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THE FLORIDA STATE UNIVERSITY

COLLEGE OF BUSINESS

INTUITION AND ANALYSIS: TOWARD BETTER UNDERSTANDING OF THE DELIBERATIONS AND EFFECTIVENESS OF BOARDS OF DIRECTORS

By

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Dedicated to my dear wife Tara
and to my wonderful parents, Bobby and Marilyn.
Dedicated to the memory of my inspiring grandfathers.

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ABSTRACT

Board literature has not provided adequate attention to the decision processes performed by boards and the contributions made by boards to overall effectiveness. This is troubling because boards have emerged as important aids to top management, offering useful advice and oversight. In this dissertation, insider and outsider members of boards are considered in terms of how they contribute to decision deliberations and discussions. What sorts of contributions should insiders and outsiders offer in order to improve the quality of an organization's pattern of decisions and managerial actions?

Further, this dissertation attempts to shed light on how cognitive and experiential differences in board members may impact the nature of these contributions to the deliberations. Of special interest is the use of the two distinct but potentially complementary decision styles: intuitive, experience-based processing based on tacit knowledge and general opinion versus analytical processing based more on specific hard data, facts, and explicit knowledge. This distinction appears meaningful when describing the cognition and decision behavior of board

members. The cognition and input of board members appears to offer crucial guidance and advice to the organization.

Various literatures are reviewed to develop a research model and important research questions. The questions are then subjected to empirical study based on the objective, cross-sectional questionnaire responses of over 350 members of 59 independent bank boards from a Southern state. In addition, two bank boards are subjected to observation and audio recording in an attempt to describe, confirm, and understand in greater detail the more important questions posed by the model. The overall results of this research indicate a variety of differences between board sub-groups and indicate meaningful relationships of decision style with the level of board involvement and performance measures. Information processing by board members is related to the type of input they offer and the involvement of the entire board. Overall, information processing style is shown to be an important determinant of board and organization success.

CHAPTER 1

OVERVIEW AND INTRODUCTION TO RESEARCH

Background and Call for Research

Boards of directors have emerged as important strategic decision-making bodies over the past several years (Boulton, 1978; Judge and Zeithaml, 1992; Worthy and Neuschel, 1984). Boards of directors are asked by the stockholders of the organization to perform very important corporate governance duties, including acting as a control mechanism on the actions of management (Baysinger and Butler, 1985). They also are expected, however, to provide important input to the strategic deliberations of the company's management (Judge and Zeithaml, 1992). Boards are often relied upon by the firm's management to provide decision input, valuable advice, and input and commentary on the strategic direction of the firm (Baysinger and Hoskisson, 1990; Pearce, 1995).

Boards are indeed key strategic resources for many firms, especially smaller firms with less proficient and less elaborate top management teams. Researchers are still unclear, however, as to the dynamics of the deliberation

processes performed by corporate boards. As such, there exists much debate and uncertainty as to the real contributions of inside and outside directors to these strategic decision processes. Unfortunately, it appears that much research has not considered the dynamic processes of discussion and deliberation employed by boards.

The question that appears insufficiently addressed in the recent literature (see, for example, Baysinger and Hoskisson, 1990; Pearce, 1983; Pearce and Zahra, 1992; and Rindova, 1994), is "what are the contributions of insiders (employees or former employees of the organization) versus outsiders (non-employees) in the decision-related discussions of boards of directors?" Researchers have generally speculated through the years on the correct "composition" of boards of directors, (Ford, 1988; Pfeffer, 1973; Vance, 1964) but very few have looked at the more complex and interesting question of what members actually contribute to the deliberations and thus what influence the members have on the board's and the company's effectiveness. Attention should be placed on improving the abilties of individual members and the board team to contribute to overall company strategy and performance (Goodstein, Gautam, and Boeker, 1994; Kosnik, 1990).

This Research Effort

Of particular interest in this study will be the dynamic manner in which board members use available information and offer input to the deliberative discussions of the board. If the board can be viewed as a strategic resource, the ability to provide an appropriate and effective pattern of decision-related direction should be considered very important. In the complex and changing environments surrounding firms, it is reasonable that boards are as much a strategic resource as a control mechanism, meant as much for aiding in the management of the company as for controlling it.

This dissertation will attempt to determine the importance of using tacit knowledge and intuitive styles in board decision making, in addition to (and in conjunction with) the more traditionally accepted use of explicit knowledge and formal, factual, rational analysis. When company leaders make strategic decisions there is little doubt that sound, thorough analysis and quantitative "weighing" of options is necessary. The literature on strategic decision making, however, also suggests that more subjective, intuitive processing is a major necessity, especially in high-velocity environments and highly complex environments (see, for example, Eisenhardt, 1989; Wally and

Baum, 1994). It would appear that boards should "make the most" of their members' knowledge bases and attempt to encourage input that would contribute in a highly effective way to the board deliberations.

Moreover, a basic question asked in this exploratory research is "are there differences between insiders and outsiders in the type of processing (intuitive and analytical) that dominates their individual deliberations?" The literature reveals valid reasons to expect major differences between the two major member types, but no research has attempted to contrast insiders and outsiders on this issue.

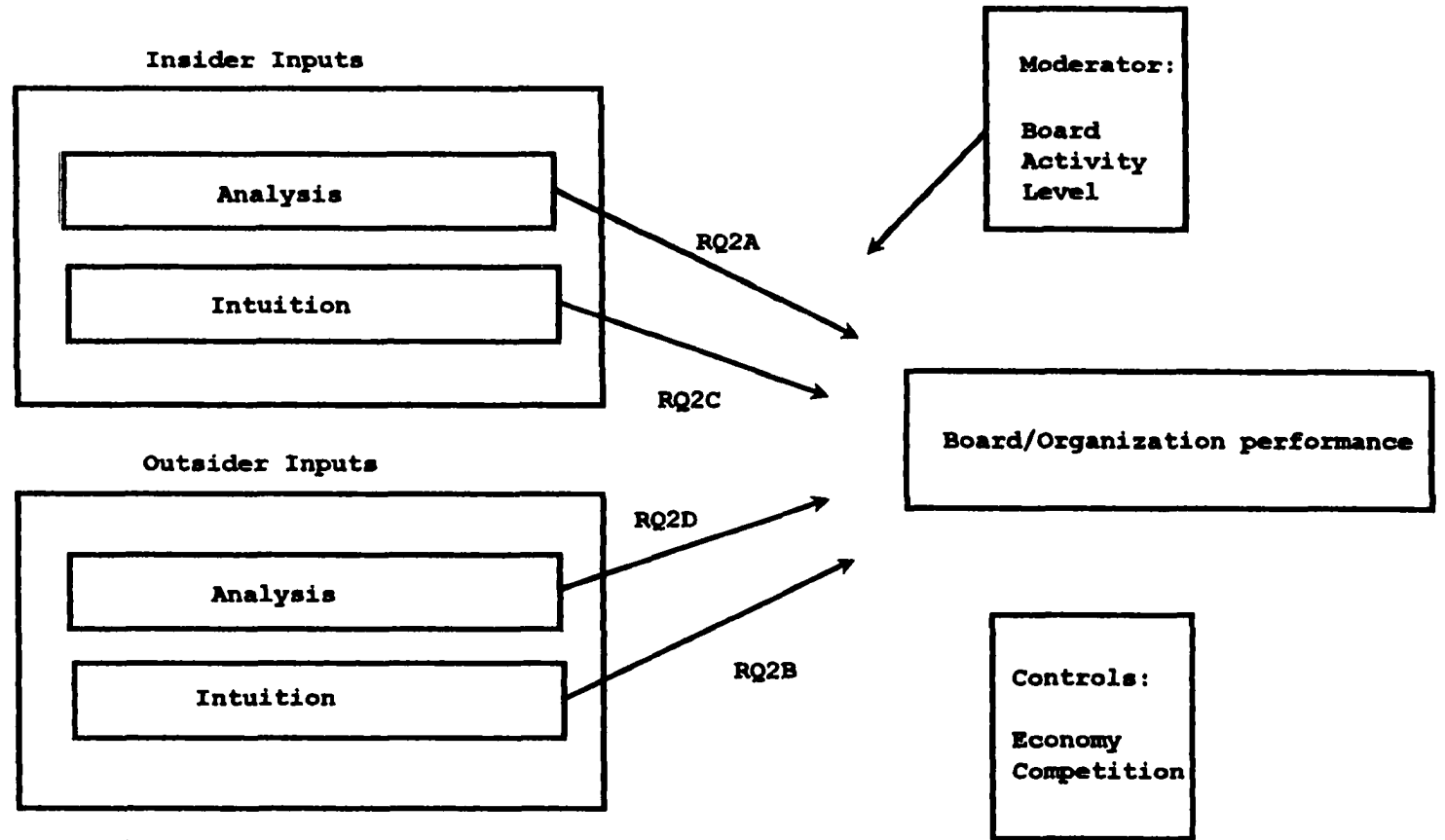
This research will also pose the important question of "do certain styles of processing by board insiders and outsiders contribute to the overall effectiveness of boards and of the organizations they direct?" Does information processing cognition and behavior impact the performance of the board and of the organization? At this early stage in the research, discoveries may be more interesting than conclusive.

The model depicted in Figure 1.1 guides the research conducted in this dissertation, and the research questions are represented in the model. The more detailed discussion of the model and questions draws from diverse sets of literature on boards, cognition and knowledge, decision-

making, and organizational learning.

In addition to questions concerning board member differences and contributions to effectiveness, it is also reasonable to ask whether certain types of information processing and inputs are complementary and synergistic. In other words, do members of boards build off of one another? Special note is made of the recent, emerging literature citing the need for decision-makers and groups to intertwine and meld the complementary tacit and explicit knowledge bases in order to craft more informed, more innovative, and more complete decisions (Blattberg and Hoch, 1990; Kleinmuntz, 1990; Nonaka, 1994; Spender, 1993). These authors and others argue that learning can a result when this exchange occurs. Many writers over the years, including Barnard (1938), have called for "dual processing" which incorporates left-brain thought and analysis and right-brain feeling and intuition (Driver and Rowe, 1976; Mintzberg, 1976; Taggart and Robey, 1981).

The arguments by these writers have been that the two styles complement, balance, and build upon one another, both within the person and among several in a group. An important question is, "do boards combine these separate knowledge bases in board meetings, and if so, is the result better decisions?" Shared input may allow a board to develop broader and clearer insight with respect to



RQ1A and Rq1B compare insiders and outsiders on the two inputs.

Figure 1.1

Board Member Decision Influences

decisions at hand. Some theorists even hold that new knowledge is developed (Nonaka, 1994). It would seem valuable to find out whether this exchange occurs and the impact of it on performance. Questions related to this line of reasoning are depicted in Figure 1.2.

Board Activity and Involvement

This research also strongly echoes the admonitions of the considerable research (e.g. Judge and Zeithaml, 1992; Zahra, 1990; Zahra and Stanton, 1988) which has found that higher activity and board involvement of the total board in decisions serves to improve decision and deliberation quality. For quality deliberation to occur, board members must, no doubt, be active and involved. In this study, the level of board activity and strategic involvement is argued to be an important moderator of the relationship between decision style and performance. It seems logical that certain contributions from board members would only be helpful to board and organization effectiveness when the entire board is active enough to 1) perform thorough analysis and review, and 2) fully utilize and consider the contributions of other board members.

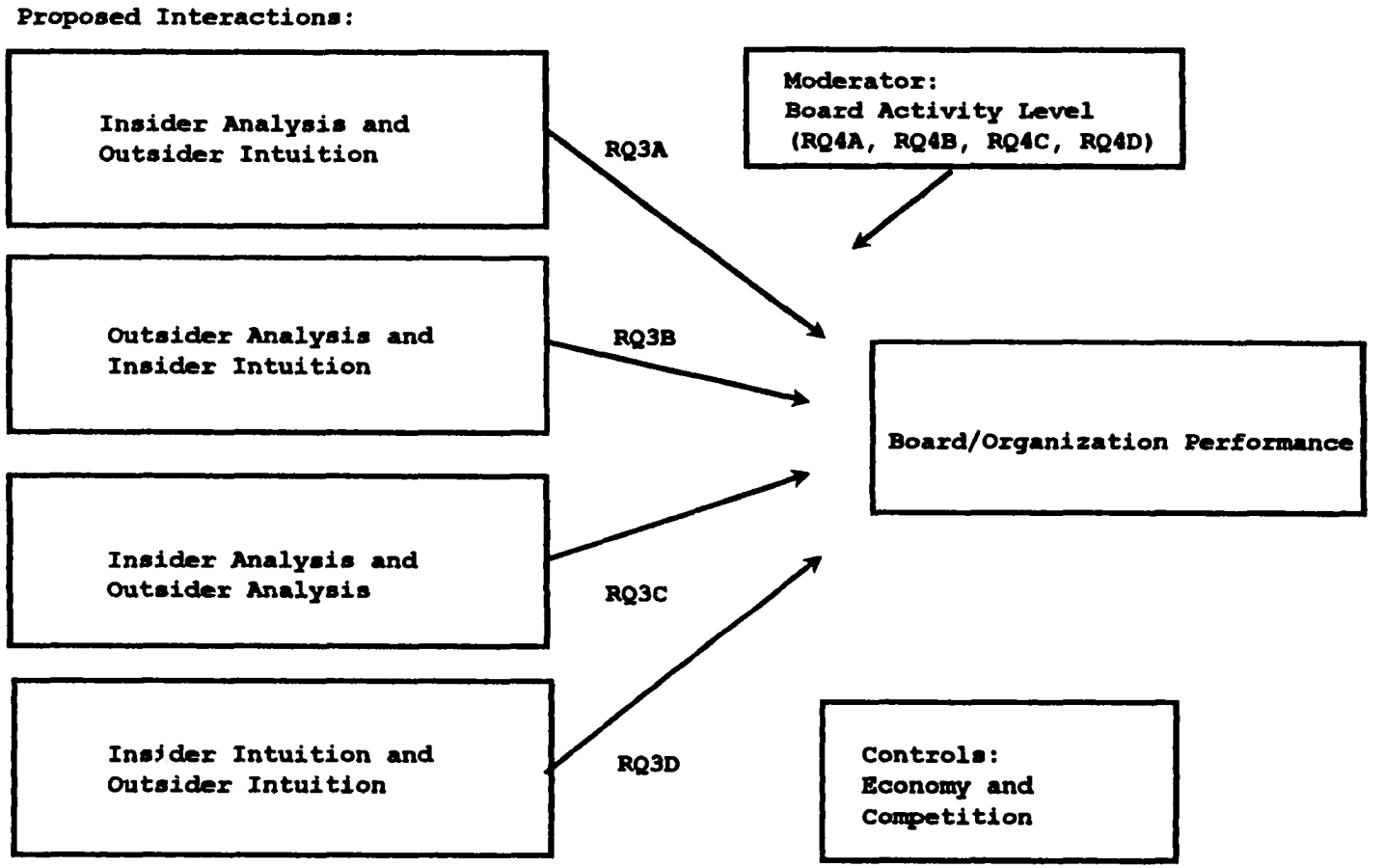


Figure 1.2
Possible Interactive Effects

Introduction to the Literature

Tacit Knowledge and Intuition

For years, scholars have extolled the benefits of thorough, careful, objective analysis of factual data and information (e.g.,Keen and Scott Morton, 1978; Lawrence, Edmundson, and O'Connor, 1986; Meehl, 1957; MacCrimmon and Taylor, 1976). Only recently has more intuitive, tacit judgement been recognized as an important decision tool. Such judgement is viewed as being highly practical and useful in "real world" problems (Spender, 1993). Tacit knowledge is generally conceptualized as an idiosyncratic, subjective, highly individualized store of broad knowledge and practical know-how gathered through years of experience and direct interaction within a domain (Nonaka, 1994; Polanyi, 1958, 1962; Spender, 1993; Sternberg and Wagner, 1986; Wagner, 1987). Tacit knowledge, sometimes referred to as practical or intuitive understanding, is learned independently of direct instruction.

Interestingly, it can be very difficult for individuals to articulate the actual tacit knowledge directly, though decision makers are quite decisive when tacit knowledge is at work (Sternberg and Wagner, 1986; Wagner, 1987; Wagner and Sternberg, 1985). Tacit knowledge

often manifests itself as hunches, gut reactions, or "sixth senses." Decision makers often report that a course of action "just feels right" or "seems appropriate for some reason." For experienced decision makers, then, tacit knowledge might be manifested as a type of intuitive insight or "thinking in practice," drawn from their considerable understanding of the world's natural relationships (Scribner, 1986).

Strategic Decision-Making

Modern managers are required to process a great deal of information as they attempt to reduce uncertainty and strive to make more informed, more appropriate, and more timely decisions to guide their organizations (Galbraith, 1977; Rajagopalan, Rasheed, and Datta, 1993). Strategic decision-makers are required to absorb, process, and disseminate a wide variety of unstructured, complex, and often conflicting information from both within and outside the organization. At the upper levels of organizations, clear solutions do not regularly present themselves, and the information field is unclear, messy, and equivocal (Daft and Lengel, 1986; Daft and Weick, 1984; Mason and Mitroff, 1981; Weick, 1979). Decision support models do not offer sufficient understanding about or structuring of these decision

scenarios, for many issues are fuzzy and ill-defined (Schwenk, 1984).

Feldman and March (1981), Mintzberg, Raisinghani, and Theoret (1976), and others point out that managers operate within an unstructured but information-rich environment. Decision-makers who can process and incorporate quality information and insight into their deliberations will almost certainly arrive at better decisions and instigate more appropriate organizational action (Daft and Weick, 1984; E. Harrison, 1987). For this and other reasons, top managers have realized the need to work together in groups to address strategic problems (Milliken and Vollrath, 1991; Prahalad and Bettis, 1986; Thomas and McDaniel, 1990; Walsh and Fahey, 1986). A board of directors is often considered a special case of the top management decision making group (Rindova, 1994).

The Board of Directors and Their Contributions

Over the years, there has been great debate as to the degree to which directors can contribute to the success of the organization. Many theorists have argued corporate governance issues (Rindova, 1994). Some claim that insiders (managers) dominate outsiders due to their incumbency and accumulated power and knowledge (Mace, 1971; Vance, 1964).

Many argue that insiders are best equipped to navigate and make sense of the decision domain. Others argue from an agency theory perspective that outsiders should serve as a system of checks and balances to protect shareholders from self-interested insiders (Fama and Jensen, 1983). Some report that outsiders are able to add more objective, broader insight as part of the decision process (Lyles and Schwenk, 1992).

It seems clear that prior work has not sufficiently explored the substantive contributions to the shared cognitive map and resulting decisions provided by boards. In highly competitive environments, boards are emerging as decision tools for management. The board has become a vital resource in that they take important action and direct management in such a way that the company can adapt to important environmental changes (Goodstein et al., 1994; Judge and Zeithaml, 1992; Tashakori and Boulton, 1985; Worthy and Neuschel, 1984; Zahra, 1990).

Insiders and outsiders obviously possess very different knowledge structures, the mental templates that are imposed on information environments to give them form and meaning (Baysinger and Hoskisson, 1990; Fiske and Taylor, 1991; Lyles and Schwenk, 1992; Patton and Baker, 1987). Some theorists have argued that insiders possess more and better information about the intricacies of the company and should

be able to contribute much more valuable input to the deliberations. It seems absolutely incumbent upon insiders to provide this early "sense-making" interpretation of the decision space. Insiders are argued to have a superior foundation of knowledge and understanding, and the cognitive ability to understand the "complex causality" of the firm's internal and external relationships. It is less clear how influential the use of intuition will be for insiders, but they may be expected to provide crucial intuition and tacit input concerning the firm and the firm's industry based on their considerable experiences.

Other theorists and practitioners have called for more outsider representation in board decision processes. The general assumption is that outsiders provide more objective oversight and checks on the strategic decision process than do insiders. Pearce and Zahra (1992) are quick to point out that outsiders are recruited for strategic purposes because of their general expertise as well as their expertise in particular domains important to the firm (say as a supplier, customer, or consultant). Pearce (1983) reports that outsiders are valuable as contributors of information and insight about the external environment. He notes that outsiders are intended to be boundary spanners, and the principal intention of outsider nomination is to increase the firm's environmental awareness and sensitivity. Judge

and Zeithaml (1992) add that outsiders are often true generalists with a variety of knowledge and "seasoning" which might be of value to the board. They provide "strategic oversight" of the reports and opinions presented and discussed by insiders (Judge and Zeithaml, 1992). It seems clear that outsiders are valuable for clarifying, commenting upon, checking, and even enlarging and expanding the analysis provided by insiders.

This dissertation goes one step further to suggest an interesting complementary relationship (Blattberg and Hoch, 1990; Nonaka, 1994) between insider and outsider contribution. Briefly stated, it is argued that insiders should generally create an educated, well-analyzed, "preliminary prospectus" decision (foundation and starting point) based on the considerable information generated and interpreted by the management and staff of the firm. This information may take the form of oral and written reports, as well as the considerable explanations and discussions which accompany efforts to inform the board. This "prospectus" briefing is met with "perspective broadening" insight from outsiders. This "perspective" serves mainly to broaden and strengthen the "prospectus" foundation. This general reaction consists largely of interpretation, commentary, off-the-cuff reactions, questioning, and further refinement. Outsiders may share experiences they have had

with similar circumstances. Do the more knowledgeable insiders provide the foundation on which the final decision is built? Does the final decision benefit from the considerable general input and questioning of outsiders? Is analysis and "hard information" intermingled with intuitive input in a way that is complementary and aids the decision process? Other potentially complementary relationships are noted and discussed, but current literature can not suggest expectations for these results.

Methods: A Two-Part Exploratory Study

The questions asked in this study are answered using two different but complementary research methods: a set of objective measures administered to a broad cross-section of board members and a more detailed qualitative observation/description of the deliberations of two boards (on two occasions). Most of what is learned in this research emerges from a cross-sectional inquiry of 59 bank boards in the Southern state of Alabama. To enrich understanding, the author has qualitatively observed, audio recorded, and described two actual bank board meetings for each of two banks. One bank was chosen based on the fact that it was performing well and was posting excellent composite performance figures. A bank which was not

performing quite so well also was chosen. The proceedings and interesting observations are described in detail in narrative form. The inputs and behaviors of individual members have been characterized and classified in order to draw conclusions quantitatively with regard to the board proceedings. Can differences in performance be explained by differing patterns of behavior in board meetings? The methods are further detailed in Chapter 3.

The objective results in conjunction with the richer, qualitative description of two diverse cases provide very valuable insight on how board members contribute to strategic deliberations. The intention has been to provide a better understanding through "triangulation" (Jick, 1979). The two methods (objective scales and qualitative observation) each add insight to the research questions asked in this study.

Importance and Structure of this Dissertation

This dissertation makes several contributions to understanding the involvement of boards in decision processes and the direction of management. First, it helps to uncover and define the decision-related contributions of insiders and outsiders to the board deliberation process. Essentially, board members have been given little advice

with regard to "what they should provide" in the board decision deliberations. Researchers need to develop a solid relationship between certain decision styles and behaviors and actual board/organization performance. The findings direct managers and facilitators on what contributions should be sought, encouraged, and emphasized from particular directors. The findings tend to inform directors of their most valuable inputs and can direct them as to what sorts of inputs upon which they should concentrate. It also may indicate that directors should sometimes remain silent and let others offer input. Overall, this study attaches a meaningful distinction and dynamism (information processing style) to the long-lived discussion of insider versus outsider contribution.

The dissertation also contributes by considering the board to be a strategic decision making group. A key point made is that board members can work together and actually build knowledge and insight in the board setting. The board as a group can be a valuable resource for the company, above and beyond the value of individual members. The literature review and findings also enhance the legitimacy of considering intuition and tacit insight in strategic decision processes. This softer form of processing appears very appropriate in strategic settings, and should add insight to the dynamics of strategic processes. Intuition

has been dismissed by some as a "soft" method, with no value to strategic managers. Such dismissal appears unwarranted.

Overall, this dissertation tends to strengthen researchers' understanding of board decision processes. This research considers in large degree the influence of cognition and cognitive capacity and ability. Such consideration certainly strengthens the typically shallow studies of boards contributed by earlier research. This research presents a more theoretically sound and richer understanding of the directorship.

This first chapter provided a brief overview of the theory which guides this dissertation, the empirical questions to be asked, the methods used, and the general contribution of this dissertation. The next chapter reviews the literatures more thoroughly and develop more completely the theory which guides this work. The second chapter also formally proposes the research questions subjected to empirical study. Chapter 3 describes the sample and methods used to measure and test the questions and model presented in Chapter 2. Chapter 4 presents in thorough fashion the results of the cross-sectional study. Chapter 5 is included to provide discussion of the qualitative observations conducted on the two subject banks. Chapter 6 discusses the conclusions and implications of these findings to decision making in practice and to future research on the decision-

related deliberations by boards of directors. This final chapter also presents the numerous and considerable limitations of this exploratory study and how future research on boards can utilize and expand upon these findings.

CHAPTER 2

LITERATURE REVIEW, THEORY DEVELOPMENT, AND RESEARCH QUESTIONS

Overview

This chapter first presents a review of the extant literature on decision making, information use, and management at the higher levels of organizations. The main point presented is that decisions at this level are unstructured, ill-defined, and not easily modeled. Inherent in the discussion is the assumption that decision makers can do a number of things to aid their understanding and interpretation of the environment and the company, and to improve the patterns of decisions they must make to remain effective (Child, 1972; Daft and Weick, 1984; Schwenk, 1995; Thomas, Clark, and Gioia, 1993; Weick, 1979).

Next, the board literature is reviewed, with special emphasis placed on board involvement in strategy and decision making. The focus is on the recent trend toward better utilization of boards as positive assets in the creation and formation of strategic actions (Judge and

Zeithaml, 1992; Pearce, 1995; Pearce and Zahra, 1991). Emphasis also is placed on the debate whether insiders or outsiders are able to make more substantial contributions to company direction and performance (Baysinger and Hoskisson, 1992; Rindova, 1994).

Next, the literature on tacit understanding and intuition is reviewed. Theorists and practitioners are realizing the efficacy of intuition and experience-based know-how, in addition to more traditionally accepted systematic analysis of information. The former approach appears especially helpful in the ill-defined, ambiguous decision scenarios where top managers find themselves. Emphasis is placed on the existence of two types of processing (analytical versus intuitive), and the implications of these dual processing types to understanding boards, board cognition, and the decisions that are made.

Portions of these literatures are then synthesized in an effort to develop very important and interesting additional insight, as well as testable exploratory research questions. The answers to these questions should be of great value to theorists and practitioners alike, providing important insight on how boards operate and how they can possibly operate more effectively. The introduction of information processing and decision style appears to strengthen the conclusions drawn by past board researchers.

The Nature of Strategic Decision-Making

Bass noted (1983) that organizational decision making is an important aspect of organizational life. He characterizes managerial decision making as a messy rather than orderly process, particularly if the problems are ill-structured rather than well-structured. Indeed, modern strategic managers are required to process a great deal of information as they attempt to reduce uncertainty and strive to make more informed, more appropriate, and more timely decisions (Bateman and Zeithaml, 1989; Frederickson, 1983; Galbraith, 1977; Rajagopalan, Rasheed, and Datta, 1993; Schwenk, 1995; Wally and Baum, 1994).

Decision-makers at the upper levels of modern organizations are routinely required to absorb, process, and disseminate a wide variety of unstructured, complex, and often conflicting information emanating from the firm and from the firm's environment (Daft and Macintosh, 1981; Lyles and Schwenk, 1992; Ungson, Braunstein, and Hall, 1981; Weick, 1979). Strategic decision research indicates that decisions evolve through a complex, non-linear, and fragmented process. The conflicts increase as individual biases, group interactions, and organizational routines all introduce uncertainties and complexities. Further, at the upper levels of organizations decisions often have no

precedent or guide and are often not easily modeled or analyzed (Daft and Weick, 1984; Daft and Lengel, 1986; Dean and Sharfman, 1993; Mason and Mitroff, 1981; Weick, 1979). Decision support models do not offer sufficient understanding about or structuring of these decision scenarios, for many issues are fuzzy and ill-defined (Schwenk, 1984).

According to Cohen, March, and Olsen (1972), the interpretation of data cannot be fixed or routinized as in lower level systems. As Mintzberg, Raisinghani, and Theoret (1976) and Feldman and March (1981) point out, upper-level decision environments are information-rich, but the use of information is not consistent with a simple application of rational decision models. Often, much more information is gathered than can be used effectively (Feldman and March, 1981; O'Reilly, 1980). March and Simon (1958), Cyert and March (1963), and other bounded rationalists point out that even though information is richly available, managers have boundaries on their capacity to absorb and process the available information. Decision-makers who can, however, process and incorporate quality information and insight into their deliberations will almost certainly arrive at better decisions and instigate improved organizational action (Daft and Weick, 1984; E. Harrison, 1987; Shoemaker, 1993).

The Importance of Interpretation

One challenge is to capture and control a working knowledge or "interpretation" of both the internal and external environments of the firm. Daft and Weick (1984), for example, note that organizations go to great lengths to develop useful interpretations of the organization and its environment. They argue that successful development of a useful interpretation oftentimes determines the level of success an organization enjoys. A thorough interpretation is a holistic cognitive map, with considerable information incorporated into an overall understanding of the firm and its environment. Prahalad and Bettis (1986) argue that the "dominant logic" or shared understanding that develops determines the range of potential organizational actions and influences the ability of the management team to develop appropriate strategies.

Some have argued that every organizational activity or outcome may be contingent on the quality and detail of top management's interpretation activities (Thomas and McDaniel, 1990). The collective mind developed by the top management benefits from diverse insights and information. Among top managers, an information coalition is formed, new understandings are developed, and meaning is given to the varying observations about the world (Lyles and Schwenk,

1992; Prahalad and Bettis, 1986; Schwenk, 1995). These interpretations will preferably add new insight to the decisions of top managers. Daft and Weick (1984), for instance, conclude that organizations that conduct complex and thorough interpretation activites are typically learning organizations, with innovative and novel approaches to firm management.

Of course, the comprehensiveness of these interpretation activities typically must be tempered or moderated by the need to make rapid, timely decisions among quickly changing environmental forces (Eisenhardt, 1989; Eisenhardt and Bourgeois, 1988; Wally and Baum, 1994). These authors concede, however, that even in the most volatile environments, effective decision teams allow time and resources for considerable interpretation activities and perspective sharing.

Decision Groups and The Top Management Team

It appears that managers can aid themselves in this difficult and conflicting undertaking in a number of ways. Managers typically recognize the old adage that "two or more heads are better than one." Recently, Levine, Resnick, and Higgins (1993) observed that in the field setting, cognition and decision-making in organizations is generally

collaborative. We consistently recognize that top managers work together in groups to address strategic problems (J. Harrison, 1987; Milliken and Vollrath, 1991; Prahalad and Bettis, 1986; Thomas and McDaniel, 1990; Walsh and Fahey, 1986). As Schweiger, Sandberg, and Rechner (1989) note, the complexity, dynamism, and ambiguity of strategic problems routinely overwhelm the knowledge base of any one individual. Each participant in a decision-making group contributes unique knowledge and a varying perspective, shared through group discussion. The quality and complementarity of these varying perspectives, and the degree to which they can be identified and shared, are argued to be the key determinants of decision-making success (Bourgeois, 1985; Milliken and Vollrath, 1991; Prahalad and Bettis, 1986; Schwenk, 1995).

Moreover, people gathered together to make decisions appear superior to individuals working alone because the greater numbers and division of labor allow for greater coverage in identification of issues and subsequent information searches (see Fisher and Ellis, 1990; Milliken and Vollrath, 1991). Multiple perspectives and the synergy that develops also may increase the level of creativity in process, thereby increasing the number and quality of alternatives and the quality of the ultimate decisions. The use of groups, then, enables the management team to process

more information and to overcome the well-known limitations associated with information overload and bounded rationality (March, 1981; Simon, 1976).

Concern has been raised over the years by researchers interested in the importance of group diversity and the need for "assumption challenging" in decision making (Bourgeois, 1985; Mason and Mitroff, 1981). Until recently, consensus had generally been viewed as the optimal outcome of the decision process among top managers because it typically leads to commitment, agreement, and enthusiasm (Bourgeois, 1980; Dess and Origer, 1987; Schwenk and Cosier, 1993). Janis (1972; 1982) and others were influential in pointing out the need for diversity, questioning, dissent, and realistic appraisal. Janis' concept of "groupthink" was one of the conceptual underpinnings for the recent interest in heterogeneity and diversity in managerial groups, which has held that diversity of viewpoint is related to decision quality (Bantel and Jackson, 1989; Schweiger et al., 1989).

Thus, it appears that many and varied opinions and perspectives are to be valued, especially if they can be incorporated into the group process in a civil and socially acceptable manner. With more and varied information, the positive aspects of management's internal and external interpretations are enhanced. For example, Thomas et al. (1993) found, interestingly, that an external interpretation

orientation in management leads to higher sales and profitability while internal orientation in management leads to better capacity utilization. It seems logical to question whether the two orientations could be effectively melded in order to provide balanced emphasis.

Considering group dynamics from a cognitive perspective seems to be very valuable. Because it is so common to rely on groups to make important decisions, a number of writers have attempted to examine knowledge structures which are formed when many individuals are placed together. When one brings many people together, each with their own knowledge structure about a particular information environment, an emergent collective knowledge structure is formulated (Langfield-Smith, 1992; Reger and Huff, 1993). The knowledge structure functions as a mental template that, when imposed on an information environment gives it form and meaning, and in so doing, serves as a cognitive foundation for action (Fiske and Taylor, 1991; Lyles and Schwenk, 1992). Studying cognition at this level truly becomes a consideration of social cognition. According to Hambrick and Mason (1984), Walsh and Fahey (1986), Prahalad and Bettis (1986), and others, the group approaches a decision issue and information is believed to be acquired, retained, and retrieved within the parameters set by the group level knowledge structure. Social processes, personalities,

power, and political processes will, of course, influence the nature of this socially formed, group-level knowledge structure (Langfield-Smith, 1992; Levine, et al., 1993).

The clear mandate is to learn more about how different information and perspectives enhance the interpretation activities of management. Do the decision-making processes of key organizational groups have an influence on the ultimate success of a company. Strangely, researchers looking at boards of directors have not sufficiently applied social cognitive understanding to their research approaches. It would seem valuable at this point to attempt a better understanding of boards of directors through consideration of these more cognitive issues. First, a thorough review of the board literature is appropriate.

The Board of Directors

Many writers proclaim that boards of directors have emerged as a vital component in the strategic management of organizations (Boulton, 1978; Henke, 1986; Judge and Zeithaml, 1992; Worthy and Neuschel, 1984). With increases in lawsuits, proxy fights, and other turbulent events, organizational stakeholders such as government agencies and large stockholders are demanding more board involvement in strategic decision making and the strategy process (Judge

and Zeithaml, 1992) Management also is actively seeking out and demanding more strategic direction and input from the company's board (Judge and Zeithaml, 1992; Pearce and Zahra, 1992).

Boards appear to play a significant part in the management of firms, especially smaller firms where management teams are not as proficient and elaborate. The board can take important action and can direct and advise management in ways that allow the company to adapt to important environmental changes (Daily and Dalton, 1994; Goodstein, Gautam, and Boeker, 1994; Rosenstein, 1987). It is inherently clear that boards of directors contribute to the strategic direction and fortunes of the organization (Andrews, 1981; Daily, 1995; Judge and Zeithaml, 1992; Tashakori and Boulton, 1985; Worthy and Neuschel, 1984; Zahra, 1990). Researchers therefore have a clear and pressing mandate to better understand board involvement in strategic management.

Board research was described earlier as rather shallow, not considering the complex cognitive processes at work. In addition to this limitation, the board literature also has been fraught with debate and uncertainty. Though it is recognized that debate can be constructive, it is easy to agree with Pettigrew (1992, p. 172), who describes the research on corporate boards as "a body of work which hardly

exists in a meaningful sense."

Early research was dominated by a debate between the managerial dominance and agency theory perspectives. With both perspectives, board effectiveness was thought to be strangled by power struggles, conflict, and problematic relationships between ownership and management (Zald, 1969). The managerial dominance perspective proposed that boards are ineffective governing structures because they are controlled by incumbent managers. Agency theory maintains that boards should effectively exercise control over managers in the interest of shareholders. They form a part of a system of checks and balances in organizational ownership.

Rindova (1994) writes that it might be fruitful for researchers to consider these two views as a dialectical sequence. The thesis can be that managers dominate directors and the antithesis can be that directors control managers. If researchers think in this way, one could logically anticipate a more informative synthesis, that directors and managers can work together toward organizational success. For example, Boulton (1978) predicts a general evolution of boards' functions from legitimizing, to auditing, and ultimately to productive directing and advising.

Andrews' (1980) work also suggests that managers and

directors should work cooperatively in strategic planning. First, directors are able to contribute a great deal because they can offer a variety of experiences, points of view, technical and general knowledge, and quality judgement. Second, directors can perform better as monitors if they are in tune with the strategic direction of the company, which serves as a frame of reference.

Current discussions have taken these more productive observations to heart and concern the relative contribution to organizational success of insider and outsider representation on the board (Baysinger and Hoskisson, 1990; Daily, 1995; Patton and Baker, 1987). The key question has been whether the very different sub-groups of the board productively contribute to board and organizational success. To date, researchers have unfortunately made few solid conclusions as to the effectiveness of board members in aiding management. In this researcher's opinion, the only solid conclusion is that insiders and outsiders can both be valuable, but in different ways (Goodstein, Gautam, and Boeker, 1994; Zahra and Pearce, 1989).

Research needs to go further to identify the manner in which each are valuable to instructing or advising the important decisions and managerial action of the modern organization. Such identification efforts would likely be more fruitful if sufficient attention is given to the

cognitive and group processes at work in board meetings.

Insider Involvement

Some theorists have argued that insiders possess more and better information about the intricacies of the company and should be able to contribute more valuable input to the deliberations (Mace, 1971; Mizruchi, 1983; Waldo, 1985; Vance, 1964). Insiders are defined by Cochran, Wood, and Jones (1985) as members who are current or former employees of the firm or who are closely affiliated with the firm and its operations. Logically, inside directors have a better foundation of knowledge, insight, and understanding about the company and its task environment. They are expected in board meetings to inform outsiders of the current situation through formal reports, explanatory comments, overviews, and clarifications (Mizruchi, 1983; Pearce and Zahra, 1991; Pearce and Zahra, 1992).

Insiders are argued to know more about the decision situation because they are involved full-time in the processes surrounding that situation. They have a fuller understanding of the content and context of their organization, mainly due to their working within the organization and environment on a daily basis. In addition, they have at their disposal the entire organization: its

staff, its data bases, its scanning mechanisms and boundary spanning units, its computer technology and decision models, its collective experiences in the business, and its goals and objectives (Baysinger and Hoskisson, 1990; J. Harrison, 1987; Pearce and Zahra, 1991). Insiders should then be expected to contribute in a major way to the board deliberations, for they contribute the reality on which the board bases its decisions. If they do not, then problems will certainly arise.

With such knowledge available to board insiders, it would appear appropriate, if not mandatory, for insiders to brief the entire board on the firm's considerable surveillance, data collection and analysis, formal analysis, and educated calculations about the firm, the environment, and the decisions at hand.

Insiders appear to have a more complete working knowledge of what can be termed the "complex causality" of the firm, which involves extremely complex causal relationships among both internal and external factors. To understand and diagnose such a complex system as an organization, an individual must have a highly developed knowledge structure of the various relationships among and between internal factors such as production and marketing and external factors such as customers, advertising, and competitors. Insiders have been exposed to these

relationships daily for years and are better able to understand the various implications of all these factors.

Outsiders are no doubt eager to hear the reports and explanations by insiders on the status of the firm and its relationship with the environment. They must be "brought up to speed" on these issues (Zahra, 1989). Outside members are generally regarded as important guardians of stakeholder interests, providers of strategic oversight, and contributors of perspective and approval/disapproval in reaction to the analysis of insiders (Baysinger and Hoskisson, 1990; Daily, 1995).

Several writers, however, have serious reservations about heavy outsider involvement in the decision processes. Most argue that insiders should shape the primary premises behind a major decision and allow outsiders to merely check and approve management actions. Patton and Baker (1987) note, for example, that outsiders are charged with managing their own businesses and doing their own jobs, and they may serve on several boards. They likely lack the necessary understanding of the network of "complex causality" mentioned earlier, and they may be unable to offer very much valuable input to the specifics of the situation. An outsider's attempts to understand the complexities of the organization may be viewed as an unecessary waste of valuable time and effort. Anecdotal evidence and the

author's personal experiences suggest that many insiders are burdened and stifled by overzealous outside members. Several authors over the years have logically argued against a board's "micro-managing" of the firm (Pfeffer, 1973; Tashakori and Boulton, 1985; Zald, 1969). Judge and Zeithaml (1992) argue that from a strategic choice perspective (Child, 1972), one must consider that insiders constitute a much more informed perspective, and that outsiders should merely provide objective monitoring and overview on behalf of stockholders. Moreover, in the board deliberations themselves, it would appear that insiders should serve as informed discussants of the company, its environment, and its strategic direction (Baysinger and Hoskisson, 1990). Their responsibilities to the board are enormous.

Outsider Involvement

So what do outsiders contribute to strategic deliberations above and beyond the contributions of insiders? Traditionally, outsiders have been viewed as providing a mechanism for, among other things, preventing agency costs for owners caused by opportunistic agents (Baysinger and Butler, 1985; Fama and Jensen, 1983), perpetuating the power and control enjoyed by the entire

class of ruling capitalist elite (Mills, 1956), and insuring steady and productive relationships with the environment and especially resource bases (Hambrick and D'Aveni, 1992; Pfeffer, 1973; Pfeffer and Salancik, 1978; Stearns and Mizruchi, 1993). Outsiders, then, have been viewed by the research literature as mechanisms for various types of control and insurance. Very little research has considered the unique contribution of outsiders to the strategy making process and strategic decisions.

A number of theorists and practitioners have called for more outsider representation on boards, and some even argue that they can contribute positively to strategy (Stearns and Mizruchi, 1993). Logically, the very act of checking and endorsing management's prospective decisions can serve to strengthen and improve the decision (Baysinger and Hoskisson, 1990; Fama and Jensen, 1983; Zahra and Pearce, 1989). A manager's "running it by the board" is analogous to letting a knowledgeable copy editor read a previously edited manuscript. Outsiders, at the very least, offer valuable experience, knowledge, and insight that "smooth out" and strengthen an existing plan of action.

For example, Heidrick and Struggles (1990) reported that the proportions of outsiders on the boards of the largest U. S. corporations had steadily increased throughout the 1980's. These authors assume that the increasing

complexity and dynamism of the general business environment is the major reason. Judge and Zeithaml (1992) and Daily (1995) feel that outsiders provide more objective oversight of the strategic decision process than do insiders. They report that outsiders think critically about the proposed policies and decisions and offer their sincere reactions. These authors argue that outsiders offer a "fresh perspective and attitude" to an already thoroughly considered situation. Often the reactions by outsiders raise second thoughts, serious concerns, and reservations.

Some research calls for substantial outsider involvement as a way to improve organization performance. For instance, Daily (1995) found that boards with heavy outsider representation were better able to make the changes necessary to pull a company out of a decline pattern and even bankruptcy. Daily argues that inside directors provide no additional resources to the firm in terms of expertise and external contacts beyond those associated with their management roles. Other researchers point out that outsiders offer more varied perspectives and are more willing to question and monitor the actions of management (Hambrick and D'Aveni, 1992; Patton and Baker, 1987).

Pearce (1983) and Zahra and Pearce (1989) report that outsiders are viewed as valuable contributors of information and insight about the external environment. They are seen

as outstanding boundary spanners, and therefore a principal intention of outsider nomination is to increase the firm's environmental awareness and sensitivity. Pearce emphasizes that outside board members are regarded by management to reflect the orientations of claimants in the external environment and that they are depended upon by businesses as a basis for improving strategic performance. Pfeffer and colleagues also have argued over the years that outsiders help to maintain relationships with the outside world, providing key resources and information to the organization.

Judge and Zeithaml (1992) add that outsiders are true generalists with a variety of knowledge which might be of value to the board. Most are highly experienced in a number of domains, likely having served on a variety of boards and advisory committees, community development groups, and other organizations. The people who serve as outside directors are generally heavily involved in the business community and are constantly exposed to the general business environment and climate (Andrews, 1981; Zahra, 1990; Zahra and Stanton, 1988).

These authors agree that the varied perspectives, the differing set of interests and agendas, the large collection of crucial and varied experiences, the plethora of valuable environmental information, and the unbiased objectivity makes the group of outsiders a valuable but under-utilized

strategic resource. Managers are encouraged to seek opinion, insight, and commentary on important strategic issues based on this unusually rich stock of knowledge.

Further, Boulton (1978) mentions that outsiders are generally good "question askers." Outsiders are well-equipped to recognize key strategic points, question and clarify, and then offer a well-educated opinion and perspective on the issue at hand. Kosnik (1990, p. 138), notes that diversity among board member backgrounds "may promote the airing of different perspectives and reduce the probability of complacency and narrow-mindedness in a board's evaluations of executive proposals," offering a wider range of possible solutions and decision criteria for strategic decisions. Finally, Henderson and Nutt (1980) and Wally and Baum (1994) stress the benefit of decision makers who can holistically and intuitively "overview" the decision scenario and add insight drawn from experience.

Moreover, outsiders on the board give the company an opportunity to bring together, at once, a host of varied perspectives on business and on the company itself. Outside board members offer a host of experience and insight, and can be truly valued and prized as wise advisors. They likely ask many questions and contribute varying perspectives that allow inside management to see, to borrow the old colloquialism, "the forest for the trees."

Knowledge Contributions and Roles

Rindova (1994) has taken an important first step toward the anticipated synthesis of perspectives with some key observations concerning the roles, rather than the motives, of directors. She notes (pp. 12-13) that...

> 1. Directors and managers share responsibilities for a firm's strategic choices. Managers generate alternatives and directors select from among those alternatives. Managers put the chosen alternative into practice and directors evaluate their outcomes.
>
> 2. The purpose of separating decision-making tasks is to preclude any individual agent from exercising exclusive rights over certain decisions. Decision agents can be involved in the management of some decisions and the control of others. Consequently, this division of decision responsibilities functions as a guarantee against concentration of decision authority in one person, rather than as a (cooperative effort of) managers and directors.
>
> 3. (Two kinds of efficiencies are achieved): decision efficiency by delegating decision responsibility to an agent who commands relevant knowledge, and agency cost reduction, by providing a system of checks and balances. It follows that using critical information, decision skills, and other valuable resources embodied in individual decision makers, managers, and directors alike, is the primary source of benefits to the owner.
>
> Finally, directors' involvement in strategy does not impede their control function. On the contrary, their involvement allows them to protect shareholders' interest through the early stages of problem formulation and definition of a decision situation. Hence, boards are responsible not only for monitoring managers, but also for assisting them in discovering and selecting profitable strategic alternatives.

The processing style of directors and the information used by them appears to be of value here. Some members may (or possibly should) draw from and utilize as much hard data and analytical information as possible and incorporate it into their decision-related insight. These individuals may utilize more analytical techniques for information processing. Other members may (or possibly should) rely more on their immense stock of experience and depend on "softer" modes of deciding and knowing. For many board members, it would be very difficult to conduct highly analytical, thorough decision analysis. Researchers have argued that "gut reactions," hunches, and intuition can be very valuable decision tools for individuals who have amassed extensive experience and who have logged a great deal of interaction within a general domain (Hitt and Tyler, 1991; Isenberg, 1984; Mitchell and Beach, 1990; Wagner, 1987). There is a need for better understanding of how these processing styles and forms of input contribute to board effectiveness.

Tacit Knowledge and Intuition

Introduction and Definition

It seems beneficial at this time to consider research on different types of knowledge and processing. First,

tacit knowledge can be conceptualized as an idiosyncratic, subjective, highly individualized store of knowledge and practical know-how gathered through years of experience and direct interaction within a domain (Nonaka, 1994; Polanyi, 1958, 1962; Spender, 1993; Sternberg and Wagner, 1986; Wagner, 1987). Experience makes people aware of very strong underlying patterns that transcend a wide variety of decision scenarios. Experience is integrated, actions become second nature, and collected impressions guide action through scenarios, scripts, and group cognitive maps, which are often below the consciousness of individuals and groups.

Hitt and Tyler (1991) suggested that executives' experiences may combine in a very complex and even unique way as cognitive models are developed for the purposes of making strategic decisions. When decision makers utilize tacit knowledge, they experience an automatic, nonconscious process that draws upon experientially established cognitive structures. These cognitive structures are schemata or knowledge structures formed from abstractions of experience that simplify, but may bias, strategic decision making (Hitt and Tyler, 1991; Wally and Baum, 1994).

Tacit knowledge, sometimes referred to as practical or intuitive understanding, is learned independently of direct instruction. Individuals are often not able to articulate tacit knowledge directly. Someone may not be able to

articulate why they "know" something to be a certain way. Webster's Dictionary notes that "tacit" means expressed or carried on without words or speech. Tacit know-how is implied or indicated but not actually expressed. Possibly for this reason very little applied behavioral research, such as decision research or organizational behavior research, has sufficiently considered the impact of tacit knowledge in business decision settings.

Background

The concept of intuitive processing is not new by any means. Barnard's (1938) classic work provided an early and helpful articulation of the dichotomy of intuitive versus analytical processing and knowing. The central idea of his essay, an appendix to his classic *Functions of the Executive*, was to contrast what he called "logical" and "nonlogical" processes in decision making. Barnard noted that at that time, like today, there is debate as to the proper means by which decisions should be made. Barnard argued that a "logical process" was characterized by conscious thinking which could be expressed in words or by other symbols. By this, he meant analysis and reasoning. He contrasted this style with "non-logical processes," which he defined as those decision processes that could not be

expressed in words or as reasoning. These processes, he noted, could only be made known by a judgement, decision, or action. Barnard's thesis was that managers do not often enjoy the luxury of making their decisions on the basis of orderly rational analysis, but depend largely on intuitive or judgemental responses to decision-demanding situations (Simon, 1987).

What is amazing about Barnard's essay is how closely his conceptualization is to current psychological understanding. For example, Barnard (1938, p. 302) writes that "the sources of these non-logical processes lie in physiological conditions or factors, or in the physical and social environment, mostly impressed upon us unconsciously or without conscious effort on our part." He adds that they also consist of "the masses of facts, patterns, concepts, techniques, abstractions, and generally what we call formal knowledge or beliefs, which are impressed upon our minds more or less by conscious effort and study." Barnard argued that this second source of non-logical mental processes greatly increases with directed experience, study, and education.

The idea of reliance on intuition stands in direct contrast with "formal" Western management practice and philosophy. Western education teaches students that formal thought, analysis, rationality are the key. What is

interesting is that managers will often indicate that they use intuition quite regularly, though they tend to think that formal analysis would or should be better (Agor, 1984). Isenberg (1984) reports that managers are plagued by a perceived "inconsistency" between their view of how they are "supposed to" think and the thinking processes that, through experience, they have learned are actually quite effective. Behling and Eckel (1991) note that American managers are taught that "big dumb decisions" can be avoided through good research, analysis, and budgeting. Typically, the decision process is taught based on a mode of rational, logical positivism where decision makers are implored to formally analyze as much as possible, produce quantifiable targets and forecasts, and plan and research whenever feasible.

But decisions in organizations, especially at the higher levels described earlier, are believed to draw heavily on tacit knowledge, an experience-based but nonquantifiable "feel" for a situation. The general thinking is that both types of processing are necessary, with many writers observing that top-level managers need numbers and analytical insight, but that the path to a successful decision almost always involves a daring intuitive leap (e.g. Agor, 1986a, 1986b, 1986c, 1989; Eisenhardt, 1989; Isenberg, 1984; Mintzberg, 1976; Taggart and Robey, 1981; and Walley and Baum, 1994).

Tacit Knowledge in Practice

Tacit knowledge is generally thought of as "practical intelligence" or know-how about the "real world" (Sternberg and Wagner, 1986; Wagner, 1987; Wagner and Sternberg, 1985). It can be thought of as a personal competence or a private "thinking in practice" (Rowan, 1986; Scribner, 1986). Scribner, for example, notes that expertise lies in one's ability to understand in detail not only the problem, but also the problem's environment and relationships. She notes that such knowledge allows a problem solver to formulate the problem in a way that reflects optimally the context and its possibilities.

Intuition is particularly useful for making major decisions in management climates where certain characteristics prevail. Agor (1986a) advocates reliance on intuition when there is a high level of uncertainty, when there is little precedent, when variables are not scientifically predictable, when facts are limited, when facts do not make clear which solution is appropriate, when time is limited, when several alternative seem plausible, and when the cost of failure is large. Intuition is not magic and is, despite criticism to the contrary (see Kleinmuntz, 1990; Meehl, 1954), much more than a "glorified guess."

Agor (1986a) notes that intuition is a subspecies of logical thinking, one in which the steps of the logic process are hidden in the subconscious portion of the brain. At any given moment one is conscious of only a small portion of what one knows. As Polanyi (1966, p. 4) put it, "we can know more than we can tell." Simon (1987) offers a somewhat different but none-the-less appropriate view of intuition and tacit knowledge when he argues that intuition is a highly efficient though complex analysis that has been "frozen into habit."

Intuition can be considered one's ability to access their private and shared collection of knowledge or "model" of the world. There is some debate as to the degree to which this ability can be developed and improved. Some argue intuitive abilities to be closely related to a personality type which is very stable. This view is prevalent in the Jungian psychological typology (see Myers, 1980).

Others claim that job characteristics or situational factors compel management practitioners to call upon and subsequently develop and improve their intuitive abilities (Agor, 1986b; Behling and Eckel, 1991; Wally and Baum, 1994). In top-level decision environments, this ability is certainly an asset and has been shown to be valued by top managers (Simon, 1987; Agor, 1986a, 1986b, 1986c; Eisenhardt

and Bourgeois, 1988). For example, Agor (1984) found that top managers always score higher than middle and lower level managers in their abilities to use intuition to make decisions on the job. Agor (1986b, 1986c) reports that top managers have learned to make decisions more quickly by trusting their softer "gut reactions."

The Use of Intuition and Tacit Knowledge

It seems that there are at least two factors which determine the degree to which intuition and tacit knowledge can be used. First, there must be extensive exposure to one or more domains that will yield valuable experience from which intuitive feelings can be drawn. As Wagner (1987) points out, tacit knowledge based on experience also guides the individual on how to navigate through certain situations. Individuals learn which factors are most important, how certain actions will be perceived, how people will react, and how events will turn out.

Tacit knowledge allows individuals to limit the factors which they consider to be important in a decision. For example, Kirschenbaum (1992) found that experts took in data, systematically structured it into more easily managed and reliable sets, and discriminated more carefully among information used. Wagner and Sternberg (1985, p. 438)

likewise agree that "experts differ from novices primarily in what they know (i.e. knowledge that can be brought to bear on a task) and in how this knowledge is structured, rather than in general or specific aptitudes (i.e. underlying cognitive ability)." The research generally indicates, then, that good decision making draws from sound knowledge of the facts and considerations in conjunction with timely and proficient use of intuition and experience-based knowing.

It also appears that for people to utilize tacit knowledge, they need to be in tune with their extensive stock of experience-based knowledge. This intuitive access can be gained through one's natural propensities or can be developed over time through training or through practice. Agor (1986a) reports that in his exhaustive study of executives, he found that some people were just more intuitive than others. Much of the work on intuition as a personality trait views it as a fairly stable trait (Myers, 1980). This is, of course, reflected in the intuitive/ sensing portion of the Myers-Briggs Type Indicator.

Based on the work of Jung, this portion of the famous personality test measures whether people prefer to base their choices on tangible, measurable facts (sensing) or if they prefer to rely on hunches, inspiration, and insight to solve problems. A person's decision style will likely

relate strongly to this personality dimension.

Agor (1986b) insists, however, that people can be trained to become more intuitive and can, over time, improve their intuitive abilities. In fact, in his (1986a) book, he discusses an extensive training program that has successfully made several managers more intuitive. Agor (1986b, 1986c), Adair (1984), Isenberg (1984), and Behling and Eckel (1991) all agree that the situation in which the managers find themselves will determine to some extent how much intuition is used. In other words, managers become more and more able to rely on the promptings of collected experience when they find themselves in situations that do not allow for structured, analytical decision making.

Behling and Eckel (1991) observe that rarely do the poorly structured problems involved in leading, establishing policy, making strategic decisions, and developing a vision of the firm's ideal future lend themselves to the use of analytical models. They argue that managers, then, must turn to intuition in executive decisions.

Despite the compelling dialogue presented here, there is still overwhelming evidence that analysis, rational sensing and thinking, and careful weighing of available tangible evidence is of overwhelming value and absolutely necessary to sound decision making (see Blattberg and Hoch, 1990; Kleinmuntz, 1990). At the very most, one could agree

with Meehl (1954) that analysis and decision support data/models are always better than qualitative human judgement. At the very least, one must endorse the view of Taggart and Robey (1981) and others that dual-processing utilizing a combination of analysis and intuition is desired. The latter approach appears more promising, given the review thus far on strategic decision making. These ideas need to explored more thoroughly.

Theory Development

Insiders Versus Outsiders: Processing Styles

The first research questions relate to how the two important subsets of the board process information in the board meeting.

Research Question 1A: In board meetings, does a difference exist between inside directors and outside directors on the degree to which formal reasoning and analysis is utilized?

Research Question 1B: In board meetings, does a difference exist between inside directors and outside directors on the degree to which intuitive processing is utilized?

The first relationship explored here is the propensity of the two subsets of the board to process information in different ways. Though RQ1A is neutrally worded, it is expected that in board meetings insiders will generally be more analytical and factually-based than outsiders. Insiders and outsiders possess very different knowledge

structures and orientations. Inside directors, who have the company's operations, relationships, and goals ingrained within their mental framework, should be expected to provide a more analytical, formal set of decision rules based on internal surveillance, formal data, and analysis.

Insiders likely find it incumbent upon themselves to report, interpret, and understand the complex and ambiguous causality and relationships among variables. They have the cognitive ability to analyze, break down, and present the great mass of information generated by the organization. They also may realize, as explained earlier, that failure to coherently interpret decision-related information could be detrimental to firm success. It also seems that the insiders of bank boards, because they are bankers with financial backgrounds, will be far more inclined to consider the numbers, objective facts and data of the situation.

Past research bears out the contention that insiders should provide a more detailed, factual, well-grounded insight (Baysinger and Hoskisson, 1990; Rosenstein, 1987). As Hoskisson, Johnson, and Moesel (1994) point out, outsiders lack information about the day-to-day operations of the firm and to perform their governance and oversight duties, need access to rich, detailed information about the company and management's interpretation of the company's interaction with the environment. This information may be

built up by outsiders during board meetings, but only when insiders are present to provide information on the idiosyncracies of firm strategy and operations. As Baysinger and Hoskisson (1990) noted, insiders have access to this rich information by virtue of their positions and exposure to the intricacies of the firm's strategy.

It may even be argued that the primary danger for a board is that insiders are not prepared to perform a thorough briefing and explanation concerning the intricacies of company operations. If outsiders are to have any influence at all on the proceedings, it appears especially paramount for insiders to provide thorough insight on the company's situation.

Expectations are less certain with regard to research question 1B. As the literature has pointed out, executives are quick to utilize tacit, intuitive processing when interacting within their familiar domain. In fact, when making unprecedented, unstructured decisions, intuition and experience appear to be major tools. As many point out, the world of strategic decision making is characterized by great uncertainty, complexity, equivocality, and tumult. Should insider executives (insiders) not be expected to heavily utilize intuition as they continue to work in a domain of complexity and uncertainty? Will insiders not be expected to draw heavily from their extensive experiences in the

banking profession? It is very reasonable to expect executives to report heavy use of intuition. What is less clear is how insiders will compare to outsiders.

It seems that, given the review thus far, we might expect insiders to realize that the board situation demands analysis and explanation of the intricacies and details of the organization. Given their focus on analysis and factual explanation, and given the fact that one can only do so much, they may not use intuition as prevalently.

Tacit knowledge theorists (e.g. Wagner, 1987) argue that intuition and tacit knowledge are difficult to express and convey, something insiders are certainly expected to do in the board meeting. Insiders may find themselves having a good tacit understanding, but being unable to express their complete tacit understanding. They would have to explain more formally their perception of the situation at hand. It also seems that outsiders, due to cognitive limitations, lack of knowledge about data and information, and their assumed responsibilities of oversight and advising, will be relying quite heavily on intuition. For these and other reasons forthcoming, it is expected that outsiders will utilize somewhat more intuition in the board meeting than do insiders.

Contributions to Decision Quality

Pearce (1983) found that an accurate formal analysis of the firm's operations was related positively to firm performance. The pioneering study by Vance (1964) concluded that insiders contributed more information to the formulation of strategy and contributed more to overall decision success. Baysinger and Hoskisson (1990) agree that outsiders are not nearly as prepared as insiders to understand the complex causality of the firm, and are, at best, only able to make detached judgements about the internal operations of the firm and the quality of decision alternatives. In the industry studied here, banking, it appears that insiders will be much more prepared to provide indepth analysis of the firm's situation.

But outsiders are likely to have a great deal of general knowledge and insight that they can offer to the board's deliberations. They are likely to be seasoned business leaders who have been in close proximity over the years with a wide variety of unique business situations. Pearce and Zahra (1992) report that outsiders are recruited for strategic purposes because of their general expertise and well as their expertise in a particular domain important to the firm (say as a supplier, customer, or consultant). Judge and Zeithaml (1992) conclude that outsiders provide

"strategic oversight" of the reports and opinions presented and discussed by insiders. Outsiders ask good "questions." They react to the information provided by insiders, giving added perspective, commentary, and reaction. It seems clear that outsiders are valuable for clarifying, commenting upon, checking, and even enlarging and expanding the analysis provided by insiders. Outsiders bring a great deal of general knowledge to the table, largely related to the external environment, the ultimate judge of a decision's effectiveness. Some researcher conclude that outsiders on the board are a major reason why firms succeed and why firms are able to "turn around" poor performance (Daily, 1995).

The board meeting is argued to constitute a "strong" situation in which cues and expectations alert the board members over time as to the appropriate behavior for the situation (Davis-Blake and Pfeffer, 1989; Pervin, 1989; Schneider, 1983). This literature indicates that people are highly responsive and adaptive to organizational settings, especially when appropriate behaviors can be detected. Taggart and Robey (1981), for example, argued that successful managers must be prepared to process information in the style dictated by the situation and the information's availability. Managers must depend on the use of a full range of processing skills. They suggest a need for flexible, situationally dependent styles and strategies for

decision making. Board members should learn to adopt the appropriate role for the meeting. For example, insiders may be bombarded with demands from outsiders for interpretation and information about the company. Many questions are asked of insiders. Bylaws and institutional traditions certainly require lengthy, indepth reports from insiders concerning the operations of the company, and insiders normally preside over and lead board meetings. Insiders likely feel that outsiders are being paid to listen and comment upon the reports provided. Insiders are likely demanding input from outsiders, asking for their feedback on most situations.

Moreover, insiders are asked to set the decision premises, a "rough-draft" course of action based on a considerable amount of information, knowledge, and number crunching. This presentation might be considered a "prospectus preliminary decision," a starting point outsiders desparately need to jump-start their interpretation and consideration of the decision situation. Outsiders, unable cognitively to interpret the "causal complexity," will not be privy to the stock of knowledge about the firm accumulated by insiders and their staffs, but feel compelled to offer some significant input to the proceedings. This valuable contribution of outsiders will be referred to as "perspective broadening" input, consisting largely of questions, requests for explanation, broad

comments and general opinion, and ultimately approval or disapproval.

Research Question 2A: Does the degree to which inside directors utilize formal reasoning and analysis in board meetings influence the effectiveness of 1) the board, and 2) the organization? Is the relationship moderated by the level of board activity?

Research Question 2B: Does the degree to which outside directors utilize intuitive processing in board meetings influence the effectiveness of 1) the board, and 2) the organization? Is the relationship moderated by the level of board activity?

Research Question 2C: Does the degree to which inside directors utilize intuitive processing in board meetings influence the effectiveness of 1) the board, and 2) the organization? Is the relationship moderated by the level of board activity?

Research Question 2D: Does the degree to which outside directors utilize formal reasoning and analysis in board meetings influence the effectiveness of 1) the board, and 2) the organization? Is the relationship moderated by the level of board activity?

Does the degree to which insiders conduct and contribute analytical insight directly influence performance in a positive way? On the other hand, does the degree to which outsiders intuitively react to and broaden this insight influence performance positively? The answers to these questions are believed to be "yes." Though no expectations are explicitly presented concerning the research questions 2C and 2D, it will be interesting to see the influence of these other processing styles on

organization effectiveness. In other words, should board members attempt to maximize their analytical **and** intuitive inputs? If insiders are the key decision makers in the board setting, should we not expect them to contribute to success by also using intuition, which has been shown to be very effective for managerial decision making?

Overall, it has been suggested that insiders offer a "prospectus preliminary" analysis of the firm's general situation vis-a-vis a given decision scenario. This "prospectus" represents the significant surveillance, research, data, and analysis conducted by the insiders and the other members of the organization. The insiders must report this analysis to the board in great detail. This can be considered a type of briefing of the board, with the purpose to expose the board to explicit knowledge about the company. Insiders must perform this task, for outsiders do not have the time, the resources, nor the mental capacity or orientation. The idea of the insiders providing a "prospectus" also implies that insiders can effectively offer the wishes of top management to the board in an unobtrusive, non-threatening fashion. This is consistent with the literature on interpretation (Daft and Weick, 1984), sensemaking (Gioia and Chittipeddi, 1991), and the notion that insiders have a clear agenda of what actions are

necessary over time for company success, even though they are reluctant to freely share the agenda (Baysinger and Hoskisson, 1990).

Outsiders add experience-based, intuitive "perspective broadening" input to the "prospectus" decision provided by insiders. According to Nonaka (1994), a field of interaction is created to amplify and articulate existing knowledge. It is suggested here that the "field" of the board meeting facilitates the sharing of experience and perspective, thus amplifying, enlarging, and articulating the "prospectus" of the insiders. Nonaka calls for a "dialogue" between explicit and tacit knowledge. Insiders utilized both explicit and tacit knowledge, though their presentations had to be largely rooted in facts, figures, and detailed information. Outsiders offer tacit knowledge to extend the explicit knowledge. The dialogue between explicit and tacit knowledge calls for sophisticated uses of analogies, metaphors, and stories which enable team members to articulate their unique perspective, and thereby reveal hidden tacit knowledge that is otherwise very difficult to communicate (Nonaka, 1994; Wagner, 1987).

A Complementary Relationship

It also appears appropriate to suggest the following

research questions.

Research Question 3A: Does an interaction exist between insider analysis and outsider intuition in influencing the effectiveness of 1) the board, and 2) the organization? In other words, does the presence of one enhance the influence of the other?

For purposes of devil's advocacy, exploratory discovery, and completeness, the following question is also posed. No expectations are offered on this question.

Research Question 3B: Does an interaction exist between outsider analysis and insider intuition in influencing the effectiveness of 1) the board, and 2) the organization? In other words, does the presence of one enhance the influence of the other?

Why should an interaction between insider analysis and outsider intuition be expected? A genuine plethora of literature calls for a dual processing perspective. The bases for these views relate to complementary knowledge, balanced perspectives, and beneficial learning processes.

Mintzberg (1976), for example, noted that good planners utilize formal analysis associated with the left brain while good managers were able to feel and utilize the intuition associated with the right side of the brain. Mintzberg argues convincingly, however, that both styles are needed, but are not generally present in most individuals. He suggests that all would be more proficient if they could

draw at will on the processing style that is appropriate.

This observation points out the natural complementarity of the two styles, and the possibility that holistic strategic management in complex domains must draw from both. March (1991) and other organizational learning researchers have expressed discomfort with sole reliance on the more traditional analytic mode of processing. These researchers refer to analytic learning as hostile and inflexible. Nonaka (1994) has argued that the two processing styles are complementary, with the positive outcome being a combination of experience-based wisdom and factual definition of the decision reality. Robey and Taggart (1980) and Taggart and Robey (1981) also present compelling arguments for balance between "harder" and "softer" approaches, arguing that hard analysis is quite necessary, but should be refined and tempered with the wisdom of experience and feelings. These researchers argue that feeling and intuition help to broaden the analysis, allowing the decision maker to step back from the indepth analysis and see how the decision will fit into the grand scheme of things.

Another set of literature has urged managers to avoid sole reliance on the more and more advanced computer models and database capabilties, but to also avoid sole reliance on subjective methods. This literature (e.g. Blattberg and Hoch, 1990; Kleinmuntz, 1990) agrees with the classic work

by Meehl (1954) that human capabilities to process information subjectively are limited. For example, Kleinmuntz (1990) noted that experts going head to head with computer models on diagnosis of a certain situatitons are usually defeated. These situations are generally rather simple, definable, easily quantified tasks, and computers (the ultimate in objective, hard analysis) are usually superior decision makers.

These authors note, however, that realistic, unstructured, highly variable situations offer different scenarios altogether. Subjective processes are needed to perceive, integrate, synthesize, and hence intuit a theory about the situation. In complex, real world tasks, the subjectivity of people is a necessity. When the environment is characterized by complex patterns of information and ill-structured task environments, Kleinmuntz argues that subjectivity and intuition (as well as objective analysis) are a must.

Blattberg and Hoch (1990) conducted an interesting study attempting to reach a conclusion as to the optimal mix of data (computer) and intuition. Their general argument is that managerial intuition is necessary for sensing and adjusting for changes in the decision environment. Models of analysis offer consistency and managerial intuition offers flexibility.

Blattberg and Hoch (1990) relate a story originated by Meehl (1954). They note that some valid aspects of subjective judgement are not easily captured by a analytical model. Meehl referred to "broken leg cues" as diagnostic cues that are so rare that they cannot be incorporated into diagnostic models. The name came from the idea that it does not matter how much one knows about an individual, unless one knew that the person had sustained a broken leg they would be unable to predict the person's behavior (attending a movie). Models and analysis have difficulty incorporating broken leg cues, and the unstructured world of the top manager is full of broken leg cues.

Blattberg and Hoch (1990) essentially found that there were certain strengths offered by analytical data and computer models and that there were certain benefits from the subjectivity of experts. One key finding was that combinations of data analysis/models and expert intuition provided the most positive results in prediction and understanding. What was most interesting was that the value of expertise came when formal models broke down because of major unforeseen shifts in the task environment. Managers display an amazing amount of intuition about the unforeseen, nonlinear aspects of the task and its environment. Intuition allows management to incorporate predictions and other unpredictable, unforeseen factors. The Blattberg and

Hoch (1990) work points out the truly complementary nature of formal data, analysis, and hard facts and subjective, intuitive judgement. The insight of intuition serves to guide and support formal knowledge and adjusts and supports it during situations where external circumstances tend to break down more formal processing models.

Knowledge Creation

Nonaka (1994) provides important insight as to how learning can result from mixing knowledge bases. Only a surface level review is possible here, but his basic idea is that when people gather together in "communities of interaction," a dialogue exists between tacit and explicit knowledge. It is this dialogue which drives the creation of innovative new ideas and concepts. People have a difficult time combining explicit and tacit knowledge, especially since tacit knowledge is difficult to articulate.

Nonaka (1994) notes that tacit knowledge has an "analogue" quality. Communication between individuals may be seen as an analogue process that aims to share tacit knowledge to build mutual understanding. This understanding involves a kind of "parallel processing" of the complexities of current issues as the different dimensions of a problem are processed simultaneously (Nonaka, 1994). People in this

analogue mode rely on stories, metaphors, analogies, and shared experiences to communicate tacit knowledge. The group processes serve to amplify and crystallize the knowledge as a part of the working knowledge network or group knowledge structure. Nonaka speaks of the conversion of knowledge back and forth from tacit to explicit and vice versa. He (p. 20) argues that "knowledge creation centers on the building of both tacit and explicit knowledge and, more importantly, on the interchange between these two aspects of knowledge."

Basically, the theory explains for us how the dialogue between tacit and explicit knowledge held by people (experience and fact) can enlarge and enrich understanding and can result in new knowledge. The conversion of knowledge, tacit to explicit, explicit to tacit, tacit to tacit, and explicit to explicit, is argued to constitute a "spiral model" of knowledge creation. Though this discussion will not be elaborated, suffice it to say the intermingling of the two knowledge types creates a favorable environment for knowledge exchange and signficant learning.

Other views of organizational learning accept the need for these complementary knowledge bases. For example, Huber (1991) notes that one can conclude that more learning has occurred when more and more varied interpretations have been developed. He notes that development and refinement of

varied interpretations and explanations changes the range of the organization's potential behaviors. In a board meeting, potential behaviors can possibly be enlarged if enough alternative views, thoughts, and perspectives can be shared.

A domino effect may be at work here. When groups are exposed to more and different knowledge, such is incorporated into their working memory. A working set of knowledge allows for the incoporation and use of additional knowledge. For example, Cohen and Levinthal (1990) in a landmark study revealed that the ability of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial ends is critical to its innovative capabilities. They call this ability a firm's "absorptive capacity" and they suggest that it is largely a function of the firm's level of prior related knowledge. In other words, existing knowledge and perspective allow an individual, group, or organization to "see the possibilities and value" of new information.

March (1991) revealed the values of both exploration (search, variation, risk taking, experimentation, play, flexibility, discovery, and innovation) and exploitation (refinement, choice, production, efficiency, selection, implementation, and execution). He says that value can be obtained by exploring new possibilities and exploiting old certainties. It is not difficult to see the parallel here

with the earlier conceptualization of analytically-derived prospectus and experientially-based perspective. In fact, March argues that a helpful way to broaden perspective is to get fresh new views from individuals not entrenched or overly familiar with the organization. The analogy used earlier of letting an experienced copy editor read a manuscript seems especially appropriate. New ideas and fresh perspective can certainly strengthen an already well-considered position.

Insiders are compelled, then, to analytically process and present the current "state of the firm and the environment." This factual assessment serves as the realistic basis for further refinement, expansion, learning, and innovation. It is largely up to the outsiders to respond with added experientially-based intuitive perspective. This mixture of perspectives likely creates value, strengthens the decision premises, and generates innovative and solid direction for the firm.

Same or Similar Processing Styles

There is very little research or theory to suggest that an interactive relationship exists when both subsets of board members process information in the same way. Rindova (1994) and others have noted the issue of whether inside and

outside directors can provide complementary information to board deliberations, even if they processs in the same or similar way. In other words, are the points of reference of insiders and outsiders so different that even if both utilize highly analytical processing, the inputs and opinions would be helpful to one another? What if everyone is highly intuitive, relying mostly on gut reaction and educated hunch?

Agor (1986a, 1986b, 1986c), Adair (1984), and many others claim the universal applicability of intuition (especially for upper level management). Agor (1986b), for example, reports that if any manager is highly experienced and can draw heavily from intuition, it would not make sense to spend great deals of time analyzing information. Should all board members provide intuitive thoughts and reactions? One has to question also whether complete deliberation only occurs when both insiders and outsiders join in the analysis or in the intuitive processing. Should a board "pick a style together and stick with it?" At this point, research has not answered these questions. For purposes of devil's advocacy, exploratory discovery, and completeness, it seems important that these questions are also asked.

Research Question 3C: Does an interaction exist between insider analysis and outsider analysis in influencing the effectiveness of 1) the board, and 2) the organization? In other words, does the presence of one enhance the influence of the other?

Research Question 3D: Does an interaction exist between insider intuition and outsider intuition in influencing the effectiveness of 1) the board, and 2) the organization? In other words, does the presence of one enhance the influence of the other?

Board Activity Level and Involvement in Strategy

It is important at this time to recognize an important moderating influence which has been shown to play an integral part in determining board effectiveness: the level of activity and involvement of the board in strategy making. A key consideration in the board literature to date has been the active involvement of the board members in the important affairs of the organization. In research questions 2A, 2B, 2C, and 2D, it was questioned whether or not the level of activity and involvement of the board moderated the relationship between processing style and performance. It would seem appropriate to suggest that information processing alone is not sufficient. The board members must become heavily involved in the proceedings, both in thought and in behavior. Also, it might be suggested that an interaction between the two subsets would never exist absent heavily involved board members. For one style to build off the other in the "community of interaction," interaction

must certainly exist. Therefore, the following research questions are also presented.

Research Question 4A: Does the level of activity of the board of directors enhance (or cause) the interactive relationship between insider analysis and outsider intuition? In other words, is the interactive relationship noted in RQ3A present only when the board is more actively involved in strategy making and discussion?

Research Question 4B: Does the level of activity of the board of directors enhance (or cause) the interactive relationship between outsider analysis and insider intuition? In other words, is the interactive relationship noted in RQ3B present only when the board is more actively involved in strategy making and discussion?

Research Question 4C: Does the level of activity of the board of directors enhance (or cause) the interactive relationship between insider analysis and outsider analysis? In other words, is the interactive relationship noted in RQ3C present only when the board is more actively involved in strategy making and discussion?

Research Question 4D: Does the level of activity of the board of directors enhance (or cause) the interactive relationship between insider intuition and outsider intuition? In other words, is the interactive relationship noted in RQ3D present only when the board is more actively involved in strategy making and discussion?

For research question 4A, a positive three-way interaction is proposed. For the other questions, no specific result is hypothesized or expected.

For research question 4A, it is argued that the level of activity and involvement influences the ability of the board to intermingle and combine important decision-related

input. Certainly, the contributions implied in the discussion thus far are heavily dependent on interaction and communication. Several factors are seemingly needed: careful analysis and thought, perceived importance of and respect for board member input, high regard for the well-being of the organization, great interest in strategic issues and concerns, thorough and candid communication, and mutual respect among board members.

It appears, then, that boards should be actively involved in strategy making for the important interaction of "preliminary prospectus" and "perspective broadening" to occur. Board members must be willing to contribute to the process, and must feel as though their input makes a difference. In other words, it might be expected that highly involved boards (Judge and Zeithaml, 1992) would be more active and exhibit more care in the meeting and would enhance the hypothesized beneficial tendencies. First, the group discussion mentioned earlier allows for more and better knowledge to be shared and factored into the decision. Second, the knowledge creation process spoken of by Nonaka (1994) is more likely to occur in active communities of interaction. Inactive boards may have great ideas that never get shared. The input and questioning of outside directors may serve to enhance, strengthen, and illuminate the ideas of insiders. Likewise, talented

outsiders may be useless without stimulation and suggestion from knowledgeable insiders.

Qualitative Questions

It seems reasonable that many important aspects of understanding board information processing lie well beyond the relatively simple research questions presented thus far. It is very difficult to understand the nature of a board meeting without direct observation and description. It is appropriate to attempt greater understanding through structured observation and qualitative description of boards. This qualitative research sheds light on the important cross-sectional, nomothetic questions through a richer and more detailed qualitative analysis. The following represent the primary questions of interest.

1. Do inside directors offer more analytical insight to the board deliberations than do outside directors? Do outside directors offer more intuitive (tacit) insight than do inside directors?

2. Can inside director input be characterized as the "primary" premise setting input (as opposed to reactionary response). In other words, are inside directors the leaders of the discussion. Do they offer their analysis for outside director response?

3. Related to question #2, can outside director input be characterized as reactionary and responsive? Do they take what is said and expand it? Or, does an outside director(s) take a leadership or primary role in the discussion?

4. What is the content of insider and outsider input to the board meeting? Describe, in detail, the content of insider and outsider input.

5. What other unique factors are observed or noted? Can these observations impact the quality of the board deliberations? In general, what are the differences between the high performing board and the low performing board?

Chapter 3 now presents the methods utilized to answer the quantitative/cross-sectional questions as well as these qualitative questions. Results are presented in the chapters following Chapter 3.

CHAPTER 3

RESEARCH METHODS

Overview

This chapter outlines the methods utilized to investigate the general research question: what role does intuition and tacit knowledge, in conjunction with analysis and explicit information, play in the strategic decision deliberations and discussions of boards of directors? A number of research questions related to the decision making processes, involvement, and effectiveness of boards were suggested. Quantitative and qualitative information and methods have been utilized to gain necessary insight on these questions. In general, this research is characterized more as exploratory than confirmatory and can be viewed as an early step toward understanding these important issues.

The approach in this research is that quantitative data (cross-sectional questionnaire responses) can uncover important relationships and effects across large numbers of board groups. Specific questions about the proposed model can be answered. The qualitative study is used to confirm and describe if and how boards engage in the activities

suggested by the literature-based models. This chapter provides a more detailed discussion of: 1) the basic premises and questions posed in this study, 2) the sample and data collection, 3) measures and testing, and 4) questions and methods for qualitative research.

Basic Premises and Questions

In Chapter 2, one of the major goals was to draw from diverse literatures to propose a conceptualization of how tacit knowledge and intuition can be commingled with explicit knowledge (data and analysis) in order to develop informed strategic decisions. The model generalizes across the corporate boards of for-profit business organizations based on the basic premises that 1) decision makers are more efficient and effective when they draw from their developed cognitive knowledge base (Lyles and Schwenk, 1992), 2) the cognitive knowledge bases of inside directors and outside directors are quite different, 3) intuition, as well as analysis, is extremely valuable in unstructured, equivocal, ambiguous decision environments (Agor, 1986a, 1986b; Spender, 1993), 4) board insiders are required to provide the decision premises or interpretation of the strategic situation and outsider members are asked to provide strategic oversight (Baysinger and Hoskisson, 1990; Pearce

and Zahra, 1992), and 5) a complementary relationship is proposed to exist between explicit knowledge/analysis and tacit/intuitive knowledge (Blattberg and Hoch, 1990; Nonaka, 1994; Spender, 1993). The questions drawn from these premises are those tested using traditional cross-sectional, quantitative methods.

Given the complexity of the phenomenon being examined and the relative lack of prior research and testable theory addressing it in the literature, a qualitative case study method also is utilized to confirm and enrich the basic quantitative study. Two board meetings for each of two corporate boards were audio recorded, observed, transcribed, and described in great detail. This will allow the researcher to observe and characterize decision making in the context of the board meeting.

The case study is a research strategy which focuses on understanding the dynamic present within a single setting (Eisenhardt, 1989). Eisenhardt (1989) argues that case study research can be effective in theory building and is the most appropriate design when asking "how" and "why" questions, which tend to be more explanatory in nature. In the present study, the only way that the relevant behaviors can truly be studied in detail is in the natural setting. It would be nearly impossible to replicate and manipulate these settings in the laboratory.

The cross-sectional and the case methods should converge to develop clearer understanding of how boards use tacit knowledge and intuition, in conjunction with formal analysis, to make important decisions and provide management direction. Triangulation (Jick, 1979), the use of multiple research methods and perspectives, allows for stronger findings based on a convergence of information from different sources, not quantitative or qualitative alone. A descriptive understanding is the result, which clarifies meaning and reduces the likelihood of misinterpretation.

Sample and Data Collection

Cross-Sectional Survey

A package of research surveys was sent to a total of 167 board chairmen (and/or CEO's) representing the independent banks of Alabama. The regional, multi-bank holding companies in the state (explained later) and banks currently engaged in merger proceedings were not included in this study. The survey was accompanied by a letter from the researcher, an endorsement letter from the director of the state's graduate school of banking, and an endorsement letter from the executive director of the state's banking association. In addition, the researcher sent a general follow-up letter to all of the 167 banks and made follow-up

phone calls to certain banks in order to improve the response rate. The instrument is included as Appendix A and all correspondence is included as Appendix D.

These letters encouraged the Chairman and/or CEO to provide the surveys to his/her board of directors. A postage-paid envelope was attached to each survey, and each board member was asked to anonymously return the survey to the researcher.

A board's response was considered usable if 50% of the individual members responded, an amount thought necessary to reflect the general nature of proceedings in a board meeting. It appears that if the CEO took the time to request a response from his/her board, members generally obliged. Of the 167 boards who received the surveys, 73 responded (44%). Of these, only 14 boards submitted incomplete responses (less than 50% of the board members responded). Therefore, a total of 59 boards (35%) submitted usable board responses and make up the sample used in this research. Within these 59 "complete" responses, an average of 75% of the entire board responsed. Independent bank boards such as these are generally made up of 6 to 10 members each, and in this study the total individual usable respondents number 359. There were only 11 incomplete or otherwise non-usable individual responses.

Individual Respondent Demographics. Of the 359 usable respondents, 163 were insiders (45%) and 196 (56%) were outsiders. Of the outsiders, 33 were involved in some way in the financial industry, for example as a banker, stock broker, or insurance agent. Only 13 of the outsider directors had ever been employed as bankers, with four of these thirteen currently working for a different bank. Nine of the thirteen were previously employees of banks. Although it is recognized that outsiders with industry experience will behave somewhat differently from other outsiders, it is argued that the relatively small number of these respondents will not adversely impact the statistical results.

Of the 359 respondents, 52 (14%) were forty years in age or less, 88 (25%) were between forty and fifty years of age, 97 (27%) were between fifty and sixty years of age, 83 (23%) were between sixty and seventy years of age, and 39 11%) were over 70 years of age. Of the respondents, 87% (311 out of 359) were male, with only 48 women respondents from the 59 banks. Mean tenure on the board was 13 years, and mean formal education was 16 years (through college). Mean time with one's current profession was 26 years and mean time with one's current organization was 20 years.

Respondents indicated mean years of total work experience to be 36 years, a rather impressive amount of overall experience.

Respondents were cued to thinking about strategic decisions with a short description of a decision scenario. Nearly 96% indicated that they were "fairly familiar" with decision scenarios of the type illustrated. The total individual responses appear to constitute about 30% of the total directors in the state, though it is hard to gauge exactly how many directors there are at any given time in the entire state.

The overall response rate of approximately 35% was, at first, quite dissapointing to the researcher, especially given the cooperation of respected bank leaders and given the fact that the researcher's family has been involved in the banking business in the state for nearly 40 years. A much larger and more complete sample was fully anticipated, with realistic hopes for a 50 to 60% overall response rate. The researcher was further disappointed when follow-up letters only yielded marginal improvement. A review of research on boards and other top managers, however, reveals that these very busy executives and leaders generally do not provide very high response rates. Even with the follow-up letter, some board leaders may have had reservations about asking their busy board members to do more. The board

meeting is considered private and despite guarantees of privacy and anonymity, some bankers might have had serious reservations about revealing any information. When compared to similar research, the response rate of around 35% certainly appears acceptable.

Bank Demographics. The responding banks have average assets of around $75 million, slightly smaller than the average assets of all Alabama independent banks. Responding banks grew, on average, 5 to 6% during each of the years 1992, 1993, and 1994, approximately the same as all independent banks in the state. Finally, the average performance level posted by responding banks was almost identical to performance posted by all banks in the state. In short, it appears that the responding banks were not tremendously different from those which failed to respond, indicating no reason to expect response bias. This sample, then, appears quite representative of the entire population of independent banks in the state of Alabama.

Independent bank boards are defined here as those governing boards of directors which are not influenced by some higher governing board of directors. Several very large holding-company banks (those who have separate, stand-alone regional or city divisions around the state) were not mailed the survey materials. These corporations have an

overall corporate board who hold dominion and authority over the "local" boards of the local banks. Because in these larger banks it is unclear which board truly directs the policy and decision making of the individual banks, it was thought inappropriate to include them in this study. Only independent boards with complete and unequivocal authority over their bank's operations were mailed the survey materials.

Banks are required to have an approximately even mix of insider and outsider representation on their boards. Banks are encouraged to recruit a variety of outsiders. Most often, outsiders are local business people such as merchants, entrepreneurs, realtors, heads of small manufacturing companies, insurance agents, farmers, doctors, academicians, investors, attorneys, or other executives. They are almost always highly experienced, adept, and astute business people.

Banks are highly regulated and bank boards are required by regulators to address the strategic concerns of the bank. In fact, over the last several years, federal regulators have mounted a concerted push for more board involvement in the supervision of commercial banks. For example, the savings and loan scandals and crises alerted regulators of the potential dangers faced by other banking concerns. Bank boards discuss many of the following issues at many if not

most monthly meetings: the economy in general, loan demand, asset management, deposit management, marketing, product and service offering, competition, loan mix, branch issues, human resources and training, loan administration, various policies, trends in banking, loan collection, and quality. Bank boards must be fairly active relative to the boards of other businesses due to the legal mandates and due to the complexity of the business.

In summary, then, it appears that bank boards are an especially appropriate sample for this study. It appears that Alabama, with its large number of active and competitive small to medium-sized banking concerns, offers a fairly attractive sample. Most Alabama banks typically deal with a variety of environmental elements such as agriculture, military bases, retailing, trucking, seagoing and barge shipping, timber, mining, aquaculture and seafood, textiles, and other businesses. Most banks also deal to a large extent with consumers and government agencies such as schools and county administrations. Further, Alabama banks as a group have proven very successful over the years relative to national standards.

Qualitative Subject Banks

Two boards were also selected for the qualitative

portion of this dissertation research, with each of these boards allowing the researcher to observe and audio record two full board meetings. These boards were solicited by phone. The researcher anticipated that most banks would strongly resist having someone sit in on a board meeting. Board meetings are generally filled with highly sensititve and confidential information. As it turned out, only two boards out of the first four called refused entre' to the meeting. The two boards who agreed to be observed and recorded were very cooperative, once they were assured that total anonymity would be observed. In the initial phone conversation and subsequently the CEO/Chairman was guaranteed that no names nor sensitive information would be revealed whatsoever.

Of these two boards, one was selected from among the state's high performing banks. The selected bank, located in south-central Alabama, has assets of around $15 million and has maintained an average rating of 67 ("B+") over the last two years according to Sheshunoff's President's Weighted Index Rating, a widely accepted strategic rating scale. One board also was selected from among the state's low performing banks. This second bank is located in southeast Alabama and has assets of about $37 million. This bank has struggled recently, with recent Sheshunoff ratings in the single digits, considered "D" performance according

to Sheshunoff's President's Weighted Index Rating. With approval secured from the board, the researcher observed and audio recorded two board meetings for each of the two boards (these lasted from 1 to 2 hours each). The meetings also were transcribed verbatim for further classification, analysis, and description.

Although the lower-performing bank is somewhat larger than the higher-performing bank in terms of assets, these two banks are similar in a lot of ways. The boards themselves are approximately the same size, with the higher-performing bank having seven board members and the lower-performing bank having six. Both of these banks are located in small communities, and both banks place emphasis on retail banking, small business lending, and agriculture. Both of these boards are chaired by insiders, both of whom are the firm's CEO's. Both CEO's are members of the families who have managed the banks for the last thirty to forty years. Both CEO's were college educated and both are active members of the community. The CEO of the lower performing bank has considerably more banking experience than the other CEO, though both are thought to be extremely knowledgeable about banking. Both boards have approximately equal mixes of insiders and outsiders, with all outsiders being either merchants, professionals, or business owners. The lower performing bank has one member who is a farmer.

Measures and Hypothesis Testing

Measures

The self-report questionnaire used for the quantitative, cross-sectional portion of this study is included in the Appendix A. The questionnaire gathered a great deal of information not necessary for this study but to be used in future research. For purposes of this study, board members are asked to reflect on their cognition and behavior concerning strategic deliberations within the board meeting, and are asked to respond to a number of other items necessary to conduct the research. The items actually utilized in this research effort are listed in Appendix B.

All of the measurements have been adapted slightly to fit the board setting, but all but one measure has been used in previous research work. In most cases, rewording only involved adding such phrases as "...in the board meeting" or "...involving board decisions." These measures, therefore, should retain their validity for measuring the intended constructs. Factor analysis and reliability analysis (Cronbach's alpha coefficients) conducted on the responses from the 359 board members tend to indicate excellent reliability and apparent face validity. The items included in each scale tend to have moderate to very strong factor

loadings (all loadings over .5) and produce inter-item reliabilities of .7 to .9, considered strongly reliable indicators of intended constructs. A perusal of the items used (Appendix B) tends to indicate face validity, with strong relationships inferred among the items and between the items and the construct of interest. The factor analysis results are included as Table 3.1.

Measures of the level of analysis and intuition utilized by board members were obtained by using self-report items derived from earlier work by Anthony and Daake (1994). For the group-level analysis using regression, the average responses for insiders and outsiders from each board were computed, thereby yielding four scores for each board: insider analysis, outsider analysis, insider intuition, and outsider intuition. These scales purport to measure the degree to which each of these decision styles are practiced in board situations.

A measure of board activity level (involvement) was also necessary, with previous research indicating a strong relationship between board involvement and board performance. The scale developed by Judge and Zeithaml (1992) was adjusted slightly and included in the board questionnaire. The perceptions of board involvement and activity were averaged across all members of the board,

Table 3.1
Factor Analysis Results

Analysis 1: Analysis Vs. Intuition
Maximum Likelihood Solution/Oblique Rotation (Corr: -.27)

	Factor 1	Factor 2
Eigenvalue:	6.07	2.69
Variance Explained:	41%	17%
Cronbach's Alpha:	0.89	0.76
Study and use concrete data/facts	0.69	-0.11
Uncomfortable unless closely study data/facts	0.72	0.03
I "crunch numbers" and "put sharp pencil"	0.79	-0.04
I study data intensely for clues and answers	0.61	0.35
Even with good hunch, I need to study reports	0.59	-0.05
Boards benefits from my analysis/interpret	0.79	0.14
Which of following...? (levels of analysis)	0.57	-0.36
I rely on staff reports/data/information	0.61	-0.21
I rely on my analysis and "break down"	0.71	0.01
Business sense/knowledge/intuition are guide	-0.31	0.51
Confident with reactions and intuitions	-0.32	0.47
Board benefits from exp. and business sense	0.11	0.69
Helpful when I provide feel, opinion, react.	0.11	0.71
Initial thoughts/opinions/reactions accurate	-0.33	0.59

Analysis 2: Board Activity Level
Maximum Likelihood Solution (One Factor Extracted)

	Factor 1
Eigenvalue:	4.51
Variance Explained:	65%
Cronbach's Alpha:	0.91
How vocal, active, involved is board?	0.74
Board questions and probes management?	0.83
How vocal is board in determining course?	0.78
Top management dependent on board for advice?	0.73
Board "leaves no stone unturned" w/ answers?	0.75
Board questions/constructively criticizes?	0.68
Is management interested in what board says?	0.67

Table 3.1, Cont.
Factor Analysis Results

Analysis 3: Management's Perceptions of Board Performance
Maximum Likelihood Solution (One Factor Extracted)

	Factor 1
Eigenvalue:	3.41
Variance Explained:	68%
Cronbach's Alpha:	0.88
I am impressed with performance exhibited	0.72
Management/key employees given guidance	0.76
Board is important to sound operation of bank	0.68
Board provides important insight to mgt.	0.84
Board makes bank/employees more successful	0.85

producing a board activity score for each board (average of member perceptions).

Only one measure had not been validated by previous research. The self-report measure of board effectiveness was constructed by the author. It represents insiders' perceptions of the effectiveness of the board in dealing with strategic decisions and providing helpful guidance and suggestions to bank management. Insiders are indeed the individuals who will benefit most from board performance, and their satisfaction with board input and suggestion is a good indication of the quality of board interaction.

This measure is included in this study in order to obtain an alternative acceptable measure of *board* performance in addition to the more objective, but much broader, *organization* performance measure. Though linkages between board activities and organization performance have certainly been shown (e.g. Daily, 1995; Pearce, 1983), it is also very important to look at a measure more obviously impacted by board cognition and behaviors. Inside board members have a good sense of how well the board is performing and how well management and the organization is responding to board direction (Rindova, 1994). Every indication is that inside board members are generally

forthright, objective, and honest about how well their board is performing.

Comparison of this board measure with objective bank performance indicated a .50 correlation ($p<.01$), thus providing some indication of validity. Factor analysis and reliability analysis (Table 3.1) indicated a strong factor with strong intercorrelations among the items. The responses by insiders from each board were averaged, thus yielding a board effectiveness score for each board.

For bank (organization) effectiveness, a much more objective measure is utilized. It appears necessary to measure strategic performance over some period of time in order to reveal a pattern and practice of effective or ineffective board activity (Pearce, 1983). It also appears important to utilize a composite measure, taking into account many features of performance. For example, strategic performance certainly can not be inferred merely by considering profit reports. To meet these special needs, this study will utilize a three year average of Sheshunoff's Presidents' Weighted Index of Bank Performance, for the years 1992, 1993, and 1994. This index is accepted industry-wide as a standard measure of overall strategic performance. Not only does this index consider profitability, but it also factors in capital adequacy (measures taken to insure the safety and security of

stockholder and depositor interests), asset quality (measures taken to insure the timely collectibility of the asset portfolio), management performance (measures taken to insure sound operational and strategic management), and liquidity (measures taken to insure sound funds management and availability).

All of these factors come under the direct scrutiny and control of the board, and are extremely important in determining current and future performance. These five factors are weighted according to their perceived relative importance in determining overall bank success. The weights of each factor on this index are determined by a regular survey of many thousands of bank presidents nationwide by the Sheshunoff Co., a well-respected bank research organization. These bank leaders report how important they think each factor is in determining the overall current and future soundness of banks. As a result, this Sheshunoff index is considered one of the most valid and consistent indicators of bank strategic performance.

Following the suggestions of Pearce (1983), it was thought necessary to include two important control variables in the regression equations to preclude the influence of likely extraneous variables. The local state of the economy (current local economic condition) is believed by some researchers to influence the performance of organizations.

Though this is a rather broad construct, an acceptable measure was provided by a publication of the Center for Business and Economic Research at the University of Alabama (1995). A weighted average economic score considers unemployment levels, average salaries in the area, retail trade levels, and economic growth. Competition also is believed to influence peformance. The number of competitors in the county of operation also was included as a control measure (CBER, 1995). Though this is certainly not a complete portrayal of competition intensity, it appears to be an acceptable proxy. Pearce (1983) also suggests controlling for company size, but the positive relationship between company size and performance does not always hold in the case of banks. Smaller banks are just as likely as larger banks to be high performers.

The use of the measures in the statistical testing procedures are detailed in Appendix C.

Qualitative Research

The fact that statistical inferences can be made based on empirical measurement of many bank boards is the primary benefit of this dissertation's cross-sectional study. The questions researchers should ask, however, given the revelations of the literature review in Chapter 2, are

rather complex. It seems reasonable that many questions lie well beyond a simple comparison of averaged responses to a particular survey. It becomes necessary to observe and analyze the actions of board members in the natural setting (Yin, 1994). For this reason, the actions of two boards are described in great detail.

Two bank boards' meetings were observed and audio recorded, and their comments, questions, reports, suggestions, and every other word have been transcribed by the researcher. The transcripts were then classified, comment by comment, according to the type of comment made. The classification scheme developed seems to nicely characterize almost every comment made in the meeting, though it was very difficult to "pigeonhole" some of the comments made in such a dynamic group meeting. Examples of each type of comment also are provided for the reader's reference.

I. Report of factual, informative data and observation
A. Unsolicited information/report
1. Information rich (numbers, useful facts)

Examples: "Last month, the total securities was down 13.3% and that is still a decrease because we are using those as they mature to put into loans, so there will be a decrease each month from those. Loans increased 11.7% from a year ago. This indicates that we have more funds in relatively more risky loans as opposed to less risky securities. The up side is that loans generally offer more profitable returns if we can collect them."

"Savings accounts decreased 7% and CD's increased 101%. This increase is due to people moving money from other things to

CD's instead. That's why that is such a big jump."

"We have a loan request from ****** Funeral Home in the amount of $20,000. Total indebtedness is $197,000, for ****** personally and the funeral home...They have never missed a payment, with 90% of payments being early. The last money that ****** borrowed for the truck that he had, he has paid over 50% of it back..."

"It's a wood hull boat, a trawler, which would run about $400,000 to $500,000 in value if all motors were attached and normal things. The problem is that ****** co-signed the loan. See, we never had the boat as collateral but had land. We just got the boat as an attachment as a judgement against them. I think the judgement was made against *****."

2. Less information rich (but factual)

"I think he works part of the time and he does some logging out of town, but I don't think he is working exclusively for ******. ****** has sent a letter and he has not responded. He is a few payments behind."

"I understand that the pharmacist down here has invested some money in that venture. He claimed that he had gotten some money back from it."

"I noticed where some banks in Montgomery were advertising car loans for less than prime."

"A hunting club had about 6 or 8 people from Michigan. They charged them $50 to $100 a day and carried them out and they killed 8 or 10 bucks."

"People have been going to that store to buy gasoline. His prices have gone down from $1.15 to $1.09 per gallon. I bet his competitors are having fits."

B. Solicited responses and explanations

1. Information rich (numbers, useful facts)

"For right now, see these new loans are taking up those funds. We have just enough federal funds that we happen to have a big cash letter. We're just talking about an extra day's cash letter, and that's about the extent of it. Like 4 or $500,000 worth. I have not invested any, we have had such loan demand, I have not invested in bonds. When you

start talking about 5 3/4 to 6% on a five year bond and you're talking about 10,11 and up on loans..."

"I think we are pretty close together on that. They are probably running about 9.5 and we are around 9 and a small fraction."

"You would if you planned to keep that 8% ratio. If you were willing to come down to a 7% ratio or something like that and we are talking about normal profitability, that put's us well within the capital requirements."

2. Less information rich (but factual)

"Some of the places are not getting rain. Most farmers are going to need much more rain to get a crop."

"He told me the other day on the phone that that is what he will be doing. He is not doing what he agreed to do. It does not look like that on the report."

"A lot of time is spent on administrative tasks, with ****** and ******. In fact at times we will spend the whole morning working on these numbers here."

"That's a good point. Right now we need another teller bad. We had an application turned in today, who has worked with ****** before and she knows about a bank. She seems to know what is going on."

II. Use of stories, tales, and life observations (mixture of fact and intuition to share experiences)

"Let me tell y'all about something. About the same time we were going to ****** with our branch, they were putting headquarters there and that was one of the factors that got us jump started, that's why the new customers came over to us. But when we advertised our new branch, they went out to ****** and rehired ******. He went back because of their retirement program. Well, ****** went out to all the old customers and carried them a cake and started being real friendly with them. That's what turned some of the business back, they felt like the bank was interested in them again. We still got some money from ****** bank, but our biggest growth came from ****** because they did not care too much about the customers."

"I offered ****** $****** for his branch up in ******. He

laughed at the idea, and I told him I would talk to the board about it. He did not think that was enough, but I thought it was too much. I told him it was $****** for the deposits and $****** for the white elephant of a building. He said 'you know I can't take that.' I told him that I didn't know if I could give it to him.'"

"****** came over here and talked to me about that a long time ago. He wanted to buy ******. ****** was an employee of whoever that person was. ****** said that the IRS was breathing down his neck, but that doesn't seem right. He wanted to know if we would be interested in helping him acquire that building and location. I said he might want to come back, but I said 'no' because he was working strictly on rumor at that time. But I get the feeling that ****** is going to take over that business."

III. Use of intuition/opinion/feelings to inform the board

A. Unsolicited

"Let's get out the past due list and look at it. Just looking at it, I have some real concerns about these loans."

"We have called and called on that loan, and it is slow, but ****** is the kind of person that I feel like he will pay."

"Businesses like this one usually pay off in the end, it just takes a good bit of time for one to start paying. I would just as soon have him be in something that will pay off eventually."

B. Explanation/Reaction/Response

"From what you have said, I would really be afraid of that situation. It's going from bad to worse."

"That sounds like a good deal to me."

"It would improve the situation if you would secure it better. I wouldn't give him an out."

"I don't think we would be interested in that, it sounds like too much work for our staff."

"Well, it's like a traditional lease. We would have to capitalize the lease I know, which would be a lot of work."

"I believe that would be the route to go."

IV. Process and Procedures

"We need to ratify the new and renewed loans for the last month. Do I have a motion?"

"I move that we approve this loan to ****** in the amount of $******."

"Our next order of business is approval of the EDP audit submitted by ****** of Birmingham."

"I move that we pass the following resolution offering our condolences to our colleague ****** on the death of his brother, ******."

V. Questions

A. Legitimate business related

"What is the relationship between CD rates and money market deposits? Is that where some of this transition has occured?"

"Does this total indebtedness include the mortgage and all operating lines of credit?"

"Would it be better for him to go through us, or would it be better for him to go directly through ******?"

"Does he have enough cashflow to support this loan and his other expenses?"

B. Personal interest (apparently personal information or questions out of "curiosity")

"Has he closed his other restaurant?"

"What would y'all do right now if you had some money to invest?"

"Are they going to open some other type of business?"

"Are those people from Texas still interested in buying it?"

"What have his prices done since ****** came into town?"

C. Rhetorical questions (to stimulate thought)

"How much could a business like that be worth?"

"What's going to happen when they lose their secondary source of income?"

"Does anybody know what interest rates will do?"

"What kind of cashflow do you need to run a business like that?"

VI. Minimal facts, chatter, jokes, other comments

"It's been real nice having lower gas prices in town."

"And he got back in his car and went home (laughter)."

"The whole world has a bank in ******, there's 10 banks there now (chuckle)."

"We know that they could beat that rate."

"Those linked deposits have helped out."

VII. Direction/Suggestions to bank management

"Y'all look into that and let us know what you found out."

"That's what you need to do. I wouldn't wait too long either."

"You should look at replacing him if he can't do any better than that."

"You need to just sit down with him and explain to him that this situation needs to get much better real fast."

"I would go ahead and take that car."

These classifications will, of course, be explained much further in the discussion of the results. There were a

few comments that were not easily categorized. This classification scheme does, however, give the reader a good idea as to the general style of input offered by each subset of the board and by each of the two boards. During the four meetings, insiders and outsiders offered several hundred comments, and the scheme used to classify these appears to nicely capture the essence of their inputs. Of course, description and commentary adds to this classification scheme as the qualitative research questions are answered.

A detailed description is given as to the input offered by members. Comparisons are made between insiders and outsiders and between the high-performing organization and the low-performing organization. In addition, a general description of the style and character of the board meeting is provided, and especially interesting observations are noted.

In Chapter 2, some qualitative research questions were suggested. They are elaborated here.

1. Do inside directors offer more analytical insight to the board deliberations than do outside directors? Do outside directors offer more intuitive (tacit) insight than do inside directors?

The literature on analysis vs. tacit knowledge provides description of these inputs. Briefly stated, analytical input invokes or cites concrete data, information, or examples (Nonaka, 1994). Board members offering analysis

will refer very specifically to their source information. Their input is attached fairly specifically to concrete, analyzable data (Mitchell and Beach, 1990). They will have broken down certain data or reports or will have figured carefully on certain numerical information. Analysis relies on tangible, reliable evidence and facts. Tacit input is contributed when board members cite no particular source or evidence, but relate mainly experiences, feelings, or examples (Nonaka, 1994). Tacit input is difficult to verbalize and is transmitted through stories and examples. Often, tacit knowledge is reflected by merely saying, "I think... or I feel..." It involves a strong feeling on the part of the provider, but may leave the provider unable to explain his or her reasoning on the issue. Input that broadens or refines the discussion at hand, but does not add specific evidence to support or detract from it, also can be identified as intuitive input (Taggart and Robey, 1981).

Each of the boards are described in detail. Insiders are compared with outsiders on the content of their input. The differences between the high and low performing boards are documented through written description and through numerical count.

2. Can inside director input be characterized as the "primary" premise setting input (as opposed to reactionary response)? In other words, are inside directors the leaders of the discussion. Do they offer their analysis for outside director response?

3. Related to question #2, can outside director input be characterized as reactionary or responsive? Do they take what is said and expand it? Or, does an outside director(s) take a leadership or primary role in the discussion?

These simple questions ask merely: do insiders or outsiders typically instigate and lead the discussions on various issues? Which subset sets the tone for the discussion on a given issue? Do insiders truly set the line of reasoning for a given decision as Baysinger and Butler (1985), Rindova (1994), and others suggest? To what degree do insiders define and determine the decision to be made?

Relatedly, do outsiders follow insiders with reactionary input and refinement? Do they simply add to the discussion, or do they take a more active role in defining the parameters to be discussed? How do insiders behave with respect to controlling or leading the discussion? How do outsider behave? Do outsiders generally defer to the influence of insiders? Again, the high-performing board is compared and contrasted in detail with the low-performing board.

4. What is the content of insider and outsider input to the board meeting? Does it consist of reports, answering questions, explaining previous, or informing board members of future actions? Describe, in detail, the content of insider and outsider input.

The answer to this general question consists of numerical and written description of insider contributions to board deliberations. A numerical count of each type of

input has been taken. A thorough written description has been used to explain exactly what insiders contributed to the board deliberations. In addition, insiders and outsiders are contrasted and the insiders from the high performance board are contrasted with the insiders from the poorer performance board.

The important points noted in the qualitative observation will serve as closure to the quantitative analysis. What causes the differences between high performers and low performers? Can the differences be described? Further, what measures of board input seem to differentiate between high performers and low performers? How does the high performance board behave differently relative to their low performance counterpart? Which observations differentiated between insiders and outsiders? What are the major differences between the two sub-groups? This general question provides a great deal of latitude to the author to explain in written description what he thinks the important points in the qualitative analysis are.

Important questions are answered in this dissertation by way of a thorough quantitative cross-sectional study of board members. Additional questions are answered through qualitative description and classification. In this chapter, a thorough description was provided of the methodology to be employed in this study. These methods

have performed nicely in providing interesting answers to these intriguing questions. It is argued that the various findings converge to form a better understanding of boards with respect to their information processing and contributions to performance. They also, however, present new and important questions for future research. Chapter 4 will now reveal the quantitative findings, and Chapter 5 will discuss the results of the qualitative observation. Chapter 6 follows with a discussion of the findings and the implications of such results to the study of boards and the practice of management.

CHAPTER 4

QUANTITATIVE RESULTS

The cross-sectional survey responses were utilized to develop statistical insight on the exploratory questions posed in Chapter 2. The descriptive statistics and Pearson bivariate correlations for the board-level variables are provided in Table 4.1.

Descriptive Statistics and Correlation Results

Performance (effectiveness). Mean bank effectiveness (performance) for the fifty-nine respondents, averaged over 1992, 1993, and 1994, was 59.75 (s.d.=22.5), only slightly higher than mean performance for all banks in the state over that same time period, 56. This performance measure, the Sheshunoff President's Weighted Index, is a multi-faceted measure of bank performance, taking into account the factors considered in the industry standard C.A.M.E.L. rating (capital adequacy, asset quality, management effectiveness, earnings strength, and liquidity adequacy). The lowest performing bank registered a three-year average of 16, with the highest performing bank registering a 98 score. It

Table 4.1
Descriptive Statistics and Correlations

Variables	Means	St.Dev.	1	2	3	4	5	6	7	8	9
1. Bank Perform.	59.75	22.5	1								
2. Board Perform.	20.98	1.89	.56	1							
3. Board Activ.	25.5	2.66	.45	.49	1						
4. Competition	6.32	3.33	-.32	-.22	-.10	1					
5. Economic Cond.	62.24	13.77	-.35	-.21	-.15	.27	1				
6. Insider Anal.	35.12	2.91	.30	.30	.49	-.15	-.13	1			
7. Ins. Intuit.	18.24	1.64	-.05	-.14	-.18	-.02	-.04	-.02	1		
8. Outsider Anal.	29.27	2.47	.10	.11	.36	.01	-.05	.25	.02	1	
9. Outs. Intuit.	19.81	1.4	.22	.28	.15	-.04	-.05	.26	.06	.06	1

Note: Underlined correlations indicate $p<.05$

should be noted that the banks of Alabama, as a group, post outstanding performance when compared to other states. The state mean score of 56 places Alabama 12th out of all states in overall performance during the three-year period (Sheshunoff Information Services, 1995). A histogram plot of the bank performance measure indicated an approximately normal distribution, with scores skewed only slightly toward the positive end of the spectrum. A number of other variables demonstrated bivariate correlation with bank effectiveness, namely self-reported board performance, the level of board activity, the level of competition (negative correlation), the condition of the economy (negative correlation), and the level of insider analysis.

The five-item scale measuring board effectiveness was self-reported by the board insiders (bank managers serving on the board), who must be considered the ultimate consumers or beneficiaries of board input and advice. The five-item board performance measure had a mean score of approximately 21 (s.d.=1.89). With these five items scored on a Likert scale of 1 to 5, the average per-item score was 4.2, indicating that most insiders (bank officers) were very pleased with the overall performance of their boards of directors. Insiders generally agreed with the five positively-worded statements about their board's decision-related performance in board meetings. An examination of

the histogram plots of these observations indicated a fairly normal distribution, but with very little variability in the scores. The minimum score reported was 17 (3.4 per item) and the maximum score was reported at 24.5 (4.9 per item). The correlation between board performance and objective bank performance as reported by the Sheshunoff Index was .56 ($p<.01$), offering support to the notion that these two measures of performance are related, but certainly not identical performance indicators. Board performance also demonstrated bivariate correlation with the level of board activity, the level of insider analysis, and the level of outsider intuition, possibly indicating the styles and actions which appeal to the rating insiders.

Activity Level. Board activity level is the self-reported level of involvement, interest and care, and active communication exhibited by the board. All directors (insiders and outsiders) reported their perceptions of board activity, with the construct measured using a 7-item scale (scored from 1 to 5). The mean of 25.5 (s.d.= 2.66) yields a per item mean of 3.64, indicating that board members considered their respective boards moderately active to quite active. The minimum score was 20 (2.86 per item) and the maximum score was 30.75 (4.39 per item), indicating a range of "moderately" active to "extremely" active. An

examination of the histogram plot of this measure indicated an approximately normal distribution. Bivariate correlations indicate that this construct is related to performance, both objective performance and performance self-reported by management directors. The correlations also indicate that this variable is correlated with insider analysis and outsider analysis, not surprising given the likelihood that analysis is argued to be more visibly and ostensibly observed and considered more "active" in nature. Board activity level appears to be an extremely important variable in understanding board performance.

Control variables. The level of competition within an organization's area of operation and the local economic condition have been cited in prior research as important influences on organization effectiveness (Zahra and Pearce, 1989), and are included in this analysis as control variables. The mean number of bank competitors was 6.32 (s.d. 3.33). The most competitive county of operation had 16 banks and the least competitive had 2. The histogram plots indicate that the distribution of scores is skewed toward the lower end of the scale, with 80% of the counties having seven or fewer banks and the mode being four banks. It is widely held by statisticians that moderate departures from normality do not distort regression results. This

contention provides adequate support for retaining this variable as a control variable in the regression equations.

The economic condition of the county, disclosed by the Center for Business and Economic Research at the University of Alabama, was a weighted average of several important economic measures. These economic indicators include employment information, income and tax revenue information, population and employment growth, and trade figures. The average economic condition score was 62.24 (s.d.=13.77). The poorest economic score was 40 and the highest economic score was 95. The mean economic condition figure can be interpreted as follows: 80-100 indicates a strong to thriving economy, 60-80 indicates a moderate to strong economy, 40-60 indicates a weak to moderate economy, and under 40 indicates a failing to weak economy (CBER, 1995). An examination of the histogram plots of this variable indicated a fairly normal distribution, with most counties reporting a moderate economic condition. The composite economic condition of the state as a whole could be termed moderate.

Insider analysis. Insider analysis is a self-reported 9-item scale measuring the average level of analysis and explicit information utilized by a board's management (inside) directors as they consider important decisions.

The mean score on this measure was 35.12 (s.d.=2.91), with a minimum score of 26.67 and a maximum score of 41. On a per item basis, these results translate to a mean of 3.9, a minimum of 2.96 and a maximum of 4.55. These results indicate that management board members utilize fairly high amounts of analysis as they make sense of decision scenarios, with insiders of banks near the mean indicating they use analysis "much of the time." A review of the histogram plots indicate a fairly normal distribution, skewed only slightly toward the upper end of the distribution. As Table 4.1 indicates, this measure is correlated with board activity level, with both measures of performance, and with outsider intuition, possibly indicating that higher levels of insider analysis provide the specific information and insight necessary for outsiders to exercise good use of intuition, tacit knowledge, and general opinion.

Insider intuition. The level of insider intuition was measured using a 5-item self-report measure completed by board insiders. The mean on this score was 18.24 (s.d.=1.64) and the per item score is 3.64, indicating insiders use intuition "sometimes to much of the time" in board meetings. This moderately high level of intuitive analysis indicates that previous work by Agor (e.g. 1986a)

and others is correct to argue that complex decision scenarios compel managers to call upon intuitive and tacit insight and know-how. The minimum score here was 13.5 (2.7 per item) and the maximum score was 21 (4.2 per item), with the distribution of scores approximately normal. This variable was not correlated significantly with any of the other variables. The negative implications of high reliance by insiders on intuitive decision styles are proposed and discussed later in this chapter.

Outsider analysis. Outsider analysis is a nine-item self-report measure of the level of analysis employed by outsiders as they make decisions within board scenarios. The mean for this variable was 29.27 (s.d.=2.47), with a minimum score of 23.5 and a maximum score of 34. These results yield per item scores of 3.25 mean, 2.61 minimum, and 3.78 maximum. An examination of the histogram plot of these scores indicated a distribution approximating normality. Outsider analysis was correlated with insider analysis and also was correlated with board activity level.

Outsider intuition. Finally, outsider intuition is a five-item self-report measure of the level of intuition used by the board outsiders as they process decision-related information. Mean outsider intuition was 19.81 (s.d.=1.40) with a minimum score of 16.5 and a maximum score of 22.5.

Per item scores are 3.96 mean, 3.3 minimum, and 4.5 maximum. Outsider intuition was correlated highly with board performance, indicating that management directors are quite pleased to receive more general opinion and guidance from their outsider colleagues. Outsider intuition is also correlated with insider analysis, possibly indicating that outsiders need the input of management directors before they are able to offer meaningful tacit knowledge, reaction, opinion, and intuition.

Differences in Processing Style

Before performance relationships are explored, differences in processing styles among board members should be noted. Table 4.2 contains the results of Research Questions 1A and 1B, posed to uncover the basic differences in information processing style between inside directors and outside directors.

Before comparisons between insiders and outsiders were made, a two-way ANOVA was conducted to test for the overall effect of member type (insider/outsider), controlling for the organization's effect, information processing differences caused by factors peculiar to the different organizations. In other words, the ANOVA design allowed insiders and outsiders to be nested within each board, thus

Table 4.2
ANOVA and Comparison Results

Two-Way ANOVA with ANALYSIS as Dependent Variable

Source	Sum of Squares	DF	Mean Square	F	p
Main Effects	**3917.52**	**59**	**66.41**	**2.36**	**.00**
Insider/Outsider	2027.99	1	2027.99	72.19	.00
Bank Effect	2237.94	58	38.59	1.37	.05
Residual	**8399.44**	**299**	**28.09**		
Total	**12316.96**	**358**	**34.41**		

Insider vs. Outsider Contrast on ANALYSIS

	Mean	DF	Diff.	t	p
INSIDERS (n=163)	35.12 (3.9 per item)	327	5.85	-9.34	.00
OUTSIDERS (n=196)	29.27 (3.3 per item)				

Two-Way ANOVA with INTUITION as Dependent Variable

Source	Sum of Squares	DF	Mean Square	F	p
Main Effects	**301.69**	**59**	**5.11**	**0.77**	**.88**
Insider/Outsider	60.13	1	60.13	9.07	.00
Bank Effect	245.07	58	4.23	0.64	.98
Residual	**1983.11**	**299**	**6.63**		
Total	**2284.79**	**358**	**6.38**		

Insider vs. Outsider Contrast on INTUITION

	Mean	DF	Diff.	t	p
INSIDERS (n=163)	18.24 (3.6 per item)	357	1.57	3.55	.00
OUTSIDERS (n=196)	19.81 (4 per item)				

considering any effects caused by differences among boards.

With the 9-item analysis score as the dependent variable, it was very clear that variability in the scores was fairly high. This variability appears due to the effect of both member type (insider/outsider) and the board itself. Both main effects were significant, member type had an F of 72 (df=1, p=.00) and the bank effect had an F of 1.4 (df=58, p=.05). This indicates that the level of analysis utilized in a bank board meeting is influenced by the individual's membership type (insider or outsider) as well as by the board itself. Apparently some boards have created a culture and social setting in which indepth analysis is prevalent. In short, some boards are more analytical than others.

To answer Research Question 1A, a comparison was made between inside directors (bankers) and outside directors (non-bankers) across all boards on the 9-item analysis score. This comparison was made at the individual level, with a sample of 192 non-bankers and 167 bankers for the comparison (n=359). The mean analysis score for insiders was 35.12 (s.d.=5.765 and per item score=3.9) and the mean analysis score for outsiders was 29.27 (s.d.=4.89 and per item score=3.25). This yielded a sample mean difference of 5.85. The analysis scores of insiders (bank officers) were found slightly more varied (higher standard deviation) than those of outsiders, which caused rejection of Levene's test

for equality of variances. Using the two-group t-test robust to unequal variances, the difference of 5.85 was found to be significant (t (df=327.26)=-9.34, p=.00). It appears that insiders utilize analysis and explicit information somewhat more than do outsiders. Insiders appear to rely upon and utilize reports, data, and other hard information as they form their own opinions and as they report to the board on the organization's results and progress. Insiders indicate using analysis at a level approaching "much of the time" while outsiders report using analysis at a level much closer to "sometimes."

Another two-way ANOVA was run using intuition as the dependent variable. The main effect associated with member type (insider/outsider) was once again found to be significant (F (df=1)=9.065, p=.00). With intuition as the dependent variable, however, the effect of the board itself was not significant (F(df=58)=.637, p=.98). According to the results, all of the boards utilized a moderate to high level of intuition in their deliberations. In general, there appears to be much less variability in intuition scores relative to analysis scores. To answer Research Question 1B, a comparison was made between inside directors and outside directors across all boards on the five-item intuition score. The mean intuition score for insiders was 18.24 (s.d.=2.65 and per item score=3.65) and the mean

intuition score for outsiders was 19.81 (s.d.=2.54 and per item score= 3.96). This yielded a difference score of 1.57. The Levene statistic indicated that the two population variances are statistically similar in magnitude, justifying the use of the standard two group *t*-test. With this test, the difference score of 1.57 was found to be significant (*t*(df=357)=3.55, *p*=.00). This indicates that outsiders, on average, exercise a more intuitive decision style and more intuitive decision processes in the board meeting.

Overall, it appears that insiders are slightly more analytical than outsiders and outsiders are slightly more intuitive than insiders. Results do indicate, however, that insiders rely on intuition to a large extent and that outsiders (especially in some boards) tend to rely on analysis when making decisions. Differences between sub-groups were fairly small, and results do not allow categorization of insiders and outsiders as analytical and intuitive, respectively.

The distinctions between insiders and outsiders are enlightening, but certainly not conclusive. A much more valuable question appears to be "what influences do certain patterns or styles have on the quality of decisions?" Can we detect any relationships between processing styles and board and bank performance measures?

Effects of Processing Style on Performance

Table 4.3 reveals the results of regression equations calculated to uncover relationships between processing styles and bank and board effectiveness measures (RQ2A-RQ2D). In these results, a hierarchical regression procedure was performed to control for the effects of other variables before the variable of interest is added into the equation. In other words, unique effects associated with the variable of interest can be calculated by looking at the variable's effect over and above the other variables. In tests of main effects, the hierarchical procedure has two steps with control variables (the level of competition and the condition of the area economy) entered in the first step and the processing style (e.g. insider analysis) entered in the second step. In the tests of interactions, control variables are entered in the first step, all main effects are entered in the second step, and interaction terms are entered in the final step. Two dependent variables are utilized in these tests: objective bank performance and self-reported board performance. Statistical conclusions are based on resulting regression coefficients and changes in the coefficient of determination (R^2).

Insider analysis. Research Question 2A suggests a relationship between the level of insider analysis and bank

Table 4.3
Regression Results (RQ2A-RQ2D)

An asterisk (*) denotes the variable of interest.

RQ2A: Dependent Variable: Bank Performance

Variable	**Beta**	**Std Err.**	**t**	**p**
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Variable of Interest				
Ins. Analysis*	1.98	0.95	2.01	.04
Competition	-0.47	1.49	-0.31	.76
Economy	-0.42	0.36	-1.15	.25
F (df=3)=4.24, p=.01, R-square=14%, Change=5%, p=.04				

RQ2A: Dependent Variable: Board Performance

Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Variable of Interest				
Ins. Analysis*	0.18	0.08	2.14	.04
Competition	-0.06	0.13	-0.49	.62
Economy	-0.01	0.03	-0.325	.75
F (df=3)=2.55, p=.06, R-square=7%, Change=5%, p=.04				

RQ2A: Dependent Variable: Bank Performance
Test For Interaction

Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Ins. Analysis	0.58	1.03	0.57	.57
Activity	3.15	1.13	2.79	.01
Competition	-0.87	1.42	-0.61	.54
Economy	-0.28	0.34	-0.82	.41
F (df=4)=5.52, p=.00, R-square=24%, Change=15%, p=.01				
Step 3: Enter Interaction Term				
InAnal X Activ*	-0.24	0.23	-1.04	.31
Ins. Analysis	8.13	3.56	2.28	.03
Activity	13.34	5.13	2.61	.02
Competition	-0.33	1.22	-0.27	.83
Economy	-0.14	0.33	-0.42	.66
F (df=5)=5.44, p=.00, R-square=27%, Change=3%, p=.30				

Table 4.3, cont.
Regression Results (RQ2A-RQ2D)

Variable	Beta	Std Err.	t	p
RQ2A: Dependent Variable: Board Performance				
Test For Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Ins. Analysis	0.04	0.09	0.39	.69
Activity	0.32	0.1	3.37	.00
Competition	-0.11	0.12	-0.88	.38
Economy	0.003	0.03	0.12	.91
F (df=4)=5.12, p=.00, R-square=20%, Change=18%, p=.00				
Step 3: Enter Interaction Term				
InAnal X Activ*	-0.06	0.14	0.43	.64
Ins. Analysis	-0.12	0.83	0.14	.89
Activity	0.11	1.18	0.08	.94
Competition	-0.12	0.12	-0.89	.37
Economy	0.01	0.05	0.17	.86
F (df=5)=4.03, p=.00, R-square=20%, Change=0%, p=.64				
RQ2B: Dependent Variable: Bank Performance				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Variable of Interest				
Outs. Intuition*	3.22	1.98	1.62	.11
Competition	-0.67	1.51	-0.44	.66
Economy	-0.42	0.37	-1.14	.26
F (df=3)=3.58, p=.02, R-square=12%, Change=3%, p=.11				
RQ2B: Dependent Variable: Board Performance				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Variable of Interest				
Outs. Intuition*	0.37	0.17	2.15	.04
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.32	.75
F (df=3)=2.57, p=.06, R-square=8%, Change=6%, p=.04				

Table 4.3, cont.
Regression Results (RQ2A-RQ2D)

RQ2B: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std Err.**	**t**	**p**
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Outs. Intuition	2.33	1.84	1.27	.21
Activity	3.28	0.99	3.29	.00
Competition	-0.93	1.39	-0.67	.51
Economy	-0.27	0.34	-0.8	.43
F (df=4)=5.97, p=.00, R-square=23%, Change=13%, p=.01				
Step 3: Enter Interaction Term				
Out.Intu.XActiv.*	0.53	0.77	0.69	.49
Outs. Intuition	-11.61	20.23	-0.72	.57
Activity	-7.47	15.55	-0.48	.63
Competition	-0.79	1.41	-0.56	.57
Economy	-0.32	0.35	-0.91	.36
F (df=5)=4.83, p=.00, R-square=23%, Change=0%, p=.49				

RQ2B: Dependent Variable: Board Performance				
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Outs. Intuition	0.27	0.15	1.82	.08
Activity	0.32	0.08	3.85	.00
Competition	-0.11	0.11	-0.93	.36
Economy	0.01	0.03	0.14	.88
F (df=4)=6.21, p=.00, R-square=26%, Change=24%, p=.00				
Step 3: Enter Interaction Term				
Out.Intu.XActiv.*	0.1	0.06	1.51	.13
Outs. Intuition	-2.21	1.66	-1.33	.19
Activity	-1.61	1.28	-1.25	.22
Competition	-0.08	0.12	-0.72	.47
Economy	-0.01	0.03	-0.15	.88
F (df=5)=5.53, p=.00, R-square=28%, Change=3%, p=.13				

Table 4.3, cont.
Regression Results (RQ2A-RQ2D)

RQ2C: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std Err.**	**t**	**p**
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Variable of Interest				
Ins. Intuition*	-0.3	0.91	-0.33	.65
Competition	-0.69	1.54	-0.44	.67
Economy	-0.44	0.38	-1.16	.25
F (df=3)=2.66, p=.06, R-square=9%, Change=0%, p=.65				

RQ2C: Dependent Variable: Board Performance				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Variable of Interest				
Ins. Intuition*	-0.09	0.08	-1.16	.25
Competition	-0.08	0.13	-0.59	.55
Economy	-0.01	0.03	-0.4	.69
F (df=3)=1.43, p=.26, R-square=3%, Change=1%, p=.25				

RQ2C: Dependent Variable: Bank Performance				
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Ins. Intuition	-0.96	0.92	-1.04	.32
Activity	3.16	1.04	3.04	.00
Competition	-0.89	1.41	-0.63	.53
Economy	-0.27	0.34	-0.77	.44
F (df=4)=5.12, p=.00, R-square=20%, Change=11%, p=.01				
Step 3: Enter Interaction Term				
Ins.Int.X Activ.*	0.05	0.04	1.11	.28
Ins. Intuition	-2.96	2.24	-1.32	.19
Activity	2.37	1.31	1.82	.08
Competition	-0.91	1.41	-0.65	.52
Economy	-0.22	0.35	-0.64	.53
F (df=5)=4.75, p=.00, R-square=23%, Change=3%, p=.28				

Table 4.3, cont.
Regression Results (RQ2A-RQ2D)

Variable	Beta	Std Err.	t	p
RQ2C: Dependent Variable: Board Performance				
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Ins. Intuition	-0.15	0.13	-1.15	.27
Activity	0.31	0.09	3.54	.00
Competition	-0.11	0.11	-0.94	.34
Economy	0.005	0.03	0.16	.87
F (df=4)=5.45, p=.00, R-square=22%, Change=20%, p=.00				
Step 3: Enter Interaction Term				
Ins.Int.X Activ.*	0.001	0.01	0.17	.86
Ins. Intuition	-0.18	0.19	-0.93	.36
Activity	0.29	0.11	2.68	.01
Competition	-0.11	0.12	-0.87	.39
Economy	0.01	0.03	0.19	.85
F (df=5)=4.31, p=.00, R-square=22%, Change=0%, p=.86				
RQ2D: Dependent Variable: Bank Performance				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Variable of Interest				
Outsider Anal.*	0.76	1.15	0.67	.51
Competition	-0.78	1.55	-0.51	.62
Economy	-0.4	0.38	-1.07	.29
F (df=3)=2.75, p=.06, R-square=9%, Change=0%, p=.51				
RQ2D: Dependent Variable: Board Performance				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Variable of Interest				
Outsider Anal.*	0.08	0.1	0.83	.40
Competition	-0.09	0.14	-0.7	.49
Economy	-0.008	0.03	-0.26	.79
F (df=3)=1.19, p=.32, R-square=2%, Change=0%, p=.40				

Table 4.3, cont.
Regression Results (RQ2A-RQ2D)

RQ2D: Dependent Variable: Bank Performance Variable	Beta	Std Err.	t	p
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Outsider Anal.	-0.61	1.12	-0.55	.58
Activity	3.66	1.05	3.48	.00
Competition	-0.89	1.41	-0.64	.53
Economy	-0.28	0.35	-0.83	.42
F (df=4)=5.51, p=.00, R-square=24%, Change=15%, p=.01				
Step 3: Enter Interaction Term				
Out.Anal.X Act.*	0.59	0.49	1.21	.24
Outsider Anal.	-7.26	5.72	-1.26	.23
Activity	-6.34	5.66	1.12	.28
Competition	-0.66	1.41	-0.46	.64
Economy	-0.35	0.35	-1.01	.32
F (df=5)=4.86, p=.00, R-square=25%, Change=1%, p=.24				

RQ2D: Dependent Variable: Board Performance Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Outsider Anal.	-0.06	0.09	-0.66	.52
Activity	0.36	0.09	4.01	.00
Competition	-0.11	0.12	-0.88	.38
Economy	0.003	0.03	0.11	.92
F (df=4)=5.16, p=.00, R-square=22%, Change=20%, p=.00				
Out.Anal.X Act.*	0.07	0.04	1.52	.12
Outsider Anal.	-1.81	0.89	-2.36	.05
Activity	-1.74	1.07	-1.63	.11
Competition	-0.08	0.12	-0.66	.52
Economy	-0.005	0.03	-0.17	.87
F (df=5)=5.13, p=.00, R-square=26%, Change=4%, p=.12				

and board effectiveness, with effectiveness expected to increase as insiders offer more explicit information to the decision scenario. As Table 4.3 indicates, the level of insider analysis is significantly related to the level of bank performance, controlling for the economy and competition. The regression equation was found to be significant(F (df=3)=4.24, p=.01, R^2=14%), and results indicate that insider analysis is significantly related to bank performance, controlling for the economy and the level of competition (B=1.98, t=2.01, p=.04, R^2 change=5%). The control variables, economic condition and competitiveness, were not significant. These results indicate that bank performance tends to be higher when insiders analytically process and report bank data and decision-related information.

The relationship between the level of insider analysis and board performance was also found to be significant, controlling for the economy and the number of competitors (B=.18, t=2.14, p=.04, R^2 change=5%). Although the regression coefficient was found significant, the overall regression equation was not found to be significant at the .05 level (F (df=3)=2.56, p=.06, R^2=7.4%). Again, the two control measures were not significant in the equation. Inside directors appear to rate their boards slightly higher

in situations when more analysis is offered by their own sub-group. Insiders apparently feel good about their analytical inputs, which are generally beneficial to the board. More importantly, these inputs likely stimulate certain exchange processes which more clearly impact bank and board performance. These results will be explored later in this discussion.

The next test under Research Question 2A was to see if there was an interaction between insider analysis and board activity level in influencing bank performance. In other words, do higher board activity levels increase the relationship between insider analysis and bank performance? Adding of the main effects, insider analysis and activity, to the regression equation containing only the control variables resulted in an R^2 change of 15%. The influence of activity level on bank performance in this equation was quite strong. As Table 4.3 indicates, however, the interaction term (insider analysis X activity level) was not found to be significant when entered into an equation containing the control variables and the main effects (B=-.24, t=-1.04, p=.31, R^2 change=3%). It appears that the main effects in this equation (both were highly influential) overwhelm the explanatory power of the interaction.

With board performance as the dependent variable, the

results were similar. Controlling for the main effects associated with insider analysis and board activity level, the interaction term coefficient was once again not significant. These statistical results indicate that within the sample, levels of board activity did not appear to enhance (statistically) the analytical efforts of inside board members.

Outsider intuition. In RQ2B, outsider intuition was the processing style of interest. What is the relationship between level of outsider intuitive processing and bank performance? The regression coefficient associated with outsider intuition, controlling for the economy and competition, was not significant (B=3.22, t=1.63, p=.11, R^2 change=3%). The three variable equation of outsider intuition and the two control variables was, however, found to be significant (F (df=3)=3.58, p=.02, R^2=12%). These somewhat mixed results provide moderate, though not conclusive, support to the notion that general knowledge, experiences, suggestions and reactions of outsiders are generally favorable influences on bank performance.

The regression relationship between outsider intuition level and board performance, controlling for the economy and the number of competitors, was found to be positive and significant (B=.37, t=2.15, p=.04, R^2 change=6%). It can be

reasoned that insiders feel more favorably about the board's interactions when outsiders offer their intuitive input: general thoughts, feeling, reactions, intuitions. Again, the control variables were not significantly related to board performance, and the three variable equation was not significant at the .05 level (F (df=3)=2.57, p=.06, R^2=8%), though nearly so. The somewhat mixed results do indicate a generally positive influence on performance associated with the intuitive processing of outsiders.

Research Question 2B also suggested an interaction between intuitive processing on the part of outsiders and board activity level, with activity level thought to go hand-in-hand with (and generally enhance) the positive effects of an intuitive outsider group. In both sets of equations, the effect of the interaction term (over and above the effects of the control variables and main effects) was not significant. Indications are that the positive effects of outsider intuition are not signficantly enhanced by the board's level of activity. The main effects of outsider intuition and activity level once again accounted for a significant portion of the observed variation in the dependent variables.

Insider intuition. Research Question 2C suggests a relationship between board insider intuition level and the

two performance measures. The results thus far have indicated that insiders report using a considerable amount of intuition in board deliberations. It is more important to determine if this processing style is useful. Regression results indicate that the level of intuition reportedly utilized by insiders is not related significantly with bank performance (*B*=-.30, *t*=-.33, *p*=.65, R^2 change=0%). The three variable equation was also not significant at the .05 level (*F* (df=3)=2.66, *p*=.06, R^2=9%). With board performance as the dependent variable, the regression coefficient associated with insider intuition was also found to be non-significant (*B*=-.09, *t*=-1.2, *p*=.25, R^2 change=1%). In addition, the regression equation composed of insider intuition and the two control variables (economy and competition) was not significant (*F* (df=3), *p*=.26, R^2=3%). It appears that the level of intuition reported by insiders is not significantly related to either type of performance measure. Discussion and possible conclusions concerning the use of intuition in board meetings will be offered in Chapter 6.

Possible interactive effects between insider intuition and activity level were also suggested. With both bank performance and board performance as dependent measures, interactive effects were not significant when entered into

an equation already containing the control variables and the main effects. The effect of activity level was once again positive and quite strong, but higher levels of activity do not seem to enhance the value of intuitive processing by bank managers in the board meeting.

Outsider analysis. In Research Question 2D, the level of analysis utilized by outsiders in their decision making was the measure of interest. With both bank performance and board performance as dependent variables, non-significant results were obtained. In the bank performance equation, the regression coefficient (*B*) was .76 (t=.667, p=.51, R^2 change=0%). The three-variable equation was also not significant at the .05 alpha level (F (df=3)=2.75, p=.06, R^2=9%). In the board performance equation, the regression coefficient associated with outsider analysis was .08 (t=.83, p=.40, R^2 change=0%), and the regression equation was not significant (F(df=3)=1.2, p=.32, R^2=2%).

It was suggested that an interaction might exist between activity level and outsider analysis. It would seem that at higher levels of activity and involvement, outsiders could possibly have the information and know-how they need to delve into the details, numbers, and intricacies of the organization and to make useful analytical contributions. Despite expectations, however, the interactive effect was

not significant when controlling for the two main effects and the control variables. The interaction was non-significant with each of the two dependent variables, bank and board performance.

In summary, it is evident that insiders have a clear mandate to present and interpret factual, decision-related information to the board. Their performance of this role is beneficial to the bank and the board, apparently enhancing performance. Good board decisions seem to be related to considerable and careful analysis by knowledgeable insiders, and may serve to stimulate and inform all other board members, especially outsiders. The general knowledge, experience, and intuitions of outsiders appear beneficial also, especially with regard to the more subjective board performance measure. Surprisingly, activity level was not found to interact with any of the processing variables, though the direct importance of activity level with regard to performance is inherently clear. These results and possible interpretations are explored later. It may be that an interactive (moderating) effect is not the best explanation for activity's impact. A more mediating or intervening effect might be more explanatory. Attention is now turned toward determining if complementary relationships exist among board processing styles/inputs.

Interactions Among Processing Styles

Table 4.4 presents the results of regression equations used to test for interactive, complementary relationships between the processing styles of the two board sub-groups. Once again, the dependent variables of interest were bank performance and board performance. The control variables used in these equations are, again, level of competition and the condition of the area economy. In these tests of interactions, the control variables are entered first, the main effects entered second, and the interactive term entered in the final step. The general idea is to see if one processing style from one sub-group feeds off of and complements a particular processing style from the other sub-group. It is quite possible that the processing styles work in conjunction with each other and create a synergistic relationship. For example, research by Taggart and Robey (1981) indicate that "right brain" and "left brain" decision styles, equivalent in many respects to the concepts used in this study, are highly complementary. Nonaka (1994) indicates that tacit knowledge and explicit knowledge complement one another and actually stimulate the creation of new organizational knowledge. This study seeks to demonstrate complementary relationships between the two sub-

Table 4.4
Regression Results (RQ3A-RQ3D)

RQ3A: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std. Er**	**t**	**p**
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Insider Analysis	1.69	0.98	1.72	.09
Outsider Intuition	2.31	2.02	1.15	.26
Competition	-0.49	1.49	-0.33	.75
Economy	-0.41	0.36	-1.14	.26
F (df=4)=3.52, p=.01, R-square=14%, Change=5%, p=.07				
Step 3: Enter Interaction Term				
In.Anal.X Out.Intu.*	0.27	0.78	0.35	.73
Ins. Analysis	7.02	15.45	0.45	.65
Outsider Intuition	11.97	28.03	0.43	.67
Competition	-0.45	1.51	-0.3	.76
Economy	-0.41	0.36	-1.13	.26
F (df=5)= 2.79, p=.03, R-square=14%, Change=0%, p=.73				

RQ3A: Dependent Variable: Board Performance				
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Insider Analysis	0.14	0.08	1.66	.10
Outsider Intuition	0.29	0.17	1.67	.10
Competition	-0.07	0.13	-0.52	.60
Economy	-0.01	0.03	-0.3	.76
F (df=4)=2.68, p=.04, R-square=9%, Change=7%, p=.03				
Step 3: Enter Interaction Term				
In.Anal.X Out.Intu.*	0.05	0.07	0.69	.49
Ins. Analysis	-0.78	1.33	-0.59	.55
Outsider Intuition	-1.38	2.41	-0.58	.57
Competition	-0.07	0.13	-0.57	.57
Economy	-0.01	0.03	-0.29	.77
F (df=5)=2.22, p=.07, R-square=9.5%, Change=1%, p=.48				

Table 4.4, cont.
Regression Results (RQ3A-RQ3D)

RQ3B: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std. Er**	**t**	**p**
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Insider Intuition	-2.14	1.42	1.51	.14
Outsider Analysis	0.85	1.02	0.83	.41
Competition	-0.69	1.52	-0.45	.65
Economy	-0.36	0.37	-0.97	.33
F (df=4)=2.99, p=.03, R-square=12%, Change=3%, p=.16				
Step 3: Enter Interaction Term				
In. Intu.XOut.Anal.*	0.04	0.04	0.99	.33
Ins. Intuition	-3.91	2.36	-1.66	.11
Out. Analysis.	0.05	1.34	0.04	.97
Competition	-0.9	1.34	-0.67	.49
Economy	-0.31	0.37	-0.84	.41
F (df=5)=2.59, p=.04, R-square=12%, Change=0%, p=.34				

RQ3B: Dependent Variable: Board Performance				
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Insider Intuition	-0.32	0.15	-2.15	.04
Outsider Analysis	0.08	0.09	0.87	.39
Competition	-0.09	0.13	-0.65	.52
Economy	-0.004	0.03	-0.13	.90
F (df=4)=2.11, p=.09, R-square=6%, Change=4%, p=.08				
Step 3: Enter Interaction				
In. Intu.XOut.Anal.*	0.001	0.003	0.24	.81
Ins. Intuition	-0.35	0.19	-1.76	.08
Out. Analysis.	0.07	0.12	0.59	.56
Competition	-0.09	0.13	-0.64	.52
Economy	-0.003	0.03	-0.09	.93
F (df=5)=1.67, p=.16, R-square=6%, Change=0%, p=.81				

Table 4.4, cont.
Regression Results (RQ3A-RQ3D)

RQ3C: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std. Er**	**t**	**p**
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Insider Analysis	1.95	0.99	1.95	.06
Outsider Analysis	0.18	1.16	0.16	.87
Competition	-0.49	1.52	-0.32	.75
Economy	-0.41	0.37	-1.12	.27
F (df=4)=3.13, p=.02, R-square=12%, Change=3%, p=.13				
Step 3: Enter Interaction Term				
In. Anal.XOut.Anal.*	-0.64	0.41	-1.59	.12
Insider Analysis	18.32	11.15	1.64	.11
Outsider Analysis	19.66	13.5	1.46	.14
Competition	-0.54	1.49	-0.36	.72
Economy	-0.47	0.36	-1.3	.19
F (df=5)=3.08, p=.02, R-square=15%, Change=3%, p=.12				

RQ3C: Dependent Variable: Board Performance				
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Insider Analysis	0.17	0.09	1.87	.07
Outsider Analysis	0.03	0.1	0.32	.75
Competition	-0.07	0.13	-0.52	.60
Economy	-0.009	0.03	-0.29	.77
F (df=4)=1.91, p=.12, R-square=6%, Change=4%, p=.11				
Step 3: Enter Interaction Term				
In. Anal.XOut.Anal.*	0.03	0.04	0.81	.42
Insider Analysis	-0.67	1.05	-0.64	.52
Outsider Analysis	-0.96	1.24	-0.78	.44
Competition	-0.06	0.13	-0.51	.61
Economy	-0.01	0.03	-0.2	.85
F (df=5)=1.65, p=.16, R-square=6%, Change=0%, p=.42				

Table 4.4, cont.
Regression Results (RQ3A-RQ3D)

RQ3D: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std. Er**	**t**	**p**
Test for Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Insider Intuition	-2.91	1.69	-1.72	.09
Outsider Intuition	2.93	1.95	1.49	.15
Competition	-0.58	1.49	-0.39	.69
Economy	-0.38	0.36	-1.04	.30
F (df=4)=3.52, p=.02, R-square=14%, Change=5%, p=.07				
Step 3: Enter Interaction Term				
In.Intu.XOut.Intu.*	0.04	0.05	0.81	.42
Insider Intuition	-3.9	2.25	-1.73	.09
Outsider Intuition	1.89	2.33	0.81	.42
Competition	-0.59	1.49	-0.39	.69
Economy	-0.34	0.36	-0.94	.35
F (df=5)=2.94, p=.02, R-square=14%, Change=0%, p=.42				

RQ3D: Dependent Variable: Board Performance				
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Insider Intuition	-0.29	0.14	-2.03	.05
Outsider Intuition	0.34	0.17	2.01	.05
Competition	-0.07	0.13	-0.58	.56
Economy	-0.01	0.03	-0.19	.85
F (df=4)=3.07, p=.02, R-square=12%, Change=10%, p=.02				
Step 3: Enter Interaction Term				
In.Intu.XOut.Intu.*	0	0.004	-0.01	.99
Insider Intuition	-0.29	0.19	-1.51	.14
Outsider Intuition	0.34	0.2	1.69	.09
Competition	-0.07	0.13	-0.58	.57
Economy	-0.01	0.03	-0.19	.85
F (df=5)=2.41, p=.05, R-square=12%, Change=0%, p=.99				

groups within a board setting.

Insider analysis and outsider intuition. In Research Question 3A, it is suggested that analysis on the part of insiders enhances the positive influence of intuition by outsiders. Vice versa, it is suggested that outsider intuition strengthens and builds upon the analysis of insiders. This is the mingling of "prospectus" and "perspective" spoken of in the theory building portion of this document. The expected outcome of this requisite interaction is improved decisions and improved performance.

With bank performance as the dependent variable, the interactive effect of insider analysis X outsider intuition was not significant when controlling for the main effects and control variables (competition and economy) (B=.27, t=.345, p=.73, R^2 change=0%). Statistically, there is no evidence that the positive influence of one is enhanced by the presence of the other. With board performance as the dependent variable, similar results were obtained (B=.05, t=.698, p=.49, R^2 change=1%). The interaction between insider analysis and outsider intuition was not confirmed, although an effect was expected. The lack of such an effect will be discussed in Chapter 6.

Outsider analysis and insider intuition. Does a complementary relationship exist between outsider analysis

and insider intuition? Regression results indicate no significant interactive effects and lead one to conclude that outsider analysis and insider intuition are not complementary (B=.04, t=.99, p=.33, R^2 change=0%). With board performance as the dependent variable, results were similar (B=.001, t=.24, p=.81, R^2 change=0%). It seems likely that outsiders cannot draw from and utilize the intuitive processing of insiders for purposes of contributing to performance. Outsider analysis absent the important orientation and education from insiders (analysis) likely offers limited insight.

Insider analysis and outsider analysis. Are similar processing styles complementary? It might be that the perspectives and insights from the two parties are different enough that similar processing styles actually complement one another (e.g. Huber, 1991)? Does high levels of insider analysis lead to more beneficial outsider analysis? Does outsider analysis improve the quality of insider analysis? Do analytical outsiders serve to check the suggestions made by insiders? Such considerations are consistent with the arguments by Daily (1995) suggesting that outsiders are very valuable contributors to firm success, due largely to their ability to offer valuable suggestions and information. In the current research, however, a positive interactive effect

between insider analysis and outsider analysis was not confirmed. Effects were non-significant with both dependent variables: bank performance (*B*=-.64, t=-1.59, p=.12, R^2 change=3%) and board performance (*B*=.03, t=.81, p=.43, R^2 change=0%).

Insider intuition and outsider intuition. Would intuition on the part of both sub-groups form a complementary partnership? Findings here tend to indicate that these processing styles are not complementary. With bank performance and board performance as the dependent variable, the regression coefficient associated with the interaction terms were not significant. With bank performance as the dependent variable, the beta coefficient was .04 (t=.82, p=.42, R^2 change=0%). With board performance as the dependent variable of interest, the beta coefficient was very close to zero (*B*=-.0006, t=-.013, p=.99, R^2 change=0%).

The Influence of Activity Level on the Interactions

Do the expected complementary relationships between processing styles only exist in the most highly active boards? In other words, can interactive effects be detected in situations where requisite discussion and involvement are taking place? To test for this effect, a three-way

interaction term should be utilized. This effect is best explained as follows: the level of one variable influences the interactive relationship between the other two. In other words, two variables might interact but only when higher levels of a third variable are present. Earlier in this document it was suggested that the level of activity would enhance the interaction and exchange ongoing among board members. In theory, this suggestion is appealling. From a statistical standpoint, however, these interactions do not appear to exist. Results indicate that none of the three-way interactions were found to be significant. These results were found with both dependent variables. The results of all these regression equations can be seen in Table 4.5. Discussion and speculation on why significant findings were not obtained can be found in the discussion and conclusions chapter (Chapter 6).

A Complete Board Model and Alternative Explanation

The correlational and regression findings together tend to confirm the suspected utility of healthy exchange and sharing of appropriate information within the board meeting. The findings demonstrate the importance of insiders and outsiders as the meeting unfolds, but also tend to demonstrate the great importance of a highly active

Table 4.5
Regression Results (RQ4A-RQ4D)

RQ4A: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std. Er**	**t**	**p**
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Insider Analysis	0.31	1.05	0.29	.77
Outsider Intuition	2.2	1.9	1.16	.25
Activity	3.11	1.12	2.78	.01
Competition	-0.89	1.41	-0.63	.53
Economy	-0.28	0.34	-0.81	.42
F (df=5)=4.72, p=.00, R-square=24%, Change=15%, p=.01				
Step 3: Enter Interaction Term				
In.Anal.XOut.Intu.X Acti	-0.01	0.005	-1.68	.10
Insider Analysis	6.08	3.44	1.77	.09
Outsider Intuition	3.12	1.94	1.61	.11
Activity	11.67	5.89	1.98	.05
Competition	-0.46	1.41	-0.32	.75
Economy	-0.34	0.34	-1.01	.32
F (df=6)=4.59, p=.00, R-square=27%, Change=3%, p=.10				
RQ4A: Dependent Variable: Board Performance				
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Insider Analysis	0	0.08	-0.003	.99
Outsider Intuition	0.28	0.16	1.76	.08
Activity	0.32	0.09	3.4	.00
Competition	-0.11	0.12	-0.92	.36
Economy	0.004	0.03	0.14	.89
F (df=5)=4.88, p=.00, R-square=24%, Change=22%, p=.00				
Step 3: Enter Interaction Term				
In.Anal.XOut.Intu.X Acti	0	0	0.34	.74
Insider Analysis	-0.1	0.29	-0.33	.75
Outsider Intuition	0.26	0.17	1.59	.11
Activity	0.04	0.81	0.05	.96
Competition	-0.12	0.12	-0.95	.34
Economy	0.01	0.03	0.18	.86
F (df=6)=4.02, p=.00, R-square=24%, Change=0%, p=.74				

Table 4.5, cont.
Regression Results (RQ4A-RQ4D)

RQ4B: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std. Er**	**t**	**p**
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Insider Intuition	-1.38	1.7	-0.81	.42
Outsider Analysis	-0.49	1.13	-0.44	.65
Activity	3.35	1.12	2.98	.00
Competition	-0.85	1.42	-0.59	.55
Economy	-0.27	0.35	-0.79	.43
F (df=5)=4.51, p=.00, R-square=22%, Change=13%, p=.01				
Step 3: Enter Interaction Term				
In.Intu.XOut.Anal.X Acti	0.007	0.01	0.5	.62
Insider Intuition	-6.83	11.13	-0.61	.54
Outsider Analysis	-3.62	6.4	-0.57	.57
Activity	-0.36	7.55	-0.05	.96
Competition	-0.86	1.43	-0.61	.55
Economy	-0.24	0.35	-0.68	.49
F (df=6)=3.75, p=.00, R-square=22%, Change=0%, p=.62				
RQ4B: Dependent Variable: Board Performance				
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Insider Intuition	-0.15	0.14	-1.03	.31
Outsider Analysis	-0.04	0.09	-0.41	.69
Activity	0.32	0.09	3.41	.00
Competition	-0.1	0.12	-0.84	.41
Economy	0.004	0.03	0.14	.89
F (df=5)=4.35, p=.00, R-square=21%, Change=19%, p=.00				
Step 3: Add Interaction Term				
In.Intu.XOut.Anal.X Acti	0.001	0.001	-0.61	.54
Insider Intuition	0.42	0.94	0.45	.66
Outsider Analysis	0.29	0.54	0.53	.59
Activity	0.71	0.64	1.11	.27
Competition	-0.1	0.12	-0.82	.42
Economy	0	0.03	0.02	.99
F (df=6)=3.64, p=.00, R-square=21%, Change=0%, p=.54				

Table 4.5, cont.
Regression Results (RQ4A-RQ4D)

RQ4C: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std. Er**	**t**	**p**
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Insider Analysis	0.65	1.04	0.62	.54
Outsider Analysis	-0.69	1.13	-0.61	.55
Activity	3.34	1.18	2.84	.01
Competition	-0.79	1.43	-0.55	.58
Economy	-0.29	0.35	-0.86	.40
F (df=5)=4.44, p=.00, R-square=22%, Change=13%, p=.01				
Step 3: Enter Interaction Term				
In.Anal.XOut.Anal.X Acti	-0.006	0.006	-0.99	.32
Insider Analysis	4.92	4.42	1.11	.27
Outsider Analysis	4.27	5.11	0.84	.41
Activity	9.55	6.41	1.49	.14
Competition	-0.76	1.43	-0.53	.59
Economy	-0.31	0.35	-0.89	.37
F (df=6)=3.87, p=.00, R-square=23%, Change=1%, p=.32				
RQ4C: Dependent Variable: Board Performance				
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Insider Analysis	0.04	0.09	0.44	.66
Outsider Analysis	-0.06	0.09	-0.58	.57
Activity	0.34	0.1	3.34	.00
Competition	-0.1	0.12	-0.82	.42
Economy	0.002	0.03	0.08	.93
F (df=5)=4.11, p=.00, R-square=21%, Change=19%, p=.00				
Step 3: Enter Interaction Term				
In.Anal.XOut.Anal.X Acti	0.001	0.001	1.14	.26
Insider Analysis	-0.38	0.37	-1.01	.32
Outsider Analysis	-0.54	0.43	-1.25	.22
Activity	-0.27	0.54	-0.51	.59
Competition	-0.1	0.12	-0.85	.40
Economy	0.003	0.03	0.11	.91
F (df=6)=3.67, p=.00, R-square=22%, Change=1%, p=.26				

Table 4.5, cont.
Regression Results (RQ4A-RQ4D)

RQ4D: Dependent Variable: Bank Performance				
Variable	**Beta**	**Std. Er**	**t**	**p**
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.69	1.53	-0.45	.65
Economy	-0.43	0.37	-1.15	.25
F (df=2)=3.94, p=.03, R-square=9%				
Step 2: Enter Main Effects				
Insider Intuition	-1.38	1.67	-0.83	.41
Outsider Intuition	2.26	1.85	1.23	.23
Activity	3.01	1.04	2.91	.01
Competition	-0.87	1.4	-0.62	.54
Economy	-0.27	0.34	-0.78	.44
F (df=5)=4.89, p=.00, R-square=24%, Change=15%, p=.00				
Step 3: Enter Interaction Term				
In.Intu.X Out.Intu.X Act	0.02	0.02	0.85	.41
Insider Intuition	-12.08	12.85	-0.94	.35
Outsider Intuition	-6.8	10.95	-0.62	.54
Activity	-4.28	8.74	-0.49	.63
Competition	-0.87	1.41	-0.62	.54
Economy	-0.25	0.34	-0.72	.48
F (df=6)=4.17, p=.00, R-square=25%, Change=1%, p=.41				
RQ4D: Dependent Variable: Board Performance				
Test of Interaction				
Step 1: Enter Control Variables				
Competition	-0.08	0.13	-0.63	.53
Economy	-0.01	0.03	-0.35	.73
F (df=2)=1.46, p=.24, R-square=2%				
Step 2: Enter Main Effects				
Insider Intuition	-0.14	0.14	-1.04	.30
Outsider Intuition	0.27	0.15	1.78	.08
Activity	0.29	0.09	3.36	.00
Competition	-0.1	0.12	-0.87	.38
Economy	0.005	0.03	0.17	.87
F (df=5)=5.19, p=.00, R-square=25%, Change=23%, p=.00				
Step 3: Enter Interaction Term				
In.Intu.X Out.Intu.X Act	0.001	0.002	-0.45	.65
Insider Intuition	0.34	1.07	0.31	.76
Outsider Intuition	0.68	0.92	0.74	.46
Activity	0.62	0.73	0.85	.40
Competition	-0.1	0.12	-0.86	.39
Economy	0.003	0.03	0.14	.89
F (df=6)=4.29, p=.00, R-square=25%, Change=0%, p=.65				

directorate (Daily, 1995; Judge and Zeithaml, 1992; Pearce, 1995). It now appears necessary to assess the relative effects of all four processing variables (insider analysis, outsider intuition, insider intuition, outsider analysis) together in a regression model. In addition, as the research progressed it became clear that board activity level may serve to mediate rather than moderate the relationship between the information processing variables and performance outcomes. It therefore seems important to report the results of several regression equations designed in a *post hoc* fashion to better understand the direct and indirect effects of the four processing inputs and the role played by board involvement (activity) in conjunction with the various processing styles. In this exploratory portion of the research, several important variables were entered together in regression equations. In such exploratory research where variables are considered together, it appears appropriate to drop the critical significance level to .10. All regression effects with p-values lower than .10 are considered significant in this exploratory portion of the research and are discussed accordingly.

Relative Effects of Processing Styles. Before the intervening nature of activity level is assessed, the simple relationships between the four processing inputs and

performance should be measured. In these first two equations, the goal was merely to see what kind of relationship existed between each of the four processing inputs and the two types of performance measures. With bank performance and board performance as the dependent variables, the four independent variables were entered together in the overall regression models: insider analysis, insider intuition, outsider analysis, and outsider intuition. The results of these two regression equations are included in Table 4.6. The hope here was to see which input stood out as most important among all inputs (not including activity level) in an equation predicting performance. The standardized regression coefficients for all variables were calculated so that all variables could be placed on a comparable, standardized scale.

First, bank performance was used as the dependent variable. The largest standardized regression coefficient was associated with the level of insider analysis (*B*=1.97, Standardized=.26, *t*=1.86, *p*=.07). This was the only variable of the four which exhibited significance at the .10 level. The second largest standardized regression coefficient was outsider intuition (*B*=2.4, Standardized=.15, *t*=1.1, *p*=.26). The lack of impact from this factor is somewhat surprising. The next largest coefficient was

Table 4.6
Regression Results: Alternative Models

Variable	**Standardized Beta**	**t**	**p**
Model 1: Dependent Variable: Bank Performance			
(ACTIVITY LEVEL NOT INCLUDED IN THE EQUATION)			
Insider Analysis	0.255	1.97	1.86	.07
Insider Intuition	-0.051	-0.36	-0.39	.69
Outsider Analysis	0.022	0.19	0.17	.87
Outsider Intuition	0.151	2.42	1.13	.26
F (df=4)=1.73, p=.16, R-square=5%				
Model 2: Dependent Variable: Board Performance				
(ACTIVITY LEVEL NOT INCLUDED IN THE EQUATION)				
Insider Analysis	0.227	0.15	1.7	.09
Insider Intuition	-0.155	-0.09	-1.24	.22
Outsider Analysis	0.041	0.03	0.32	.75
Outsider Intuition	0.223	0.31	1.75	.08
F (df=4)=2.56, p=.05, R-square=10%				
Model 3: Dependent Variable: Bank Performance				
(ACTIVITY LEVEL INCLUDED IN THE EQUATION)				
Insider Analysis	0.06	0.47	0.42	.67
Insider Intuition	-0.125	-1.72	-0.97	.34
Outsider Analysis	-0.065	-0.59	-0.5	.62
Outsider Intuition	0.136	2.19	1.1	.27
Activity Level	0.378	3.21	2.55	.01
F (df=5)=3.46, p=.01, R-square=18%				
Model 4: Dependent Variable: Board Performance				
(ACTIVITY LEVEL INCLUDED IN THE EQUATION)				
Insider Analysis	0.01	0.01	0.07	.94
Insider Intuition	-0.138	-0.16	-1.11	.27
Outsider Analysis	-0.061	-0.05	-0.49	.63
Outsider Intuition	0.205	0.28	1.73	.09
Activity Level	0.433	0.31	3.05	.01
F (df=6)=4.75, p=.00, R-square=24%				
Model 5: Dependent Variable: Activity Level				
(Influence of Info. Processing Inputs on Activity)				
Insider Analysis	0.416	0.38	3.51	.00
Insider Intuition	-0.193	-0.16	-1.74	.09
Outsider Analysis	0.254	0.27	2.22	.03
Outsider Intuition	0.035	0.07	0.31	.76
F (df=6)=6.92, p=.00, R-square=29%				

See Figure 4.1 for a Summary of Significant Findings

associated with insider intuition, though it was not significant (*B*=-.36, Standardized=-.05, *t*=-.39, *p*=.69). Finally, the smallest coefficient was associated with outsider analysis (*B*=.19, Standardized=.02, *t*=.17, *p*=.87). The four-variable regression equation was not significant (*F*(df=4)=1.7, *p*=.16, R^2=5%).

With board performance as the dependent variable, the results seem somewhat more substantial. The four-variable equation was significant at the .05 alpha level (*F*(df=4)=2.56, *p*=.05, R^2=10%). The largest standardized coefficient was outsider intuition (*B*=.31, Standardized=.23, *t*=1.8, *p*=.08). One might recall that board performance level is based on the perceptions of insiders. The second largest standardized coefficient was associated with insider analysis (*B*=.15, Standardized=.23, *t*=1.7, *p*=.09). The third largest effect, though it was not significant, was the negative effect associated with insider intuition (*B*=-.09, Standardized=-.16, *t*=-1.2, *p*=.22). The smallest effect was associated with outsider analysis (*B*=.03, Standardized= .04, *t*=.32, *p*=.76).

Activity Level Included in Model. The next regression equations were calculated to test if any of the processing inputs were related to performance when the level of board activity was also included in the equation. This test would

reveal whether or not any of the processing variables influence performance when activity level is also considered. It seems that board activity level is possibly an important intervening variable and that board inputs might affect the intervening variable differently than the performance variables. Statistically, it appears that the effects of the board processing styles are diminished greatly when activity level is also included in the equation. The compelling findings are displayed in Figure 4.1 and Table 4.6. To summarize, the only significant direct effect beyond that of activity level was the effect of outsider intuition on board performance (*B*=.28, Standardized=.21, *t*=1.73, *p*=.09). The influence of activity level on both dependent variables was compelling. In the bank performance equation, activity level was the only significant independent variable (*B*=3.2, Standardized=.38, *t*=2.5, *p*=.01) and the equation was significant (*F*(df=5)=3.46, *p*=.01, R^2=18%). In the board performance equation, activity level (*B*=.31, Standardized= .43, *t*=3.1, *p*=.01) and outsider intuition (see above) were the only significant independent variables. The five-variable equation explained 24% of the variation in the board performance variable (*F*(df=5)=4.75, *p*=.00).

These results lead one to believe that activity level,

discussion, and involvement are the key influences on performance. The relative effects of the processing styles on performance were small when compared to those of activity level. There is no doubt, however, that the board's processing and input influences the level of activity. If appropriate processing styles lead to activity level, then this indirect effect on performance is just as important as a direct effect.

Influences on Board Activity Level?

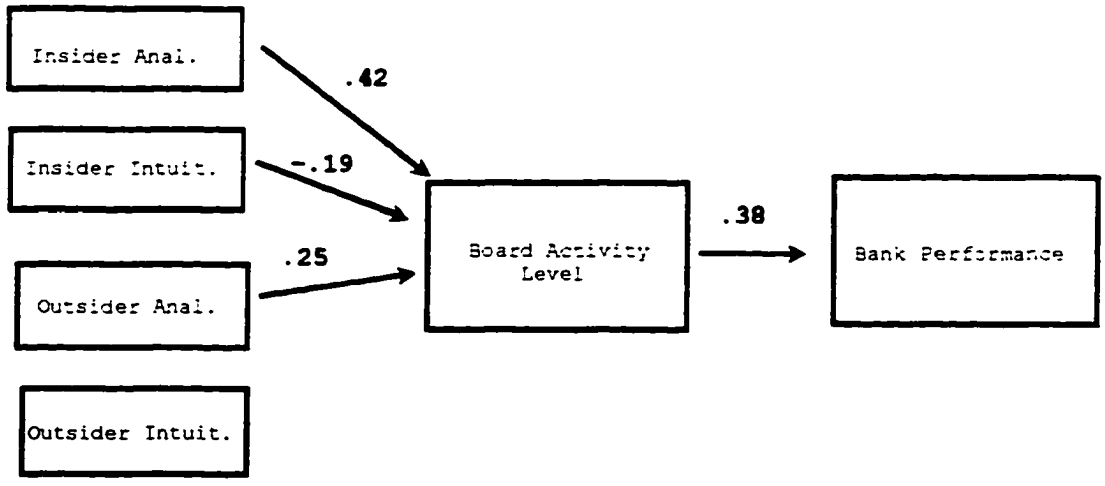
To test influences of processing styles on activity level, a regression equation was calculated with board activity level as the dependent variable and the four processing inputs as the independent variables: insider analysis, outsider intuition, insider intuition, and outsider analysis. In this equation, three out of the four processing inputs demonstrated significance at the .10 alpha level. First, insider analysis had the strongest impact on board activity level (*B*=.38, Standardized=.42, t=3.5, p=.00). It appears that strong insider analysis is requisite for the type of board activity necessary for productive and informed decision making.

The second most influential variable in the equation predicting activity level was outsider analysis (*B*=.27,

Standardized=.25, t=2.2, p=.03). Outsider analysis may result in more active boards, or more active boards may possibly allow outsiders to conduct effective analysis.

The final significant influence in this equation was the negative influence associated with insider intuition (*B*=-.16, Standardized=-.19, t=-1.74, p=.09). It appears that insider intuition is negatively related to the level of board activity. Although insider intuition can undoubtedly be beneficial in many cases, it could be that insiders who report using high levels of intuition in the meeting are likely hurting the level of activity and involvement exhibited by their board. This possibility is discussed in the discussion chapter of this dissertation.

It appears that outsider intuition plays a direct role in board performance rather than indirectly influencing performance through activity level. Outsider intuition, though not ostensibly active in nature, does appear to positively affect board performance. It does not, however, have a statistical effect on the level of board activity. Outsider intuition was not significant in this equation (*B*=.07, Standardized=.04, t=.31, p=.76). Figure 4.1 is included here to summarize the significant (.10) standardized regression coefficients in the alternative model. The four-variable model was significant



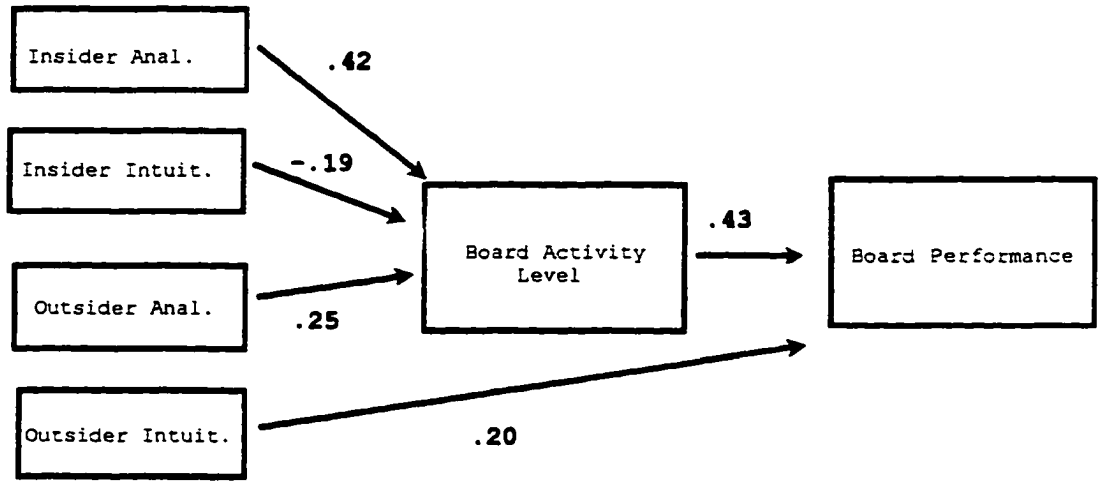


Figure 4.1
Full Board Models: Standardized Coefficients

(F(df=4)=6.93, p=.00) and explained nearly 30% of the observed variability in the activity level of the board.

Chapter 5 discusses findings from the qualitative case studies of two boards at work in the important decision interaction, the board meeting itself. A descriptive explanation of the proceedings is provided and several interpretations are offered. Chapter 6 is dedicated to more general interpretation and discussion of the quantitative and qualitative findings, suggested weaknesses of this research effort, and suggested topics for future research.

CHAPTER 5

QUALITATIVE RESULTS

In this research effort, qualitative observation plays an important role in describing the deliberations of bank boards. The primary benefit is that the types and patterns of input offered by directors can be observed and described. The boards of two independent banks, one with good performance ratings and one with relatively poor performance ratings, were observed and recorded on two occasions each. Specific goals here include observing the roles played by the two board sub-groups (insiders and outsiders) in the meetings and comparing and contrasting the styles of the two boards. It is important that this qualitative portion enrich, confirm, and extend the results of the quantitative/ cross-sectional portion.

The higher performing bank board, Board A, was observed on two occasions, the regular board meetings in September and October of 1995. The September meeting lasted approximately one hour and 55 minutes, and the October meeting lasted about one hour and 40 minutes. In the lower

performing bank board, Board B, observations were conducted in the July and August 1995 board meetings. The July meeting lasted about one hour and 20 minutes while the August meeting lasted about one hour and 30 minutes. The transcribed comments from these meetings along with the researcher's observations during the meetings themselves are utilized to answer and to provide more and different insight on the important questions posed by this research effort. In this chapter, the primary questions are reiterated and then answered to the degree possible with the information obtained. The complete answers to the qualitative questions will involve a combination of numerical information and verbal description.

Classification Procedure

Please refer to Table 5.1 for a brief overview of the classification scheme utilized. In Chapter 3, the classification scheme is described and example comments under each category are provided. At the outset it should be noted that the accurate and complete classification and characterization of verbal input in a board meeting is certainly not an exact science and was quite difficult. Some comments were very difficult to "pigeonhole" as a particular type of comment. Both of these boards had very

Table 5.1
Classification Scheme Used in Qualitative Portion

I. Report of factual, informative data and observation

   A. Unsolicited information/reports
      1. Information rich (numbers, useful facts)
      2. Less information rich but factual in nature.

   B. Solicited responses and explanations
      1. Information rich (numbers, useful facts)
      2. Less information rich but factual in nature.

II. Uses of stories, tales, and life observations (mixture of fact and intuition to share experiences)

III. Use of intuition/opinion/feelings to inform the board
   A. Unsolicited
   B. Explanation/Reaction/Response

IV. Process and Procedures

V. Questions
   A. Legitimate business-related
   B. Personal interest
   C. Rhetorical questions

VI. Minimally useful facts, chatter, jokes, and comments

VII. Directions/Suggestions to bank management

casual, conversational styles and inputs were mixed within a web of conversation, joking, personal "sharing," and other very informal exchange. Some inputs lasted longer than others and might have contained two or three types of content. In some instances, the tone of voice impacted the meaning of a comment. In these instances, the transcript does not capture the full meaning of a member's input. In many cases, the context played a role in determining what a director meant with a given statement. Though such an informal style of meeting posed a real challenge vis-a-vis classification, the characterization of comments appears to be quite effective.

In this study, an "instance" of input (sometimes referred to as a comment) will be the measuring unit of verbal interaction. These instances are definable, usually fairly short comments and suggestions. An individual instance (also referred to as a comment) is defined as a complete and distinct idea or thought, an intelligible input or consideration. In most cases, a board member's comments/remarks would contain one or two instances of input, though in longer statements more than two inputs could be found. In some cases, an input by a board member would contain two or three separate and distinct ideas. In other cases, a complete instance of input would be interrupted by two or three other board members' inputs. A

major finding in this portion is the degree to which directors are casual and the efforts directors make to relate to one another. Personal relations and friendly interaction appear very important in these two boards. Board members were observed spinning stories, sharing personal information, and engaging in considerable "chatter and jokes." In fact, the meeting was replete with instances of directors' getting off the subject and "rambling."

In order to get the most accurate classifications possible, the researcher followed a multi-step procedure. The researcher: 1) attended the meeting, 2) audio recorded the proceedings, 3) listened to the audio-recorded proceedings once before any transcribing, 4) transcribed the proceedings verbatim from the audio recordings, 5) checked the transcripts against the audio recordings again, and finally, 6) classified the comments of board members using the coding scheme included in Table 5.1. During the classification process, the researcher used the transcripts primarily but often referred back directly to the audio tapes. Including attending the proceedings firsthand, the researcher listened to each meeting at least four times.

It is very important to gauge the degree to which the researcher reliably and validly classified the board inputs. To measure the quality of classification, two other qualified individuals (academic colleagues) were called upon

to classify a subset of the transcripts. The researcher selected 90 inputs (about 10-15% of the total transcripts) representing all of the classification categories. The researcher was careful to include statements very easy to classify, statements moderately easy to classify, and statements difficult to classify. Due to the demand of anonymity and confidentiality, the researcher had to disguise and alter the content slightly to hide subject names, dollar amounts, and other particulars.

The researcher one to two hours with two additional judges, referred to as Judge 1 and Judge 2, explaining the nature of each category and example statements that would be classified in each category. Judge 2 is a more experienced researcher and has conducted research in the area of strategic management and top management teams. Therefore, *a priori*, Judge 2 was felt to have a better understanding of the research and the nature of the board inputs. Better agreement was expected with Judge 2. Both judges generally agreed with the appropriateness of the classification scheme and neither judge suggested new classification categories or elimination of an existing category.

The researcher and Judge 1 identically classified 66 of the 90 total instances of board input (73%). Of the 30 very easy classification statements, the researcher and Judge 1

identically classified 25 (83%). Of the 30 moderately easy classification statements, agreement was reached on 22 of the inputs (73%). Of the 30 difficult classification statements, agreement was reached on 19 (63%).

The researcher and Judge 2 identically classified 74 of the 90 total instances of board input (82%). Of the 30 very easy classification statements, the researcher and Judge 2 identically classified 28 (93%). Of the 30 moderately easy classification statements, agreement was reached on 25 of the inputs (83%). On the difficult board inputs, the researcher and Judge 2 identically classified 21 (70%).

Agreement between Judge 1 and Judge 2 was not quite as good, with agreement reached on 62 of the 90 total statements (68%). Of the 30 very easy board inputs, the two judge identically classified 22 (73%). Of the 30 moderately easy classification statements, agreement was reached on 24 (80%). Of the 30 difficult statements, the two judges reached agreement on 16 board inputs (53%). The somewhat lower agreement between the two judges may be partially related to differences in the interpretations of the researchers instructions and differences in understanding of the research presented.

Overall, there was agreement on 202 of 270 possible comparisons among the three judges, representing approximately 75% agreement. On the very easy instances of

board inputs, agreement was reached on 75 of 90 possible comparisons (83%). On the moderately easy instances of board inputs, agreement was at 78% (71 of 90). On the difficult classification statements, the judges agreed on 56 of the 90 possible (62%).

Though the 75% agreement is not outstanding, reasons for differences in ratings are not alarming. It was very easy to disagree on whether an analytical input was information rich or less information rich. It also was easy to disagree on whether a question was a legitimate business-related question versus a personal interest question. Often disagreement was related to whether an input was solicited or unsolicited. Overall, it can be argued that the judges agreed substantially as to the classification of important board inputs. Based on these results, it does not appear necessary to refine or change the classification procedure. The researchers efforts toward classification and characterization of meeting inputs appear acceptable.

Qualitative Questions

Tables 5.2 and 5.3 are provided to summarize numerically the content of the four bank board meetings. The questions of this qualitative portion can be answered quite well as a group. The observations used to answer

Table 5.2
Qualitative Observations: Board A
Insiders

I. Report of factual, informative data and observation
(NUMBER OF OBSERVATIONS)

	Unsolicited (Report)	Solicited Explanation
Information Rich	36	26
Less Informative (But Factual)	44	52

II. Use of stories, tales, and life observations (mixture of fact and intuition to share experiences and observations)
NUMBER OF OBSERVATIONS= 14

III. Use of intuition/opinion/feelings to inform board
(NUMBER OF OBSERVATIONS)

Unsolicited (Report)	Solicited Explanation
23	27

IV. Procedure/Process
NUMBER OF OBSERVATIONS= 21

V. Questions	(Legitimate)	(Personal Interest)	(Rhetorical)
OBSERVATIONS=	14	2	2

VI. Minimal Facts, Casual Chatter, Jokes, and Other Comments
NUMBER OF OBSERVATIONS= 21

VII. Directions/Suggestions to Bank Management
NUMBER OF OBSERVATIONS= 4

Table 5.2, cont.
Qualitative Observations: Board A
Outsiders

I. Report of factual, informative data and observation
(NUMBER OF OBSERVATIONS)

	Unsolicited (Report)	Solicit.Expl/Reaction
Information Rich	7	9
Less Informative (But Factual)	16	17

II. Use of stories, tales, and life observations (mixture of fact and intuition to share experiences and observations)
NUMBER OF OBSERVATIONS= 8

III. Use of intuition/opinion/feelings to inform board
(NUMBER OF OBSERVATIONS)

Unsolicited (Report)	Solicit.Expl/Reaction
8	26

IV. Procedure/Process
NUMBER OF OBSERVATIONS= 7

V. Questions	(Legitimate)	(Personal Interest)	(Rhetorical)
OBSERVATIONS=	64	8	2

VI. Minimal Facts, Casual Chatter, Jokes, and Other Comments
NUMBER OF OBSERVATIONS= 13

VII. Directions/Suggestions to Bank Management
NUMBER OF OBSERVATIONS= 11

Table 5.3
Qualitative Observations: Board B
Insiders

I. Report of factual, informative data and observation
(NUMBER OF OBSERVATIONS)

	Unsolicited (Report)	Solicited Explanation
Information Rich	19	17
Less Informative (But Factual)	24	38

II. Use of stories, tales, and life observations (mixture of fact and intuition to share experiences and observations)
NUMBER OF OBSERVATIONS= 18

III. Use of intuition/opinion/feelings to inform board
(NUMBER OF OBSERVATIONS)

Unsolicited (Report)	Solicited Explanation
18	33

IV. Procedure/Process
NUMBER OF OBSERVATIONS= 26

V. Questions (Legitimate) (Personal Interest) (Rhetorical)
OBSERVATIONS= 16 6 1

VI. Minimal Facts, Casual Chatter, Jokes, and Other Comments
NUMBER OF OBSERVATIONS= 16

VII. Directions/Suggestions to Bank Management
NUMBER OF OBSERVATIONS= 3

Table 5.3, cont.
Qualitative Observations: Board B
Outsiders

I. Report of factual, informative data and observation
(NUMBER OF OBSERVATIONS)

	Unsolicited (Report)	Solicit.Expl/Reaction
Information Rich	9	11
Less Informative (But Factual)	11	19

II. Use of stories, tales, and life observations (mixture of fact and intuition to share experiences and observations)
NUMBER OF OBSERVATIONS= 9

III. Use of intuition/opinion/feelings to inform board
(NUMBER OF OBSERVATIONS)

Unsolicited (Report)	Solicit.Expl/Reaction
12	31

IV. Procedure/Process
NUMBER OF OBSERVATIONS= 9

V. Questions	(Legitimate)	(Personal Interest)	(Rhetorical)
OBSERVATIONS=	42	11	1

VI. Minimal Facts, Casual Chatter, Jokes, and Other Comments
NUMBER OF OBSERVATIONS= 22

VII. Directions/Suggestions to Bank Management
NUMBER OF OBSERVATIONS= 20

these questions are complementary, developing and describing a style of input offered by the insiders and outsiders. These questions are provided here.

1. Do inside directors offer more analytical insight to the board deliberations than do outside directors? Do outside directors offer more intuitive (tacit) insight than do inside directors?

2. Can inside director input be characterized as the "primary" premise setting input (as opposed to reactionary response)? In other words, are inside directors the leaders of the discussion. Do they offer their analysis for outside director response?

3. Related to Question #2, can outside director input be characterized as reactionary or responsive? Do they take what is said and expand it? Or, does an outside director(s) take a leadership or primary role in the discussion?

4. What is the content of insider and outsider input to the board meeting? Describe, in detail, the content of insider and outsider input.

Before any answers are explored, it is important to briefly review how these questions can be answered from the qualitative observations. The observations and transcripts of the four meetings allowed for the categorizing of data as analytical versus intuitive in nature. The primary distinction is that analytical inputs are seen as being drawn from some definable or intelligible point of data or fact (Taggart and Robey, 1981). The key determinant of "analytical" is generally viewed as having some basis in fact, usually observable (Hogarth, 1987; Nonaka, 1994). Analytical (explicit) inputs were seen as including or

alluding to concrete, factual data either found on documents presented during the meeting or from the memories of participants. For example, an inside director might report on a customer's financial situation. An inside director might report on the collateral available on a loan. An outside director might report that a particular competitor is offering higher CD rates. In Chapter 3, more examples of input are provided.

The volume of analytical inputs could be subdivided further based on the appropriateness and richness of information provided. Inputs "rich in information" were seen as based on detailed data and facts more directly and materially related to the decision at hand. In other words, if highly informative, factual inputs were offered versus more general (but nonetheless factual) inputs, that input would be classified as "information rich" versus "less information rich." Obviously, this called for some discretion on the part of the researcher, but the distinction appears highly valuable. There is a very clear distinction between "information rich" analytical input and intuitive input. When a director entered "information rich" input, it was very clear that the intent was to offer analysis (or the results thereof) and detailed insight on the decision at hand. "Less information rich" input is not clearly related to the decision at hand, and appears to be

much less important to the deliberations. Such input is not clearly the product of decision analysis.

Overall, the "information rich" input is more clearly analytical and more clearly intended as input on a given situation. As such, it is more confidently included as an "analysis" indicator. It can be argued that information-rich input is clearly the product of analysis whereas less informative input is not clearly related to analysis on the decision scenario.

Intuitive input is knowledge, expertise, and opinion that is not tied to some recognizable and definable point in fact. It represents general knowledge, often communicated rather briefly and simply and without extensive supporting data. Opinion is a key component of intuitive input. A director might argue that the a report "looks good and seems positive." A director might postulate that "it would not be a good idea to take that collateral." In general, when a director offered decision-related opinion or insight without any clear indication of evidence or cue from factual data, the input was generally considered intuitive. It has been established that intuitive decision making often involves being impatient with routine and details. Use of intuition often allows a decision maker to cut through details and complicating evidence. Certainly, intuition is difficult to detect, but lack of connection to factual resources is a

good overall indicator.

Also, one could infer from the proceedings the style of input in terms of its proactive or premise-setting nature versus its reactivity or responsiveness. In other words, some comments were seen as proactive or unsolicited "premise shaping" that "set the tone" or led off the discussion. An input that was unsolicited (a report) was seen as more proactive in nature, meant more to guide the deliberations. Questions asked by participants were viewed as being somewhat proactive in nature, but are certainly more reactive or responsive than the premise-setting reports often presented during board meetings. Solicited responses and solicited input are seen as directly tied in content to the preceding input (building off previous comments) and are more reactive or responsive in nature. Answers to questions or commentary based on another director's questions or suppositions are viewed as responsive in nature (solicited).

Any input that dramatically changed the nature of the discussion or seriously questioned the premises of the discussion was viewed as proactive in nature. Any additions or clarifications that did not seriously alter the discussion premises are seen as responsive in nature. From these general classes of input, answers to the qualitative questions can be crafted.

The classification scheme was used to inventory the

content of insider and outsider input. The types of inputs offered are described and counted. The nature of insider and outsider inputs are compared and contrasted. The major differences between the higher performing board (Board A) and the lower performing board (Board B) are documented.

Qualitative Answers

To answer these questions, many of the general classes of input are reviewed and then overall answers are formulated. Information from Tables 5.2 and 5.3 are very important in formulating these answers.

Unsolicited Reports of Fact

The most important and most informative input to the meetings appears to be the unsolicited report of factual information to the board, viewed here as premise-shaping input. As expected, insiders in both boards clearly offer more of this factual reporting than do outsiders. In previous pages, it is argued that insiders' reports and explanations of decision-shaping evidence are extremely important to decision success as well as to the board activity level which influences a board's decision success.

These reports are directly related to the daily operations of the bank and are primarily used to bring the

board "up to speed" on the bank's operations and "in tune" with the thinking of management and experts within the organization. Board research has consistently called for highly informative reports by officers to the board of directors (Pearce and Zahra, 1992). In this study, there is direct evidence that insiders consider it important to update and inform their outside directors on their activities and outcomes.

In Board A (the higher performing board), these reports were more clearly informative and insightful than those in Board B. The usefulness and detail of information provided by Board A insiders was noticeably better. The accompanying explanation and clarification also was of higher quality. A number of fairly lengthy, detailed reports were given by the Chairman and by two other officers of the bank. These reports conveyed a number of key ratios (and compared them to prior months) and progress toward major goals set in previous board meetings. These reports were quite informative and officers explained what the operating results meant to the present and future operations of the bank. In the researcher's opinion, this report process serves as an orientation to the board members, getting them prepared to ask key questions and to provide detailed discussion on bank issues. As will be noted, the outsiders of Board A actually asked more questions than the outsiders

of Board B. This does not appear due to a lack of information. To the contrary, it appears due to being more informed and "in tune" with the decisions being made by the board. In short, more information seemed to create a "need to know" on the part of outsiders.

Beyond this early report process, the insiders were prepared to introduce each decision discussion with a number of key measurements and supporting facts. In general, the insiders of Board A had completely analyzed and understood the important information, and they were thoroughly prepared to present their findings to the board. In fact, it can easily be argued that insiders from Board A had sufficiently prepared a "prospectus" decision offered for further refinement and improvement. In Board A, insiders could be confidently termed "incessant" and "determined" with regard to informing their boards. During the 3.5 hours of meetings, the insiders provided approximately 36 instances of unsolicited, information-rich, analytical facts and figures. This represents a rate of about one instance (report) of unsolicited factual information/explanation about every six minutes in the meetings. During their meetings, most unsolicited facts were associated with the early reports to the board. The insiders of Board A also offered approximately 44 unsolicited instances of factual but less-informative inputs. Many of these instances were

not directly related to the primary deliberations, but cannot be dismissed as useful pieces of decision information. Due to conservative classifying on the part of the researcher, these "less-informative" inputs could potentially be much more valuable. It is difficult for an outside observer to accurately gauge the ultimate usefulness of an insider's input.

When insiders are compared to the outsiders, the results are quite compelling. Outsiders of Board A "led off" discussion with factual input and analysis at a much lower rate. Outsiders provided only 7 instances of information-rich unsolicited input, though they provided 16 instances of less-informative unsolicited factual input. In most of these instances, the outsiders were providing detailed information about external environment elements such as competitors, customers, or government. The overall findings give some indication that the inside directors of the bank are expected to present the prospects and results of management action, and to do so in a clear and factual manner. Outsiders certainly play an important role in the proceedings, but it is not as a premise-setter or leader of the discussions.

Board B's insiders also were quite prepared to offer information-rich input to board deliberations, but not as effectively as were the insiders of Board A. During the two

meetings of Board B, insiders offered 19 instances of information-rich unsolicited reports to the board. This is a much lower initial analytical input than from Board A's insiders, but this rate still indicates one such input every 9.5 minutes. Board B insiders offered 24 instances of the less-informative (but factual) unsolicited reports. Nonetheless, there appears to be a commitment on the part of Board B insiders to offer information about the firm's operations. It should be noted that Board B provided one or two more printed handouts, but it was not apparent to the researcher that board outsiders utilized this printed information heavily.

When compared to the outsiders of Board B, however, the insiders of Board B were clearly more inspired to "provide the lead" in decision making deliberations. Insiders once again out paced outsiders in providing discussion-shaping evidence and explanation. Outsiders of Board B only offered 9 instances of information-rich unsolicited reports and provided 11 instances of less-informative unsolicited inputs during the three hours of meetings. Interestingly, the outsiders of Board B are roughly comparable on these measures to the outsiders of Board A. The distinction between the outsider groups becomes clearer, however, as this discussion proceeds.

It is not clear that differences in performance between

the two boards can be attributed totally to differences between the reports of insider groups. The real incremental value of Board A's reports can be described, however. The primary distinction between the two boards' insiders lies in the preparation and apparent attitude of the insiders. In Board A (the higher performer), the attempt to invoke and inspire outsider input is more apparent. It seems that Board A insiders were more prepared to provide the information they knew the outsiders needed. Board A insiders had a certain zeal and seemed to consider their informative duties more critical to decision success. This attitude among board insiders toward informing the board may be a key distinction between those boards who truly help their banks and those who merely check operations.

If detailed reports of unsolicited, important decision-related information can be deemed analytical in nature and can be deemed as the guiding input to a meeting, then a number of important contentions have been confirmed through these observations. It is apparent that insiders of the board are obligated to bring forth the necessary "state of the firm" in terms of important information and observations from the operations of the bank.

In both boards, insiders provided the "lead-off" information on almost every issue. In many cases, this information was quite sufficient for making the decision,

but in other instances the board members asked questions and engaged in sufficient discussion to strengthen the decision premises. Without this important guiding information and rationale, the board discussions could be misguided and essentially pointless. Worse yet, without appropriate information the discussions would simply never occur. These inputs provided the basis for the remainder of the meeting and essentially make the deliberations "two-sided" by giving the less-knowledgeable insiders the information they need to formulate appropriate questions and commentary. Without the appropriate inputs, some members of the board may find themselves merely listening to the proceedings rather than formulating a meaningful response. These fact-filled reports seem to get everyone involved in the discussions.

Unsolicited Intuition/Opinion/Feelings

Also apparent in the unsolicited reports were suggestions of feelings, opinions, and general "gut reactions" about a decision issue. These inputs must be seen as guidance to the rest of the board, but feelings and opinion such as these can potentially mitigate, moderate, or completely deter a decision maker away from the facts and analysis presented. These examples of intuitive inputs are viewed as informative, but potentially harmful if not

coupled with appropriate objective evidence. If an insider presented a report on only his/her feelings and opinions, others receive this with no evidence of why such conclusions were reached. This is a primary disadvantage of using tacit knowledge and intuition: that the basis for conclusions are not easily communicated leaving the evaluator with little evidence as to the appropriateness of conclusions. Intuitive conclusions may be quite effective but alone are not especially informative from a group dynamics perspective. From a positive standpoint, however, the outsiders of the board would probably like to hear insider opinion/reaction, in addition to analysis, before offering any input.

The insiders of Board A offered 23 instances of unsolicited intuitive inputs whereas the insiders of Board B presented 18 instances. This is certainly not a meaningful difference when one considers that Board B's two meetings were about 30 minutes shorter in length. When compared to more objective inputs, Board A insiders could be termed more objective than intuitive in their reports and Board B insiders were approximately balanced in the nature of their inputs.

In many cases, these inputs were intermingled with the more objective reports mentioned previously. For example, a bank director (also a loan officer) reporting on consumer

loans remarked that a particular customer with poor credit ratings would likely pay his debts. The loan officer reported that "people will pay you if they want to pay you." This is very important information because it totally changes the nature of the more objective credit reports. It might even change the attitudes of less-knowledgeable outsiders as they consider credit risks. A bank could, however, conceivably find itself with a portfolio of poor loans if objective evidence is ignored and the less quantifiable evidence alone is followed.

It was apparent to the researcher that in Board A the goal of insiders was to invoke feedback and that they were quite adept at doing so. Intuition and objectivity were mixed effectively so as to spark outsider thought and response. These insiders relied on neither type of input alone. For example, the chairman of Board A expressed satisfaction with several key ratios and thought that "they indicate improvement in the most important areas." This mixture of inputs was followed closely with: "I really want to hear what y'all think about these results. Is this the kind of performance y'all had in mind?" In the researcher's opinion, the insiders of Board A were more accomplished at "sparking" outsider input by carefully introducing intuitive judgements at appropriate points in the discussion.

The insiders of Board B, in contrast, often entered

intuition as the major portion of the report, seemingly as the primary update on the issue. For example, the chairman of Board B brought up an especially important topic and remarked: "(Loan staff has) given this matter a lot of thought and we believe that taking a second mortgage...(is the best option)." This is not clearly an intuitive decision but is effectively such. In no way was this insider attempting to invoke outsider comment or questioning. The decision had been made and the insider was merely reporting that conclusion. Actually, this was fairly typical in Board B. Intuitive reports were used as substitutes to factual reports rather than as complements or augmentation. It might be suggested that less-detailed reports serve effectively to inform the board without getting them involved in the discussion of decision details. Could this be an indication of the insiders' opinions about outsider input? Could insiders who do not value the active input of outsiders use more intuitive reports as a means to inform outsiders without getting them involved in the details? No answer is available here, but this is certainly a meaningful question for future research.

One very interesting observation from the meetings is the use of lengthy stories, tales, and observations to convey experience and, supposedly, important information. Work by Nonaka (1994) and other researchers has alluded to

the use of analogy and stories to convey tacit knowledge, and this could certainly be the case with these tales. Directors apparently spend a great deal of time and energy sharing personal thought and experiences, relating personal information, and generally relating personally with one another. Directors must maintain a very complex social relationship based on mutual respect, total trust, confidentiality, and a sense of pride and responsibility. Friendship, likability, and good will appear to be very important to the board.

It is difficult to explain in written words the degree to which these stories were rather tangled and rambling mixtures of fact, thoughts, feelings, quotes, and other elements. They cannot be classified as either intuitive or factual. In most cases, these stories did not appear to be directly related to the decision-related discussions, though they obviously served an important purpose and conveyed very important meaning. The stories seemed to inform the group about different events, episodes, and other experiences from the past and present that may or may not come to bear on the decisions being made. These stories are apparently used to create a certain bond or common ground among the board members. The stories and tales usually lasted several minutes and all members apparently gleaned useful information from the story, though it was never clear to the

researcher how the information impacted the quality of discussion. There appeared to be a willingness on the part of all directors from both banks to "share freely" with one another and to hold open dialogue on business, government, key current issues, and, surprisingly, the past.

There is certainly a connection here with the nature of life in small towns in the South. There was an incredible desire on the part of these rather prominent people to relate to one another openly and to share freely. In Board A, insiders offered 14 such tales and outsiders offered 8 of these stories. In Board B, insiders offered 18 stories whereas outsiders offered 9. The significance of these stories to decision effectiveness cannot be surmised, but are nonetheless interesting elements of a board meeting.

Overall, it can be argued that insiders are the leaders of the meeting and certainly set the premises of the meeting. They apparently present the "prospectus" information that will be further clarified through discussion and question/answer sessions. It is clear from these observations that insiders must openly deal in facts and figures, though expressions of thoughts and feelings were well-represented in their reports. The danger of insiders who fail to present adequate data and fact is apparent given these observations, for these updates provided the basis for further discussion. Insiders of

Board A presented 36 clearly factual reports while presenting 23 clearly intuitive inputs. Insiders of Board B presented 19 clearly factual reports while presenting 18 clearly intuitive reports. There is no conclusive evidence, then, that insiders are clearly more analytical than intuitive, though the importance of analysis and facts/figures was evident in the board discussions.

The outsiders of the board do not appear to take a leadership role via presentation of reports and other information. They take cues from insiders on the topics of discussion and the basic set of information that will be brought to bear on that discussion. Outsiders appear to take what is reported and expand upon it, either through commentary or by posing important questions. It now seems appropriate to turn attention to the discussion which follows the premise-shaping inputs.

Questions

It is accepted that questions and responses are a major portion of the board meeting, though their extreme importance in the board meeting was not fully anticipated in this research. The questioning and responding process is a major way to uncover important information and a major impetus for good discussion. For example, the use of

questions is a primary means by which insiders can stimulate outsider input. Outsiders also can use questions to gather more information about the decision to be made. One banker commented in a private conversation that "just knowing that directors ask questions is a major motivation to do a good job." Much research has pointed out that outsiders should ask good questions and should make the managers of the firm really think out their strategies and operational plans (Boulton, 1978; Rindova, 1994). Answers to questions serve as augmentation to the unsolicited reports presented. Reports can be clarified, explained, and improved through careful answering of questions. Further, insiders can gain valuable factual information from outsiders through appropriate questioning. In this study, questions were divided into three different types.

Legitimate questions. First, "legitimate" questions are seen as requests for information directly applicable to the deliberations at hand or in some way intended to improve the decision process. Legitimate questions were usually either requests for more factual information to aid the decision process or requests for opinion and conclusion. Insiders generally asked other insiders for factual information and asked outsiders for opinion and conclusion, giving more evidence that insiders are the providers of fact and the

outsiders are primarily used for their valuable insight and opinion. Outsiders generally asked insiders for more details and explanation of factual information used in the decision process. Interestingly, outsiders did not ask other outsiders many legitimate questions.

In many cases, outsiders asked questions but did not obviously use the information in further commentary. Interestingly, it seems that outsiders ask questions to merely "check" the management of the bank. It seems that outsiders realize the need to see if managers are thinking soundly. Questions were apparently asked just to let management know that such information was on the minds of the directorate. Outsiders also seemed to ask questions to get managers to think about the decision from a different perspective. For example, in both boards outsiders often asked "have you thought about...?" or "have you considered...?" The thought-provoking value of these questions seem to outweigh the value of information obtained.

In Board A, insiders only asked 14 legitimate, decision-related questions. In 9 of these instances, insiders made direct requests for outsider opinion on important issues. In 3 of these instances, insiders asked other insiders for decision-related information or clarification. In the remaining 2 instances, the insiders

asked outsiders for more factual information about the decision. In Board B, insiders asked 16 legitimate questions. Of these, 8 were direct requests for insider opinion, 6 were directed toward other insiders, and the remaining 2 instances involved gathering factual information from outsiders. Numerically and qualitatively there were few differences in the questioning styles of the two sets of board insiders.

Outsiders, on the other hand, were extremely active inquisitors. During the 3.5 hours of board meeting, Board A outsiders asked an amazing 64 legitimate questions. What is so interesting about this is that Board A was credited earlier with being adept at providing the information needed by outsiders. It is intriguing to note that the more informed board members are seemingly so curious. Could it be that more information places the directors in a position cognitively to ask more questions? It could be that these directors do not really need the answers, but find themselves in a position to ask questions that they know will stimulate and guide management thinking. Most of these 64 questions were directed to insiders, and insiders responded/explained with factual analysis as well as intuitive feelings or opinions.

Board B outsiders also asked a tremendous number of legitimate questions. During the two meetings, these

outsiders posed 42 legitimate requests for more information or explanation, most of which were directed to insiders. The major difference between the questions of Board B outsiders and those of Board A outsiders was simply that Board A outsiders asked about 50% more questions. Board A outsiders were possibly more probing and seemed somewhat more purposeful in their questioning. Board A outsiders appeared to ask questions based on more knowledge and on more confidence. The researcher sensed that Board A outsiders were more sure of themselves and of their questions. It seemed that there was more cohesiveness and connectivity running through their lines of questioning, though this observation is not conclusive. What is clear is that the very process of questioning uncovers and exposes much more information. It is certainly a very important part of the board discussions.

Finally, it can be argued that good reporting practices on the part of insiders will lead to effective questioning by outsiders. This exchange process has several benefits. What appears most beneficial is the fact that through reporting and subsequent questioning, inside directors are exposed more thoroughly to important information that can help them in their decision making.

Personal interest questions. The researcher also

observed questions that were not directly related to the decision and seemed rather extraneous to the proceedings. For example, some directors asked what might be considered "personal interest" questions. These were requests for information not related to the decision but seemingly used to gather personal knowledge. Outsiders were especially prone to ask these types of questions though insiders also requested personal information. The "personal interest" type of question might be related to the use of stories noted earlier. These board members might feel the board meeting is an excellent time to share life experience and to ask one another for information that would be helpful at a later time. As mentioned earlier, it may be important for the group to find common ground and to build group cohesiveness. Board members, especially in smaller towns and more rural areas, are placed in positions well-suited for gathering private and personal information. Board members are given access to very sensitive financial information about numerous people they know. They also are given access to sensitive information about businesses, churches, schools, and other institutions in the community. A bank is integrally involved with almost everything that occurs in a community and directors are often curious to find out what the bank knows. In this study, there was evidence that directors are curious to find out about the

bank, about others, and about each other.

Rhetorical questions. Finally, in a few instances directors offered rhetorical questions which were seemingly meant to stir the thought processes of directors. Rhetorical questions generally were influenced by the thought processes of directors. For example, a director wondered "how much would insurance on something like that cost?," knowing that no members knew the answer. The purpose here seemed to be pointing out to directors that insurance on such property is expensive. Both insiders and outsiders asked these rhetorical questions, but their value in the deliberations did not seem especially great.

Insiders have been described here as the leaders of the discussion and are certainly responsible for setting the tone of the deliberations. It also should be noted that outsiders seem to take a great deal of initiative in the discussion process by offering numerous pointed and detailed questions. The value of questions was not expected but certainly has been made clear.

Reactions and Responses

Reactions and responses to questions and to preceding discussion are very important elements of the board meeting. Questions and discussion certainly stimulate thinking and

may cue participants to introduce additional important information. As such, the reactions and responses of board members during discussion must be viewed as an important means of introducing new information and opinion that can strengthen decisions.

What types of reactions and responses were observed? As noted above, insiders generally attempted to oblige the requests of outsiders for more information and interpretation, and there were certainly many requests for such information. Earlier it was argued that the reactions and responses of outsiders to insider reports and suggestions tend to strengthen, broaden, clarify, and generally improve the quality of the decision. Though insiders were not actively involved in asking questions, they certainly received input from outsiders that could be termed "reactionary" in nature, obviously responses to the reports of factual information presented during the meeting. These reactions to reports appear to have served the same purposes as the questioning, to get insiders to thinking about additional points and perspective.

Board A outsiders managed to introduce 26 instances of factual solicited explanation or reaction and 26 instances of intuitive explanation and reaction. "Solicited" includes more than merely response to a question. It also includes inputs obviously stimulated or cued by preceding discussion.

It is clear that the outsiders of Board A were eager to add to the deliberations by presenting reaction to the discussions. What is somewhat surprising is that the reactionary input of outsiders cannot be classified as intuitive in nature, as expected. It was expected that outsiders would add more intuitive opinion and response which would serve to improve the perspective of insiders. Fully half of the outsider responses were used to introduce factual evidence and considerations. The outsiders of Board B registered a very similar pattern of reaction/response to questions and preceding discussions, offering 30 factual solicited explanations/reactions and 31 intuitive reactions, once again about 50/50.

Though the response to board discussions cannot be conclusively described as intuitive in nature, there is a highly visible effort on the part of outsiders to strengthen and gird the premises of the decision. This researcher feels there is ample evidence to suggest that outsiders work hard to enhance the discussion by broadening the perspective. As mentioned earlier, the questions asked during the proceedings help to serve this purpose also. Outsiders appear "more responsive" overall in the board meeting, though they certainly play a proactive role at various stages of the meeting. During the meetings, insiders were as heavily involved in responding to questions

and discussions as were outsiders. The insiders of Board A, as might be expected, provided more response than did the insiders of Board B. Board A insiders offered 78 factual, solicited responses/explanations while entering 27 intuitive, solicited responses. The insiders of Board B provided 55 factual, solicited responses/explanations while offering 33 intuitive, solicited responses. From these results, there appears to be ample evidence to suggest that insiders were more prone to offer factual responses/explanations as they contributed to the discussions. It appeared that during the discussion, many occasions for additional response/explanation occurred due to uncertainty about earlier reports presented by the insiders.

Overall, there is not sufficient evidence to conclude that outsiders are more reactionary/responsive than are insiders, though it can be argued that insiders definitely provide more direction and leadership in the meetings. Insiders are more active overall, providing much more primary, leading input and providing comparable response and reaction. A majority of the insider response was analytical/factual in nature, though a great deal involved intuitive explanation. Surprisingly, there is not ample support for the contention that outsider response is largely intuitive in nature. In both banks, outsiders offered just

as many facts and figures to the deliberations as personal assessment/reaction. In the questioning and responding categories, there appeared to be only one significant difference between Board A and Board B: that the outsiders of Board A asked more (and somewhat better) questions than did the outsiders of Board B. Thus, it is no surprise that the insiders of Board A spent somewhat more time and effort responding to these questions. As mentioned earlier, insiders who fail to present detailed information in their board reports may hold some trepidation about answering questions seemingly spawned by detailed reports.

Other Board Inputs

There were a few other types of inputs offered by board members which are not especially related or important to the discussions, but deserve mentioning at this time. First, directors were detected to be offering directions and suggestions to bank management. Outsiders were especially prone to make suggestions and even tell insiders what should be done in a given situation. Though these "orders" are certainly important, their role within the decision-related discussions is not completely known. It seems that if a director makes a suggestion for action or even tells a manager to do something, then that director must feel fairly

strongly about that issue. Both boards had a fairly large number of such instances. In Board A, insiders gave direction to other insiders on four occasions. Board A outsiders provided direct suggestions/orders to insiders on 11 occasions. In Board B, board members gave a number of directions and suggestions. Insiders did so on 3 occasions whereas Board B outsiders provided 20 instances. Board B outsiders seemed especially prepared to make suggestions to bank management. They listened carefully and took almost every opportunity to suggest certain actions. These outsiders were never forceful or overbearing with their suggestions, however.

Very prevalent in the board meeting were the instances of process and procedure such as calling the meeting to order, asking for motions and seconds, points of courtesy, certain traditions and special orders, and other non-business activities. These processes and procedures were important parts of each meeting.

Finally, the members of the board are certainly social in nature. As mentioned earlier, a great deal of time was spent finding common ground and bonding with one another. Members of the board spent a lot of time telling jokes, jabbing at one another, and generally "chattering" among themselves. These extraneous instances that could not be classified were entered as "other comments." During the

board meetings, all board members took part in these "other comments." While such extraneous activity could be counterproductive at extremely high levels, it appeared that these brief departures from business discussions were not detrimental and were, to the contrary, good for all involved.

Overall Conclusions from Qualitative Observation

In this section, the most important observations will be recounted in an attempt to point out the answers formulated in response the qualitative questions presented earlier. Refer to Table 5.4 for a summary of these major observations.

The Importance of Insiders

A preeminent finding in answering these questions relates to the importance of the decision-shaping reports offered by insiders. These reports are largely analytical/factual in nature and seem to guide the decision deliberations. It appears that detailed reporting on the part of insiders obligates them to further involvement in the discussion process. Astute outsiders seem to take the information as fuel for detailed and probing questions. When the factual reports are combined with the factual

Table 5.4
Major Observations in Qualitative Study

1. **The primary importance of board reports:** The insiders of the board have a tremendous responsibility to report the details of operations and impending decisions to the board. In both boards, the insiders accepted this responsibility and presented rather detailed, factual reports to the board. The early, fact-filled reports shape the entire set of assumpttions and premises used by the board on each issue. Board A insiders had prepared excellent, detailed reports. Board A insiders also intermingled personal feelings and opinion into their reports. This personalizing of the report seemed to enhance the appeal and usefulness of the detailed reports, a result that stands in contrast to the quantitative/cross-sectional findings that insider intuition is counter-productive in board settings.

2. **Insiders definitely guide the meetings:** There was little doubt as to the leadership of the board meetings observed. In both banks, insiders set the tone for the meeting and determined the parameters of discussion. There was definite indication that important decisions had been pre-formulated. Such reporting and informing was followed by outsiders' questioning, commenting, suggesting, and adding. In both boards, there was definitely an attitude among outsiders that they were on hand to offer guidance and suggestions to insiders, but not to make decisions on behalf of the insiders.

3. **Insiders dealt mainly with facts, figures, and other forms of analysis, though they tempered this with intuition.**

4. **Outsiders responded to insiders using both intuition and introduction of additional facts and figures:** It was quite apparent that the quality of deliberations improved as outsiders offered new reasoning and new perspective. Their ability to do so was related, however, to the information available to them.

5. **Outsiders ask a tremendous number of questions:** It was quite surprising how systematically the insiders in both boards interrogated the insiders on various issues. This practice seems to place insiders back into a position of explaining the organization's position.

6. **Board members enjoy telling lengthy stories, asking personal interest questions, and joking around:** It was startling how personable and relaxed the board members were. Relating to one another on a personal basis was a primary goal.

responses of insiders to outsider questions, it seems clear that insiders are asked to deal somewhat more with facts and figures (analysis) than with intuitive judgement and opinion based on intuition.

It is also clear that insiders are integrally involved in board deliberations and provide a tremendous amount of factual and intuitive insight. Insiders were far more active than outsiders, though much of this activity was the result of active questioning on the part of outsiders. It seems clear that insiders are the undisputed leaders of the deliberations. The input of insiders can confidently be characterized as "primary premise setting input." Much of this input is analytical in nature, but a very large portion is intuitive as well. In the opinion of the researcher, insiders presented information ample for making an acceptable decision, though outsiders certainly help the situation further.

The Importance of Outsiders

Outsiders apparently added to the information stock by presenting additional facts, personal insight and opinion, and numerous questions. A banker who participated in these observations noted that bankers (insiders) "come to the meeting with the decisions already made." He reported that

"the outside directors listen to what we have to say and then help us think about it." This same banker reported that "you don't want your board making important decisions for you but you sure want to hear them out." Another banker noted in private that the outside directors offer "fresh insight" and "a different way of thinking." This researcher expected outsiders to use comments and reaction to broaden the thinking of insiders. Despite initial expectations, outsiders can not be classified confidently as highly intuitive. Though it is quite clear that these highly experienced outsiders add valuable intuitive insight and opinion, they provided a surprisingly high number of factual observations and inputs.

What is quite interesting is the extremely large number of questions posed by outsiders. As noted earlier, these questions appear to stir the thinking of management and stimulate new thinking and perspective on certain issues. Further, outsiders appear determined to keep insiders "on their toes." Outsiders cannot be classified as the leaders of the discussion, but their level of proactivity must be termed "high" given the diligence and independence observed during the questioning of insiders. Both boards had very active and diligent outsiders who asked many legitimate decision-related questions.

Therefore, it can be concluded that insiders should

report to the board what amounts to a fairly complete decision analysis, complete with facts, figures, explanations, and opinions. The decision will, according to this research, benefit from the reaction of outside directors (and the discussion generated by the initial exchange). It is certainly clear that the premises and assumptions of bank management will be questioned and expanded thoroughly.

Contrasts Between Banks

Surprisingly, there were only a few major differences between the high performing board (Board A) and the low performing board (Board B). As noted earlier, Board A insiders provided more insight to the directorate during the reporting process. Board A insiders were much more active in informing the rest of the board about the bank's operations and prospects for future operations. Board A insiders used a mixture of factual insight and intuitive opinion to guide the thinking of outsiders. Board B insiders did not seem diligent enough in their efforts to inform the board. The questions posed by Board B outsiders could potentially be in response to a lack of information from the insiders. This difference can be due to a number of factors. For example, the insiders of the lower

performing board may be tentative in sharing weak performance data or other indications of poor management. Also, insiders may believe that outsiders do not need a great deal of detailed information. They may feel philosophically that the best decisions are made by management and merely endorsed by the board. These suggestions cannot be confirmed, however.

Board A outsiders stood out because of the extremely large number of questions they asked and the level of cohesiveness and organization inherent among the questions. Although Board B outsiders also asked many questions, Board A outsiders were more adept inquisitors. This difference is somewhat of a mystery, though the argument can be made that some understanding tends to enhance one's appetite for more in-depth understanding and knowledge. In other words, a little understanding causes one to want more information. The Board A outsiders may be informed just enough to stimulate their thought processes in a way that demands more information.

There were no tremendous differences between the two boards, only slight differences. It can be argued that Board A delved into the details of decisions more than did Board B. Board A seemed more in tune with the facts of the situation, possibly due to the more detailed reports presented by Board A insiders. Actually, both boards

performed fairly well in the opinion of the researcher. It should be noted that Bank B's performance had improved substantially during 1995 and 1996 and it can be argued that effective board deliberations take some time to have an effect on overall bank operations. Even though the overall bank performance in Bank B was weak at the time of observation, it can not be concluded that board performance was weak at that point. Major improvement in overall performance since the observations may be due to good board performance around the time of the observation. The temporal relationship between board performance and bank performance could represent a useful avenue for further research. In summary, both boards operated in similar fashion and both boards appear fairly effective.

Attention is now turned toward overall discussion and conclusions from this study. The complementary findings between the quantitative and qualitative portions are reviewed and conclusions are offered. The considerable limitations of these studies also are presented. Finally, suggested avenues for future research are discussed.

CHAPTER 6

CONCLUSIONS, LIMITATIONS, AND RESEARCH SUGGESTIONS

The primary benefit of this research has been that boards of directors were subjected to two different modes of observation, measurement, and scrutiny utilizing a theoretically sound and interesting framework. By employing the popular information processing dichotomy of analysis (explicit knowledge) and intuition (tacit knowledge), the dynamics of the board and the board's ability to influence performance have been illuminated. Further, the roles played by the two board sub-groups, insiders and outsiders, during decision discussions and deliberations have been explored more thoroughly. The ability of the board to generate and enhance and to benefit from high involvement and activity level has been explained more precisely.

This study has approached board deliberation from two research perspectives: quantitative/cross-sectional and qualitative/case study. On many findings, these research approaches revealed different findings, but on most there is complementarity and agreement. The major findings and

conclusions of the study are presented here, with attention given to how the two research approaches converged and/or disagreed. Attention will then be turned to description of the research limitations. Finally, this chapter will report several suggestions for improving and extending research on boards and decision making.

Major Findings and Conclusions

Comparisons

The first two research questions (RQ1A and RQ1B) as well as a large portion of the qualitative study were designed to compare and contrast the information processing styles of insiders and outsiders. Statistically significant differences were found between insiders and outsiders on the level of analysis and level of intuition employed in decision deliberations within the board meetings. It appears that insiders are more inclined to utilize analysis than are outsiders, though the variability in insiders' analysis scores was higher than in those of outsiders. It appears that some insiders are not as analytical as others.

Insiders also report utilizing fairly high levels of intuition in the board deliberations, though outsiders reported using intuition at a slightly higher rate than did

insiders. The self-report results must be termed somewhat equivocal as to whether outsiders operate more intuitively than do insiders, for both board sub-groups scored fairly high on the intuition measure (per-item of 4 versus 3.6).

The qualitative study was used to generate better conclusions to these comparisons by describing board members *in situ*. Observation revealed that, at least openly, insiders dealt more heavily with facts, figures, explanation, and other analytical inputs, though they generally offered some intuitive insight to complement their factual reports. The lower performing board's insiders seemed to rely relatively more on intuition than did the higher performing board's insiders, though both groups of insiders were decidedly more analytical than intuitive. Outsiders appeared to offer response and reaction based primarily on their intuitions and experiences. Outsiders also offered many new facts and figures to the proceedings, a finding which conflicts somewhat with the quantitative results. Perhaps most surprising was the rather large number of questions posed by outsiders in response to reports presented by insiders.

Overall, evidence from this study suggests that in board meetings insiders are more valued for their analytical skills and detailed reports. Evidence from both portions of

the study indicate that insiders must set the deliberations "in motion" with adequate information premises. It is a paramount responsibility of the insiders to bring the directorate in tune with the operations of the bank and in tune with the thinking of management on various issues. Without such a briefing, the outsiders are unable to fulfill their duty (Daily, 1995) as sounding board and evaluator. The outsiders are clearly expected to react to the basic prospects presented by management. Their reaction and insight is important for broadening and strengthening the basic premises. The qualitative study revealed that outsiders also feel it important to sytematically interrogate management, thus putting insiders in a position to provide further information and to rethink their positions on issues. This research confirmed the anticipated roles played in the board meeting, though it was quite unanticipated that in the qualitative portion both types of knowledge and processing style appear so important in each role. In summary, it is possible only to label the roles played by each sub-group. It is not possible to generalize as to how each role is carried out.

Insiders hold the key to a quality interaction. The quality of a board meeting may be primarily determined by the attitudes of insiders toward their outsiders. If insiders really depend on outsiders and are convinced that

providing them with detailed information will lead to better advice and suggestions, then the insiders will likely produce enough detailed analysis to initiate a quality board interaction. If insiders view outsiders as caretakers of stockholder interest and merely on hand to check on management, then providing general intuition and conclusions is a likely (and convenient) choice. Such intuitive reports will inform the board, but not in a way that will generate probing questions, useful suggestions, and experience-based reactions. This may be viewed by some bankers as desirable, for some may feel that outsiders have little to contribute. During informal talks, one banker told the researcher that some insiders view the board meeting as an unnecessary burden. Such bankers are afraid to provide detailed information, fearing that their board will attempt to "micro-manage" the bank. The overall results of this study seem to indicate real danger in this attitude.

Do boards of directors have the ability to benefit from the dual-processing complementarity (Behling and Eckel, 1991; Taggart and Robey, 1981)? Are they able to create an interaction in which learning and new knowledge can be created through enlightened discussion (Nonaka, 1994)? The basic knowledges, abilities, and experiences are certainly in place if the correct roles are played. The qualitative portion of this research tends to support this contention.

Processing Style Influences on Performance

What influences can the styles employed by directors have on performance? A number of research questions were posed to provide answers. Several implications of these findings are detailed here.

Insider Analysis and Intuition. One of the most important findings was that the level of insider analysis within a board is positively related to board and bank performance. The qualitative study also appears to confirm the universal importance of detailed analytical reports and interpretation to the directorate. More detailed reports appear to lead to more effective questioning and discussion and seem to be the first step toward a highly productive meeting. The ability of the management team to stimulate conversation, discussion, and sharing of perspective is related to their ability to bring the directorate "in tune" with management thinking and detailed facts and figures are an important part of this. It is conceivable that an outsider will quietly listen and passively approve management suggestions if they do not have sufficient factual information to utilize in formulating appropriate response. It is likely that the insiders who offer more detailed analysis and explicit information are the managers who genuinely depend upon their directorship and who

recognize the real value of an informed and active directorate (Daily, 1995).

It is also likely that bankers who are more analytical and detail-oriented in the board meeting behave this way on a daily basis, carefully considering the complexities of banking. No doubt the scores associated with insiders (managers who also work in the bank on a daily basis) have some degree of additional influence on bank performance. There must be some reflection of "everyday style" in the scores of insiders. Simply put, the responses of insiders may give some indication as to how business is conducted within the bank daily. Research over the years (Henderson and Nutt, 1980; Myers, 1980; Nutt, 1993) has agreed that decision style is certainly a part of one's stable personality or personal style. Further, the preferences and styles of a top management group may give some indication as to the style or culture of the entire organization, given the generally accepted influence of top management on organization culture and style (Hambrick and Mason, 1984). It is therefore quite expected that insider scores will be somewhat more related to bank performance measures relative to those of outsiders.

Analytical tendencies logically translate to better bank performance in many cases. A particularly disturbing possibility is that some bankers are rather intuitive in

nature. The possible danger of operating intuitively in the board meeting should be apparent, but the notion of a very intuitive banker or a very intuitive banking culture is especially disturbing. Banking requires constant and very thorough analysis of various financial data. Bankers must be meticulous and careful when reviewing decision-related data and information.

In summary, then, it is argued that the responses by insiders may give some indication as to how everyday management is conducted. The relationships with performance must be taken with a bit of caution for they may not reflect board influence alone. Recent research (Daily, 1995; Hambrick and D'Aveni, 1992; Reger and Huff, 1993) has argued that the incremental contributions of insiders in board meetings over and above their day-to-day contributions are minimal.

An unanticipated finding in the qualitative case studies was that the introduction by insiders of intuition in conjunction with ample analysis appeared to greatly benefit discussion. This finding stood in direct contrast to the cross-sectional finding that insider intuition was of little consequence to performance, and was detrimental to board activity (which is clearly a prerequisite for quality board and bank performance). In the qualitative observations, the ability of insiders to share their

interpretations and feelings along with the facts seemed to make the decision-related information more palatable and informative to outsiders. The higher performing board seemed to do a better job of intermingling analysis and intuition during their efforts to inform the directorate, though this observation is not conclusive. Intuitive remarks, however, do have the ability to alter, discount, or completely discredit the results of analysis, so intuition must be utilized and shared in conjunction with sound analysis.

Outsider Analysis and Intuition. Though the regression effects of outsider analysis on performance were not significant, board activity level and outsider analysis were found to be highly correlated. These results possibly indicate that in highly involved and active boards, outsiders are able to delve freely into the detailed facts and figures of bank operations. Outsider analysis, especially by those highly qualified in specific areas of importance such as accounting, law, insurance, or some other profession, can definitely play a benefical role in the board meeting. It was expected that outsider analysis might actually be counter-productive, interfering with the efforts of those best prepared to perform analysis, the insiders. Outsider analysis was thought to conflict with outsider

intuition, reputed to be the primary benefit from outsider board members, and with insider analysis, which is also of great value. These apparent conflicts did not materialize.

The beneficial nature of outsider analysis was certainly revealed in the qualitative study. Outsiders were expected to respond to insider reports with largely intuitive "perspective broadening" input. Though intuition was certainly a major part of outsider response, the qualitative study revealed that outsiders introduced a number of additional facts and figures. Outsiders from both boards were adept at introducing and explaining quite detailed insight on decision factors, especially those related to their area of expertise and those found in the external environment (like customers, competitors, and government).

Quality commentary and reaction by outsiders is a very important component of the effective board. As expected, a large portion of this commentary is composed of intuitive reaction, opinion, and feelings. In the qualitative portion, these reactions represented a large percentage of the total contribution of outsiders (second only to questions). The level of outsider intuition appears to be a good indicator of how well the board is tapping the experience and professional insights of the outsiders, for these are certainly the desired inputs. Outsider intuition

was correlated with insider analysis, indicating that the ability of insiders to inform the board determined outsiders' abilities to provide appropriate commentary and reaction. Overall, the primary benefit of outsiders lies in their ability to indicate and describe new and different perspectives. Outsiders listen to and check the management of the firm, but they also are prepared cognitively to offer key input that can strengthen board decisions and management action.

Combination of Processing Styles: Board Involvement

Though none of the proposed interactions among processing styles and between processing styles and activity (involvement) were found significant, important exchange processes are no doubt the key to better performance. The alternative models portion of the results indicate that insider analysis and outsider analysis inputs generally lead to quality board involvement, which is a major influence on bank and board performance. Outsider intuition appears to have direct positive influences on board performance. It appears that through appropriate interaction and involvement, stronger and more complete interpretive representations are built within the parameters of the group level knowledge structure (Daft and Weick, 1984; Langfield-

Smith, 1992; Prahalad and Bettis, 1986). In more active boards, there is more opportunity for discussion, questioning, and challenging of assumptions (Bourgeois, 1985). Such a process likely enhances levels of commitment to the final decision. There is more agreement and enthusiasm due to the fact that different perspectives have been shared and integrated (Bourgeois, 1980; Dess and Origer, 1987).

The only processing style which did positively influence board involvement was insider intuition, which has been described in this study as stifling to board involvement and interaction. Evidence counter to this finding was observed during the qualitative study, as insiders apparently utilize intuitive opinions and descriptions to make data and information more palatable and useful for outsiders.

Overall, it appears that certain inputs and information contributions by board members work together to create an environment where involvement and activity are prominent. It seems that when the complementary information is shared, a scenario develops where all members fully understand the decision factors and are eager to contribute. Board activity is indeed a mediating variable, the positive outcome of appropriate information processing styles. This effect was confirmed in the qualitative observation. Roles

played by board members and the contributions they make lead to high levels of activity which enhance the quality of action taken and the quality of direction and suggestions given to insiders.

The intervening effect of board activity (involvement) is somewhat akin to the concepts presented in descriptions of the learning process in what Nonaka (1994) terms "communities of interaction." Nonaka explained that different types of knowledge are shared to create additional knowledge, due to interaction and dialogue. The additional knowledge seems to be stimulated in the minds of participants as they listen to and process ongoing discussion. Huber (1991) also notes that more learning occurs when more and more varied perspectives and interpretations are developed and shared. Cohen and Levinthal (1990) report that firms should strive to recognize the value of new and different information to current problem scenarios. The ability to assimilate different information into current problems is a positive attribute.

There is little doubt that board involvement is a primary determinant of board and organization success. Therefore, it is quite significant that this study revealed some of the important determinants of board involvement. In no research thus far have theoretically sound, cognitive

processing variables been suggested to improve involvement and subsequently performance. The "full models" indicate only minimal direct effects of the processing styles on performance but certainly indicate indirect effects, which are likely just as important. This research has thereby given some indication as to how a board can improve their level of involvement and activity and how they can subsequently improve performance. As indicated earlier, it is unclear how long it takes for a board's activities to have any influence on overall performance. This is certainly a useful topic for research in the future.

Research Limitations

Cross-Sectional Weaknesses

There are certainly a number of weaknesses in this research which mitigate its explanatory ability and applicability to many board settings. This research was conducted at an early stage in its line of investigation: no research on boards has looked at members' cognitive styles or roles in decision making. Therefore, the weaknesses are somewhat mitigated by the exploratory nature of this early work. Future research should nonetheless attempt to overcome these weaknesses.

Weaknesses in Sample and Subjects. The sample was

decidely one of convenience and availability. Questionnaires were sent to the independent bank boards of one state, Alabama. Certainly, there should be more variety in the environments of the subject organizations.

First, the boards of relatively small businesses were observed. By removing the chain-bank holding companies, the largest banks in the state were eliminated. The banks in the sample were primarily located in small communities of roughly 75,000 people or fewer. Is this an accurate glimpse at corporate boards or is this research more appropriate for informing small business? While future research should look more closely at larger businesses, the value of this research does not appear to be inordinately damaged by the small size of its sample firms. Certainly, the nature of board discussions and board topics will be different in small businesses, and the expectations managers hold for board members might be different. However, basic human processes were at work and these processes would occur similarly in situations where directors deal with larger numbers and slightly more complex situations.

Second, banks are decidedly different from most businesses. This is certainly a true statement and a potential blow to the external validity of these findings. Banks are heavily regulated and the involvement of the board is mandated by regulation. Banks also are more complex in a

lot of ways than "regular" businesses. Outsiders on a bank board may find the details and analysis of bank decisions more overwhelming. Insiders might not be quite so important in other types of boards. Some of the effects here may operate only in bank boards, and possibly only in independent bank boards. The results should be applied to different board settings with some degree of caution.

Third, future research should conduct surveys in a variety of markets and regions. This study was conducted exclusively in a fairly stable and placid research field. Independent banks in the communities of Alabama were facing no tremendous external threats and were doing rather well as a group during late 1995. Banks in Alabama are generally high performers and are rather safe. Perhaps more variety in the sample would serve to strengthen the generalizability of the results.

Fourth, the response rate in this study was somewhat disappointing, though comparable to other studies of upper management. The overall response rate was around 35%, with 59 boards submitting useful resonses. The researcher was forced to place phone calls and send follow-up cards to recruit useful responses. In a few cases, less than 50% of a board responded and responses were discarded. Though there is no evidence of such, there is a distinct possibility that the results have been hurt somewhat by

response bias and by the researcher's efforts to obtain a reasonable sample. By necessity, the researcher called on bankers he felt would encourage their boards to respond. Many of the respondent banks are led by personal friends of the researcher's family. Many responses might have been sent as personal favors. Overall, there was no concrete indications that response bias was at work and the sample appears to be fairly valid. Future research should nonetheless guard agains such bias, however.

Finally, the boards utilized in this study were represented, on average, by 75% of their directorate. If 50% of a board's members responded, the response was considered usable. Many boards were represented by 100% of their members, but some were represented by only 50%. The problem here is that, once again, influential individuals who in reality play a very large role are being eliminated from the measurements and from the research. In many cases, the researcher had to assume that the entire board operated like the 50% who responded. Future research should attempt to obtain accurate measurements of a larger percentage of the group.

Problems with the Instrument. Though the measures in this study appear valid and reliable, some problems persist and should be noted. With any instrument there is a risk

that respondents will not answer truthfully and will not take their time. With this study there was evidence that some of the admittedly busy board members answered quickly and without sufficient thought and introspection. This is a problem, however, with any self-report questionnaire.

Also, there was some concern that respondents would attempt to present themselves in the best possible light. There was some concern that respondents would see intuitive processing as less desirable than more thorough analytical processing. All indications are that respondents were essentially forthright and honest. Histogram plots indicated approximately normal distributions with requisite variation in scores.

There may have been some attributional processes at work as respondents completed the surveys. More specifically, respondents may have been able to retrospectively reconstruct what they feel are the causes of their good or bad performance. This problem may have influenced the high correlations between board involvement/activity level and performance measures. The intense attention and focus placed upon a bank's performance may have caused directors to describe their behaviors so that they are congruent with such performance. In other words, a really poor performing bank's board would be especially cognizant of their low standing and their

responses would certainly be affected by this knowledge (e.g. "we must not be doing our job"). A bank experiencing really good times would have members who might reason, "well the bank is doing great so we must be really involved, etc." Attributional problems such as these are difficult to solve, however. Hopefully the research questions, much less the theories guiding them, were not easy to detect and understand and it may have been difficult for respondents to "see through" the questions.

Common methods variance is certainly an issue in an instrument which contains the majority of the measures used in the study. One positive indicator, however, is the fact that self-reported performance was acceptably correlated with objective performance gathered from an independent source. Also, factor analysis procedures readily separated and sorted questions into their expected groupings. The variation common to the questionnaire was apparently not enough to hurt the dimensionality and meaningfulness of various measurements.

The self-report measure of board performance was never formally validated and the perceptions of insiders are certainly not the perfect indicator of board performance. Factor analysis indicated a single strong factor and the reliability coefficient was acceptable, but this by no means makes the measure valid. What actions by the board tend to

enhance insider perceptions? Future research should attempt to construct better measurements of board performance. Because insiders are the consumers of board input and direction, it seems appropriate to use their perceptions of effectiveness in this research. Correlations with bank performance seem to strengthen the apparent validity.

As mentioned earlier, the scores of insiders are relatively more influential than those of outsiders due to the likelihood that the "everyday" management style of insiders also is reflected in their responses. In insider scores there is also an indication of daily management habits, providing relatively more influence on performance measures.

In this research, the group and sub-group are the levels of analysis. Many scores are averaged and the important measures are the mythical mean group score. Even the qualitative portion of the study used the group and sub-group as the level of analysis. Groups and sub-groups in reality do not behave uniformly or as the average. Great variability and predictive power is lost by not considering the actions and cognitions of individuals. For example, what if one insider was highly analytical and another was extremely non-analytical? These two directors are not an average "insider" sub-group, but in this study they would be labeled such and their score would be average among insider

groups. Future research should attempt to delve into individual influences on the board deliberations.

It is also presumptuous to assume that the few roles presented in this study are the only ones that can be played (insider analysis, outsider intuition). Maybe one outsider is especially good at asking questions. One insider may be especially good at analyzing data while another is good at explaining it in everyday terminology. It is very simplistic to assume that insiders or outsiders serve a role as a group. Obviously, individuals within the groups play roles as individuals, not as part of a group. In this simplistic study, the assumption is that directors meet as two sub-groups rather than as 6 or 7 individuals. Future research should attempt to understand the individual inputs and contributions to board meetings.

Qualitative Study Weaknesses

In the qualitative observations, some major problems are evident. These limitations certainly mitigate the value of the qualitative research, though it should be recognized that this qualitative portion is meant primarily as an augmentation and complement to the cross-sectional study.

First, are the two boards used in the qualitative study representative of the quantitative sample and of corporate

boards in general? Both banks are fairly small and both are located in small towns. Gaining access to bank board meetings has generally been seen as difficult and the researcher did not have the luxury of choosing representative boards. Although the banks are small, the important interactions and processes were observed and several important findings were uncovered. Future qualitative research should attempt to observe and describe the boards of larger organizations. Also, more detailed and complete qualitative description would be of benefit to the board and decision literature.

When basing conclusions on observations, the danger is that the observer can see and detect whatever he/she would like to see and detect. The researcher listened to the proceedings repeatedly and worked hard to maintain objectivity, but complete objectivity is an elusive phenomenon. The ratings by other judges yielded fairly comparable classifications, with overall agreement around 75%, though the two independent judges were only exposed to a small percentage of the total transcripts. The sensitivity of the board meeting compelled bankers to demand absolute anonymity and confidence as a requirement for gaining access.

Several numbers and several pages of description hardly capture the true dynamics of a board meeting. It is not

optimal to reduce the complexity of a board meeting to such simple format, though it is necessary if description is the goal. Can natural dialogue and discussion be labeled and categorized? A classification scheme was built which appears to be quite adequate, but nonetheless contrived and artificial. The problem is that the dynamic conversation and activity that make up a board meeting does not always fit nicely within a classification scheme. By necessity, so much of the meetings are left out, overlooked, or encapsulated as one comment or instance. A visiting researcher can by no means detect or capture the intricacies and nuances of a dynamic board meeting. An active, experienced board with many years of experience together has likely developed many signals, codes, decision shortcuts, and other methods that save time and improve performance. How much of a board meeting can a naive outsider reflect in his/her observations?

Most importantly, there is an inherent assumption in the qualitative portion that what is said, what is contributed, is the true processing style of the individual. In other words, verbal inputs and comments are used as a proxy for information processing and cognition. In this study, analytical inputs of facts, figures, and explanation indicate that the director is processing information in an analytical way. This assumption is simply flawed. In the

quantitative portion, directors are asked how they process and use information, but in the qualitative portion the researcher had to rely on observed behavior and verbal input as indicators of processing style. By necessity, the assumption had to be made that the visible inputs are a good indication of the individual's information processing style and behaviors.

In defense of this method, however, it can be argued that the observable behaviors and observable inputs are the most important outcomes of information processing. Some argue that cognition is not important, that only observable behavior is important. Certainly, the patterns of input observed in the qualitative portion provide important information about information processing style. Overall, it can be argued that though the qualitative portion had some inherent weaknesses, the results are valuable and appear to complement and enrich the quantitative/cross-sectional results.

Suggestions for Future Research

This research has strengthened and built upon traditional board research through its focus on cognition and decision processes of board members. This certainly appears to be a more theoretically sound and more complex

approach to understanding boards of directors. Future research should attempt to further our understanding of board cognition. The traditionally researched issues of composition, control, governance, and performance are rather stale without some notion of the thought processes employed by directors. The flaws of this study suggest opportunities for future research. Suggestions were made earlier concerning how problems in this research can be solved by future researchers. In general, researchers should attempt to conduct similar research on better samples with better and different measures. In addition, more indepth qualitative studies should be attempted.

The attitudes of insiders toward the directorate appear to be an important variable. Anecdotal evidence and conversations with bankers indicate that the attitudes of insiders determine to a large extent what will be revealed to the board for consideration. This research effort reveals that the ability of the board to do its job is inextricably bound to the willingness of the management team to inform the directorate thoroughly. One future research necessity is to determine the relationships between management attitudes about the directorate and the quantity and quality of information revealed to the directorate. Proper education of top managers on how to best utilize their directorate is emerging as a clear mandate.

Researchers also should attempt to perform a similar study as this using individual directors as the unit of analysis. There are measurement difficulties with such a method, but there is little doubt that individual interactions determine the ability of the board to deliberate soundly. It appears that a more detailed qualitative analysis could capture the behaviors of influential individuals. The individual backgrounds and experience could be measured and considered. The individual contributions could be documented and their impact on the discussion could be traced. This research project may call for more detailed qualitative analysis.

Another intriguing concept for future study is the relationship between a management director's "everyday" information processing style, possibly even their personality traits, and their processing style within the board situation. To what degree does the more stable management style overflow into board deliberations? Do managers behave differently within the board meeting. In other words, is the situation of the board meeting strong enough to offset some of the dispositional characteristics of the individual? The dispositional and situational influences on behavior have sparked a fruitful and interesting line of investigation (see Pervin, 1989) and such influences on board cognitions and behaviors appears to

represent a useful research endeavor.

It seems clear that researchers should take this research one step closer to complete understanding, for the dynamics of the board meeting must be understood. This study indicated, for example, that insider analysis was beneficial to a board's activity level and interaction. Researchers should find out exactly what it is about the facts and figures that stimulates involvement. Researchers should attempt to ask board members exactly which pieces of information are utilized and which pieces of information are not utilized. Research should get more detailed, looking closely at exactly what information is used rather than the effects of certain classes of information.

Further, board members should be asked exactly what goes through their mind when they are stimulated to speak up and "get involved." What are the stimulants to board activity. The importance of this mediating variable is clear, so research should attempt to understand more about what sparks its development.

In this study, these issues have been dealt with rather generally and vaguely. No attempts have been made in this early stage to delve into the details and dynamics of the process. Future research should move ever closer to determining "how" and "why" these cognitive processes influence behavior and performance.

In summary, the application of cognitive science and behavioral science can only strengthen research in strategic management of organizations. Board research and other studies of top management will benefit greatly from systematic application of scientific knowledge on attitudes, information processing, decision making, motivation, communication, and other "softer" subjects. The more researchers know about humans within a management system, the more explanation and predictive power can be provided.

Appendix A
Instrument

Please take a few minutes to complete these questions. All of this information will be kept totally confidential. Do not disclose your name. Please note that questions are also on the back.

Part 1: General Information:

1. What is your usual work or occupation (What do you do for a living?).

2. Circle your age. Under 30 31-40 41-50 51-60 61-70 71-80 Over 80
3. Circle your gender. Male Female
4. I have been serving on this board about _____ years.
5. I have _____ years of formal education. (Example: If you graduated from college, put 16).
6. I have been in my current profession for _____ years.
7. I have been with my current organization for _____ years.
8. I have approximately_____ years of total work experience.
9. Are you now or have you ever been employed by this or any other bank (other than as a director)? YES NO

Part 2: Your Decision Style in Board Meetings.

Different people make decisions and think in very different ways. We are interested in how board members consider issues and decisions in the board meeting. For example, imagine this:

You and the rest of your board have been asked to consider opening a new bank branch in a nearby town. A competitor bank is already in the town and has been fairly successful over the past quarter century. The town is fairly close and you know a lot of people there. You are familiar with the economy and the demographics. Overall, you have some good ideas about how successful your bank would be in that new market. In the meeting, you learn that the bank has gone out and collected a great deal of numerical data, statistics, and "hard information" related to the decision. Further, some analysts in the bank have conducted "breakeven" analysis and have generated several "pro forma" financial statements and statistical models to help predict future success.

Are you fairly familiar with this type of major decision? YES NO

Put yourself in this situation or a similar decision situation. For example, you might have recently been involved in a decision related to hiring or firing a manager or a decision related to your bank's products and services. Perhaps you have had to decide whether or not to buy another bank or branch.
Try to consider, in general, how you would think and act (your style) in a regular bank board meeting on issues such as these. Circle the response which best fits you. When answering a question, be sure to concern yourself only with that question.

1. I find myself trying to really study and use reports, facts, figures, and concrete data for board decisions.
Almost Always Much of the Time Sometimes Rarely Almost Never

2. My business sense, general knowledge, and intuitions are my most important guide in board decisions.
Almost Always Much of the Time Sometimes Rarely Almost Never

3. I am uncomfortable with my conclusions unless I have the time to closely study the data, facts, and figures on an important board issue.
Almost Always Much of the Time Sometimes Rarely Almost Never

4. On board decisions, I have confidence in my reactions, intuitions, or "gut feelings" about the matter at hand.
Almost Always Much of the Time Sometimes Rarely Almost Never

5. I find myself "crunching the numbers" and "putting a sharp pencil" to the details of reports and hard data.
Almost Always Much of the Time Sometimes Rarely Almost Never

6. When I get information and data, I find myself studying it intensely for clues and answers.
Almost Always Much of the Time Sometimes Rarely Almost Never

Instrument

7. Vast experience, general knowledge, and a "good feel for business" allow me to bypass a lot of the figuring and "number crunching."
Almost Always Much of the Time Sometimes Rarely Almost Never

8. Even if I have a good "feel" or hunch about a decision, I feel the need to really study the data and reports provided.
Almost Always Much of the Time Sometimes Rarely Almost Never

9. The board benefits from my extensive experience and good "business sense" about various issues.
Almost Always Much of the Time Sometimes Rarely Almost Never

10. It is helpful to the board when I provide my intuitive feel, opinion, or reaction on the matter at hand.
Almost Always Much of the Time Sometimes Rarely Almost Never

11. The board benefits from my abilities to analyze, break down, and interpret the bank's data and reports.
Almost Always Much of the Time Sometimes Rarely Almost Never

12. My initial thoughts, opinions, and reactions on a given situation in the board meeting are as accurate as an extensive analysis.
Almost Always Much of the Time Sometimes Rarely Almost Never

13. Which of the following best describes how you make decisions in board meetings on bank issues.

A. I rely mainly on the objective facts and figures. We should be very objective, free of hunches and feeling.
B. I rely mainly on the objective facts and figures of the situation but sometimes add a little intuition and feeling.
C. I consider the facts and figures but listen very closely to my intuition and knowledge from past experiences.
D. I like to glance at the facts and figures, but rely mostly on my intuition and knowledge from past experiences.
E. After the basic information about a decision has been given to me, my reactions, thoughts, and intuitions are what matter most to me.

14. For the following "sources of decision information," rate each on a scale of 1 to 5 according to how much you typically rely on them as information sources in the board meeting. Rate a "1" if that particular information is not usually important. Rate a "5" if the information is extremely crucial in most cases.

_____ My personal experiences and general business knowledge.

_____ The staff reports, financial data, and other information provided by the bank.

_____ The explanation and interpretation given by others, either board members or bank employees.

_____ My own extensive analysis and "break down" of the data and information provided.

_____ Things that I have read or heard about banking and business in general.

_____ My overall, intuitive feel or hunch about the situation.

Part 3: Board Self-Assessment.
Circle the number that best represents your assessment of the board. Remember, this is totally anonymous.
1. How vocal, active, and involved is this board in the management and decision-making of the bank?

5 4 3 2 1
Extremely Moderately Not very much

DO NOT FORGET THE QUESTIONS ON THE BACK OF EACH PAGE.

2. To what degree does the board question and probe management about the decision to be made?

5 4 3 2 1
Extremely Moderately Not very much

3. How vocal is the board in determining the final course of action for most decisions?

5 4 3 2 1
Extremely Moderately Not very much

4. To what degree is top management dependent on the board for advice and suggestions?

5 4 3 2 1
Extremely Moderately Not very much

5. In board meetings, how determined is the board to "leave no stone unturned" when looking for a good answer to a bank problem?

5 4 3 2 1
Extremely Moderately Not very much

6. To what extent does the board question and constructively criticize the wishes of management?

5 4 3 2 1
Extremely Moderately Not very much

7. How interested is management in what the board has to say about a decision?

5 4 3 2 1
Extremely Moderately Not very much

Part 4: Other Information: Circle your best response to the following statements.

1. I realize that the board could do a better job for the bank.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

2. I am impressed with the performance exhibited by this board over the past months.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

3. I look forward to each board meeting.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

4. Management and other key employees are given excellent guidance by the board.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

5. Our board meetings are long and monotonous.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

6. I am mentally drained when I leave a board meeting.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

7. This board is very important to the sound operation of the bank.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

8. This board makes decisions without giving them sufficient thought.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

9. This board generally looks to management for guidance.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

10. The chairman of this board does not offer as much guidance as he/she could.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

11. I am very happy with my board experience.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

12. This board provides extremely important insight to management.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

13. This board makes the bank and its employees more successful.
Strongly Agree Agree Only Somewhat Agree Disagree Strongly Disagree

14. Please take a moment to list your biggest complaints with your bank's board.

15. Now take a moment to list what satisfies or pleases you most about your bank's board.

Part 6: Additional Comments
If you would like to share any other thoughts about your board, please do so here.

Please place the completed questionnaire in the envelope provided and place it in any U.S. mailbox.

Appendix B
Items/Measures Used in Research

ANALYSIS: A 9-item measure of the extent to which board members utilize and are confident with formal reasoning and analysis in making important board decisions. Cronbach's Alpha=.8869.

1. I find myself trying to really study and use reports, facts, figures, and concrete data for board decisions.
2. I am uncomfortable with my conclusions unless I have time to closely study the data, facts, and figures on an important board issue.
3. I find myself "crunching the numbers" and "putting a sharp pencil" to the details of reports and hard data.
4. When I get information and data, I find myself studying it for clues and answers.
5. Even if I have a good "feel" or hunch about a decision, I feel the need to really study the data and reports provided.
6. The board benefits from my abilities to analyze, break down, and interpret the bank's data and reports.
7. Which of the following best describes how you make decisions in board meetings on bank issues? (varying levels of analysis are listed in responses A through E).
8. I rely heavily upon the staff reports, financial data, and other information provided to me by the bank.
9. I rely heavily upon my own extensive analysis and "break down"of information provided.

INTUITION: A 5-item measure of the extent to which board members utilize and are confident with intuition in making important board decisions. Cronbach's Alpha=.7602.

1. My business sense, general knowledge, and intuitions are my most important guide in board decisions.
2. On board decisions, I have confidence in my reactions, intuitions, and "gut feelings" about the matter at hand.
3. The board benefits from my extensive experience and good "business sense" about various issues.
4. It is helpful to the board when I provide my intuitive feel, opinion, or reaction on the matter at hand.
5. My initial thoughts, opinions, and reactions on a given situation in the board meeting are as accurate as an extensive analysis.

BOARD ACTIVITY LEVEL: A 7-item measure of board involvement and activity in making the organization's important strategic decisions and in guiding management. Cronbach's Alpha=.9078.

1. How vocal, active, and involved is this board in the management and decision-making of the bank?
2. To what degree does the board question and probe management about decisions?
3. How vocal is the board in determining the final course of action for most decisions?
4. To what degree is top management dependent on the board for advice and suggestions?
5. In board meetings, how determined is the board to "leave no stone unturned" when looking for a good solution to a bank problem?
6. To what extent does the board question and constructively criticize the wishes of management?
7. How interested is management in what the board has to say about a decision?

Appendix B, cont.
Items/Measures Used in Research

BOARD EFFECTIVENESS: A 5-item scale designed to measure the degree to which insider board members feel the board is demonstrating effectiveness, helpfulness, and overall utility in aiding management in important strategic decisions. Cronbach's Alpha=.8826.

1. I am impressed with the performance exhibited by board over the past several months.
2. Management and other key employees are given good guidance by the board of directors.
3. This board is very important to the sound operation of this bank.
4. The board provides important insight to management of the bank.
5. The board makes the bank and its employees more successful.

ORGANIZATION EFFECTIVENESS: A three year average (1992, 1993, and 1994) of Sheshunoff's Presidents' Weighted Index of Bank Performance (a weighted aggregate score of capital adequacy, asset quality, management effectiveness, earnings stability and growth, and liquidity). Source: Sheshunoff Bank Quarterly of Austin, Texas.

CONTROL MEASURES: Following Pearce (1983), control variables thought to influence performance are included in the regression equations. These are archival measures of 1) the local state of the economy (an index considering unemployment levels, average salaries, retail trade level, and economic growth) and 2) the number of competitors in the county of operation. Source: Economic Abstract of Alabama, 1995.

Appendix C
Statistical Testing of Research Questions

RQ1A: Using ANOVA, test for overall effect of director type (insider vs. outsider), controlling for the effect of the board. If overall test is significant, using a two-group t-test, compare inside directors with outside directors across all boards on ANALYSIS.

RQ1B: Using ANOVA, test for an overall effect of director type, controlling for the effect of the board. If overall test is significant, using a two-group t-test, compare inside directors with outside directors across all boards on INTUITION.

RQ2A: Using linear regression, test for a relationship between board insider ANALYSIS and 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS. Also test for an interaction between ACTIVITY LEVEL and insider ANALYSIS in influencing the two performance measures.

RQ2B: Using linear regression, test for a relationship between board outsider INTUITION and 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS. Also test for an interaction between ACTIVITY LEVEL and outsider INTUITION in influencing the two performance measures.

RQ2C: Using linear regression, test for a relationship between board insider INTUITION and 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS. Also test for an interaction between ACTIVITY LEVEL and insider INTUITION in influencing the two performance measures.

RQ2D: Using linear regression, test for a relationship between board outsider ANALYSIS and 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS. Also test for an interaction between ACTIVITY LEVEL and outsider ANALYSIS in influencing the two performance measures.

RQ3A: Using linear regression, test for an interaction between insider ANALYSIS and outsider INTUITION in influencing 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS.

RQ3B: Using linear regression, test for an interaction between outsider ANALYSIS and insider INTUITION in influencing 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS.

RQ3C: Using linear regression, test for an interaction between insider ANALYSIS and outsider ANALYSIS in influencing 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS.

RQ3D: Using linear regression, test for an interaction between insider INTUITION and outsider INTUITION in influencing 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS.

RQ4A: Using linear regression, test for a three-way interaction among ACTIVITY LEVEL, INSIDER ANALYSIS, AND OUTSIDER INTUITION in influencing 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS.

RQ4B: Using linear regression, test for a three-way interaction among ACTIVITY LEVEL, OUTSIDER ANALYSIS, AND INSIDER INTUITION in influencing 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS.

RQ4C: Using linear regression, test for a three-way interaction among ACTIVITY LEVEL, INSIDER ANALYSIS, AND OUTSIDER ANALYSIS in influencing 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS.

RQ4D: Using linear regression, test for a three-way interaction among ACTIVITY LEVEL, INSIDER INTUITION, AND OUTSIDER INTUITION in influencing 1) BOARD EFFECTIVENESS and 2) ORGANIZATION EFFECTIVENESS.

Appendix D
Correspondence

August 25, 1995

Mr. Gerald T. Burkett
The Bank of Lowndes County
P. O. Drawer 32
Lowndesboro, Alabama 36033-0032

Dear Mr. Burkett:

I am currently completing a major research effort looking at how Boards of Directors make important strategic decisions. As a former Alabama banker myself, I thought it would be useful and interesting to use the banks of Alabama as the basis of my study. As you well know, Alabama banks have a long and proud tradition of strong and stable performance.

I need just a few minutes of your board's time. I you could please ask each of your members to complete one of the enclosed surveys, at their leisure, I would be most grateful. It takes only 20 or so minutes to complete, and all answers will be totally anonymous.

If you would provide a survey to each member, they can complete it in their own time and return it individually, postage paid, to me in Mobile. I would like all members to take part and would like to have the surveys back by mid-October, but there is no real deadline.

I have enclosed two letters of reference from respected members of the banking community who have pledged their support to this project. We all are in agreement that the results can be very helpful and useful, but we need your support. Please encourage all your members to participate.

If you and your board participate, I would be pleased to send you an overview of my findings, which should give you some interesting insight on how to better utilize your Board. I am indeed grateful for your support.

Yours very truly,

Robert H. Bennett, III
Assistant Professor of Management

ALABAMA ABA BANKERS
ASSOCIATION

Post Office Box 427 • Montgomery, Alabama 36101-0427
Telephone 334 834-1890 • Fax 334 834-4443

August 17, 1995

Dear CEO:

I want to encourage your board's cooperation in the research being conducted by Professor Robert Bennett of the University of South Alabama College of Business. It appears that his findings will be helpful for top management of Alabama banks, and he has promised to make his results available to this Association and to individual banks.

Robert is asking for a little thought from your board members. Their responses, combined with the responses of all other Alabama bank board members, will provide him with valuable information. Robert informs me that the entire questionnaire takes only about 15 to 20 minutes to complete. All responses will be kept totally anonymous.

Please provide each of your directors with a question packet at your next meeting. Encourage them to complete the questions at their convenience and to return it to Robert in Mobile.

Sincerely,

Jerry W. Spencer
Executive Vice President

JWS/df

UNIVERSITY OF SOUTH ALABAMA

DEPARTMENT OF FINANCE
COLLEGE OF
BUSINESS AND MANAGEMENT STUDIES

TELEPHONE: (334) 460-7171
MOBILE, ALABAMA 36688-0002

August 25, 1995

Dear Alabama Bankers:

I am writing to you to offer my support of the dissertation research being conducted by Professor Robert Bennett of our College of Business. Robert is attempting to learn more about the processes used by boards of directors to make important banking decisions, and he has chosen to study Alabama banks. Robert is himself a former banker and his findings and insight should help banks to make better strategic decisions in the future. He has informed me that all responses received will be kept in complete confidence. All responses will be totally anonymous.

If you would, please give one of the enclosed question packets to each of your board members. They can fill it out in their own time (about 15-20 minutes) and send it back postage paid to Professor Bennett. I would greatly appreciate any help that you can provide for him.

Yours truly,

Donald L. Moak
Professor of Banking and Finance
Educational Director, Alabama Banking School

November 27, 1995

Mr. Matthew J. Martin, Jr.
The Bank of Opelika
120 Auburn Street
Opelika, Alabama 36106

Dear Mr. Martin:

In August I sent you several questionnaires to provide to your board members. I notice that a few of your members have returned questionnaires, but I would appreciate your encouraging other board members to complete the survey. If your members need additional questionnaires, you or they can call me collect at (334) 460-7229.

Please insure your members that their responses are confidential and will provide useful information to researchers attempting to improve the decision making abilities of bank boards.

Yours truly,

Robert H. Bennett, III
Assistant Professor of Management

November 27, 1995

Mr. Mitchell C. Freeman
The First Bank of North Alabama
P. O. Box 6
Tuscumbia, Alabama 36703

Dear Mr. Freeman:

Back in August I sent you several questionnaires to distribute to your board members. I have not received any of these surveys from your directors and wanted to request your support once more on this matter. These responses will remain totally confidential and anonymous, and will greatly help researchers better understand board decision processes.

Your directors can use the postage-paid envelope provided, so there are no charges. The total time to complete a survey is only about 20 minutes. I would greatly appreciate any help you can provide.

If you need additional questionnaires, please call me collect at (334) 460-7229.

Yours truly,

Robert H. Bennett, III
Assistant Professor of Management

Appendix E
Approval of Human Subjects Committee

Florida State
UNIVERSITY

Office of the Vice President
for Research
Tallahassee, Florida 32306-3067
(904) 644-5260 • FAX (904) 644-1464

APPROVAL MEMORANDUM October 15, 1996

TO: **Robert Harris Bennett, III**
(Business)

FROM: Betty Southard, Chair BS/hh
Human Subjects Committee (IRB)

Re: Use of Human Subjects in Research
Project entitled: **Intuition v. Analysis: Toward More Thorough Understanding of the Deliberations and Effectiveness of Boards of Directors**

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be exempt per 45 CFR § 46.101(b)2 and has been approved by an accelerated review process. You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

If the project has not been completed by October 15, 1997 you must request renewed approval for continuation of the project.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is M1339.

BS/hh
cc: W. Anthony/1042
human/exempths.app
APPLICATION NO. 96.287

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ROBERT HARRIS BENNETT, III

Robert Harris Bennett, III was born in Dothan, Alabama on April 14, 1968, oldest child of Robert H. Bennett, Jr. and Marilyn Dees Bennett. Bennett grew up in Louisville, Alabama and attended the Dixie Academy where he graduated in May, 1986 as Salutatorian. He attended the University of South Alabama and graduated there *cum laude* in June of 1990. Bennett was selected as "Male Graduate of the Year" from his graduating class at USA. Bennett received his M.B.A. from the University of Georgia in June of 1991, where he was named "Most Outstanding M.B.A. Graduate" and delivered the commencement address. Bennett received his Doctor of Philosophy degree from the Florida State University in 1997. He is currently employed as an Assistant Professor of Management at the University of South Alabama. Bennett is active in the research community, having published or presented numerous scholarly papers. He teaches courses in management, organizational behavior, and strategic management. Bennett has also worked for many years for the Farmers Exchange Bank, Louisville, Alabama, where he also serves as a bank director.

Bennett is married to the former Tara Berniel Parham of Mobile, Alabama. The Bennetts reside in Mobile.