regulators began a gradual process of deregulation. Important deregulation included Depository Institutions Deregulation and Monetary Control Act of 1980, the Garn-St. Germain depository Institutions Act of 1982, and the July 1985 Supreme Court decision upholding the legality of regional interstate banking. More recently the 1987 federal court ruling allowed banks to offer both investment and brokerage services. Along with this there was a recent growing trend of borrowers in distress filing suit against the banks under a new legal doctrine known as lender's liability. These and other sudden changes have made the banking environment very dynamic.

Medium sized Massachusetts banks with a mutual savings history were asked to participate. Ten banks accepted (see Table 1 a. pg.57). The remainder of the banks (15) sought refused with overburdened staff or pending mergers and acquisitions being given as reasons for declining.

To contrast the banks' dynamic environment, manufacturing companies in stable mature industries were selected for the second part of the sample (see Table 1 b. pg.58). Manufacturing firms were selected from the New England Guide to Manufacturers. First SEC codes denoting mature industries (slow growth businesses characterized by continuing stagnant demand and head to head competition) were determined. Next, all firms of medium size in those codes with headquarters located in Massachusetts or Connecticut were contacted and asked to participate. Firms asked to participate dealt with the manufacture of bedding, textile products, paper conversion products and footwear. Most declining firms

Table 1

Organization profiles

a. Bank profiles
(000's)

CODE	BRANCHES	LOANS(NET)	DEPOSITS	TOTAL ASSETS	RESPONDENTS TM	MM	TOT.
A	4	266,211	264,073	315,588	8	11	19
B	8	171,809	202,280	228,494	11	10	21
C	3	91,545	95,567	111,350	6	5	11
D	1	90,634	110,393	123,524	8	4	12
E	3	97,084	111,724	121,405	7	6	13
F	3	128,329	265,279	340,351	7	9	16
G	6	128,264	226,389	253,756	9	4	13
H	2	103,710	135,512	152,082	7	3	10
I	7	195,733	282,525	325,716	6	5	11
J	6	265,570	213,123	349,864	10	11	21

Note: Taken from Polk's Bank Directory Fall 1987.

Table 1

b. Manufacturer profiles

CODE	SIC	EES	GROSS SALES	PRODUCTS	RESPONDENTS TM	MM	TOT.
K	2322 2341 2361	6500	over $10 mil	sleepwear, underwear, outerwear	8	5	13
L	2515	75	betw $1-10 mil	mattresses	5	6	11
M	2677	625	over $10 mil	envelopes	6	6	12
N	2389 3143 3144	1800	over $10 mil	footwear	8	9	17
O	2621	900	over $10 mil	technical paper prod	14	11	25
P	2299	1300	over $10 mil	textiles	8	12	20
Q	2761	375	over $10 mil	printed business forms	6	6	12

Note: Taken from New England Manufacturers Directory gave overburdened staff and pending mergers as reasons for declining. Seven firms accepted. Thirty one firms refused.

Data Collection

The researcher obtained qualitative data by interviewing each firm's CEO about strategic priorities, strategic process and the firm's business environment. Using unstructured techniques (Schwartz and Jacobs, 1979) interviews were formed around a select number of open-ended questions (Table 2). The interviews were from one to two hours in length.

Table 2: Open ended questions for CEOS

1. What are the main strategic priorities of your firm (bank)?

2. What is the strategic process like in your firm (bank)? Can you give me some specific examples?

3. What is of special importance within the organization's history?

4. What is the business environment of the organization like?

5. Is there something about the organization that you feel is especially important that hasn't been brought out by my previous questions?

During the interviews, the CEO selected all management individuals who used independent judgement in their decision making. These individuals were given the survey with a cover letter (see Exhibit 1 and 2 in Appendix A) from their CEO. The surveys were returned by mail to the researcher in pre-addressed stamped envelopes. In addition to asking the CEO to distribute the questionnaire under this cover letter, the following procedures developed by Heberlain and Baumbartner (1978), Alwin, ed. (1977), Armstrong (1975), Bachrack and Scoble (1967), Boek and Lade (1963), and Dillman (1978) were used for obtaining a high response rate.

1. Including a prepaid envelope for the return responses to improve the return rate.
2. A regular stamped envelope to produce a better return rate than a business reply envelope.
3. Questionnaire required no more than one-half hour to complete.
4. Open-ended questions were avoided.

<u>The Survey Time Frame</u>

The interviews and distribution of surveys occurred over a period of eight months starting from August 1987.

Though the interviews were stretched over this length of time each set of surveys from a firm were returned within two weeks of their distribution in all manufacturing firms and banks. The spread of interviews over such a long calendar period occurred because of the difficulty in reaching top executives. A letter of introduction (see Exhibit 3 in Appendix A) was followed by a series of phone calls by the researcher over a period of time to reach various executives to get their response to being included in the study.

The Research Instrument

The questionnaire was developed through a deductive process of reviewing prior related research, developing specific hypotheses, and bringing this information together in a five part survey instrument. A panel of three academic researchers and five business executives reviewed and critiqued the instrument and suggested critical modifications regarding question wording, instruction and instrument design. The final revised questionnaire (see exhibit 2 in Appendix A) was again reviewed by the panel. No additional changes were suggested. Two forms were designed with slight changes to wording that distinguished banks from manufacturing firms. The word "bank" replaced the word "firm" for forms being sent to banks. The instrument was unobtrusively coded to distinguish each organization and the hierarchical rank of the individual answering the questionnaire.

The following sections give an explanation of each measure used in the survey instrument.

Environment

In an effort to develop measurements for an organization's task environment, Dess and Beard (1984) conducted a factor analysis that reduced the codification of 6 environmental dimensions to three, dynamism, complexity, and munificence. Together, dynamism and complexity were the factors most affecting uncertainty.

Several writers recognized environmental perception as key to the strategic process (Aguilar, 1967; Anderson & Paine, 1975; Andrews, 1971; Bourgeois, 1980; Hambrick, 1982; Uyterhoeven, Ackerman, & Rosenblum, 1977) and several have specifically concerned themselves with the perceptions of strategy-level executives (Khandwalla, 1976; Paine & Anderson, 1977; Hatten & Schendel, 1975; Bourgeois, 1985). This study measured the managers' perceived environmental dynamism and complexity.

Perceived environmental dynamism and complexity were measured by Likert-type scale ratings that answered the question "How would you describe the business environment in which your firm competes? Please circle your choices." The perceived dynamism was measured on a scale of one to seven with one being "Very Stable" and seven being "Very Dynamic". The perceived complexity was measured on a scale of one to seven with one being "Very Simple" and seven being "Very Complex" (see Exhibit 2 in Appendix A).

Strategic Processes

To measure the nature of the strategic process two studies based on actual observations of managers were used to determine aspects the individuals might be involved in and the overall effect to the organization of various levels of participation in the strategic process. Using Brodwin's and Bourgeois' (1984) five patterns of strategic formulation and implementation, four statements identifying unique characteristics of each approach were given to the manager-respondent to select one statement that best represents his/her organization. Statements labeled 1 through 4 in the questionnaire represent those characteristics.

Respondents were asked to check the blank next to the statement that most closely described their firm.

Question 5 is a paraphrased Likert (1967) question used to determine the perceived level of overall strategic management involvement. Respondents were asked to circle a number from one to nine. Higher numbers were associated with descriptions of high participation and lower numbers were associated with lower levels of participation (see Exhibit 2 in Appendix A).

Involvement in the Process

Questions 6, 7, 8, 9, and 10 were included to measure the individual's perception of personal involvement in the strategic process. These statements were devised from Nutt's (1986, 1987) research on implementation. He presented the premise that individuals may be active in the strategic process at different steps along the way as well as in different degrees of involvement in those steps. This gives participation a two dimensional possibility: type and degree. The individual was asked to rate the statements on a 7 point Likert-type scale ranging from "fully involved" to "not involved at all" (see Exhibit 2 in Appendix A).

Commitment

Porter, Steers, Mowday, and Boulian (1974) developed an instrument to measure organizational commitment. The type of commitment measured was global. It attempted to measure the individual's commitment to the general values of the organization. It also measured the respondent's desire to remain with the organization. Angle and Perry (1981) factor analyzed the questions fairly distinctly between two factors: value commitment and commitment to stay. For the measurement of commitment in this study, the value commitment factor items were selected and adjusted to fit the more specific commitment to strategic priorities. The result was the organizational commitment section of the questionnaire: statements 11, 12, 13, 14, 15, 16, 17, 18, and 19. The manager-respondent was asked to rate the statements on a 7 point Likert-type scale ranging from "strongly disagree" to "strongly agree" (see Exhibit 2 in Appendix A).

Understanding

The statements numbered 20 and 21 in the questionnaire are priority statements based on Deising's (1962) managerial priorities, Porter's (1980) market differentiation, and product and process differentiation. The respondents were asked to rank order and weight the following priorities from 1 to 5 by assigning the top priority a one and the least priority a 5:

> A. the development of new products and services, B. organizational coordination and control, C. the development of efficient operating procedures and capabilities. D. the development of a committed and motivated work force E. the development of a high quality customer base.

These priorities were also weighted by the respondents according to their relative importance to the success of the firm. The respondents were asked to allocate up to but not more than 10 points to the set of 5 priorities listed above. The greater the importance to the organization the larger the weight the respondent gave (see Exhibit 2 in Appendix A). Particular note was taken of the ranks and weights given by the CEO of the respondent's firm or bank.

Operationalization of Variables

The proposed hypotheses involved two levels of analysis. Hypotheses 1, 3, 4, and 5 involved testing at the individual level and hypotheses 2, 6 and 7 involved testing at the organizational level. Therefore, some of the variables were measured at the individual level, some were measured at the organizational level and some were measured at both levels. In the following section the individual level measures will be discussed first. Then variables measured at both the individual and organizational level are discussed and finally, the organizational level variables are discussed.

Individual Variables

Perceived Involvement in the Strategic Process. Statements numbered 6 through 10 on the questionnaire represent key elements of a major strategic step as defined by Nutt's studies (1986, 1987).

The statements measuring perceived involvement were reversed scored. Therefore, each of the response values was subtracted from the constant 8 (Dess, 1987). For each individual, perceived involvement was measured by adding these scores across the five statements. The sum of the five scores was divided by five to obtain a single perceived involvement score for each individual.

Management Level. Management level in the organization was determined at the time of the interview with the CEO. The CEO and his immediate subordinates were identified and given coded questionnaires for the two highest levels of management. In addition, each CEO identified an additional level of management. For each level the CEO was asked to identify only those individuals who exercised independent judgement when making decisions. Questionnaires were unobtrusively coded and distributed to the appropriate managerial level. The top two levels were identified as the top management team (TMT) within the study. The other level was identified as middle management (MM).

Individual and Organizational Variables

Commitment. Nine statements (11 through 19) in the questionnaire asked the manager-respondent to rate his/her commitment to the top priority of the organization. A principle components factor analysis of the nine questions was executed and only one factor was discovered. In addition, the Cronbach alpha reliability index was .91. Therefore, a measure of commitment to organizational priority for each respondent was derived by taking the mean score across the nine commitment items. The mean of the individual commitment levels of the organizations was derived by taking the mean scores across all individuals responding from the organization.

Perceived Environmental Uncertainty. To measure perceived environmental uncertainty, the individual was asked to answer the question "How would you describe the business environment in which your firm competes?" using Likert scale answers ranging from "very stable" to "very dynamic" and "very simple" to "very complex". The scales used ranged from one to seven. For hypotheses 2a, 2b, 4a, 4b standardized Z-scores of these two measures were derived and the sample was split into two categories for each dimension. Respondents with a Z-score greater than or equal to zero for perceived dynamism were placed in the dynamic category. Respondents with Z-scores of less than zero for perceived dynamism were placed in the simple category. Respondents with Z-scores greater than or equal to zero for perceived complexity were placed in the complex category and those with Z-scores less than zero were placed in the simple category. The organization's score for each of the environmental factors was determined by obtaining the mean score across all of the responding managers for each organization for each of these factors.

Organizational Variables

Involvement in the Strategic Process. Each responding manager was asked to identify the "way you feel the firm's strategic priorities are established." The respondent was asked to rate the organization for this answer on a Likert-scale of 1 to 9 with ranges identified as "Upper management issues orders" to "Orders: comments invited" to "After discussion, orders" to "Usually by group action." An organizational score was determined by taking the mean across all managers responding from the particular organization. This scale is a paraphrase of Likert's (1967) scale for determining the system of organization based on the manner in which goal-setting or ordering is done.

Shared Understanding. Shared understanding was operationalized by attempting to measure the consistency of the ratings of the five priority statements based on Deising's (1962) typology of priorities and Porter's (1980) priority of market differentiation. Shared understanding was derived from this ranking and weighting of the priorities across each organization. A technique to measure the level of agreement among academic paper evaluators (Bowen, Perloff and Jacoby, 1972) was used as a basis for this measure. A weighted rank was developed for each of the priorities by multiplying the respondent's assigned weight by the reverse score of the rank. Therefore, a priority weighted at 7 and ranked number one would receive a reverse score of five for the rank and seven for the weight and would, therefore, have a weighted rank of thirty-five for a priority. Standardized Z-scores of the five priorities were derived for each organization. Finally the absolute value of the Z-scores of these weighted rankings of priorities were summed for each individual. Each organization's mean of the individual sums of the z-score of the 5 priorities is considered to be the "shared understanding" measure of each organization.

<u>Agreement with the CEO on Strategic Priorities.</u> CEO agreement was operationalized in a similar manner to Shared Understanding. However, instead of comparing each individual's weighted ranking with the mean of the weighted rankings of the five priorities within each organization, the individual's weighted ranking was compared to the CEO's weighted ranking of the priorities.

The absolute value of the difference between the manager-respondent's weighted ranking and the CEO's was determined for each priority. Since this is a measure of the disparity between the CEO's ranking and the manager-respondent's, the score was subtracted from a constant to obtain "agreement" with the CEO. The mean of these agreement scores across the priorities was derived for each respondent and the mean for the respondents for each organization was found as well.

Strategic Process Stage. Each organization was assigned a classification of either early, middle or late in the strategic process based on the responses of the CEO to a range of open-ended questions during an hour long interview concerning their strategic process. "Early" was assigned to organizations which indicated that they were pursuing the development of a new strategic direction from what had existed for the past few years. Generally "early" organizations did not have well formed strategic priorities and were still in the process of doing such things as market studies and employee surveys. "Late" organizations had well formed strategic directions and were only making minor modifications in those directions. These organizations had their current strategies in place for a number of years. "Middle" organizations described their strategic direction as having been determined but that they were getting feedback on the choice of the direction and they were having to make substantial adjustments in the directions based on these feedbacks.

Qualitative Analysis

Scatterplots (Scattergrams)

Because of the exploratory nature of this study, additional analysis tools were considered to develop a greater understanding of the strategic processes of the firms in the study. The tool selected was the scattergram or scatterplot, sometimes called an X by Y plot (Kidder, 1981). The scatterplot is extremely useful for understanding relationships between variables. The type used for this analysis combined aspects of the frequency distribution and a two dimension graph. According to Kerlinger (1973, p.142) "distributions, like graphs...have probably been too little used in the behavioral sciences." Frequency distributions allow for the study of unusual conditions. The graph "vividly and uniquely describes a relation" (Kerlinger, 1973 p. 143).

A profile analysis approach was used to review the scatterplots. A rigorous statistical analysis was not done on the information. A visual assessment of the similarities of the profiles of each of the organizations took into account the shape of the profile and `scatter' (differences in the variability) of the profile. Not using calculated measures at this point maintains certain information about the data that can enrich the analysis. This changes the research study from a `black box' and allows some limited view of the inside of the `box'.

The construction of the scatterplots is straight forward. One variable of interest is plotted on the horizontal (X) axes and the other variable of interest is plotted on the vertical (Y) axis. The data set is of the (X,Y) variety. For each occurrence of a bivariate pair, one point is plotted on the diagram. Because of the incorporation of frequency, multiple cases of bivariate pairs are signified by different symbols when plotting. Therefore, in the graphs, the occurrence of 1, 2, 3, or more than 3 pairs at a given location is distinguishable. Each graph of pairs of variables used the same dimensioning to allow direct comparisons across organizations.

Four sets of scatterplots were used for the analysis. Three sets used the variable `management level' for the horizontal (X) axis and the variables "perceived involvement", "commitment" and "agreement" for each of the vertical (Y) axes. The fourth set of plots used "perceived involvement" for the horizontal (X) axis and "shared understanding" for the vertical (Y) axis. These were observed for common or unusual patterns that showed a relationship to the interview data.

CHAPTER IV

PRESENTATION OF RESEARCH RESULTS

Introduction

This chapter presents the results of the study in two parts. The first section uses the survey data to test the hypotheses. The second section discusses the important variables in the hypotheses using information obtained during the CEO interview of each of the firms in the survey in conjunction with scatterplots of the variables. (Detailed descriptions of each of the organizations can be found in Appendix B. Scatterplots referred to in the analysis can be found in Appendix C.) Chapter V will discuss the implication of these results for the field of strategic management.

Hypothesis Testing

Hypothesis 1: Perceived involvement in the strategic process will be greater at higher levels of management. Top management will perceive higher levels of involvement in the strategic process. Middle management will perceive lower levels of involvement in the strategic process.

To test hypothesis 1, a one-way ANOVA was performed with perceived involvement as the dependent variable and the level of management as the independent variable.

The sample was split into two groups. One group consisted of top management and the second group consisted of middle management. Support for this hypothesis would have shown a higher mean for perceived involvement for individuals at the top level of management, and a lower mean for the middle level of management surveyed. The between groups F probability would be below .05 to be significant. Table 3 (pg.78) presents the results of the ANOVA analysis and the related cell means and standard deviations. Results show a significant effect showing very strong support for the hypothesis. Table 3 (pg.78) shows an F probability of <.001. and a mean of 5.04 for top management and 3.97 for middle management.

Hypothesis 2: Involvement in the strategic process will be greater for organizations whose top management perceives the environment to be relatively dynamic. Involvement in the strategic process will be less for organizations whose top management perceives the environment to be relatively stable.

Hypothesis 2 was tested using a one-way analysis of variance using the overall level of involvement in each organization as the dependent variable and top managements' perception of environmental dynamism as the independent variable. The sample of organizations was split into two groups. Organizations whose top management had a mean value greater than or equal to zero for the standardized z-scores of their perception

TABLE 3

Summary of ANOVA results:
perceived involvement according to management level

Source	df	MS	F Ratio	F Prob.
Between Groups	1	71.2707	30.0810	.0000
Within Groups	248	2.3693		
Total	249			

Cell means and standard deviations:
perceived involvement according to management level

Management Level	N	Perceived Involvement
Top Management	130	
Mean		5.04
Standard deviation		1.47
Middle Management	120	
Mean		3.97
Standard deviation		1.61

of environmental dynamism were placed in the dynamic category. Organizations whose top management had a mean value less than zero for the standardized z-scores of their perception of environmental dynamism were placed in the stable category. Support for this hypothesis would have shown between group significance with F probability <.05 and a higher level of involvement mean for the organizations whose managers perceive higher dynamism in the environment.

The analysis showed an F ratio of 6.02 under the dynamism factor which was significant at F probability <.05 (see Table 4 pg.80). The dynamic group had an involvement level mean of 5.00 (indicating high participation in the decision making process of the organization). The stable group had an involvement level mean of 3.63. This shows support for hypothesis two.

Hypothesis 3: Agreement with the CEO on strategic priorities will be greater at higher levels of management. Agreement with the CEO on strategic priorities will be greater for top management and lower for middle management.

Hypothesis three was tested using a one-way analysis of variance using CEO agreement as the dependent variable and level of management as the independent variable. The sample was split into two groups. One group consisted of top management and the

Table 4

Summary of ANOVA results:
involvement level according to level of dynamism

Source	df	MS	F Ratio	F Prob.
Between Groups	1	7.8932	6.0231	.0268
Within Groups	15	1.3105		
Total	16			

Cell means and standard deviations:
involvement level according to level of dynamism

Factor Level	N	Involvement
Dynamic	9	
mean		5.00
std. dev.		1.30
Stable	8	
mean		3.63
std. dev.		.94

second group consisted of middle management. Support for this hypothesis would have shown between groups significance with F probability <.05 and a higher mean for top management than middle management. The analysis showed an F ratio of 4.99 that was significant at probability <.05 (see Table 5 pg.82). Top management had a mean of 12.76 which was significantly more than the mean of 11.70 for the middle management group. This shows clear support for hypothesis three.

Hypothesis 4: Perceived individual involvement in the strategic process will be positively related to shared understanding. Higher levels of perceived involvement will be related to higher levels of shared understanding. Lower levels of perceived involvement will be related to lower levels of shared understanding.

Hypothesis four was tested by observing the correlations between shared understanding of each of the priorities, the total shared understanding and perceived involvement. As Table 6 (pg.83) shows, no significant correlations were found. Thus, the results provide no support for hypothesis four.

Hypothesis 5: Commitment to strategic priorities will be greater at higher levels of management. Commitment will be greater for top management and lower for middle management.

Hypothesis five was tested using a one-way analysis of variance using commitment to priorities as the dependent variable and level of management as the independent variable. The sample was split into two

Table 5

Summary of ANOVA results:
agreement with the CEO according to management level

Source	df	MS	F Ratio	F Prob.
Between Groups	1	72.0905	4.9993	.0262
Within Groups	251	14.4201		
Total	252			

Cell means and standard deviations:
agreement with the CEO according to management level

Management Level	N	Agreement with the CEO
Top	131	
Mean		12.76
Standard deviation		4.11
Middle	122	
Mean		11.70
Standard deviation		3.42

Table 6

Correlations between shared understanding of strategic priorities and perceived involvement

<u>Strategic</u> <u>Priorities</u>	
New Product and Service Development (N=248)	-.03
Organizational Coordination and Control (N=248)	-.00
Efficient Procedures and Capabilities Dev. (N=248)	.06
Committed and Motivated Workforce Development (N=248)	-.10
High Quality Customer Base Development (N=248)	.07
<u>Overall</u> <u>Understanding</u> (N=248)	-.04

No significant correlations.

groups. One group consisted of top management and the second group consisted of middle management. Support for the hypothesis would have shown an F ratio significant at F probability $<.05$ and a commitment mean significantly higher for top management than for middle management. The F ratio of .22 (see Table 7 pg.85) was not significant and the commitment means of the two groups were essentially the same. Top management had a mean of 5.7 and middle management had a mean of 5.6 showing no support for hypothesis five.

Hypothesis 6: In organizations where middle management perceives the environment as relatively complex, commitment to strategic priorities will be positively related to perceived involvement in the strategic process. When middle management perceives the environment as relatively less complex commitment to strategic priorities will not be related to perceived involvement in the strategic process.

Hypothesis six was tested at the organizational level by observing the correlations of middle managements' perceived involvement in each organization with the commitment to strategic priorities of the middle management. The sample of organizations was split into two groups. Organizations whose middle management had a mean value greater than or equal to zero for the standardized z-scores of their perception of environmental complexity were placed in the complex category. Organizations whose middle management had a mean value less than zero for the standardized z-scores

Table 7

Summary of ANOVA results:
commitment to strategic priorities
according to management level

Source	df	MS	F Ratio	F Prob.
Between Groups	1	.2527	.2181	.6410
Within Groups	228	1.1588		
Total	229			

Cell means and standard deviations:
commitment to strategic priorities
according to management level

Management Level	N	Commitment to Strategic Priorities
Top	124	
Mean		5.66
Standard deviation		1.05
Middle	106	
Mean		5.60
Standard deviation		1.11

of their perception of environmental dynamism were placed in the simple category. Support for the hypothesis would have shown significant positive correlation of perceived involvement with commitment under high levels of complexity. It would have shown no significant correlations with low levels of complexity (simple). There was clear support for the hypothesis. Under complexity, (.8839, $p<.01$) perceived involvement is significantly correlated for the complex group but not significantly correlated (.0754) for the simple group (See Table 8).

Table 8

Correlations of perceived involvement with commitment

Environmental Factors	N	
Complexity		
Complex	8	.8839*
Simple	9	.0754

* $p<.01$

Hypothesis 7: Agreement with the CEO will be greater for firms in later stages of the strategic process than for firms in early stages.

To test for hypothesis 7, a one-way ANOVA was performed. The dependent variable was agreement with the CEO and the independent variable was the process stage. The sample was split into three groups (see Table 9 pg.88). One group consisted of organizations in the "early" stages in the strategic process. The third group consisted of organizations in the middle of the strategic process. The third group consisted of organizations in the "late" stages of the strategic process. Only the "early" group and the "late" group were included in the analysis. Support for the hypothesis would have shown an F ratio significant at probability of <.05 and the group means for agreement with the CEO should be higher for late in the process stage and lower for early in the process stage. There was no support for this hypothesis (see Table 10 pg.89).

The F ratio of .07 was not significant and the means for agreement with the CEO on strategic priorities for the two groups of early and late process stage were essentially the same. Early process stage organizations had a mean of 11.23 and late process stage organizations had a mean of 11.39 (see Table 10 pg.89).

To summarize results from the quantitative survey data, hypotheses 1, 2, 3, and 6 were supported. Hypotheses 4, 5, and 7 were not supported by the quantitative data.

Table 9

Organization level results

CODE	INVOLVEMENT LEVEL	TOP MANAGEMENT DYNAMISM	MIDDLE MANAGEMENT COMPLEXITY	AGREEMENT WITH CEO	PROCESS STAGE
		BANKS			
A	5	-.77	.17	8.57	EARLY
B	3	-.08	-.08	8.79	LATE
C	3	-.18	-.91	9.87	EARLY
D	5	.57	-.43	8.28	EARLY
E	3	-.33	-.51	9.89	LATE
F	5	.42	.53	7.26	LATE
G	4	.06	.46	6.34	MIDDLE
H	3	.42	.38	8.26	LATE
I	3	.42	-.02	6.98	LATE
J	4	.77	.11	9.92	MIDDLE
		MANUFACTURERS			
K	5	-.18	.63	10.88	EARLY
L	4	- .02	1.14	8.96	EARLY
M	5	.18	.15	9.45	LATE
N	5	1.31	.46	8.27	EARLY
O	3	-.62	-.17	9.61	LATE
P	4	1.01	.25	7.12	EARLY
Q	6	.42	.12	8.20	EARLY

Table 10

Summary of ANOVA results:
agreement with the CEO according to process stage

Source	df	MS	F Ratio	F Prob.
Between Groups	1	.0985	.0742	.7895
Within Groups	13	17.2491		
Total	14			

Cell means and standard deviations:
agreement with the CEO according to process stage

Process Stage	N	Agreement with CEO
Early	8	
Mean		11.23
Standard deviation		1.15
Late	7	
Mean		11.39
Standard deviation		1.15

Qualitative Analysis of Interviews

This section will give the insights gained from combining the information in the quantitative analysis with the qualitative information gained from the interviews. This discussion draws on a qualitative assessment of interviews appearing in Appendix B and of the scatterplots appearing in Appendix C. The focus will be on the hypotheses of the study.

Hypothesis 1

The quantitative results provided support for the hypothesis that perceived involvement in the strategic process will be greater at higher levels of management. The scatterplots in conjunction with the interviews suggest some additional dynamics as well. Though the perceived involvement mean for middle management is significantly lower than for top management in the manufacturing firms, the range for middle management is very wide, and some values of perceived involvement are as high as top management's. The values for middle management also extend lower than for top management (such as in Firms P and N). Such results are generally found in the banks. The banks show more hierarchical structure to the perceived involvement level (such as in

Banks C, D and E). This suggests that a portion of the middle management in the manufacturing firms may actually be very active in the strategic process. Several of the firms mention the importance of getting information from manufacturing line employees, vendors and operators as part of the information process needed for good strategic management. It is perhaps the acceptance of good input at this level that leads to the perception of higher involvement on the part of management that is dealing with this level.

Hypothesis 2

The quantitative results provide support for the hypothesis that involvement in the strategic process will be greater for organizations whose top management perceives the environment to be relatively dynamic. Means of the individual firms (see Table 9 pg.88) showed the same pattern. Bank A appears to be an exception to the hypothesis. They have the lowest perceived dynamism of all organizations but have a very high level of involvement. This bank president suggested that being "democratic" was merely a preference of influential executives of the organization based on their earlier experience with one of the original banks before the merger of two banks to make this one. There was no suggestion in the interview that this choice was influenced by the environment or the particular strategy chosen by the firm.

Hypothesis 3

The quantitative results provide support for the hypothesis that top management is in higher agreement on the strategic priorities than middle management. Given the support for this hypothesis, one might conclude a lack of constructive dissension at the top of the organization. The scatterplots (see CEO Agreement by Management Level Plots in Appendix C) and insights from several of the interviews (see Appendix B) show nothing of the kind, however. In the scatterplots top management is separated into two levels. Level 1 are the very closest to the CEO and level two generally work directly with the CEO but are a level lower in the hierarchy. The individuals at the level of the CEO (level 1) show a wide range of agreement with the CEO. Many of the CEOs seem to encourage a range of opinions. For example, Bank A considers itself "more democratic" than "unilateral". In firm M, the president feels it is his job not to make the decisions but to remove constraints from the thinking of the individual managers. At firm O, even though everyone must buy into the three year plan, the CEO believes that the "maverick" must be encouraged to speak out and should be listened to. There apparently is a "maverick" in this organization and the scatterplot shows the widest range of agreement at level 1 of all organizations in the study. Two organizations do not have a wide range of agreement at this level, Bank I and Bank J. The interviews for these two organizations seemed to show a closeness within these two top management groups that went beyond the work setting to a more social setting. Bank I was run as a triumvirate with a great deal of teasing and joking among the three. Bank J was formed by the top management group that knew each other socially so that they might work together and provide an organizational setting that would eliminate the danger of being bought out and ending up with new management.

Hypothesis 4

The quantitative results did not provide support for the hypothesis that shared understanding would be related to perceived involvement. The scatterplots of the two variables of shared understanding with perceived involvement showed a wide range of patterns for the various organizations. No organization had high shared understanding and relatively low perceived involvement. Four organizations had fairly high shared understanding among all individuals (Bank H, Firm K, Firm O, and Firm P). Three of these firms (Firms K, O and P) use outside consultants for environmental information for making decisions within the top management teams (see Appendix B). The fourth (Bank H) does not mention using outside consultants but specifically mentioned having the top management team do environmental analysis before making major strategic decisions for the year. Most of the firms with lower shared understanding had a wide range of perceived involvement. One bank (Bank C) had very low morale which the CEO admitted was due to his style of management in which he controlled and made just about every decision in the bank including salary increases of the tellers. The scatterplot for this bank indicates low shared understanding as well as low perceived involvement.

Hypothesis 5

The quantitative results did not provide support for the hypothesis that commitment would be related to management level. The scatterplots do not support this across most of the organizations. Commitment is somewhat high at most levels. Three organizations (Bank C, Bank H, and Bank J) have unique patterns to the scatterplots of commitment with hierarchical level. Bank C has somewhat low commitment overall. This is the bank experiencing low morale problems. Bank I has somewhat low commitment overall. This is the bank run as a triumvirate. Observing Bank I's commitment with management level chart, two members of level 2 perceive even less involvement than level 3 which contains all of middle management. It is possible that this triumvirate is creating negative feelings in the individuals reporting to the triumvirate which in turn may create low commitment. Bank H showed a hierarchical structure to commitment levels. This was the only instance where the hypothesis held true within an organization. In this bank the CEO claims that he buffers himself from the rest of the organization and allows his immediate staff to handle everything and encourages them to allow the levels below them to do the same.

Hypothesis 6

The quantitative results provided support for the hypothesis that when middle management's perception of the environment is complex, perceived level of involvement will be positively related to commitment. No insights could be gained into hypothesis six from the interviews or scatterplots.

Hypothesis 7

The quantitative results did not provide support for the hypothesis that agreement with the CEO on strategic priorities would be related to strategic process stage. Neither the scatterplots nor the interviews provided support for the hypothesis. Referring again to the constructive dissension noticed when reviewing the scatterplots for hypothesis three, only two firms displayed relatively high consistent CEO agreement (Banks I and J) in top management. This suggests that disagreement with the CEO may serve an important function at all stages of the strategic process. As such, it is encouraged by many of the CEOs interviewed.

In summary, the data suggest support for several of the hypotheses but the interviews suggest that simple application of this data could miss additional insights. A thorough understanding of the situation is important to understanding the meaning of the data.

CHAPTER V

SUMMARY AND CONCLUSIONS

Restatement of Study Objectives

This study explored consensus on strategic priorities among top and middle level managers. The focus was primarily on the role consensus played in the strategic decision process. In prior studies there have been conflicting results on the value of consensus in achieving high strategic performance. In this study the assumption was not made that consensus was "good" for strategy. Therefore, there was no emphasis on firm performance. Rather, the emphasis was in developing appropriate measures of the consensus constructs and determining important factors in the strategic decision making process that affect consensus.

The hypotheses proposed that perceived involvement in the strategic process and commitment to strategic priorities would be greater at higher levels of management. The hypotheses also suggested that top management's perception of a dynamic environment would lead to increased levels of involvement in the organization. The hypotheses further proposed that top management would be in closer agreement with the CEO on strategic priorities than middle management would and that this agreement would be greater for firms in the late stages of the strategic process. The hypotheses suggested that higher levels of perceived involvement would be related to higher levels of shared understanding. Finally, the hypotheses proposed that when middle management, perceives a complex environment, greater levels of perceived involvement would be related to increased commitment.

Major Findings

Hypothesis 1

The study supported the theory that the level of management related to the level of perceived involvement in the strategic process. Mintzberg's (1978) separation of intended and emergent influences suggested a stronger role in the strategic process for top management than for middle management. The results of this study indicated that top management perceived a higher level of involvement in the strategic process than did middle management. This higher perception of involvement would be indicative of a greater role if the perceptions of the management were a fairly accurate representation of the situation. The parallel finding that middle management perceived lower levels of involvement in the strategic process was supportive of the research (Litterer et al.,1985; Burgleman, 1983, Narayanan and Fahey, 1982) that suggested even though middle management may have a strong effect on strategy their perception of their involvement was very narrow because of their having to deal with specific problems in situations.

Nutt's (1987) research also suggested the possibility of a wide range of involvement of middle management in the process. This study used Nutt's wording to describe the varied portions of involvement and quantified the level of management's perception. Though there was a significant difference between the means of the perceived levels of involvement in the strategic process, middle management perceived "moderate" involvement rather than low involvement. Though lower than top management's perception of involvement, the moderate level would indicate support for Nutt's descriptive findings of a wider level of involvement within the strategic process for middle management.

Narayanan and Fahey's (1982) coalition model suggested that Quinn's (1978) logical incrementalism was a more appropriate description of the process than that implied in the analytical scheme of the strategic process. Narayanan and Fahey (1982, p.32) suggest that "formulating the content of strategy inevitably entails managing its context and processes." This study has contributed to an understanding of this by measuring the scope of perceived strategic involvement within the organizational context.

Hypothesis 2

The results of this study support the theory that perceptions of the environment have an effect on the process of building consensus on strategic priorities. Within the study limitations the findings indicate that when top management perceives the environment to be relatively dynamic, involvement in the strategic process will be higher.

Vroom and Yetton's (1973) results were not conclusive in their attempt to establish the validity of their model. Their model suggested that managers were not "participative" or "autocratic" but that situations were "participative" or "autocratic". Their model did not suggest situational factors that would determine management's selection of participation levels. The findings of this study suggest that perceived level of dynamism by top management affects who is involved in the strategic process.

Brodwin and Bourgeois (1984, 1985) found that reduction of uncertainty was dysfunctional in the dynamic environment. If there was a greater need for more complex information for decision making as there is in a dynamic environment, increasing participation in the organization would increase the numbers of alternative views. In their qualitative study, Brodwin and Bourgeois (1984) found several typical management styles that included various levels of participation. Brodwin and Bourgeois developed prescriptive styles for environmental situations based on the match of the management task in various settings to the typical patterns they found in their study. They suggest that dynamism increases the level of participation needed in the organization. The present study suggested that top management would try to match their information needs and, therefore, select appropriate decision making techniques that would include increased levels of participation when perceived environmental dynamism was high. The study indicated that this was the case and lends quantitative support to Brodwin and Bourgeois' prescriptive model.

Hypothesis 3

The study findings indicated that agreement with the CEO on strategic priorities was related to management level. Higher levels of management are in stronger agreement with the CEO on strategic priorities than middle management. Hambrick (1981) also found that agreement with the CEO on the organization's strategy was greater at higher levels of management. Hambrick measured "agreement with the CEO" similar to this study. However, the content of strategic agreement differed. Hambrick used descriptions of strategy that were related to strategies such as prospector and analyzer. This study measured "agreement with the CEO" based on strategic priorities which included a rank ordering and weighting of the priorities. This study attempted to measure a more complex understanding of the priorities. The results of the study were very similar to Hambrick's. There were higher levels of agreement with the CEO at higher levels of management. What was surprising was that in this study as well as Hambrick's a rather low level of strategic awareness may exist even among key managers.

Hypothesis 4

It appears from the results of this study that there is no solid link between perceived involvement in the strategic process and the level of shared understanding. Levels of perceived involvement were not related to levels of shared understanding. The incremental model relied on coalition formation outside the CEO. It was conjectured from this model that involvement in the coalition formation in segments of management other than at the top level would lead to an "agreement" on priorities that was shared by members of the coalition. As the strategy sponsored by the coalition gained strength more of management would share in the "understanding" of the priorities of the coalition. There would be increased understanding when there were increased levels of involvement and the levels of involvement would be closely related to perceived levels of involvement.

Two difficulties arose when interpreting these results. First, perceived levels of involvement may not be closely enough related to actual involvement to have this hypothesis hold true. This may be particularly so for coalitions. Individuals other than the coalition may perceive themselves to be more involved in the strategic process than they are and their understanding of the strategic priorities could differ greatly from the coalition. Another difficulty arises if there are two competing coalitions having quite different priorities. The measure as it is designed would yield a third "shared understanding" that is held neither by the two coalitions nor the CEO. This makeshift "shared understanding" should be unrelated to the other two. It would appear that different research methods are needed to discover and measure the process and priorities of coalitions within organizations than those used in this study.

Hypothesis 5

Commitment to strategic priorities was found to be statistically the same for both levels of management. This finding in conjunction with the research that indicated that commitment enhances implementation (Hrebiniak and Snow, 1982; Tjosvold and Field, 1983) might indicate that middle management's commitment is not a hindrance to implementation. However, if middle management's commitment is a hindrance to implementation then top management's commitment might also be considered a hindrance. Commitment measures were fairly high for both levels of management, however.

What is of particular importance is that the study did not measure commitment to the organization in general, which may have included too much trust in past policies and procedures, but tried to measure commitment to the organization's strategic priorities. These strategic priorities may differ from long standing organizational policies. Therefore, if the effort which similar commitment can bring about is similar in both levels of management, inability to achieve particular strategies may be more related to the direction of that effort or to other factors not considered or in the control of management. More research needs to be done to discover whether there is difficulty with the direction of the effort. This is strongly indicated since this study and Hambrick's study both found considerable disagreement with the CEO even at key levels in the organization.

Hypothesis 6

When middle management perceives the environment to be complex, there is a positive relationship between perceived involvement and commitment. This relationship did not exist when middle management perceived the environment to be relatively simple.

Complexity may be affecting a number of factors relating to the level of commitment. Factors such as political access, belief in the soundness of the decision and ability to see the connection that decisions have to a personal goal (Guth and MacMillan, 1986; Cook and Wall, 1980; Buchanan, 1975; Mohrman, 1979) have all been shown to enhance commitment. Further research is needed to show whether complexity affects these factors and how these factors affect middle management's job needs. More specifically, further research needs to be done to show how participation in the strategic process under complex environmental conditions affects those factors shown to be important for increased commitment. Research investigating the need of middle management to see a connection to their personal goals should focus on the most likely important personal goal of successful job performance. Organizational emphasis could then be placed on trying to provide what is needed for the individual to be successful within their particular job.

Hypothesis 7

The findings did not indicate that agreement with the CEO on strategic priorities was related to the stage of the strategic process. Agreement with the CEO on strategic priorities was essentially the same at early and late stages of the strategic process. Under the rational model of the strategic process, in the early stage few individuals are aware of the strategy. As the strategy is put into place through activities such as highly developed plans, more agreement would be achieved later in the process as the rationale and the specifics of the plan became known through the other layers of management. Under the incremental model there would be an increase in agreement in later stages as top management increased support for the strategy of a particular coalition. Both models indicate that agreement should be increasing at later stages of the strategic process. These indications conflict with the findings of this study. This could indicate that a certain level of "disagreement" is a functional part of the entire strategic process and should be accepted as normal. The disagreement might then be managed rather than eliminated.

The assumption of disagreement as normal and being functional throughout the strategic process may be especially important in a dynamic business environment. Under a dynamic environment disagreement may act as a buffer for the organization providing flexibility in priorities and strategies not possible under complete agreement. Returning to the interaction model of figure 2 within the literature review, rather than assume that low commitment-low understanding, low commitment-high understanding, and high commitment-low understanding were all ineffective agreement, the assumption could be made that these could all be effective disagreement in a dynamic environment. Under this assumption low commitment-low understanding may appear as coalition formation. Low commitment-high understanding may appear as openness to change. High commitment-low understanding may appear as search activities. This would leave the organization with clusters of individuals that could shift their efforts to new strategic directions as they are needed within the changing environment.

Implications and Conclusions

Benefits to the Field of Strategic Management

This study presents evidence that strategic consensus, content, (what is agreed on), scope (who is included) and degree (level of understanding and commitment) are affected by management's perceptions of the environment. Therefore, these dimensions need to be considered in future research linking consensus to strategic performance.

Further, the findings suggest the need for studies in the area of how management's environmental perceptions are formed.

The study used a combination of qualitative and quantitative methods. The quantitative data provided a picture of the relationships that could then be related to specific qualitative descriptions within the organizations. This technique allows for a richer study at the organization level. It also makes maximum use of research sites with minimum additional costs of time and expense in data collection.

Benefits to the Corporate Executive

Of interest to the corporate executive is the finding within the qualitative analysis that "disagreement" is more "normal" than "agreement" on strategic priorities. Rather than attempting to achieve high levels of agreement executives may need to focus on effective levels of disagreement.

Another point of interest that came out of the qualitative analysis of the study is that perception of involvement of the manager in the strategic process may not be related to the actual level of involvement.

Perception of involvement may be affected by the expected level of involvement. Hierarchical position influences the level of expected involvement. If the level of involvement in the strategic process is lower than what is appropriate for the hierarchical position, perceived level of involvement may plunge below individuals lower in the hierarchy. Further, raising expectations of higher levels of involvement that can't be met may create negative consequences. If the expected level of involvement in the strategic process is not met, perceived involvement may drop lower than the level existing previous to the change. Therefore, care must be taken when embarking on changes in the participation level within the organization.

Limitations and Recommendations for Future Research

Several future areas of research may arise from the following limitations. While the sample number was over 250, and the response rate was over 90%, the study cannot be viewed as representative because only 17 organizations were included in the study. Therefore, this cannot be construed as a typical unbiased response of the general business population.

Organizations were limited in industry settings and in size. Management preference for decision making techniques may be related to the industry setting. In one organization management preference was the primary driving force for the selection of a particular decision making style. Organizations studied were small to medium in size. Many organizations in the mature industries studied were smaller than the banks included in the study. Discussion with managers in these settings seemed to show no hierarchical structure, and these organizations had only one or two individuals in `management'. In these settings agreement with the CEO and shared understanding have little meaning. Decision making was very individualized though it was affected by the opinions of others.

An interview was conducted and a study attempted in a larger size organization of the conglomerate type. The physical location of the managers hindered the acquisition of data for the study. Of the top management team, only the CEO and his chief financial officer were located at the home office. The remainder of the top management team were located throughout the country. The dynamics of decision making, agreement and shared understanding might be very different under these circumstances. These managers were brought together only two to three times a year and may have little effect on each other's views.

Further, though portions of the survey used well-tested and documented instruments, these instruments were modified and additional instrumentation was used to measure several variables. Therefore, it is difficult to know whether respondents find different meanings in the same question.

The interviews explored the variables of interest in a more general way and though the interviews substantiated some of the proposed hypotheses, the interviews also suggested new directions for building hypotheses.

The study suggested that top management will seek more information from the remainder of the organization if they perceive a dynamic environment. The interviews suggested that some top managements were also interested in seeking out new information from their external environment but no consistent pattern of seeking this information was found. Are some techniques more effective in seeking the information? Does the environment also affect which techniques may be effective in seeking the information?

The study suggested that perceived involvement was important in the strategic process outcome of commitment. The interviews and data suggested that perceived involvement may be related to the expected level of involvement.

Theory suggested that agreement was important to the strategic process. The study suggested that disagreement was important to the process as well.

Though an attempt was made to obtain as disparate a sample as possible along the dynamic dimension, the actual measurement of perceived dynamism showed a narrow range for the sample organizations. When interviewing the CEOs of the mature manufacturing industries where stability was expected, it became apparent that rather than dealing with stable environments these organizations were in dynamic environments. Under a stable environment there is a high likelihood of identifying the critical information because of little change in the environment over a period of time. However, the organizational situations had changed considerably in the past three years due to mergers, acquisitions and other restructuring of their competitors, suppliers and retailers. In addition, some of the firms themselves had experienced some form of restructuring within the past three years. This restructuring continues in these industries.

Banking was predicted to have a dynamic environment. Interviews with the banking CEOs showed that they too were dealing with restructuring in their industry. While seeking potential sites for the study in banking, several bank presidents that wanted to participate in the study were unable to do so because of recent mergers or acquisitions. Others would delay speaking to the researcher because current merger negotiations were ongoing.

All of the restructurings would decrease the likelihood of obtaining information needed for dealing with competitors and the markets of the organization because historical knowledge of organizations becomes irrelevant. The organizations of the past no longer exist in the form they once did. It would seem that the recent proliferation of mergers and acquisitions across most industries has created a general business environment that is dynamic for most organizations. Therefore, dynamism versus stability may no longer be a viable way of looking at the business environment. There may be just varying degrees of dynamism. Further, if there is that great a difference in the business environment over their most current history for many firms, studying previous strategic procedures may not add appropriate knowledge of the strategic process.

Shared understanding did not seem related to the factors measured in the study. Because understanding in this study demanded a complex understanding of priorities by requiring both ranking and weighting of several priorities, the ability of the individual respondents of the study may have limited the level of understanding that could be obtained.

This study does not allege that agreement with the CEO on priorities or even a shared understanding is a necessary state to be sought for strategic success. This aspect of the strategic process was not considered during this study. Further, agreement with the CEO differed from understanding the situation. Under agreement the CEO must impart his/her own perception of the priorities in order for the match to be comparable. This relies not only on the ability of the individual to understand the situation but the ability and the desire of the CEO to develop this understanding in others. Therefore, further research needs to be done to understand how learning and communication theories are present in the strategic process and how management preference affects that process.

APPENDIX A

SURVEY AND COVER LETTERS

EXHIBIT 1

To: Responding manager
From: General manager/CEO
Subject: University of Massachusetts Research Project
Date:

Our firm has been asked to participate in a research project on managerial decision making being conducted by the School of Management at the University of Massachusetts. As part of this research, I would appreciate your taking the time to complete the attached survey. Please bear in mind that there are no right or wrong answers. Instead, the researchers are interested in your perceptions. Your responses will be completely confidential. Your survey cannot be identified in any way.

When completing the survey, please respond to the best of your knowledge. In the event you are unable to respond to a particular item simply leave it blank. The survey takes about fifteen (15) minutes to complete.

After completing the survey, please mail it no later than (date) directly to the University. A return envelope is provided for this purpose. I appreciate your participation in what I feel is an important project.

EXHIBIT 2

STRATEGIC PROCESS QUESTIONNAIRE

STRATEGIC PROCESS QUESTIONNAIRE

UNIVERSITY OF MASSACHUSETTS
AT AMHERST

Department of Management

School of Management
Amherst, MA 01003
(413) 549-4930

Management strategy can play a vital role in determining the overall success of a business. The financial services industry is no exception. This survey is designed to acquire a more complete understanding of the strategic process as it takes place within the financial services industry. It is our hope that through this study we will be able to ultimately help management employed in this important industry to develop a more complete understanding of the management process. It is our belief that such an increased awareness will ultimately result in a stronger and healthier business.

The survey should take 10 to 15 minutes to complete. There are no right or wrong answers. Your response will be held in strict confidence and will be reported only in aggregate form combined with information from other respondents. If you are interested in obtaining a copy of the research results, please fill in your name and address in the space provided. Thank you for your participation in this important study.

When responding to this questionnaire please refer to the following:

Strategy is a pattern of actions designed to get the organization where it wants to go. Strategic practices vary with each organization. Strategies may be openly stated by management, may be deduced from management actions, or may evolved gradually over time.

Please indicate the statement that most closely describes your bank by checking the blank space to the left of the statement.

____1. Strategies are developed at the top using criteria and formal techniques. Then the organization is directed to put the strategy into effect.

____2. The strategy reflects a combination of the different points of view brought forth by key managers and professionals on whatever strategic problem is being considered.

____3. The bank is guided by a mission which incorporates the CEO's vision. Each individual designs his/her own work activities with the mission in mind.

____4. Strategies are brought to the top management from other levels. Top management evaluates the proposals.

____ Other ____

____

5. Please rate the way you feel the bank's strategic priorities are established from "upper management issues orders" to "usually by group action". Please circle the most appropriate response.

Upper management issues orders		Orders: comments invited		After discussion, orders			Usually by group action	
1	2	3	4	5	6	7	8	9

Please rate the following statements from "not at all involved" to "fully involved" according to the way you see your involvement in the bank's strategic process. Please circle the most appropriate response to each statement.

	fully involved			moderately			not at all involved
6. I am involved in identifying problems and proposing objectives that clarify the needs and opportunities put forth to us.	1	2	3	4	5	6	7
7. I am involved with developing one or more options that deal with obtaining organizational objectives.	1	2	3	4	5	6	7
8. I am involved in developing details for options developed for obtaining organizational objectives.	1	2	3	4	5	6	7
9. I am involved in assessing the merits of various alternatives developed for obtaining organizational objectives.	1	2	3	4	5	6	7
10. I am involved in applying rewards and incentives, personnel selection, promotion, resource allocation, and sanctions to put changes into place.	1	2	3	4	5	6	7

Please indicate below any other ways you see yourself involved in the strategic process:

____

____

____

Please list in the space below the strategic priority which you feel is currently of primary concern in your bank:

____

____

Please rate the following statements from "strongly disagree" to "strongly agree" as they pertain to the strategic priority you just listed. Please circle the most appropriate response for each statement.

	strongly disagree			neutral			strongly agree
11. I am willing to put a great deal of effort beyond that normally expected in order to help this strategic priority come to realization.	1	2	3	4	5	6	7
12. I talk up this strategic priority to my colleagues as a great thing to work for.	1	2	3	4	5	6	7
13. I would accept almost any type of job assignment in order to keep working toward this strategic priority.	1	2	3	4	5	6	7
14. I find that my priorities and the organization's strategic priorities are very similar.	1	2	3	4	5	6	7
15. I am proud to tell others that I am working toward this strategic priority.	1	2	3	4	5	6	7
16. This strategic priority really inspires the best in me in the way of job performance.	1	2	3	4	5	6	7
17. I am extremely glad I chose this priority to work for over others I have considered in the recent past.	1	2	3	4	5	6	7
18. I really care about the fate of this organization and believe that this strategic priority will go a long way in aiding this organization's performance.	1	2	3	4	5	6	7
19. For me, this is the best of all priorities for which to work.	1	2	3	4	5	6	7

How would you describe the business environment in which your bank competes? Please circle your choices.

OUR BUSINESS ENVIRONMENT IS . . .

Very Stable	1	2	3	4	5	6	7	Very Dynamic
Very Certain	1	2	3	4	5	6	7	Very Uncertain
Very Friendly	1	2	3	4	5	6	7	Very Unfriendly
Very Simple	1	2	3	4	5	6	7	Very Complex
Very Favorable	1	2	3	4	5	6	7	Very Unfavorable
Very Predictable	1	2	3	4	5	6	7	Very Unpredictable
Cooperative	1	2	3	4	5	6	7	Very Competitive
Opportunity Poor	1	2	3	4	5	6	7	Opportunity Rich

20. Based on their relative importance to the success of this bank allocate up to, but not more than, 10 points to the set of five statements below. For example, you might allocate points to the statements as follows:

A=7	A=2	A=1
B=0	B=5	B=2
C=0	C=0	C=0
D=2	D=0	D=4
E=1	E=0	E=3
=10	=7	=10

The long run success of this bank depends on:

____A. the development of new products and services.

____B. organizational coordination and control.

____C. the development of efficient operating procedures and capabilities.

____D. the development of a committed and motivated workforce.

____E. the development of a high quality customer base.

21. Please rank the following priorities in importance to the long run success of this bank. Use numbers 1 through 5 assigning the top priority a 1 and the least priority a 5. For example, you might rank the statements as follows:

2 A.	5 A.
1 B.	3 B.
4 C.	2 C.
5 D.	4 D.
3 E.	1 E.

____A. The development of new products and services.

____B. Organizational coordination and control.

____C. The development of efficient operating procedures and capabilities.

____D. The development of a committed and motivated workforce.

____E. The development of a high quality customer base.

22. What is your area of responsibility? (e.g. accounting/finance, marketing, operations, customer service)

____

Thank you for your time and effort in completing this questionnaire. Please feel free to make any additional comments that you believe may help our research. If you would like information on the results of our research, please supply your name and address in the area provided below.

(complete only for a copy of our research results)

Name ________________________________

Address ________________________________

____

____

EXHIBIT 3

LETTER OF INTRODUCTION

UNIVERSITY OF MASSACHUSETTS
AT AMHERST

School of Management
Amherst, MA 01003
(413) 549-4930

Department of Management

Sep. 8, 1987

Mr. Robert H. McColl
Athol Savings Bank
Box M
Athol, MA 01331

Dear Mr. McColl:

The purpose of this letter is to introduce ourselves and to ask for your help. As members of the business school we are involved in a research project that is investigating the various ways companies reach agreement on strategic priorities. Due to the multiple changes in banking regulations in the recent past we have decided to study the banking industry within this area. It is important, therefore, that Athol Savings Bank be represented in our study.

Because it is difficult to go into the details of the study in a letter, we would like to meet with you, at your convenience, to discuss our project and your company's potential participation in it. Let us assure you that all we are asking for is a little of your time and that any research results would be reported in aggregate form, would not identify your bank, and would not be reported without your prior approval.

As a president of a bank we are sure you appreciate the difficulty in achieving agreement on priorities. Your participation in this study may provide new insights into this challenge. In exchange you may gain new insights into your own organization. We will call you next week for your reaction. In the meantime if you have any questions or comments please feel free to call us at (413) 549-4930. Thank you, we look forward to meeting with you.

Sincerely,

William R. Wooldridge, Ph.D.
Assistant Professor

Mary T. Rogers, M.B.A.
Doctoral Candidate

APPENDIX B

ORGANIZATION PROFILES

ORGANIZATION PROFILES

The following are summaries of the interviews with the individual CEOs of the banks and manufacturing firms included in the studies. Each summary contains three parts. The first part covers unique aspects of the organization's setting and history. The second part contains a description of the organization's strategic decision making process and the third part contains a description of the organization's information process.

Bank: A

This bank is the result of the friendly merger of two small mutual savings banks that served similar neighboring communities. Both banks were financially sound at the time of the merger. The five top executives involved in the merger remained with the bank initially but are now retired. Though this was a friendly merger, the decision making styles of the two banks were quite different: one was "unilateral" and the other was "more democratic".

Strategic Decision Making Process:

Building on the management value of "quality rather than quantity," the current strategic direction is to fill a niche left open by a local commercial bank that merged with a large regional bank. Bank A felt they could offer quicker and more personal service to local businesses for commercial loans than could be offered at the large regional bank. Though Bank A did not have the commercial lending knowledge, they sought out a knowledgeable person in this area to head up the new strategic direction. This individual was brought into the organization, then the rest of the staff to support this direction was placed. Finally, projected figures for the new direction were decided.

Information Process:

Within the bank information is transmitted to the two top levels through informal meetings and one on one meetings with the president.

Bank: B

This mutual savings bank is the only unionized bank in its immediate region. Their unique and frequent advertising style includes the president of the bank in commercials encouraging individuals to obtain loans from the bank.

Strategic Decision Making Process:

The key strategic decision was made based on a long employee strike of several years ago. The union contract is negotiated every three years and keeps labor costs very high in comparison to other banking institutions in the area. This has eliminated the strategic possibility of generating money off of fees from new mortgages due to the high labor costs of instituting a mortgage. In order to control for all other costs in relation to the union contract, the bank matched the costs of the type of mortgage issued to mortgage income. Their selection was a three year renewable, variable mortgage. Valuing high quality loans, each variable mortgage customer must qualify at the highest possible rate of their mortgage contract. Beyond reviewing and controlling the rate structure, cost control in all areas is essential to their strategic direction.

The other strategic concern deals with increasing visibility and customer access.

Information Process:

Because of the high fixed personnel costs due to union labor contracts, the bank compares actual costs to predicted costs based on the three year labor contract. The president meets with his staff of department heads and especially mortgage heads every Tuesday morning. Everyone below this is unionized and is, therefore, excluded from these meetings. After a general discussion of the rates, each individual is asked to discuss what is happening in their own area. Rates and cost cutting measures are set at this meeting.

Bank: C

Historically this bank was a chartered, mutual savings bank begun in the mid 1800's. It was small for a long period of time and became somewhat larger in the mid 1970's by merging with another small, mutual savings bank and changing its name. In the late 1970's a third small mutual savings bank merged with this combined bank. The bank went public in 1986. At the time of the interview, the purchase of six branches from a large regional bank had just occurred. The current president has been with the original bank for the past 36 years and has been president of the bank for the past sixteen and a half years.

Strategic Decision Masking Process:

The president was very enthusiastic about the growth in size of the bank, peppering his conversation with various size rankings of the bank over the last few years. When making the major strategic decisions the president primarily considered what was "best for the bank"--"best for the shareholders". His primary concern is whether new growth in an area is sustainable. Strategic decisions are made quickly based on opportunities that arise and on problems that occur. The major decisions that have had the most affect on the strategy of the bank came about with little or no previous planning. As an example, the current purchase of several branches of a large regional bank enhanced already existing strategic direction and gave the bank an additional direction. One branch is located in a growing area and will increase the number of mortgages substantially. A second is next door to one of their own offices and will help control competition. Further, by acquiring the branches, the bank acquired the expertise and space for commercial lending.

Information Process:

Information about opportunities comes to the president directly through his peer contacts. Detailed research on a particular opportunity is done by outside consultants such as lawyers. Most of the information for running the bank seems to be in the head of the president. He has great command of the financial figures of the bank and comparative performance figures of his bank.

Information about a decision is communicated downward by the president himself. Meeting personally with department heads, speaking at impromptu meetings of employees and answering all questions seems to be the president's preferred style of communication. In addition, memos keep managers informed between meetings.

Bank: D

This is a small mutual savings bank that in the recent past lost its president of 10 years to a sudden heart attack. The current president was the then treasurer and best friend of the president. The death has left a definite vacancy in the bank with the new president trying to fill the two roles of president and treasurer.

Strategic Decision Making Process:

The board has been separated into six different committees: auditing, nominating, personnel, marketing, planning, facilities (the last four are especially active). Committees on the board are carefully selected to fill the needs of the committee. Much of this is decided by the type of work the individuals do. For example, two contractors are on the facilities committee. These committees get involved in such decisions as what property to actually buy and which projects should be backed by mortgages.

In addition to having the board concern itself with the active running of the bank, the president was very concerned himself with giving the customer "Good service, excellent service." The president concerns himself with minute detail in this area.

Information Process:

The president seeks out information concerning the community and its needs through the local individuals active on the board of directors. In addition, detailed bank financial data are kept.

Most of the committees meet rather frequently. The Loan Committee (lending officers and president) meets every Monday. Every Tuesday the board meets with the president. On Wednesday all the management and top non-officers meet with the president. Additionally, the board committees meet with the president as needed. At each of the meetings projects and ideas are thoroughly discussed.

Bank: E

This mutual savings bank was founded by a manufacturer in the 1800's. He had been keeping his workers' money in a desk drawer and wanted to put the money to work earning money for the workers. Traditionally the clientele has been blue-collar but now the area has a high concentration in high technology manufacturing and has become a bedroom community for this type of employee.

Strategic Decision Making Process:

The president is involved in the making of all major and many minor decisions. Even bank surveillance is monitored in his office. The president meets with directors on a regular basis. Decision making revolves around pricing. The president considers pricing to be a three tier situation: over-priced, meet the price, and mid-way. The organization tries to set prices to bring in a certain volume of growth while maintaining "extremely good" asset quality. Once prices are set decisions about servicing growth are decided. In particular, they were currently building a special addition to the bank building to service their enormous growth in the mortgage retail area.

In the strategic decision making and in other decision making the management seems to be very conscious of long time depositors and the historical roots of the organization. The president will chat with long time customers when they come in to do business and the president personally keeps in touch with account # 1 to influence the owner of the account to keep it open (this account has been continually open since 1851). Restoration of the building has kept the historical roots intact and enhanced the old time identity of the bank.

Information Process:

Data seems to be readily available on computer information set-ups. They are in the process of putting in a high speed computer network to allow for more access to banking information. The bank seeks information on pricing and financial status of competitive banks in their market. The president keeps updated data on the building of new development homes within their marketing area. There is little land left in the home base city of the bank. Therefore, the bank develops contacts with Realtors and builders in outlying areas. This is especially important since they see themselves as a retail mortgage bank.

Staff meetings are held on a regular basis but the president is easily available to management on a regular basis. Management staff is divided into four levels. A sixty page detailed business plan is available to the top management team and each manager down to the branch managers is sent a list of priority objectives for the year.

Bank: F

Founded in the mid 1800's this is a state chartered traditional mutual bank that provides traditional services. They were purely retail--that is providing primarily mortgages and passbook accounts. They were operated very conservatively, very prudently and very tightly building up a surplus in the range of 15%.

Strategic Decision Making Process:

Twelve to fifteen of the top management of the bank travel to a retreat once a year to create a long range plan. At another retreat, this plan is fleshed out. Then various task forces made up of representatives of individuals that are directly affected by the changes determine implementation plans for the various areas. For example, the senior vice president set up a task force on how to reach a consensus on what customer contacts should be like. The task force was composed of personnel people, retail banking individuals and was mostly at a non-officer level.

Senior management meets once a week on Mondays to discuss the bank's strategy. These individuals concentrate on the future directions of the bank. The president feels that at this point in the strategy you have to "create as you go along." He feels that having a specific goal written down means "you will probably be making a mistake as much as you are doing the right thing."

Initially decisions were made to bring the asset portfolio up to par. Once this had been accomplished, the planning team set out to decide on a particular strategy. The new direction consisted of capitalizing on their historical conservative values. Then a structure with appropriate individuals was designed to capitalize on the new directions.

Information Process:

Within the past five years the bank has concentrated on doing careful surveys and research on all of the opportunities and risks open to the bank. The bank sought out "everything you can think of".

Bank: G

This bank is the result of a friendly merger of five years ago that "worked on a handshake". The presidents put the banks together and "cut a hole in the wall" to join them. Both banks were short of personnel so that no one lost their jobs and they were able to hire extra personnel. The boards were merged and spots were found for everyone. The bank is "not just the bottom line but part of a living community bank". That community includes competition from some 30 odd credit unions that "don't even check credit ratings".

Strategic Decision Making Process:

The bank's current strategic concern seems to be with its community image. They want their branches to be seen as a "neighborhood" banks. Beyond that they want these "neighborhood banks" to have a very professional image along with community involvement. Specific implementation of the neighborhood image is decided within each branch and is implemented separately. For example, the downtown branch had "chocolate days" during the Christmas promotion and had someone come in and make chocolate at that branch. This idea came from the branch, was approved of by the head office, and was planned and implemented within this particular branch. However, the projection of a professional image was decided at the chief executive level and decisions about implementation of this are also done at this level. For example, the president decided to require all branch managers to read the Wall Street Journal daily as part of their continuing development.

Information process:

The bank president prefers discussing things on an individual basis and does not like to meet in groups. No regular meetings are scheduled. The president feels this works well because there seems to be no hesitancy in communication in this format and no personal attacks of another.

Bank: H

This mutual savings bank appears to be run "by the book" with that book being an informed, up to date management textbook. There is both emphasis on specific goals and complete development of those goals as well as emphasis on team effort. There is concern for individual employee development and an awareness of the difficulties of overcoming traditional male biases against females in upper management positions.

Strategic Decision Making Process:

The planning committee sets the three to five year plan. The top management team (five people--the president, the senior vice president, and three vice presidents) make the decisions on the one year plan. This management team translates the plan into its ramifications for each of the decision areas. Each department head is then responsible for translating these orders into individual decisions for their unique area. All of the different decisions are based on setting and meeting growth, earnings, surplus, deposit, and cost of money targets.

Information Process:

As part of the construction of the business plan, the top management team analyzed the bank's strengths and weaknesses, type of environment in which it operates and its past history and experience. Included in the analysis was an employee survey. All of this information is compared to the fiscal strength of the bank. Most of the information seems to be transmitted downward through "marching orders" developed by the management team for the different decision areas. Information going upward is filtered as it passes through the chain of command. The senior management team is extremely cohesive and is involved directly with each other on a day to day basis.

Bank: I

Located in a once thriving industrial city area that is now being revitalized, this bank is managed through a team of three individuals. All three discuss and voice their agreement or disagreement with the professional information they receive. The two individuals just beneath the president have a strong influence over major decisions but the final decision rests with the president. The atmosphere is very informal even to the point of having a candy jar on the conference table that the trio meets at. They tease and joke comfortably with each other and can be serious as the need arises.

Strategic Decision Making Process:

A formal business plan is put together in two and a half weeks every year. From this policy is set. However, the management team feels the real decision making occurs when they sit down together on an informal basis and use the business plan and all of the research that goes with it as a jumping off point for the start of discussions. The formal plan is reviewed throughout the year on a regular basis. Plans and goals are adjusted according to the changes in the circumstances and the discrepancies between the plan and actuality.

Different ways to earn money are primarily considered. Once a decision has been made its ramifications at lower levels are considered and further decisions made. Every decision is based on the effect on the bottom line. "If it doesn't make money, it's going to be opposed."

Information Process:

Management informs the lower levels what is to be accomplished. Then they take input from the lower levels. Management uses this approach because they feel it allows for creativity and they don't want to tell people how best to do their jobs.

Most of the information transfer seems to be done on an informal basis at ad hoc meetings.

Bank: J

This bank is a wholly owned subsidiary of a recently established bank holding company. The bank also holds a wholly owned mortgage bank subsidiary. The bank holding company has recently purchased a bank in a contiguous area. Historically the bank has been a state chartered mutual savings bank. It went public two years prior to the interview. The bank has a very strong management team drawn from natives of the local community who had gained commercial lending experience at local commercial banks that were acquired by larger regional banks.

Strategic Decision Making Process:

The main strategic thrust has been decided on by the very highest individuals using the basic premise of "Grow to a point where it's too expensive to buy us." Their growth was of phenomenal proportions prior to and just after going public. They are now trying to balance this growth with concerns for profitability. In this market and industry the two goals of growth and profitability seem to be at odds with each other a great deal of the time. They are now trying to balance their concerns over these two goals and decisions about services, policies, and new products. All must be tied to these two issues. All other decisions are made as concerns arise. These concerns are addressed after suggestions are made from managers at monthly or quarterly meetings. These meetings are open to suggestions for new products, services, and policy.

Information Process:

The bank uses professional feasibility studies and demographics for background information for decisions. Appropriate outside consultants, and former bank examiners are used to develop and maintain the quality of their commercial loan portfolio. In looking for a bank to purchase to achieve their goal of expansion across state lines, they "looked at just about everybody, but rarely reached the point of actually talking."

Within the bank proper (not the holding company setting) most information is transmitted in monthly meetings with senior management and quarterly meetings with all levels of management. The technique in the senior management meetings is to go round the table with each person informing others of what is happening in their area and giving their ideas and concerns. Concerns that arise at meetings are delegated to various participants of the meeting for study. The C.F.O. is trying to generate more reports so that decisions will revolve more around the bank's income statement.

Firm: K

This 100 year old firm is an infant clothes manufacturer with a name well-recognized for quality. It has its administrative offices in the North and its manufacturing plants in the South.

Strategic Decision Making Process:

Two levels of management including the president, top marketing people, top finance people and top administrative people (approximately 8 individuals) attend the top management meeting approximately every four weeks. Based on current information, actions are decided right at that meeting unless there is a conflict. If so, the outside consultant reports back with information and recommendations at another meeting. In all decisions, the president has the final say. Individuals running the profit centers are responsible for the performance of that profit center.

Initially, the firm decided on market niches it wanted to reach and then developed a structure to take advantage of the strengths of the larger parent organization as well as meet the needs of reaching the particular market niches selected.

Information Process:

The company is very market aware. Consumer studies are done on a continuous basis. To be as objective as possible, outside consultants are used for obtaining information if there seems to be any conflict of opinion. A top accounting firm is present at top management meetings as outside consultants to advise and offer impartial opinions. The firm stays aware of government and political changes for their long run effect on the business.

Firm: L

The firm is a privately owned manufacturer of mattresses organized in 1900 by the grandfather of the current president. The grandfather was a part of the founding of the Young Presidents Organization that included many of the young entrepreneurs of the early part of this century. Many of the workers are second generation in the business as well.

The industry is extremely cyclical and the work load is extremely difficult to balance because of the expense of storing and shipping such a large, awkward product. The family is extremely loyal to the workers. Even during an extremely slow month no one is laid off. Work was found for everyone. The firm had just purchased an additional firm to extend the range that their mattresses address to a high styled market.

Strategic Decision Making Process:

All of management gives input for decisions in their own area. Foremen have a say in decisions and even the janitor's opinion is sought out and generally taken about products and equipment he needs for various jobs. The strategic emphasis is on their unique hand-maid product. High quality materials and manufacturing are stressed. The firm is expanding the range of their mattresses to the high styled market, the institutional market, and the apartment dweller market.

Information Process:

Management takes pride in their early computerization of statistics for running their business. They track every piece of information to account for the cost of putting together any particular mattress. Every retail account is computerized. The president and his management team receive an end of the month report on month to date and year to date figures for each account. One hundred other statistics on service rendered to retailers is also available.

The president walks through the factory frequently and keeps in touch with each individual working there. If things are difficult, the president will help out in any position. The president knows every operation in manufacturing and shipping from his work as a young boy within the firm. Previously the president was in charge of the sales department and still trains new salesmen to train the retail sales people by standing next to them and having them watch as the president makes a typical sale in the retailer's establishment.

Firm: M

This paper conversion firm was begun in the 1920's on its current location. In the mid 30's this private firm was sold to a larger private firm. In the 60's the firm was sold to another firm and has remained a wholly owned subsidiary of this firm since. The industry is machinery specific with little moving around once the machinery has been purchased.

Strategic Decision Making Process:

The initial decision is on level of profitability, net positive cash flow and rate of growth. These are set by the parent firm. The upper levels of the management of the subdivision develop operating and capital budgets based on these goals. This takes up three months of the year. These are developed into a rolling three year plan. Action plans are then developed from the bottom up on an ongoing basis to try to achieve these specific goals. Though discussion of plans takes place in a committee setting, all decisions are made by the individual managers. However, all decisions must be supported by facts and integrated with the three major goals of return on net assets, net positive cash flow and a specific rate of growth. The need to reach quarterly goals overides most considerations at bi-weekly meetings. The president feels his job is to maneuver the decision making process by removing constraints from the thinking of the individual managers, in particular, that the decisions are not made by committee.

Information Process:

Managers seek out information from vendors, and clients and the manufacturing situation. The management team meets every two weeks to discuss action plans. The meeting is run by the president with a formal agenda sent out prior to the meeting. Agenda items are often developed on a one on one basis with the president. Other items coming up from the meeting are researched by appropriate individuals (such as the department most affected by the discussion area) and brought back to another meeting for discussion.

Firm: N

The firm is a private shoe manufacturer started in the 1920's by two brothers. In the 50's the business was sold to an individual who put it in a trust fund for a large university. Subsequently, the university sold the firm to a private party. Two more buy-outs (the last one in 1985) left the firm highly leveraged. The owners are strongly in favor of staying private because of the freedom of management. The organizational performance is heavily reliant on the performance of the overall economy and very sensitive to even small changes in the national and global economies. This leads to difficulty in predicting important future directions.

Strategic Decision Making Process:

In preparation for a drastic change in strategy, the president attended a six month program at Harvard dealing with global strategies. Upon his return, outside consultants were brought in to help define long range strategies. The entire organization was reviewed to discover ways to achieve the highest operating profit.

Their original marketing niche is a dwindling U.S. segment and development of new niches leads to "cheaper overseas knock-offs". To try to keep ahead, a wide range of decisions is being worked on at once ranging from possible plant closings, kinds of flyers to send sales representatives, capitalizing on a new innovative product, new marketing approaches, and slogans. Each area feeds off the decisions of other areas in serendipitous fashion. The firm's main strategic concerns are with price-point, comfort, quality, and value.

Information Process:

An extremely detailed budget planning process is in place. The information permeates down through a very formalized budget process. The budget process is generally done by the month but in some instances is done by the week. The president is generally present within the organization headquarters and is available to meet with individuals according to the particular piece of strategy being worked on. All important positions are linked by computer systems.

Firm: O

This private manufacturing paper supplies firm was organized about 100 years ago. It is just beginning to grow to a global organization and is now exporting to Japan. Management is very steeped in the tradition of their founder and their founder's love of Scotland and the thistle symbol. Just as the founder was a benefactor for local organizations such as Jr. Achievement , Boy Scouts, and 4-H, the firm continues to be concerned with the way the valley of their location is developing. They want to maintain the original beauty and still allow for development. The president believes this can only be done with careful planning and control based on research and education.

Strategic Decision Making Process:

A very thorough long range plan is developed once a year. Everyone must buy into the three year plan once it is set for the year or "they don't stay in the organization." Though this holds true the president likes to hear from the maverick manager as well. All daily decisions are tied to the three year plan.

Beyond the long range plan, each individual department head and manager must develop personal quantitative "challenges" that if accomplished will enhance the job he or she is doing. The "challenges" often deal with behaviors expressed in a quantitative way. To develop these the president meets on a somewhat regular basis with each department head and top manager.

Information Process:

Before making any plans there is a complete review of where the organization has been, where they are, and where they are going. Next a combination of external and internal research on problems and projects is done. The company reviews their advertising efforts at least once a year through meetings with groups of customers who make suggestions for areas of improvement. Beyond this the president visits similar factories both here and abroad to compare operations. He also seeks out information and opinions from his own department heads.

After the research is complete, the primary carrier of the information is the three year plan. This becomes a daily part of doing business and of communicating with each other. Meetings of all top management involving 16 individuals are held once a month to compare results with planned direction.

Firm: P

The firm, the largest private sector employer in the area, is a publicly held corporation which manufactures upholstery fabrics for large furniture distributors. The organization has undergone a number of buy-outs and financial restructurings before going public. An additional firm was also purchased by the company in the recent past. Most recently the firm changed its name.

The organization values honesty above all else. The firm encourages physical activity and participation in sports. The firm feels both are important to the overall well-being of the organization.

Strategic Decision Making Process:

For the past several years major decisions have revolved around buy-outs and financial restructures. These have allowed for an infusion of capital for the planned strategic changes. Because of this the next set of major decisions dealt with cost cutting and control measures. A sophisticated computerized inventory cost control system was recently implemented. Next on the agenda is the restructuring of the organization with appropriate personnel changes. Finally, changes in the business mix will follow.

Each new idea is tested for fit with already existing directions. If it passes this test, it is discussed to the point of "beating it to death." After passing the initial discussion, it is studied informally and analyzed internally. Finally, if the idea is still viable, outside consultants are generally brought in with appropriate expertise to explore the idea.

Information Process:

Once a month top management talk about strategic issues at an off-site meeting. This same top management formally discusses operating issues at weekly Tuesday meetings. Each individual discusses his/her area for 10 to 15 minutes. Bluntness and directness are encouraged during these reports. Because of newly renovated office space the management has contact with each other daily.

Firm: Q

This firm, a medium sized manufacturer of specialty business forms, is privately held and managed by the original family that began the firm in the 1800's. Family members in the business prior to this president agreed on little except the ability of the general manager.

Displayed prominently in the waiting are of the firm's main plant is the story of the company which reads in part:

> Our search for, and investment in, quality is continual. We guarantee complete customer satisfaction, through business efficiency ...resulting from the right system, with the right forms, delivered at the right time, at the right price.

Though the company had become slow moving in responses, they are taking measures to put this company value back into practice. The company has instituted a suggestion system. There has been more open discussion with the union with the result that the union has agreed that productivity must be increased by 15%.

Strategic Decision Making Process:

Most of the current decisions have dealt with selecting a management team and increasing productivity by reducing cost and production time. Initially, the president, a family member, was brought in from another position in the family business. Next, the goals and objectives were decided. Now they are trying to match the rest of the management team to the goals and objectives. Based on these larger objectives, each manager writes out his own goals and objectives. Top management goes over these individually with each manager trying to get them as specific as possible. The president stated that the detail of these "Depends on the individual manager and how tightly you can pin them down." During the year, the general manager meets with the top six or seven of the management team once a week to discuss a pre-set agenda.

Information Process:

Concentrating on market orientation, the firm has been looking for a marketing niche but has been unsuccessful in this regard. To cut costs and increase productivity, the management has tried to develop open discussion with the employees and the union. The goals to be accomplished are stated in a weekly or bi-weekly basis by the general manager in a company newsletter he writes. Other issues and concerns are discussed as well.

APPENDIX C

SCATTERPLOTS

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK A

PLOT A1-BANK A

```
    ++----+----+----+----+----+----+----+--+
  24+                                      +
    |                                      |
    |                                      |
a   |        .                             |
g   |                                      |
r 16+                                      +
e   |        .                X            |
e   |        *        .       X            |
m   |                 .       *            |
e   |        .        .       .            |
n  8+                                      +
t   |                                      |
    |                                      |
    |                                      |
    |                                      |
   0+                                      +
    ++----+----+----+----+----+----+----+--+

             1         2         3

                 management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK B

```
                         PLOT B1-BANK B
       ++----+----+----+----+----+----+----+--+
     24+                                      +
       |                                      |
       |                                      |
a      |        .                             |
g      |                         *            |
r    16+        .                             +
e      |        .        *       .            |
e      |                 .       .            |
m      |        .                .            |
e      |                 *       *            |
n     8+        .                             +
t      |                         x            |
       |        .                             |
       |                                      |
       |                                      |
      0+                                      +
       ++----+----+----+----+----+----+----+--+

                1         2         3

                    management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK C

```
                   PLOT C1-BANK C
      ++----+----+----+----+----+----+----+--+
    24+                                      +
      |                                      |
      |                                      |
a     |        .                             |
g     |                                      |
r   16+                         .            +
e     |                                      |
e     |                         .            |
m     |                 .                    |
e     |                 .                    |
n    8+        .        .       *            +
t     |                                      |
      |        .                .            |
      |                                      |
      |                                      |
     0+                                      +
      ++----+----+----+----+----+----+----+--+

               1         2         3

                  management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK D

```
                         PLOT D1-BANK D
          ++----+----+----+----+----+----+----+--+
       24+                                       +
         |                                       |
         |                                       |
  a      |        .                              |
  g      |                                       |
  r    16+                                       +
  e      |        .        *                     |
  e      |        .                .             |
  m      |                 .       .             |
  e      |        .        .       .             |
  n     8+                                       +
  t      |                         .             |
         |                                       |
         |                                       |
         |                                       |
        0+                                       +
          ++----+----+----+----+----+----+----+--+

                  1         2         3

                      management level
```

Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK E

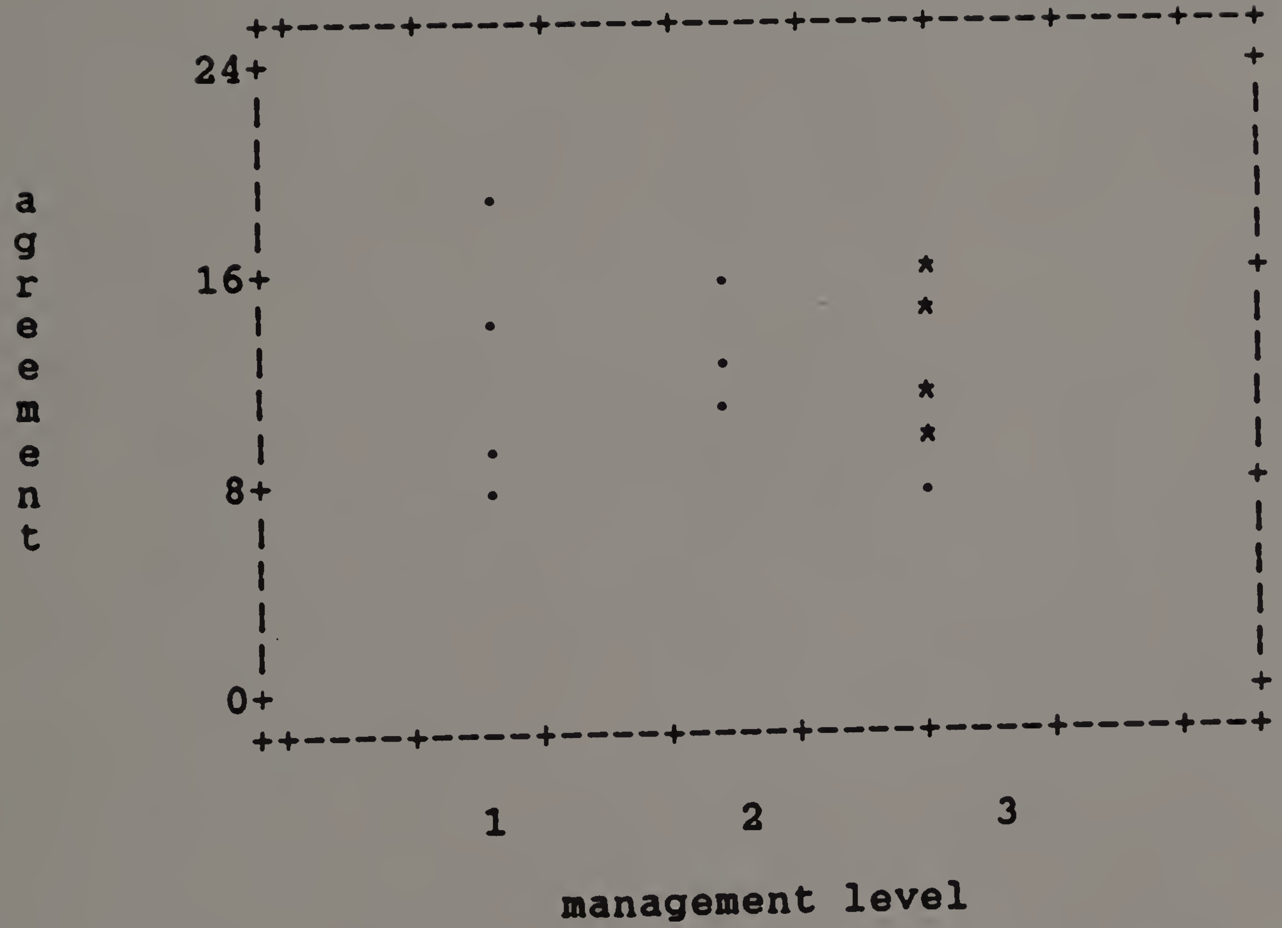
```
                            PLOT E1-BANK E
         ++----+----+----+----+----+----+----+--+
       24+                                      +
         |                                      |
         |                                      |
a        |        .                             |
g        |                         .            |
r      16+                                      +
e        |                 .       *            |
e        |        .                .            |
m        |                         .            |
e        |        .        .                    |
n       8+                         .            +
t        |        .        .                    |
         |                                      |
         |                                      |
         |                                      |
        0+                                      +
         ++----+----+----+----+----+----+----+--+

                  1         2         3

                    management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK F

PLOT F1-BANK F



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK G

```
                       PLOT G1-BANK G
          ++----+----+----+----+----+----+----+----+--+
        24+                                           +
          |                                           |
          |                                           |
 a        |        .                                  |
 g        |        .         .        .               |
 r      16+                           *               +
 e        |                                           |
 e        |                           .               |
 m        |        *         *                        |
 e        |        .         .                        |
 n       8+                                           +
 t        |                                           |
          |                                           |
          |                                           |
          |                                           |
         0+                                           +
          ++----+----+----+----+----+----+----+----+--+

                   1          2          3

                     management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK H

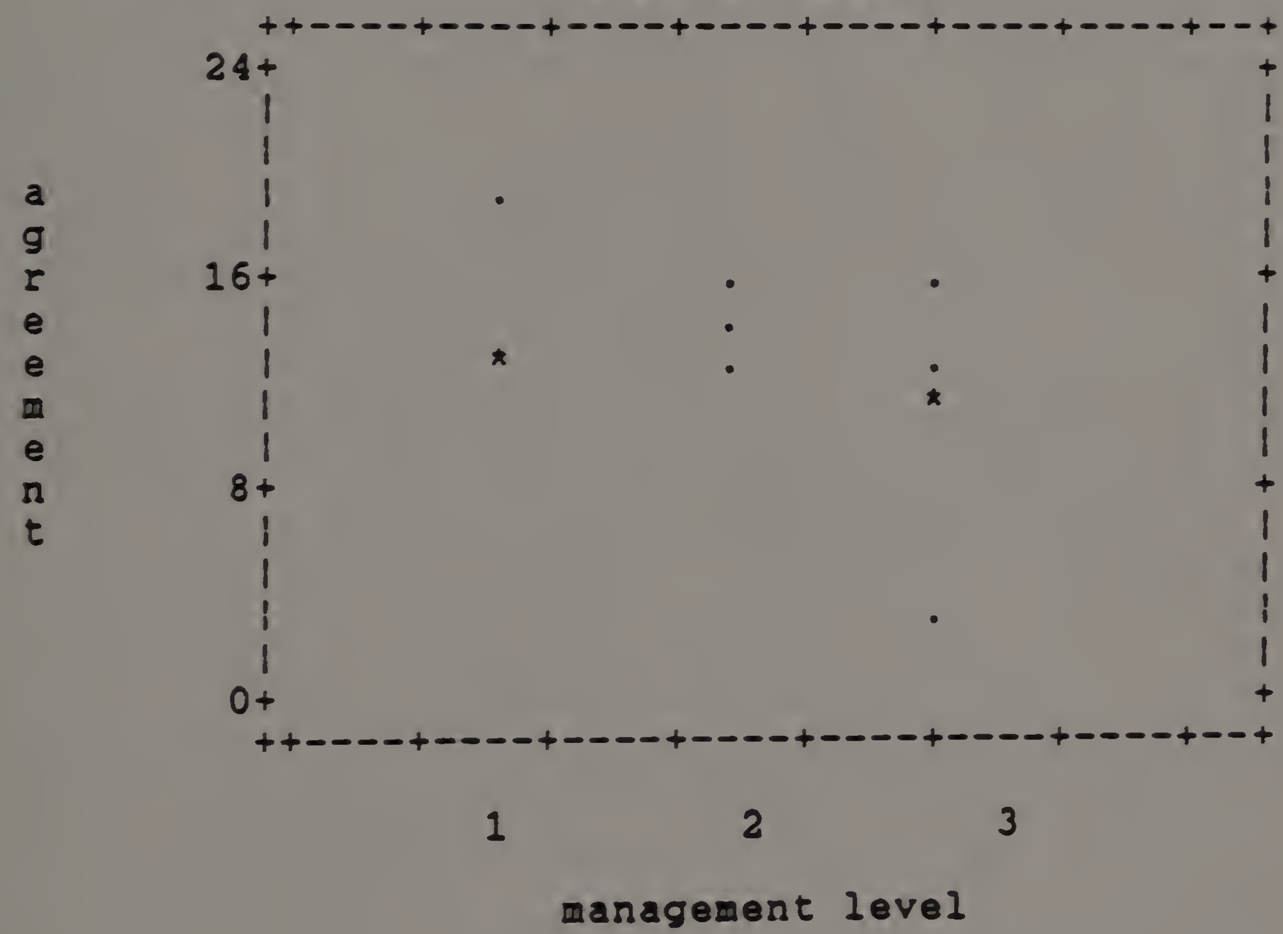
```
                              PLOT H1-BANK H
             ++----+----+----+----+----+----+----+--+
          24+                                       +
             |                                      |
             |                                      |
     a       |        .                             |
     g       |        .                             |
     r    16+                  .       .            +
     e       |                                      |
     e       |                 .       .            |
     m       |                                      |
     e       |        *        .       .            |
     n     8+                                       +
     t       |                                      |
             |                                      |
             |                                      |
             |                                      |
           0+                                       +
             ++----+----+----+----+----+----+----+--+

                      1         2         3

                       management level
```

Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK I

PLOT I1-BANK I

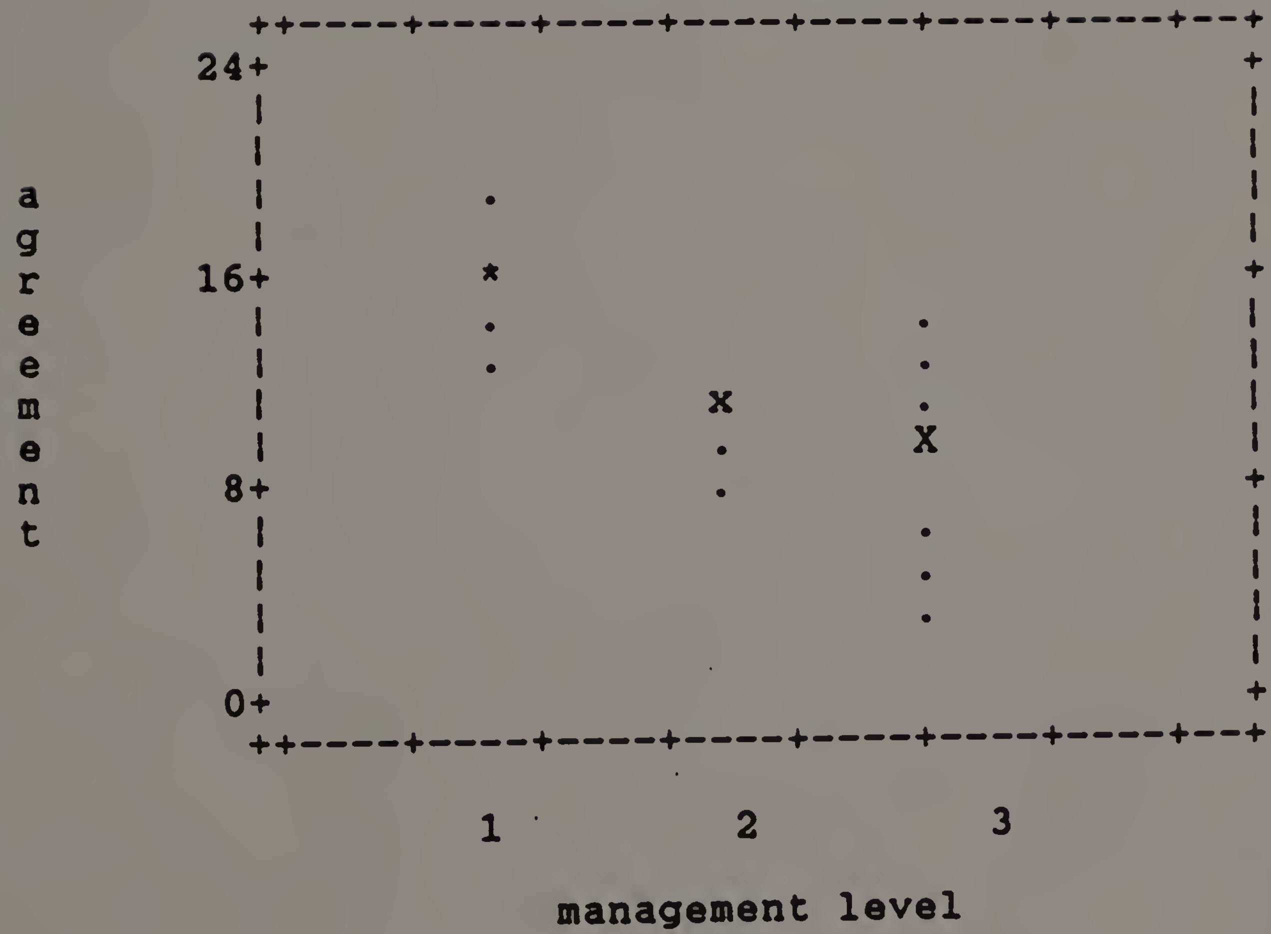


Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

CEO AGREEMENT WITH MANAGEMENT LEVEL: BANK J

PLOT J1-BANK J

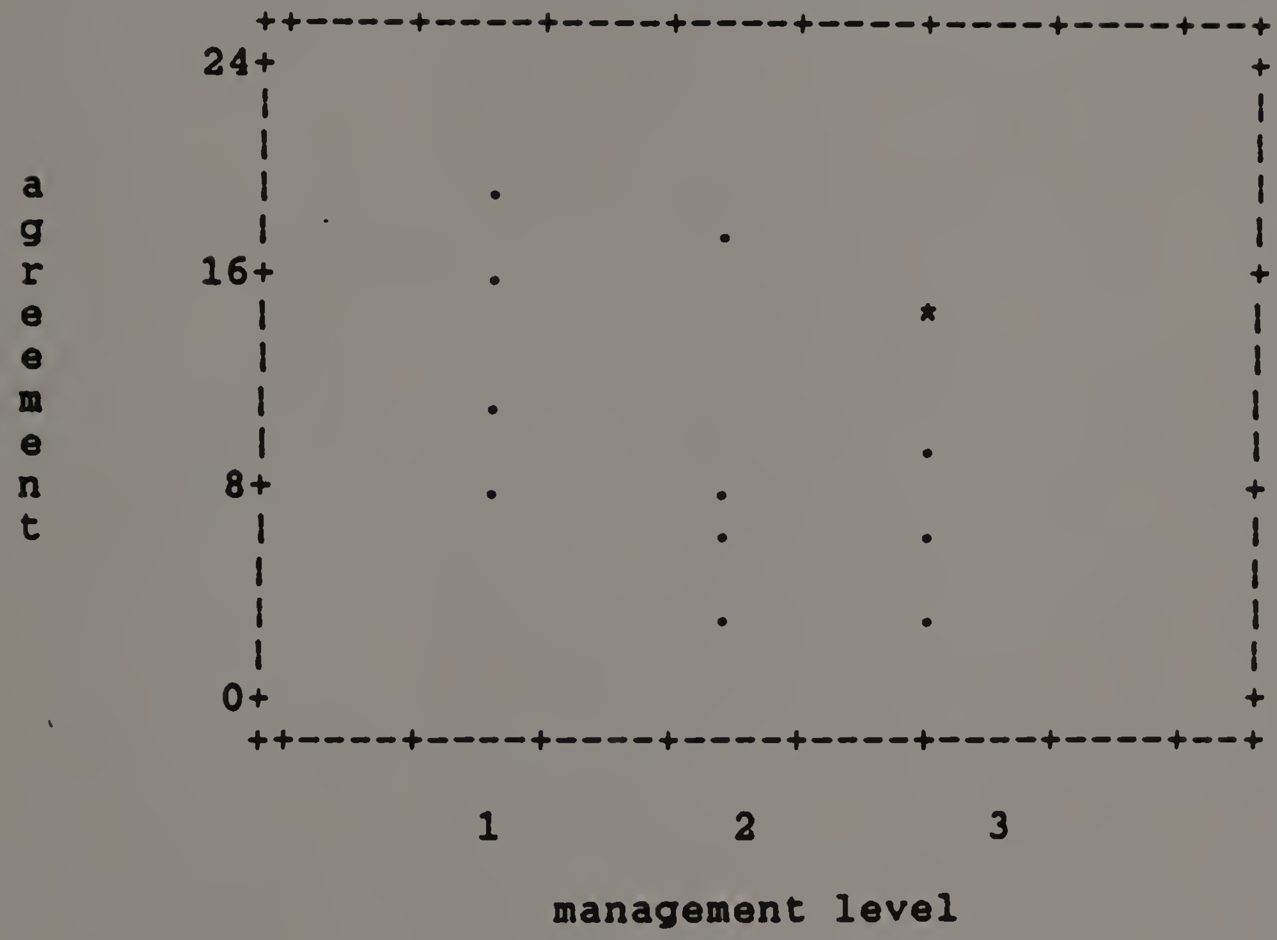


Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

CEO AGREEMENT WITH MANAGEMENT LEVEL: FIRM K

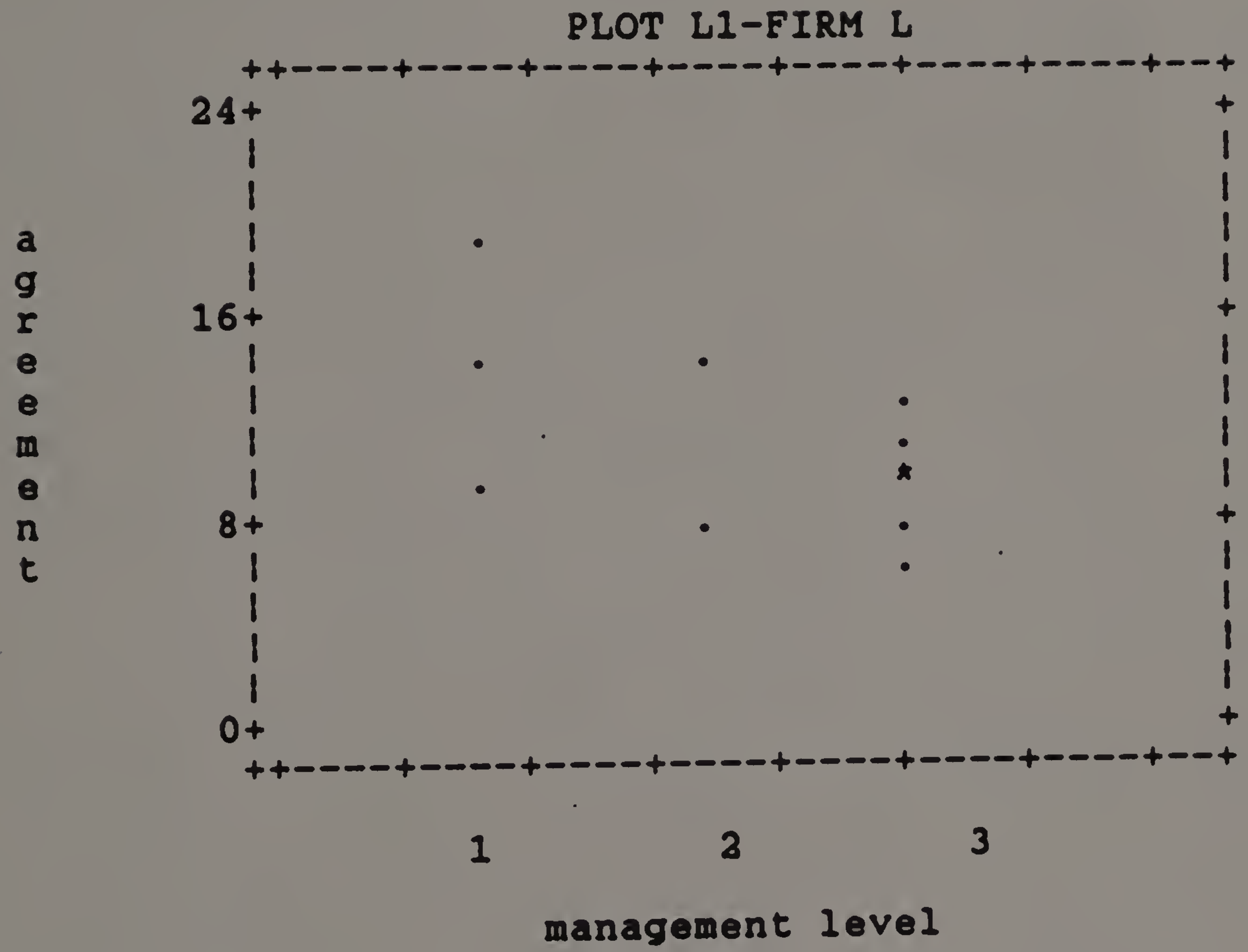
PLOT K1-FIRM K



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

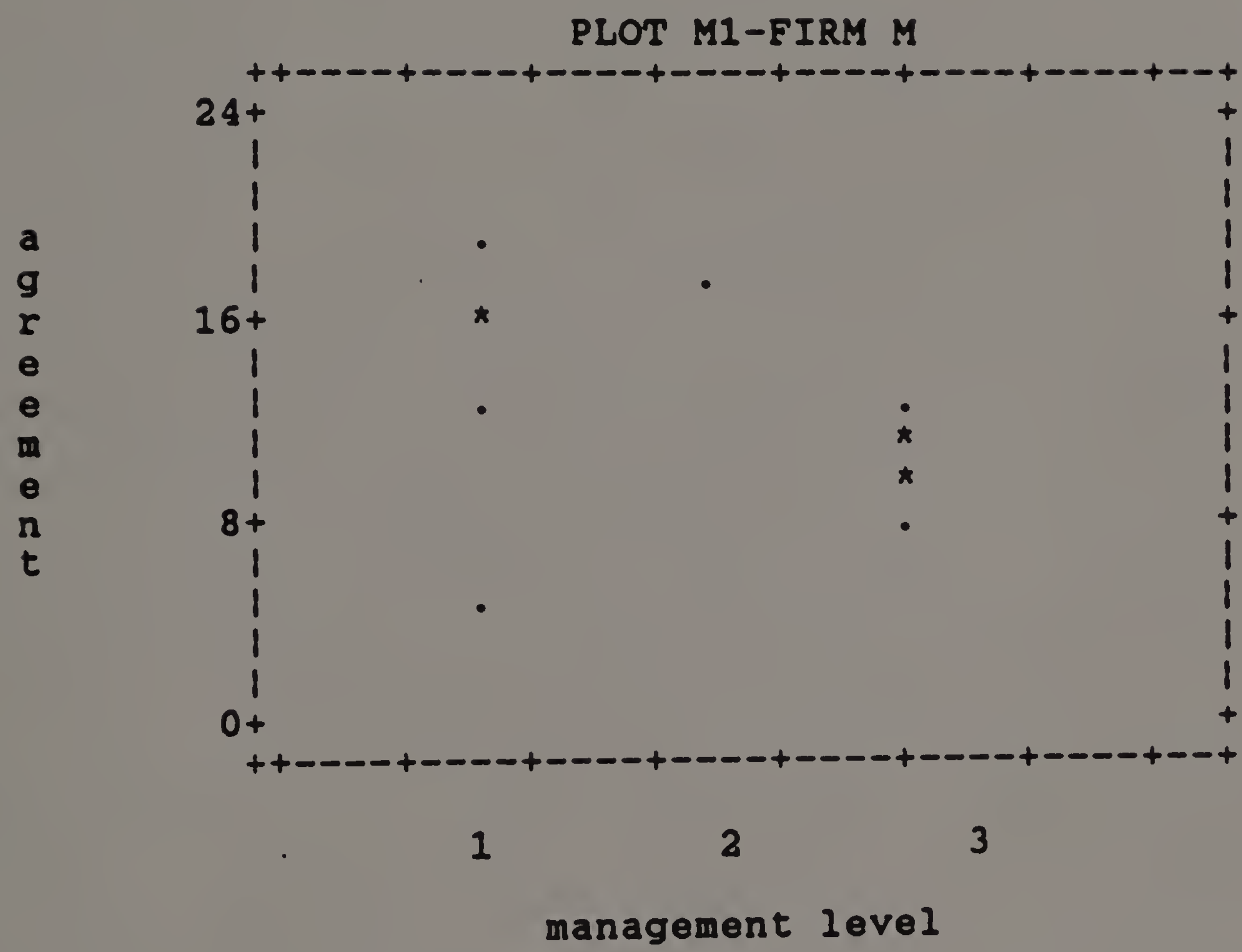
CEO AGREEMENT WITH MANAGEMENT LEVEL: FIRM L



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

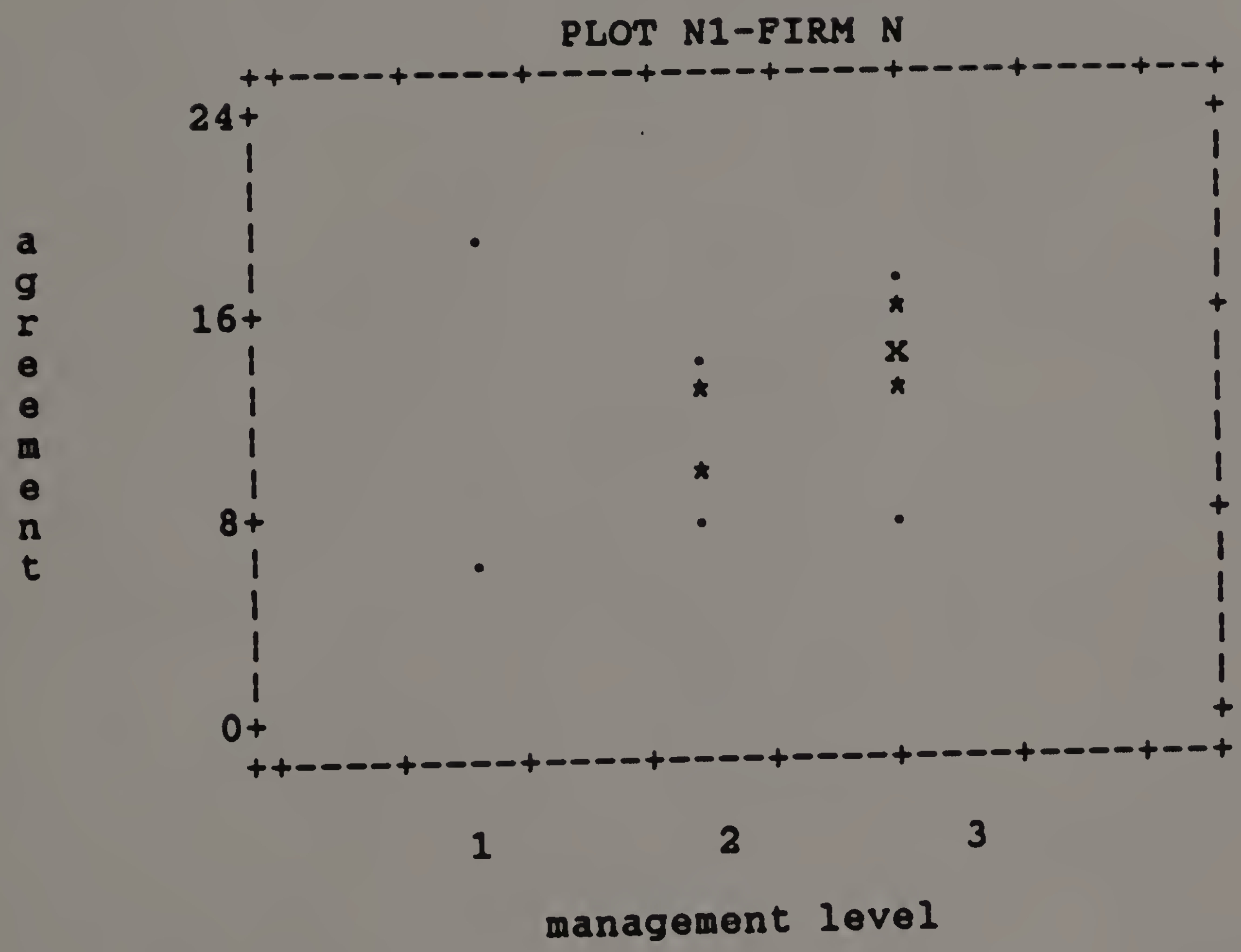
CEO AGREEMENT WITH MANAGEMENT LEVEL: FIRM M



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

CEO AGREEMENT WITH MANAGEMENT LEVEL: FIRM N



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

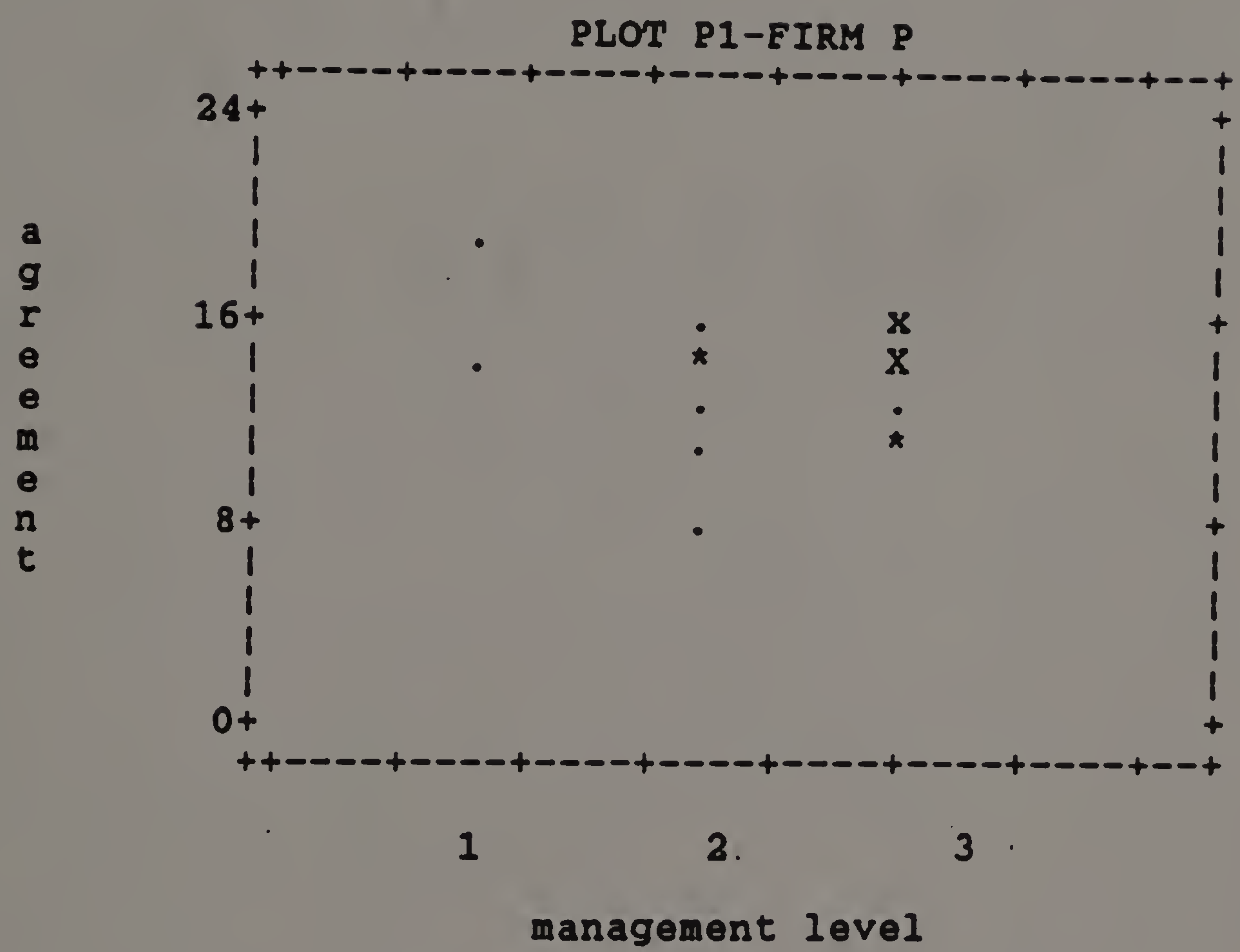
CEO AGREEMENT WITH MANAGEMENT LEVEL: FIRM O

```
                          PLOT O1-FIRM O
       ++----+----+----+----+----+----+----+--+
     24+                                      +
       |                                      |
       |                                      |
a      |        .                             |
g      |                         .            |
r    16+        .                             +
e      |                                      |
e      |                 .       x            |
m      |        *                x            |
e      |        *        *       .            |
n     8+        .        *       .            +
t      |                         .            |
       |                         .            |
       |        .                             |
       |                                      |
      0+                                      +
       ++----+----+----+----+----+----+----+--+

                1         2         3

                     management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

CEO AGREEMENT WITH MANAGEMENT LEVEL: FIRM P

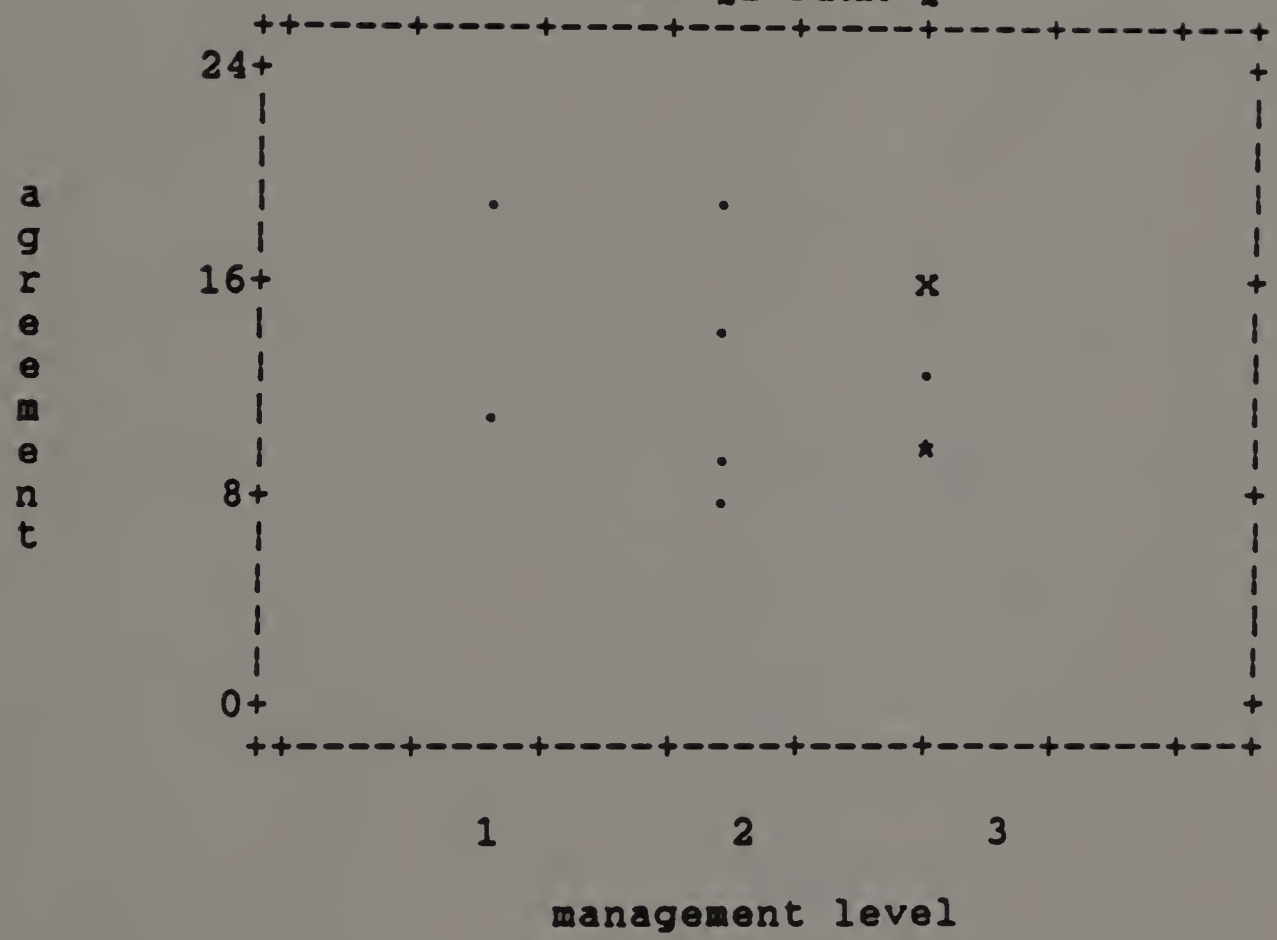


Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

CEO AGREEMENT WITH MANAGEMENT LEVEL: FIRM Q

PLOT Q1-FIRM Q

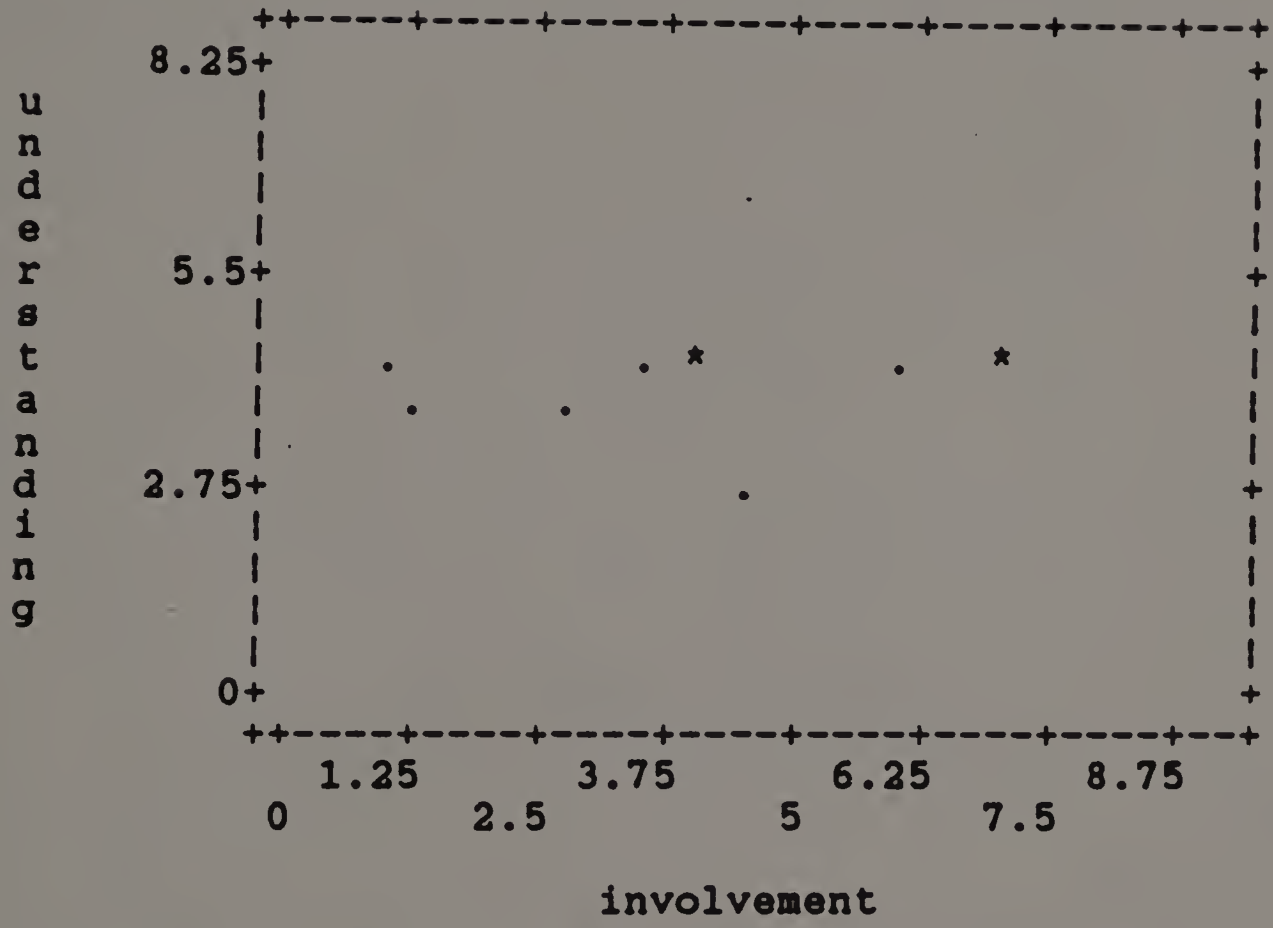


Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

SHARED UNDERSTANDING WITH PERCEIVED INVOLVEMENT: BANK H

PLOT H2-BANK H

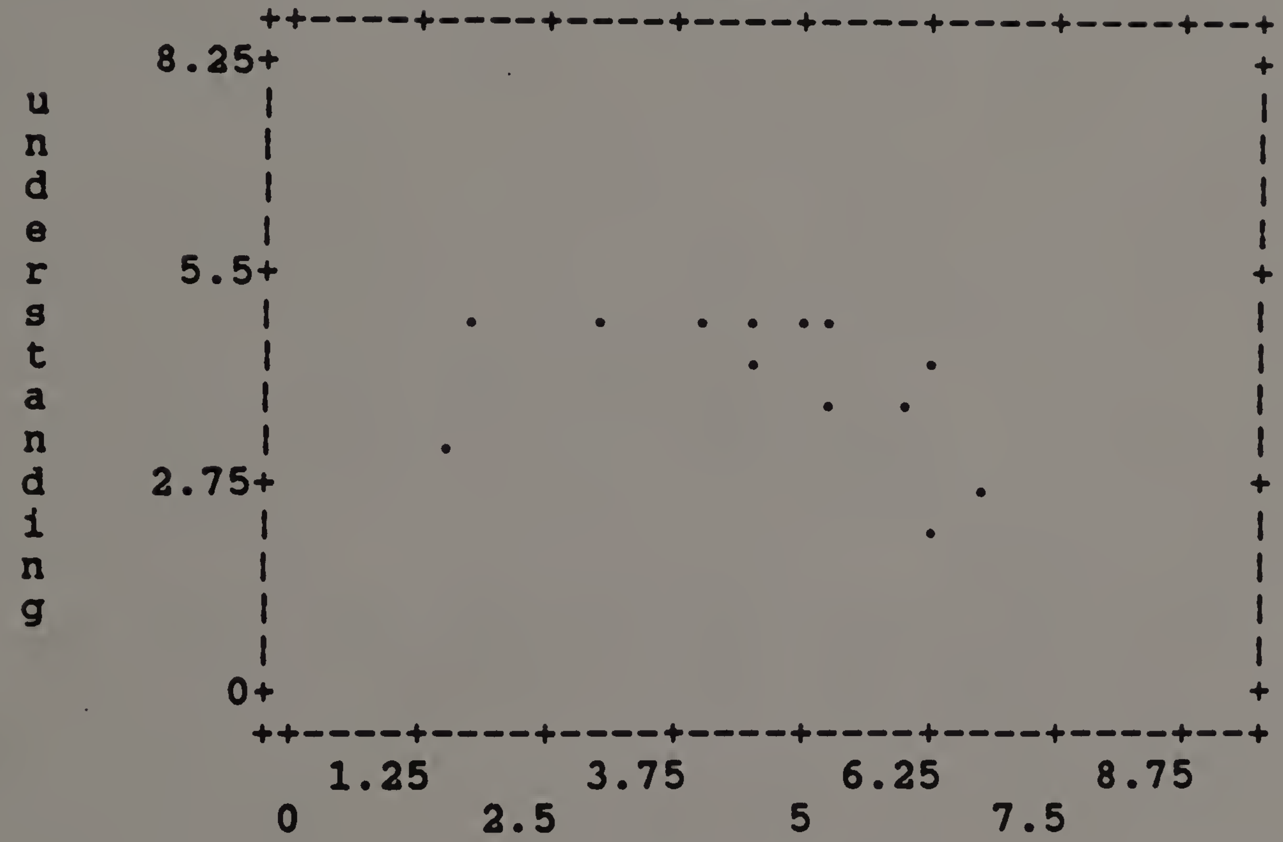


Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

SHARED UNDERSTANDING WITH PERCEIVED INVOLVEMENT: FIRM K

PLOT K2-FIRM K

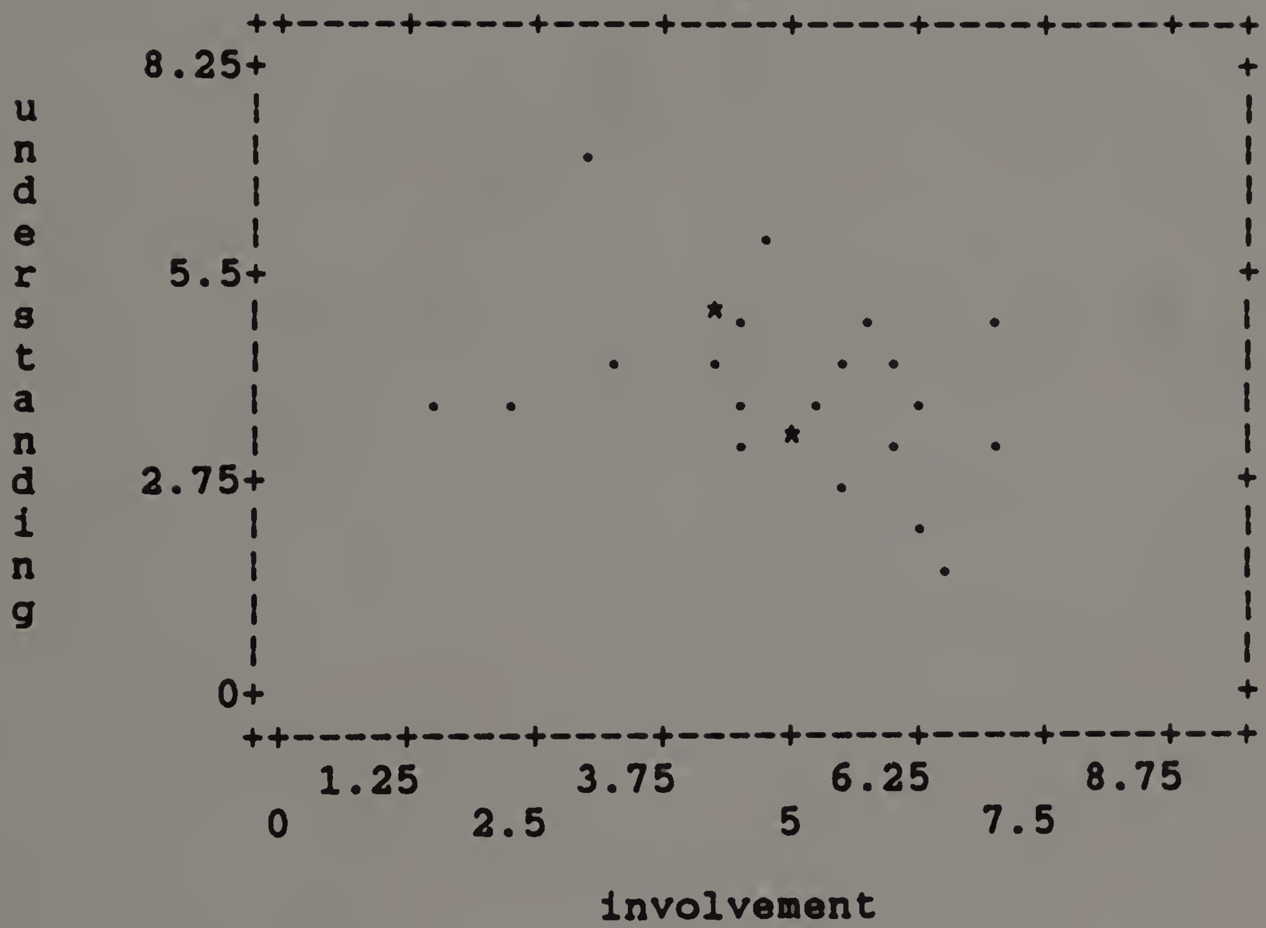


Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

SHARED UNDERSTANDING WITH PERCEIVED INVOLVEMENT: FIRM O

PLOT O2-FIRM O

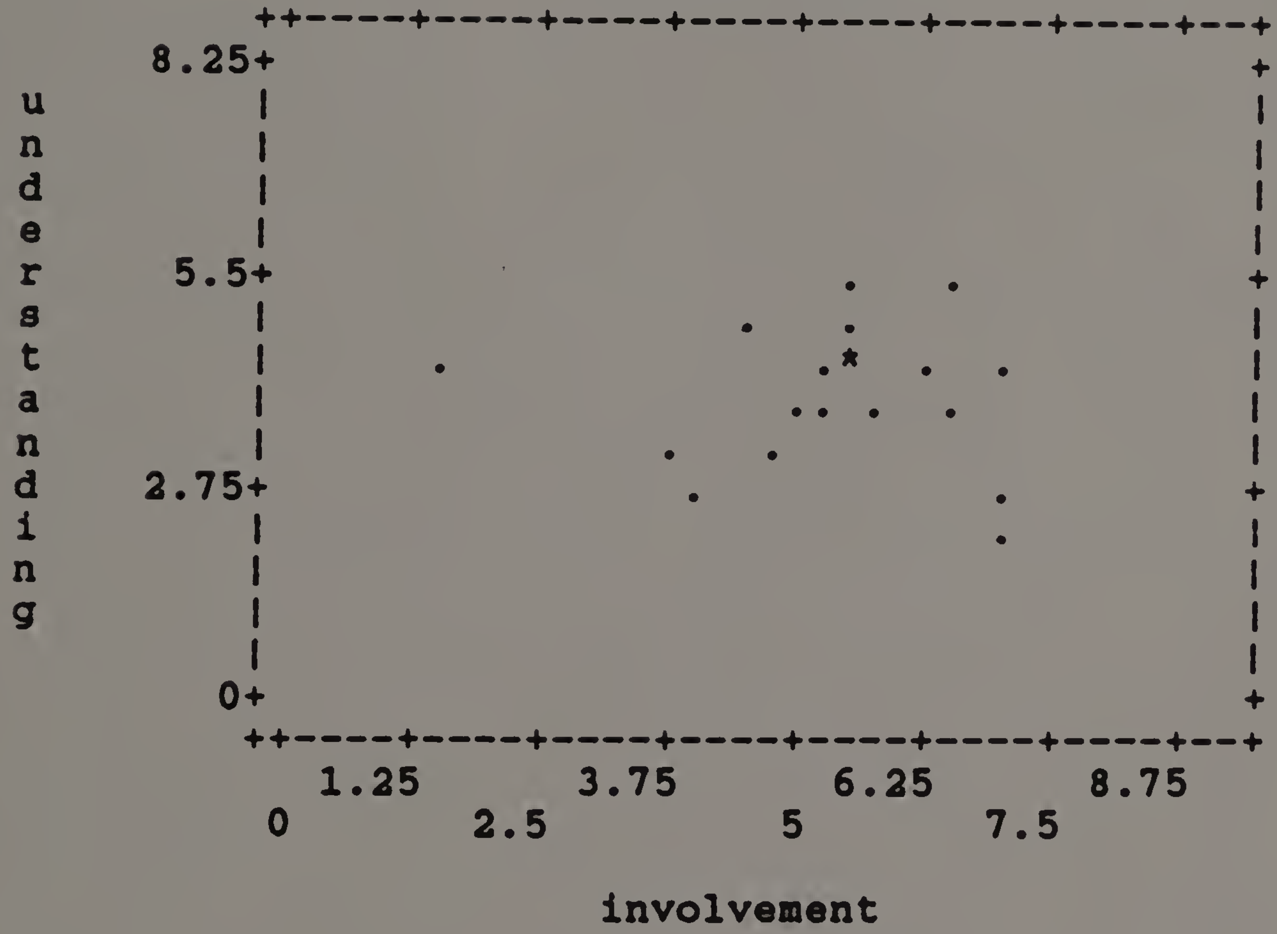


Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

SHARED UNDERSTANDING WITH PERCEIVED INVOLVEMENT: FIRM P

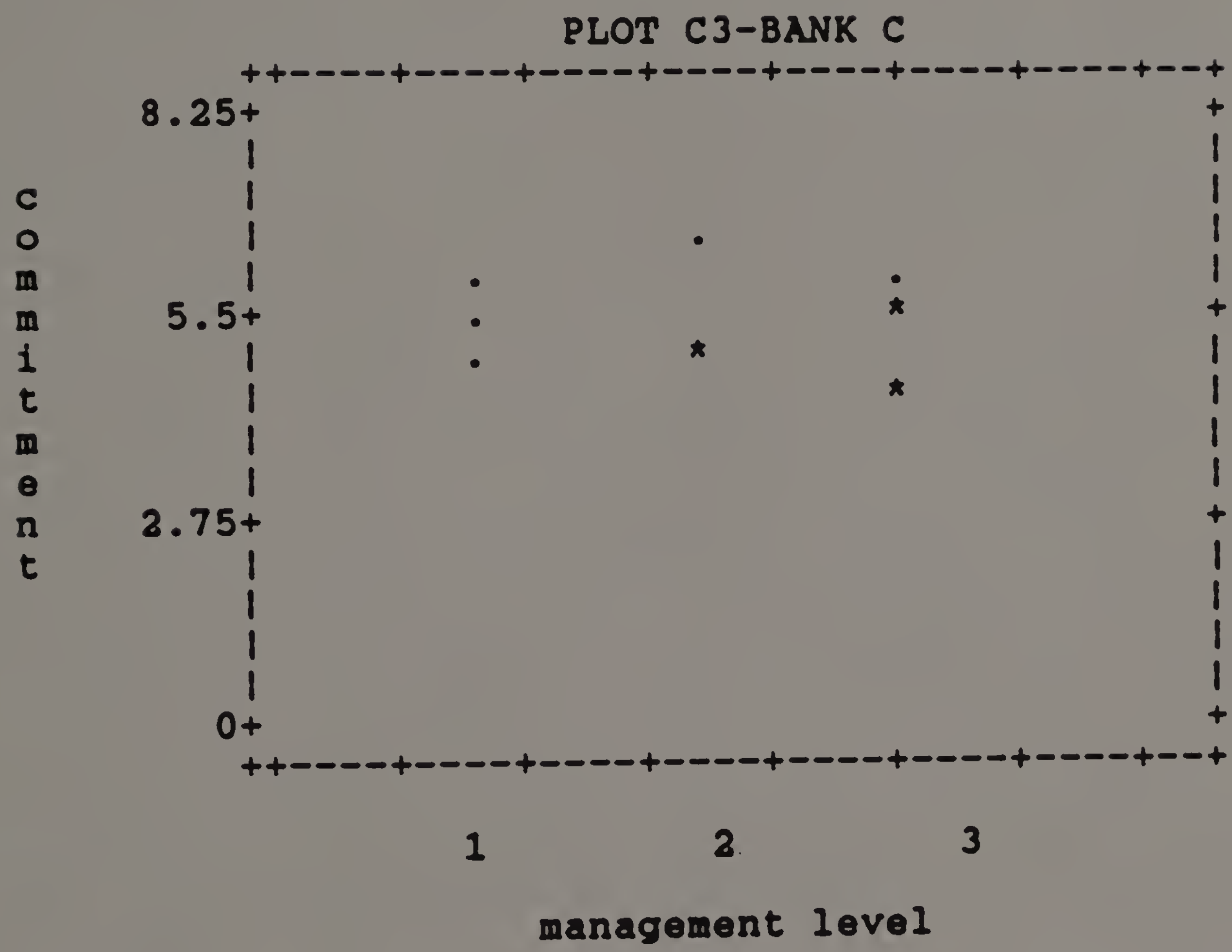
PLOT P2-FIRM P



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

COMMITMENT WITH MANAGEMENT LEVEL: BANK C



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

COMMITMENT WITH MANAGEMENT LEVEL: BANK H

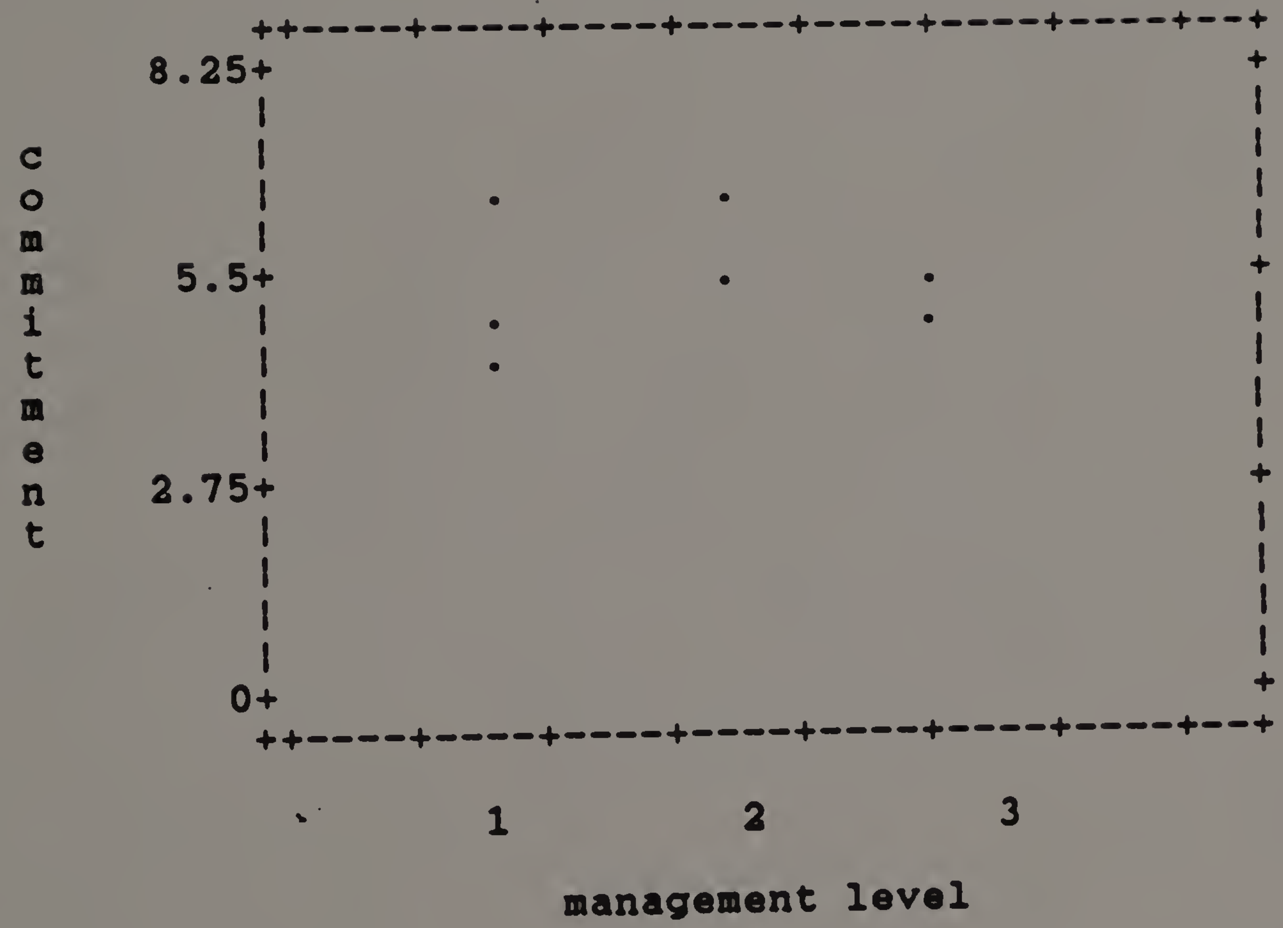
```
                         PLOT H3-BANK H
          ++----+----+----+----+----+----+----+--+
      8.25+                                      +
          |                                      |
c         |        .                             |
o         |        x                             |
m         |                 *                    |
m      5.5+                                      +
i         |                 .                    |
t         |                         .            |
m         |                         .            |
e         |                                      |
n     2.75+                                      +
t         |                                      |
          |                                      |
          |                                      |
          |                                      |
         0+                                      +
          ++----+----+----+----+----+----+----+--+

                   1         2         3

                      management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

COMMITMENT WITH MANAGEMENT LEVEL: BANK I

PLOT I3-BANK I



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

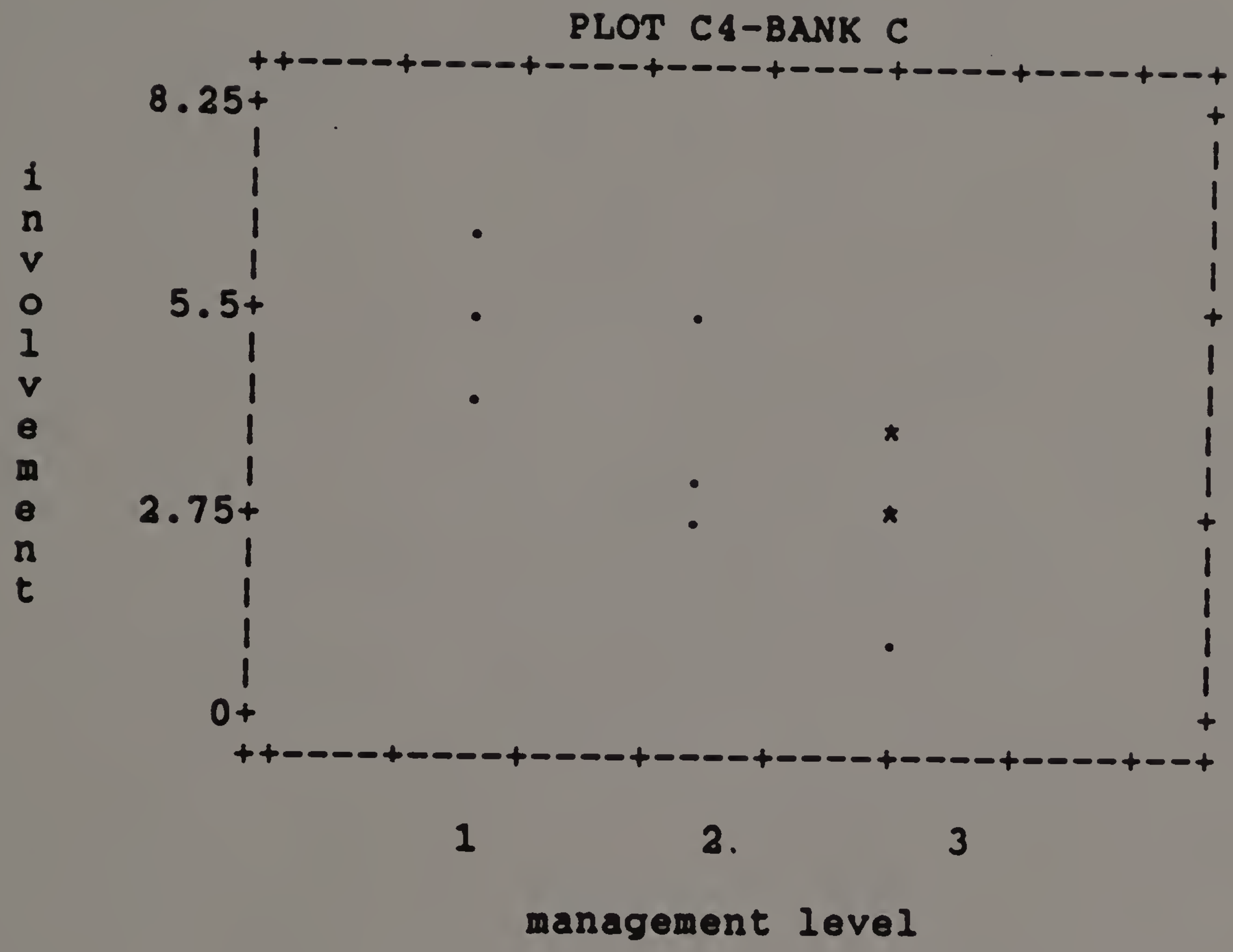
COMMITMENT WITH MANAGEMENT LEVEL: BANK J

```
                       PLOT J3-BANK J
          ++----+----+----+----+----+----+----+----+--+
      8.25+                                           +
          |                                           |
c         |         .         .        .              |
o         |         .         .        .              |
m         |                   *                       |
m      5.5+                            x              +
i         |         .                  x              |
t         |         .         .        *              |
m         |                                           |
e         |                                           |
n     2.75+                            .              +
t         |                                           |
          |         .                                 |
          |                                           |
          |                                           |
         0+                                           +
          ++----+----+----+----+----+----+----+----+--+

                    1          2          3

                        management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

PERCEIVED INVOLVEMENT WITH MANAGEMENT LEVEL: BANK C

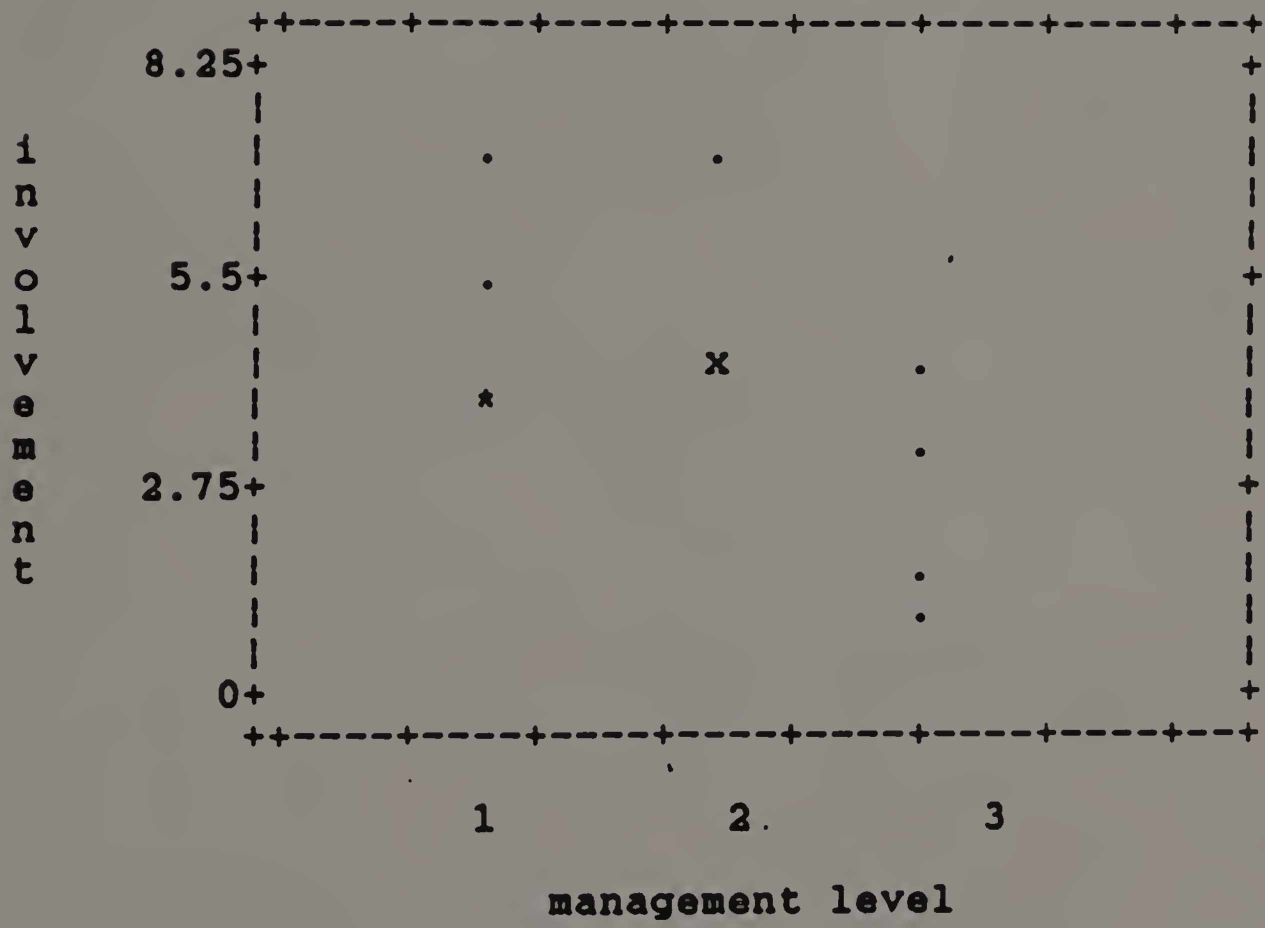


Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

PERCEIVED INVOLVEMENT WITH MANAGEMENT LEVEL: BANK D

PLOT D4-BANK D



Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

PERCEIVED INVOLVEMENT WITH MANAGEMENT LEVEL: BANK E

```
                         PLOT E4-BANK E
          ++----+----+----+----+----+----+----+--+
     8.25+                                         +
         |                                         |
 i       |                                         |
 n       |         .                               |
 v       |                                         |
 o    5.5+         *                               +
 l       |                  .                      |
 v       |                          .              |
 e       |         .        .       .              |
 m       |                          .              |
 e   2.75+                          .              +
 n       |                  .       *              |
 t       |                                         |
         |                                         |
         |                                         |
        0+                                         +
         ++----+----+----+----+----+----+----+--+

                   1         2          3

                      management level
```

Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

PERCEIVED INVOLVEMENT WITH MANAGEMENT LEVEL: FIRM N

```
                             PLOT N4-FIRM N
           ++----+----+----+----+----+----+----+--+
      8.25+                                        +
          |                                        |
 i        |         .        .       .             |
 n        |         .        .       .             |
 v        |                          .             |
 o     5.5+                          *             +
 l        |                                        |
 v        |                  X       .             |
 e        |                          .             |
 m        |                                        |
 e    2.75+                          .             +
 n        |                                        |
 t        |                          .             |
          |                                        |
          |                                        |
         0+                                        +
           ++----+----+----+----+----+----+----+--+

                    1         2         3

                       management level
```

Frequencies and symbols used

```
1 - .
2 - *
3 - x
4 - X
```

PERCEIVED INVOLVEMENT WITH MANAGEMENT LEVEL: FIRM P

```
                         PLOT P4-FIRM P
        ++----+----+----+----+----+----+----+----+--+
   8.25+                                              +
       |                                              |
 i     |         .         .        .                 |
 n     |                   .        .                 |
 v     |                            *                 |
 o  5.5+                   x        .                 +
 l     |                   .        X                 |
 v     |                            *                 |
 e     |         .                  .                 |
 m     |                                              |
 e 2.75+                                              +
 n     |                                              |
 t     |                            .                 |
       |                                              |
       |                                              |
      0+                                              +
        ++----+----+----+----+----+----+----+----+--+

                 1          2          3

                    management level
```

Frequencies and symbols used

1 - .
2 - *
3 - x
4 - X

APPENDIX D

DATA SET

DATA SET: Statement 5 (S.5) through Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
A	1										
		18	6	2	2	2	2	3	7	5	3
		20	5	1	2	3	4	4	7	6	6
		28	6	1	1	1	1	1	6	4	4
		29	6	2	2	3	2	3	7	6	6
		46	3	2	3	4	3	7	4	3	2
	2										
		17	8	2	2	2	2	1	7	7	7
		26	2	2	2	2	2	3	7	5	7
		27	8	2	2	2	2	3	7	7	7
	3										
		14	3	5	4	4	4	6	6	6	6
		15	6	1	3	3	3	5	7	6	7
		16	5	3	5	4	3	3	6	6	5
		19	5	2	2	2	3	2	7	7	7
		21	0	2	2	2	2	2	7	7	7
		22	1	5	5	4	5	3	7	7	6
		23	7	3	5	5	6	4	6	6	4
		24	8	2	3	3	3	1	1	1	1
		25	7	3	3	4	5	4	7	7	5
		47	2	4	.	.	.	5	.	.	.
		48	6	2	3	4	3	4	6	7	6
B	1										
		31	2	6	4	5	6	6	7	5	6
		39	6	4	1	2	6	4	4	3	3
		41	4	2	1	4	1	1	7	5	1
		43	3	1	1	1	1	1	7	5	7
		49	5	1	1	2	2	1	7	5	6
		52	1	4	4	4	4	3	7	6	5
	2										
		32	2	2	2	1	2	2	6	7	4
		34	5	1	2	1	1	2	7	7	7

DATA SET: Statement 5 (S.5) through
Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
B	2										
		36	3	4	4	4	5	2	6	4	5
		37	2	1	1	1	1	1	7	5	4
		42	0	3	3	3	4	4	5	4	6
	3										
		30	4	7	7	7	7	7	7	6	6
		33	6	3	7	7	4	6	7	7	7
		35	0	5	7	7	7	7	.	.	.
		38	4	2	4	5	4	6	6	5	5
		40	5	1	1	1	1	1	6	5	6
		44	6	5	6	6	6	6	.	.	.
		45	2	6	7	7	7	7	.	.	.
		50	5	4	4	3	3	5	6	5	4
		51	0	4	1	4	4	7	7	7	7
		53	3	5	4	3	7	2	7	5	4
C	1										
		65	7	1	1	3	1	1	5	6	3
		69	2	1	2	2	2	5	7	5	4
		70	2	2	4	4	4	3	6	5	5
	2										
		67	3	5	6	6	6	4	7	7	6
		68	2	4	5	6	5	3	6	6	6
		74	2	2	2	1	2	5	6	4	2
	3										
		64	3	4	5	5	7	6	5	6	1
		66	1	7	7	7	7	7	7	5	6
		71	3	4	4	4	5	4	4	5	4
		72	4	5	6	6	6	4	5	4	5
		73	4	1	6	6	4	3	7	7	6

DATA SET: Statement 5 (S.5) through
Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
D	1										
		75	4	4	4	5	5	4	7	6	4
		78	2	1	3	3	3	2	6	6	6
		81	8	1	1	1	1	1	7	5	5
		85	5	4	4	4	4	4	7	5	5
	2										
		76	3	1	1	1	1	1	7	6	5
		79	9	2	2	4	4	6	6	6	6
		83	8	4	4	4	4	3	6	6	6
		86	8	2	4	3	4	5	6	6	6
	3										
		77	2	7	7	7	7	7	5	4	4
		80	1	5	6	6	0	7	7	5	7
		82	4	6	6	6	6	7	.	.	.
		84	0	3	3	3	4	4	6	6	2
E	1										
		5	1	1	2	2	1	2	7	6	6
		6	2	4	4	4	4	5	7	7	6
		7	1	2	2	2	2	4	5	4	5
		9	7	2	2	2	3	4	7	7	6
	2										
		4	2	5	7	7	6	5	5	5	4
		11	2	3	3	3	3	3	6	6	6
		12	3	5	4	4	6	3	5	4	5
	3										
		1	5	5	6	7	7	3	6	7	7
		2	4	3	4	4	3	5	7	6	6
		3	2	5	7	7	6	5	.	.	.
		8	4	4	5	5	4	5	5	6	6

DATA SET: Statement 5 (S.5) through
Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
E	3										
		10	3	3	2	7	7	7	6	6	4
		13	2	4	4	4	5	5	6	6	5
F	1										
		110	6	1	2	1	2	2	7	7	6
		113	6	1	1	2	1	2	7	7	2
		123	.	4	4	4	4	1	7	7	7
		124	6	1	1	3	2	1	7	6	1
	2										
		111	9	2	2	4	5	6	7	7	6
		118	6	5	4	4	5	4	6	5	5
		122	7	4	5	4	5	6	6	6	5
	3										
		112	7	4	4	3	3	3	2	1	4
		114	5	5	3	3	4	4	6	6	5
		115	3	7	7	7	7	7	6	5	6
		116	3	4	3	3	2	4	2	3	5
		117	6	.	2	2	3	3	6	4	5
		119	6	.	1	.	.	.	7	7	4
		120	4	6	2	2	4	6	5	5	1
		121	4	5	5	5	5	5	6	3	5
		136	1	5	6	3	4	3	6	7	3
G	1										
		97	4	1	1	4	1	2	7	7	4
		98	2	1	1	3	1	1	7	1	7
		99	3	5	1	3	4	6	5	6	6
		100	6	1	1	2	1	3	7	7	6
		101	6	2	4	5	5	6	6	7	6
	2										
		102	6	5	5	2	5	3	7	6	6

DATA SET: Statement 5 (S.5) through
Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
G	2										
		103	3	5	7	7	7	7	6	4	2
		104	1	4	.	.	.	.	7	4	7
		105	4	3	4	4	5	7	.	.	.
	3										
		106	2	5	6	6	7	3	7	6	7
		107	2	6	6	6	6	4	.	.	.
		108	3	7	7	7	7	5	6	5	5
		109	7	1	6	4	6	4	7	6	4
H	1										
		88	3	2	2	2	2	2	7	6	7
		89	6	1	1	1	1	1	7	7	7
		90	2	2	2	3	4	6	7	7	6
		94	3	1	1	1	1	1	7	7	7
	2										
		87	4	5	5	5	6	5	5	5	6
		95	3	4	4	4	4	4	7	5	6
		96	6	5	4	3	3	5	5	6	4
	3										
		91	4	7	7	7	7	7	5	3	5
		92	2	4	4	4	5	5	4	3	4
		93	1	7	7	7	7	6	.	.	.
I	1										
		125	1	1	1	1	1	1	7	5	7
		126	2	1	1	1	1	1	6	4	6
		135	6	1	1	1	1	1	7	7	7
	2										
		129	1	6	7	7	7	6	7	.	7

DATA SET: Statement 5 (S.5) through
Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
I	2										
		132	2	5	6	7	7	7	7	7	1
		134	3	3	2	4	4	1	7	5	7
	3										
		127	7	6	6	5	5	6	5	5	5
		128	6	6	6	6	6	6	.	.	.
		130	5	3	4	5	5	5	7	5	5
		131	1	5	5	6	6	6	7	5	1
		133	2	6	6	6	6	4	.	.	.
J	1										
		264	3	2	2	2	1	2	7	6	3
		267	3	5	5	3	4	3	1	1	1
		270	9	3	3	3	5	6	7	7	7
		276	6	3	3	3	3	6	6	4	5
		277	2	1	2	2	2	1	7	7	7
	2										
		261	4	2	2	3	3	2	7	7	7
		266	1	3	5	5	5	5	6	4	6
		271	6	3	5	5	7	7	7	4	5
		273	2	4	7	5	7	6	7	6	7
		274	3	3	3	4	4	5	7	6	6
	3										
		260	3	3	4	4	6	5	6	6	4
		262	5	2	2	3	2	6	7	7	5
		263	4	4	5	6	5	6	5	5	5
		265	6	1	1	1	1	4	7	7	7
		268	5	2	2	2	3	4	5	4	4
		269	4	4	3	2	5	6	6	6	6
		272	1	6	4	4	5	6	7	5	4
		275	2	4	5	4	5	5	6	6	5
		278	4	5	2	4	6	5	7	5	6
		279	3	5	5	5	5	5	6	5	6

DATA SET: Statement 5 (S.5) through Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
J	3										
		280	3	3	4	4	4	4	3	4	1
K	1										
		213	4	1	2	3	2	1	7	7	4
		217	3	3	3	3	4	5	7	7	5
		221	8	3	4	2	2	3	6	6	5
		259	3	3	1	1	1	3	6	7	5
	2										
		212	8	2	2	3	3	5	7	5	5
		215	9	4	4	4	4	4	6	4	6
		220	7	2	1	1	1	1	7	6	3
		222	3	4	2	6	4	1	7	4	5
	3										
		211	2	2	2	3	3	4	7	7	7
		214	6	5	7	7	7	7	7	7	7
		216	9	1	1	3	1	4	5	5	5
		218	4	2	6	6	6	5	7	5	1
		219	2	7	7	6	7	4	7	5	7
L	1										
		137	5	1	1	1	1	1	7	7	7
		139	2	3	3	2	4	3	6	5	6
		145	4	4	3	5	2	3	5	6	4
	2										
		138	3	4	4	4	4	3	7	5	6
		144	4	5	5	5	6	7	7	7	7
	3										
		140	4	2	5	6	5	7	6	7	6
		141	2	7	7	7	7	7	6	5	5

DATA SET: Statement 5 (S.5) through Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
L	3										
		142	3	2	3	2	2	2	7	7	7
		143	4	1	4	6	5	3	7	6	7
		146	5	1	1	2	2	1	7	7	4
		147	4	3	3	2	3	3	4	3	4
M	1										
		156	4	1	1	1	2	4	7	7	7
		157	3	1	1	1	1	1	7	6	4
		158	1	1	3	2	.	1	7	6	7
		159	4	3	3	3	3	1	7	5	6
		160	6	3	2	3	2	3	7	7	7
	2										
		203	8	2	4	3	3	5	6	5	6
	3										
		161	3	4	5	6	6	2	6	5	6
		162	5	5	0	1	6	6	7	6	5
		163	8	2	2	7	5	2	7	7	6
		164	5	1	3	1	4	2	7	7	7
		165	7	3	1	1	1	1	7	7	1
		166	5	2	2	3	4	1	7	6	6
N	1										
		224	9	1	1	4	1	1	7	7	7
		229	6	1	1	1	1	1	7	7	7
	2										
		223	8	1	1	1	1	1	7	7	7
		226	7	1	4	6	4	2	6	5	2
		231	3	5	4	3	2	5	5	6	5
		235	4	4	3	2	5	5	7	7	4
		236	6	2	1	1	1	2	7	6	4
		239	2	3	3	5	5	3	7	6	6

DATA SET: Statement 5 (S.5) through
Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
N	3										
		225	3	3	2	2	3	1	7	6	3
		227	3	1	4	2	5	5	7	7	3
		228	.	5	5	4	4	3	7	5	7
		230	3	6	5	4	4	6	6	7	6
		232	6	3	2	2	3	2	6	5	.
		233	7	1	1	1	1	1	7	7	7
		234	6	1	1	1	1	2	7	7	4
		240	2	4	7	7	7	7	6	6	7
		241	8	1	3	2	2	4	7	6	6
O	1										
		167	2	2	1	1	3	3	6	7	5
		168	5	5	7	5	5	7	7	6	6
		169	2	4	5	2	2	6	2	2	2
		170	3	1	2	1	2	3	7	7	4
		171	6	1	1	1	1	1	7	5	3
		208	6	1	1	1	2	7	7	7	7
		210	1	1	3	3	3	5	7	7	4
		258	2	2	2	2	2	2	7	4	6
	2										
		172	2	2	2	3	5	7	6	4	4
		173	2	6	6	7	7	6	6	5	6
		174	4	2	2	2	2	5	1	2	4
		175	5	3	2	3	2	4	6	7	6
		176	2	6	7	7	7	5	.	.	.
		177	3	3	2	2	6	4	5	3	2
	3										
		178	1	6	6	5	5	3	6	7	6
		179	4	2	2	2	5	6	6	7	5
		180	4	1	1	3	1	1	1	1	3
		181	5	2	2	1	2	2	7	6	5
		182	4	1	1	1	1	1	7	7	7
		183	6	1	1	4	4	1	5	4	4

DATA SET: Statement 5 (S.5) through
Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
O	3										
		205	2	2	2	2	5	4	6	6	4
		206	4	3	2	2	3	6	6	6	5
		207	3	3	4	4	4	3	6	5	4
		209	4	4	4	5	6	5	7	7	7
		245	3	4	5	3	5	2	5	4	2
P	1										
		184	7	1	2	5	5	7	7	5	5
		185	6	1	1	1	1	1	7	7	1
	2										
		186	5	1	1	4	2	4	7	7	7
		187	3	1	1	1	1	1	6	5	3
		188	4	2	2	3	3	3	6	6	3
		189	8	3	3	2	4	2	6	5	2
		190	4	1	1	1	1	3	7	7	6
		204	5	3	2	2	2	4	7	6	2
	3										
		191	4	2	3	3	3	4	7	7	6
		192	2	1	1	1	3	3	7	7	2
		193	2	2	1	2	4	2	.	.	.
		194	4	2	3	3	3	2	7	6	5
		195	1	5	7	7	7	7	7	5	1
		196	.	4	3	3	4	3	6	7	7
		197	4	2	1	1	2	2	7	5	5
		198	5	4	4	4	4	3	3	5	5
		199	4	4	4	5	5	3	6	6	4
		200	6	6	2	1	2	3	7	6	7
		201	6	3	4	3	3	3	7	7	7
		202	1	1	1	1	1	1	7	6	4
Q	1										
		252	6	1	1	4	4	3	7	7	7
		255	6	2	4	6	2	1	7	6	7

DATA SET: Statement 5 (S.5) through
Statement 13 (S.13)

FIRM	MGMT LEVEL	CASE	S.5	S.6	S.7	S.8	S.9	S.10	S.11	S.12	S.13
Q	2										
		247	3	1	2	2	2	2	7	7	7
		248	6	2	3	3	4	4	7	5	6
		249	7	1	2	2	2	1	6	6	2
		256	6	2	1	3	2	3	6	7	6
	3										
		246	.	5	6	7	7	7	6	4	6
		250	4	4	3	3	4	5	6	4	6
		251	6	4	6	5	4	2	6	7	6
		253	6	2	2	2	3	2	7	6	2
		254	5	2	3	2	1	4	6	5	5
		257	6	2	4	4	4	5	5	5	4

DATA SET: Statement 14 (S.14) through Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
A	1							
		18	4	6	4	4	6	1
		20	6	7	6	6	7	7
		28	7	6	6	4	7	6
		29	4	6	6	5	7	5
		46	4	3	2	2	6	4
	2							
		17	7	7	7	6	7	7
		26	7	7	7	7	7	7
		27	3	7	7	7	7	7
	3							
		14	3	5	5	6	6	6
		15	7	7	6	6	7	7
		16	5	6	6	5	7	4
		19	7	7	7	7	7	7
		21	7	7	7	7	7	7
		22	7	7	4	.	7	.
		23	5	6	6	5	6	4
		24	1	1	2	4	1	4
		25	6	6	6	6	7	6
		47	.	.	.	.	.	.
		48	6	7	6	6	7	6
B	1							
		31	4	6	5	4	6	4
		39	6	4	4	4	6	5
		41	7	5	5	6	7	7
		43	6	7	5	6	7	7
		49	6	5	7	5	6	7
		52	7	5	5	6	7	6
	2							
		32	6	7	6	6	7	.
		34	6	7	7	7	7	7

DATA SET: Statement 14 (S.14) through Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
B	2							
		36	6	7	6	4	6	5
		37	7	4	1	1	5	1
		42	5	5	5	0	6	0
	3							
		30	4	6	6	4	6	4
		33	7	7	7	7	7	7
		35	.	.	.	.	.	.
		38	6	6	5	4	7	4
		40	7	6	6	0	6	6
		44	.	.	.	.	.	.
		45	.	.	.	.	.	.
		50	4	5	6	4	6	4
		51	7	7	7	7	7	5
		53	7	6	6	4	5	4
C	1							
		65	7	7	7	6	7	5
		69	4	5	6	4	7	5
		70	5	5	4	6	7	6
	2							
		67	7	7	7	5	7	5
		68	4	5	6	0	6	5
		74	5	6	5	4	4	7
	3							
		64	5	7	5	6	6	7
		66	5	7	5	4	7	5
		71	4	4	4	5	6	6
		72	4	4	4	4	6	4
		73	5	6	6	4	7	5

DATA SET: Statement 14 (S.14) through
Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
D	1							
		75	5	5	5	5	6	6
		78	6	6	5	5	6	5
		81	6	5	6	5	7	4
		85	5	5	6	5	6	5
	2							
		76	7	7	6	4	7	7
		79	6	6	6	6	7	6
		83	6	6	5	5	6	5
		86	6	6	4	5	5	5
	3							
		77	3	2	0	4	5	4
		80	7	7	7	4	7	7
		82	.	.	.	.	.	.
		84	6	6	6	5	6	6
E	1							
		5	6	6	6	4	7	5
		6	5	7	5	6	7	5
		7	6	4	5	5	5	5
		9	7	7	7	6	7	7
	2							
		4	3	4	3	4	5	3
		11	5	6	5	6	7	7
		12	6	5	4	5	5	6
	3							
		1	6	7	6	6	6	5
		2	6	7	5	6	7	7
		3	.	.	.	.	.	.
		8	6	5	6	6	6	5

DATA SET: Statement 14 (S.14) through Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
E	3							
		10	7	7	7	6	7	7
		13	4	5	6	6	6	6
F	1							
		110	6	7	6	6	7	6
		113	6	6	6	7	7	7
		123	7	7	7	7	7	7
		124	5	6	4	5	7	4
	2							
		111	6	6	6	4	7	6
		118	6	5	5	5	7	7
		122	5	6	6	6	6	4
	3							
		112	1	1	2	3	1	2
		114	4	6	6	5	6	5
		115	6	7	7	6	7	7
		116	3	3	3	4	2	3
		117	5	6	6	7	7	4
		119	7	7	7	4	7	4
		120	4	4	4	4	6	4
		121	4	4	6	5	7	5
		136	4	6	6	.	6	4
G	1							
		97	7	7	7	7	7	7
		98	2	5	2	4	7	5
		99	6	5	5	4	7	5
		100	6	7	7	6	7	7
		101	5	7	6	6	6	6
	2							
		102	6	6	6	6	7	6

DATA SET: Statement 14 (S.14) through Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
G	2							
		103	6	2	2	4	3	3
		104	.	7	6	7	7	7
		105	.	.	.	.	.	.
	3							
		106	7	6	7	6	7	7
		107	.	.	.	.	.	.
		108	6	5	6	5	6	5
		109	7	6	6	6	7	7
H	1							
		88	7	7	7	7	7	6
		89	6	7	7	6	7	7
		90	6	7	7	6	7	7
		94	7	7	7	7	7	7
	2							
		87	6	6	6	6	7	6
		95	6	6	7	6	7	6
		96	5	5	5	5	6	5
	3							
		91	5	5	4	3	6	6
		92	4	4	4	4	6	4
		93	.	.	.	.	.	.
I	1							
		125	4	4	4	3	4	4
		126	6	6	5	4	5	4
		135	6	7	6	5	7	5
	2							
		129	.	.	.	.	.	.

DATA SET: Statement 14 (S.14) through
Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
I	2							
		132	6	6	6	6	6	4
		134	7	7	7	7	7	7
	3							
		127	6	6	5	5	5	5
		128	.	.	.	.	.	.
		130	3	4	4	4	6	.
		131	4	7	7	4	7	7
		133	.	.	.	.	.	.
J	1							
		264	5	5	4	4	7	4
		267	1	2	2	2	1	3
		270	7	7	7	7	7	7
		276	4	4	5	4	5	4
		277	6	6	7	6	7	7
	2							
		261	7	7	7	7	7	7
		266	4	4	4	4	6	4
		271	7	7	7	6	6	6
		273	5	6	7	6	6	6
		274	6	5	6	7	7	7
	3							
		260	5	6	5	5	4	4
		262	7	7	7	6	7	6
		263	4	4	4	5	5	4
		265	7	7	7	6	7	7
		268	5	6	4	4	5	5
		269	4	6	5	4	5	4
		272	6	6	6	5	6	5
		275	4	5	5	6	6	6
		278	3	4	4	6	6	2
		279	6	5	6	5	6	6

DATA SET: Statement 14 (S.14) through Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
J	3							
		280	4	2	3	4	2	4
K	1							
		213	5	6	5	6	7	6
		217	5	7	5	5	7	5
		221	3	6	5	4	7	6
		259	6	7	4	5	7	7
	2							
		212	4	6	5	3	7	6
		215	4	6	6	6	6	6
		220	7	7	7	6	7	.
		222	2	2	2	4	7	4
	3							
		211	7	7	6	5	7	7
		214	7	7	6	6	7	7
		216	1	1	3	4	5	6
		218	6	7	5	5	7	7
		219	4	6	5	1	5	1
L	1							
		137	7	7	7	7	7	7
		139	4	6	5	6	6	3
		145	6	6	4	4	7	5
	2							
		138	6	7	7	7	7	7
		144	6	7	6	6	7	7
	3							
		140	6	7	6	6	7	6
		141	6	6	6	6	6	6

DATA SET: Statement 14 (S.14) through Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
L	3							
		142	7	7	7	7	7	7
		143	4	7	6	7	7	7
		146	6	7	7	7	7	7
		147	4	5	5	5	6	5
M	1							
		156	7	7	7	7	7	7
		157	6	6	6	5	7	6
		158	7	7	7	.	7	7
		159	6	6	6	6	7	6
		160	7	7	6	6	7	6
	2							
		203	5	6	6	5	6	5
	3							
		161	7	7	7	7	7	7
		162	6	4	6	5	7	4
		163	6	7	7	6	7	6
		164	7	7	6	6	7	7
		165	7	7	7	7	7	7
		166	7	6	6	6	7	7
N	1							
		224	7	7	7	7	7	7
		229	7	7	7	7	7	7
	2							
		223	7	7	7	6	7	7
		226	7	6	6	5	7	6
		231	5	5	4	5	6	5
		235	7	7	7	7	7	7
		236	5	4	6	6	7	7
		239	7	7	7	6	7	7

DATA SET: Statement 14 (S.14) through Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
N	3							
		225	6	6	6	6	6	6
		227	6	7	6	6	7	6
		228	6	6	6	6	6	4
		230	7	7	7	7	7	7
		232	2	5	5	4	6	5
		233	7	7	7	7	7	7
		234	7	7	7	6	7	7
		240	.	7	7	6	7	7
		241	7	6	6	5	7	5
O	1							
		167	6	7	6	6	7	6
		168	.	5	6	5	7	6
		169	4	2	3	4	4	5
		170	6	7	7	6	7	6
		171	7	4	4	6	7	6
		208	6	7	6	6	7	6
		210	6	7	7	7	7	7
		258	4	4	4	2	2	2
	2							
		172	4	4	6	4	5	5
		173	2	4	4	5	2	2
		174	2	1	1	2	1	2
		175	6	7	6	6	7	7
		176	.	.	.	.	.	.
		177	1	2	1	3	5	6
	3							
		178	2	2	6	5	6	7
		179	5	6	5	4	6	5
		180	1	1	1	1	1	1
		181	6	7	.	6	7	6
		182	7	7	7	7	7	7
		183	5	4	5	4	6	4

DATA SET: Statement 14 (S.14) through Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
O	3							
		205	5	6	6	6	7	6
		206	3	7	5	3	7	7
		207	5	6	5	4	7	6
		209	6	7	7	7	7	7
		245	5	6	4	4	6	5
P	1							
		184	6	7	5	6	7	5
		185	5	7	7	7	7	6
	2							
		186	7	7	7	7	7	7
		187	7	7	6	4	7	5
		188	5	5	6	5	6	5
		189	5	4	5	5	2	4
		190	6	7	7	7	7	7
		204	5	6	6	6	6	6
	3							
		191	7	7	7	6	7	7
		192	7	7	7	1	7	4
		193	.	.	.	.	.	.
		194	6	6	6	6	7	7
		195	7	7	4	4	7	7
		196	6	7	7	6	7	7
		197	6	6	6	6	6	5
		198	5	5	5	5	5	5
		199	6	6	5	5	7	7
		200	6	7	7	6	7	7
		201	6	7	7	7	7	7
		202	6	6	6	6	6	6
Q	1							
		252	5	7	6	6	7	5
		255	5	7	7	7	6	6

DATA SET: Statement 14 (S.14) through
Statement 19 (S.19)

FIRM	MGMT LEVEL	CASE	S.14	S.15	S.16	S.17	S.18	S.19
Q	2							
		247	6	7	6	6	7	7
		248	4	4	5	5	7	6
		249	5	6	6	6	6	6
		256	5	6	7	5	5	5
	3							
		246	5	4	4	2	7	6
		250	5	5	6	5	7	7
		251	6	7	6	6	7	7
		253	7	6	6	7	7	7
		254	6	5	4	4	6	6
		257	6	6	3	5	7	7

DATA SET: Dynamism and Complexity, Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
A	1								
		18	4	5	1	3	2	4	0
		20	4	2	2	1	2	4	1
		28	3	4	1	1	3	3	2
		29	1	5	1	4	2	2	1
		46	3	3	3	0	2	5	0
	2								
		17	6	7	3	1	3	3	0
		26	.	.	4	3	2	1	0
		27	6	4	1	4	1	3	1
	3								
		14	6	.	3	2	2	2	1
		15	2	5	1	1	1	2	2
		16	1	6	1	2	3	4	0
		19	3	3	1	2	2	5	0
		21	7	7	1	1	1	5	2
		22	5	5	2	2	2	2	2
		23	2	5	0	3	1	4	2
		24	3	6	4	1	1	1	3
		25	6	5	1	1	1	2	5
		47	5	5	0	1	4	3	2
		48	6	4	1	2	3	3	1
B	1								
		31	3	6	0	1	3	4	2
		39	4	4	2	1	2	2	3
		41	6	7	0	4	3	2	1
		43	4	6	1	3	3	1	2
		49	5	5	3	1	2	2	2
		52	3	3	3	2	1	2	0
	2								
		32	.	.	2	1	4	3	0
		34	7	7	4	1	3	2	0

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna- mic	com- plex	20.A	20.B	20.C	20.D	20.E
B	2								
		36	5	6	1	2	4	3	0
		37	1	5	0	2	2	5	3
		42	4	6	3	1	3	1	2
	3								
		30	2	1	3	1	2	4	0
		33	1	3	3	1	1	3	2
		35	4	4	2	2	2	2	2
		38	3	5	2	1	9	2	2
		40	4	6	4	0	1	2	3
		44	4	4	2	1	2	0	4
		45	3	4	0	3	4	2	1
		50	3	5	0	3	2	3	2
		51	2	7	1	4	3	2	0
		53	4	4	2	2	2	2	2
C	1								
		65	2	1	0	0	5	5	0
		69	5	4	1	4	2	3	0
		70	5	4	2	4	3	0	0
	2								
		67	1	1	4	1	2	3	0
		68	5	4	1	2	5	2	0
		74	3	6	3	2	2	2	1
	3								
		64	6	3	2	2	2	1	1
		66	7	6	3	2	3	2	0
		71	1	0	0	1	1	6	2
		72	3	4	1	2	4	3	0
		73	4	4	1	4	3	2	0

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
D	1								
		75	6	5	1	2	1	3	3
		78	6	5	6	0	2	2	0
		81	5	6	1	1	1	4	3
		85	4	4	2	2	2	2	2
	2								
		76	5	5	1	2	1	3	3
		79	4	4	2	2	2	2	2
		83	5	5	5	0	2	2	1
		86	3	4	0	3	2	5	0
	3								
		77	1	0	0	1	3	3	3
		80	5	7	4	1	2	2	1
		82	3	3	2	3	2	1	2
		84	7	6	2	0	1	4	3
E	1								
		5	2	6	0	2	3	2	3
		6	5	6	2	1	1	4	0
		7	6	7	1	4	2	2	1
		9	2	6	0	0	3	7	0
	2								
		4	5	6	2	1	3	4	0
		11	6	6	1	4	2	3	0
		12	4	2	3	0	4	2	1
	3								
		1	3	6	0	2	3	4	1
		2	4	6	1	2	1	4	3
		3	1	1	0	0	2	3	4
		8	5	.	2	0	1	3	4

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
E	3								
		10	2	1	3	4	1	2	0
		13	4	5	3	0	2	2	3
F	1								
		110	6	5	3	2	3	1	1
		113	6	5	3	2	1	4	0
		123	3	7	2	1	2	3	2
		124	5	7	3	1	1	4	1
	2								
		111	5	6	6	0	1	3	0
		118	6	7	3	0	5	1	1
		122	6	7	4	1	2	2	1
	3								
		112	6	5	3	2	2	2	1
		114	5	5	2	1	1	3	3
		115	6	5	3	1	2	2	2
		116	5	6	2	1	1	4	2
		117	5	5	3	0	2	4	1
		119	5	6	3	2	3	1	1
		120	4	4	1	2	1	3	3
		121	4	7	2	2	2	4	0
		136	.	.	2	2	2	2	2
G	1								
		97	6	6	3	1	1	5	0
		98	3	4	6	0	0	3	1
		99	2	5	3	2	2	3	0
		100	6	6	7	0	0	2	1
		101	5	2	3	2	1	2	2
	2								
		102	5	6	3	2	2	3	0

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
G	2								
		103	6	7	0	2	5	3	0
		104	1	7	6	0	0	2	2
		105	5	6	2	3	3	2	0
	3								
		106	3	4	3	2	2	3	0
		107	5	5	3	2	2	3	0
		108	5	5	3	1	2	3	1
		109	4	5	4	0	2	4	0
H	1								
		88	5	5	1	4	2	2	1
		89	2	6	3	1	2	2	2
		90	6	6	2	1	2	3	2
		94	7	6	1	2	4	2	1
	2								
		87	2	6	3	1	2	2	2
		95	2	6	2	3	3	2	0
		96	6	6	3	1	2	4	0
	3								
		91	2	6	3	1	2	2	2
		92	3	4	6	0	0	4	0
		93	4	5	1	2	3	2	2
I	1								
		125	7	7	2	5	1	1	1
		126	5	6	4	3	1	1	1
		135	3	4	3	2	3	2	0
	2								
		129	5	5	2	1	1	0	0

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
I	2								
		132	6	7	2	1	2	4	1
		134	3	5	2	3	3	2	0
	3								
		127	2	5	0	1	1	2	6
		128	2	3	1	1	5	2	1
		130	5	5	2	3	3	2	0
		131	4	4	1	4	5	0	0
		133	4	5	2	3	2	3	0
J	1								
		264	5	6	1	4	2	1	2
		267	5	7	0	2	3	5	0
		270	7	4	1	1	3	4	1
		276	4	6	1	3	2	2	1
		277	7	5	0	2	6	2	0
	2								
		261	7	6	1	2	2	2	2
		266	5	5	1	2	1	4	2
		271	.	.	2	2	2	2	2
		273	7	2	2	2	3	2	1
		274	6	7	5	1	1	2	1
	3								
		260	7	5	1	1	3	2	3
		262	5	5	1	1	4	3	1
		263	5	5	1	2	2	3	2
		265	2	4	1	1	2	4	1
		268	5	5	3	0	2	1	4
		269	5	6	1	3	3	2	1
		272	1	.	6	0	0	4	0
		275	4	5	0	1	1	1	7
		278	5	5	1	2	0	6	1
		279	.	.	2	0	4	4	0

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
J	3								
		280	2	6	1	1	2	2	3
K	1								
		213	4	5	3	2	1	1	3
		217	5	5	2	1	1	1	5
		221	1	4	2	4	3	1	0
		259	6	7	3	2	2	2	1
	2								
		212	5	5	3	2	0	1	4
		215	4	4	0	4	0	6	0
		220	7	7	2	3	2	1	1
		222	4	5	1	3	3	3	0
	3								
		211	5	6	0	5	2	3	0
		214	4	7	3	1	2	2	2
		216	4	6	2	3	5	0	0
		218	5	6	2	2	2	2	2
		219	5	7	4	5	0	0	1
L	1								
		137	5	5	1	1	2	2	4
		139	4	2	0	3	0	3	4
		145	4	5	1	2	3	2	2
	2								
		138	3	3	1	2	3	3	1
		144	.	.	1	2	2	2	3
	3								
		140	3	2	2	0	3	3	2
		141	6	7	6	2	1	0	1

DATA SET: Dynamism and Complexity, Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
L	3								
		142	2	3	0	0	4	6	0
		143	4	4	0	1	2	5	2
		146	1	1	2	6	0	0	2
		147	3	2	3	1	1	1	3
M	1								
		156	4	6	3	3	0	2	2
		157	5	4	0	0	2	4	4
		158	5	6	0	1	3	4	2
		159	4	5	2	3	2	2	1
		160	5	4	0	1	3	1	5
	2								
		203	2	6	0	1	3	3	3
	3								
		161	4	6	1	5	2	2	0
		162	2	5	0	3	2	5	0
		163	4	4	0	1	5	2	2
		164	5	3	0	4	3	3	0
		165	4	6	1	3	1	3	2
		166	6	6	0	2	4	1	1
N	1								
		224	7	4	3	3	1	0	3
		229	6	7	6	1	1	2	0
	2								
		223	1	1	2	1	3	4	0
		226	1	7	2	2	2	2	2
		231	6	6	3	1	1	3	2
		235	6	7	1	0	5	2	2
		236	5	7	5	3	0	1	1
		239	4	4	6	0	3	0	1

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
N	3								
		225	6	5	4	3	1	1	1
		227	2	6	2	1	3	3	1
		228	6	6	3	1	2	3	1
		230	6	7	3	1	1	2	3
		232	4	6	4	2	2	2	0
		233	5	7	5	0	2	2	1
		234	4	4	4	1	1	3	1
		240	4	7	6	2	0	2	0
		241	7	4	2	2	2	2	2
O	1								
		167	3	4	3	2	1	2	2
		168	3	4	1	0	5	2	1
		169	3	5	4	2	1	3	0
		170	5	5	4	0	3	3	0
		171	5	6	3	0	3	1	3
		208	1	5	1	1	2	3	3
		210	4	7	1	1	6	2	0
		258	2	4	0	2	3	5	0
	2								
		172	4	7	0	1	4	2	3
		173	1	6	.	.	.	.	.
		174	3	5	3	1	2	2	2
		175	2	4	0	4	3	2	1
		176	4	4	1	1	5	2	1
		177	2	2	1	3	0	4	1
	3								
		178	3	6	0	3	3	0	4
		179	4	4	1	0	4	4	1
		180	5	4	2	2	1	2	3
		181	2	5	2	2	3	2	1
		182	6	5	3	0	4	3	0
		183	3	5	1	3	2	2	2

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna- mic	com- plex	20.A	20.B	20.C	20.D	20.E
O	3								
		205	4	2	4	0	2	2	2
		206	5	5	4	5	0	1	0
		207	4	4	1	2	4	3	0
		209	4	6	4	2	3	1	0
		245	4	5	3	2	1	4	0
P	1								
		184	6	7	2	2	2	2	2
		185	6	6	3	2	2	2	1
	2								
		186	7	5	3	1	1	2	3
		187	7	5	4	1	1	3	0
		188	6	6	3	3	1	1	2
		189	5	6	5	2	1	1	1
		190	5	4	5	0	3	2	0
		204	6	5	3	1	1	3	2
	3								
		191	7	5	4	2	2	1	1
		192	7	7	5	2	1	1	1
		193	7	5	5	1	2	1	1
		194	6	5	6	1	2	1	0
		195	7	7	4	1	1	1	3
		196	4	6	3	1	2	2	1
		197	6	4	3	3	1	1	2
		198	4	4	.	.	.	.	.
		199	.	.	4	1	1	2	1
		200	6	3	3	3	1	1	1
		201	5	6	4	2	1	2	1
		202	6	7	3	3	1	2	1
Q	1								
		252	3	3	0	2	2	3	3
		255	7	7	0	3	3	4	0

DATA SET: Dynamism and Complexity,
Statement 20 (S.20)

FIRM	MGMT LEVEL	CASE	dyna-mic	com-plex	20.A	20.B	20.C	20.D	20.E
Q	2								
		247	6	7	0	0	5	3	2
		248	6	4	2	1	4	3	0
		249	5	7	2	0	1	5	2
		256	5	5	0	3	3	4	0
	3								
		246	4	5	1	0	2	4	3
		250	2	5	1	1	3	4	1
		251	5	4	2	2	5	1	0
		253	3	4	0	0	2	5	3
		254	4	6	0	2	3	5	0
		257	5	4	0	2	3	5	0

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
A	1						
		18	3	1	3	1	4
		20	3	2	4	1	5
		28	3	2	2	2	2
		29	3	1	3	4	3
		46	2	4	3	1	5
	2						
		17	3	4	2	1	5
		26	1	1	2	3	5
		27	3	1	5	2	4
	3						
		14	4	1	5	3	2
		15	5	2	4	3	1
		16	4	3	2	1	5
		19	4	2	3	1	5
		21	5	4	3	2	1
		22	1	3	4	2	5
		23	5	2	4	1	3
		24	1	5	4	3	2
		25	1	2	3	4	5
		47	5	3	1	2	4
		48	4	3	2	1	5
B	1						
		31	5	3	1	2	4
		39	3	4	3	3	2
		41	5	3	2	1	4
		43	4	2	1	3	5
		49	1	5	4	3	2
		52	4	2	3	3	4
	2						
		32	3	2	3	2	4
		34	5	2	4	3	1

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
B	2						
		36	4	3	1	2	5
		37	5	4	3	1	2
		42	5	2	3	4	1
	3						
		30	2	4	3	1	5
		33	5	1	2	4	3
		35	2	2	2	2	2
		38	3	5	1	4	2
		40	2	5	1	3	4
		44	3	2	3	2	2
		45	5	2	1	3	4
		50	5	2	2	1	3
		51	4	1	2	3	5
		53	2	4	5	3	1
C	1						
		65	5	4	1	2	3
		69	4	1	2	3	5
		70	3	1	2	4	5
	2						
		67	1	4	3	2	5
		68	4	2	1	3	5
		74	3	4	2	1	5
	3						
		64	2	3	1	5	4
		66	3	1	2	4	5
		71	5	4	2	1	3
		72	4	3	1	2	5
		73	4	1	2	3	5

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
D	1						
		75	2	2	3	1	1
		78	1	5	3	2	4
		81	4	5	3	1	2
		85	4	5	5	3	4
	2						
		76	5	3	4	1	2
		79	5	2	4	3	1
		83	1	5	3	2	4
		86	4	2	3	1	5
	3						
		77	5	4	1	2	3
		80	1	3	2	2	3
		82	3	1	2	5	4
		84	3	1	5	2	4
E	1						
		5	5	4	3	2	1
		6	2	3	4	1	5
		7	4	1	3	2	5
		9	5	3	2	1	4
	2						
		4	4	5	3	2	1
		11	4	1	3	2	5
		12	2	5	1	3	4
	3						
		1	4	3	2	1	5
		2	5	3	4	1	2
		3	5	3	2	1	4
		8	3	2	3	4	4

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
E	3						
		10	3	4	1	2	5
		13	2	3	2	1	1
F	1						
		110	1	3	2	4	5
		113	3	1	3	3	0
		123	4	5	2	1	3
		124	2	5	4	1	3
	2						
		111	1	4	4	1	1
		118	2	5	1	4	3
		122	1	2	2	2	3
	3						
		112	2	2	2	2	2
		114	3	5	4	2	1
		115	4	5	1	2	3
		116	3	3	4	4	2
		117	2	5	3	1	4
		119	1	3	2	4	5
		120	5	3	4	1	2
		121	4	2	3	1	5
		136	3	4	2	5	1
G	1						
		97	2	4	3	1	5
		98	1	5	4	2	3
		99	1	4	3	2	5
		100	1	4	5	2	3
		101	1	4	3	2	1
	2						
		102	2	3	4	1	5

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
G	2						
		103	4	3	1	2	5
		104	3	5	4	1	2
		105	3	2	1	4	5
	3						
		106	1	3	4	2	5
		107	2	2	2	2	3
		108	1	4	3	2	5
		109	1	4	3	2	5
H	1						
		88	4	1	2	3	5
		89	1	5	4	3	2
		90	2	3	4	4	2
		94	4	3	1	2	5
	2						
		87	1	5	4	2	3
		95	4	1	2	3	5
		96	2	3	4	1	5
	3						
		91	1	5	3	4	2
		92	1	4	2	3	5
		93	5	4	3	4	4
I	1						
		125	2	1	4	3	5
		126	1	2	4	3	5
		135	2	3	1	4	5
	2						
		129	1	1	2	3	3

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
I	2						
		132	4	3	2	1	5
		134	4	2	1	3	5
	3						
		127	5	3	4	2	1
		128	5	3	1	2	4
		130	4	2	1	3	5
		131	5	1	1	5	5
		133	4	1	3	2	5
J	1						
		264	5	1	2	3	4
		267	5	3	2	1	4
		270	4	3	2	1	5
		276	5	1	2	3	4
		277	5	2	1	3	4
	2						
		261	3	1	1	1	1
		266	5	4	2	1	3
		271	3	2	1	1	2
		273	1	2	3	5	4
		274	1	4	3	2	5
	3						
		260	4	5	1	3	2
		262	1	3	5	4	2
		263	1	4	2	5	3
		265	4	3	2	1	5
		268	2	5	3	4	1
		269	3	1	2	4	5
		272	1	4	3	2	5
		275	5	4	4	5	1
		278	4	2	4	1	3
		279	5	4	2	1	3

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
J	3						
		280	5	4	3	2	1
K	1						
		213	1	3	5	4	2
		217	2	4	5	3	1
		221	3	1	2	4	5
		259	1	2	3	4	5
	2						
		212	2	3	5	4	1
		215	3	2	4	1	5
		220	4	1	2	3	5
		222	4	2	3	1	5
	3						
		211	4	1	3	2	5
		214	4	4	5	5	4
		216	3	2	1	4	5
		218	1	1	1	1	1
		219	2	1	5	4	3
L	1						
		137	4	5	2	3	1
		139	5	3	4	2	1
		145	4	5	1	2	3
	2						
		138	5	1	2	2	5
		144	5	2	3	4	1
	3						
		140	3	3	1	1	2
		141	1	2	2	3	1

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
L	3						
		142	4	3	2	1	5
		143	1	2	3	4	5
		146	1	1	0	0	2
		147	1	1	2	1	1
M	1						
		156	1	2	5	4	3
		157	5	4	3	1	2
		158	5	4	2	1	3
		159	5	4	2	1	3
		160	5	4	3	2	1
	2						
		203	5	4	1	2	1
	3						
		161	4	1	2	3	5
		162	4	3	2	1	5
		163	2	2	2	2	2
		164	5	1	2	3	4
		165	5	1	4	2	3
		166	5	2	3	1	4
N	1						
		224	1	2	4	5	3
		229	1	4	3	2	5
	2						
		223	3	4	2	1	5
		226	5	3	1	2	4
		231	1	5	4	2	3
		235	4	5	1	2	3
		236	2	1	5	3	4
		239	5	1	3	2	4

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
N	3						
		225	1	2	3	4	5
		227	3	4	2	1	5
		228	1	5	3	2	4
		230	5	2	1	3	4
		232	1	3	4	2	5
		233	1	5	2	3	4
		234	1	3	4	2	5
		240	1	3	4	2	3
		241	1	4	5	3	2
O	1						
		167	2	5	1	4	3
		168	4	5	1	2	3
		169	1	3	4	2	5
		170	1	5	2	3	4
		171	1	5	3	4	2
		208	5	4	3	2	1
		210	4	3	1	2	5
		258	4	3	2	1	5
	2						
		172	5	4	1	3	2
		173	1	1	2	3	3
		174	1	5	3	2	4
		175	5	1	2	3	4
		176	4	5	2	3	1
		177	3	2	5	1	4
	3						
		178	4	2	1	5	3
		179	3	5	2	1	4
		180	4	3	2	3	5
		181	2	4	1	3	5
		182	3	5	3	4	5
		183	5	1	3	4	2

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
O	3						
		205	1	5	2	3	4
		206	2	1	5	3	4
		207	4	3	1	2	5
		209	1	3	2	4	5
		245	2	3	4	1	5
P	1						
		184	1	3	4	5	2
		185	1	3	4	2	5
	2						
		186	2	5	4	3	1
		187	1	4	3	2	5
		188	2	1	5	4	3
		189	1	2	5	4	3
		190	2	5	1	3	4
		204	1	4	5	2	3
	3						
		191	1	2	3	4	5
		192	1	2	5	4	3
		193	1	5	3	2	4
		194	1	2	3	4	5
		195	1	5	3	4	2
		196	5	4	4	4	3
		197	1	4	2	5	3
		198	1	3	2	4	5
		199	1	5	3	2	4
		200	2	1	3	4	5
		201	1	3	4	2	5
		202	1	2	3	4	5
Q	1						
		252	5	4	3	1	2
		255	4	2	3	1	5

DATA SET: Statement 21 (S.21)

FIRM	MGMT LEVEL	CASE	21.A	21.B	21.C	21.D	21.E
Q	2						
		247	5	4	1	3	2
		248	3	5	1	2	4
		249	3	1	2	5	4
		256	4	1	3	2	5
	3						
		246	4	5	3	1	2
		250	4	3	2	1	5
		251	3	1	2	4	5
		253	5	4	3	1	2
		254	5	3	2	1	4
		257	5	3	2	1	4

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