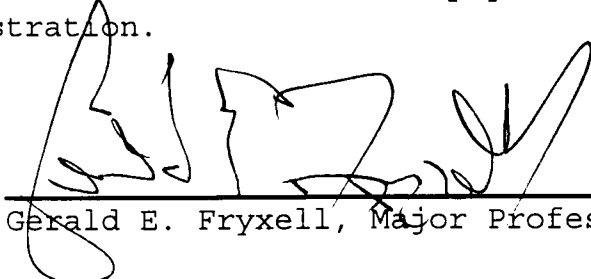


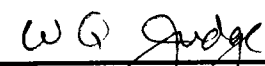
To the Graduate Council:

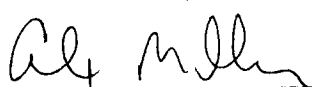
I am submitting herewith a dissertation written by Robert Stanhope Dooley entitled "The Effect of Top Management Team Trust on the Relationship Among Top Management Team Heterogeneity, Collaborative Decision-Making Processes, and Strategic Decision-Making Outcomes." I have examined the final copy of this dissertation for form and content and recommend it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

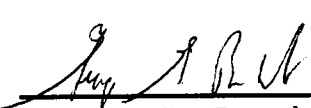


Gerald E. Fryxell, Major Professor

We have read this dissertation
and recommend its acceptance:



William Q. Judge

Alex Miller

George G. Brenkert

Accepted for the council:



Associate Vice Chancellor and
Dean of the Graduate School

The Effect of Top Management Team Trust on the
Relationship Among Top Management Team Heterogeneity,
Collaborative Decision-Making Processes, and Strategic
Decision-Making Outcomes

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Robert S. Dooley

May 1996

ACKNOWLEDGMENTS

I have benefited from the help of many people during the course of my graduate career and in the preparation of this dissertation. A number of people were especially helpful, and I would like to acknowledge them. First, I would like to thank my dissertation chairperson, Gerald Fryxell, not only for serving as my advisor, but also for his support and friendship over the past several years. Special thanks also goes to the other members of my dissertation committee - William Judge, Alex Miller, and George Brenkert - for their contribution to the completion of this study.

Several others were also instrumental in helping me bring this dissertation to fruition. I am grateful to William H. Burn for his generous help with the mailing of surveys. I would also like to thank Oscar Fowler for helping lighten the financial burden of graduate school by giving me the opportunity to teach additional classes toward the end of my graduate career. And lastly, I wish to express my gratitude for the help and encouragement I received from my cohorts and friends Dorn Fowler and Harjit Singh.

Finally, to my Father, whose early guidance and support has greatly contributed to my accomplishments, I will always be thankful. To my Mother, who has played such a central role in my life, I want to express my deepest gratitude for her love and support. Most importantly, I am grateful to my wife Kim. There is truly no way to adequately acknowledge the role she has played in my graduate career. She has been a constant source of love and encouragement. She has also made heavy sacrifices so that I could pursue my career goals, and she never once has complained. I could never have done this without her, and I look forward to our life together.

ABSTRACT

This study investigated how top management team trust affects the strategic decision-making process, and the strategic decision-making outcomes of decision quality, decision speed, and commitment to decisions. Data was collected from the top management teams of 86 hospitals operating in the Southeastern United States.

Theory from the small group literature was integrated with the upper echelons perspective of organizations to develop a model and identify variables of interest. Data analysis produced a fairly strong and interesting set of findings. Top management team trust, and the interaction between top management team trust and top management team heterogeneity were found to be strong predictors of the extent to which top management team members expressed a difference of opinion during the strategic decision-making process. Top management team trust was also found to predict collaborative decision-making processes, which in turn were found to moderate the relationship between top management team dissent and the strategic decision-making outcomes of decision quality, and top management team commitment to decisions. Collaborative decision-making

processes were found to independently predict decision speed. The results demonstrate the importance of including top management team dynamics and decision-making processes when studying organizations from an upper echelons perspective.

TABLE OF CONTENTS

CHAPTER		PAGE
1.	PURPOSE OF STUDY.....	1
	Introduction.....	1
	Purpose.....	5
	Significance.....	7
	Summary.....	9
2.	LITERATURE REVIEW.....	10
	Theoretical Background.....	10
	Small Group Research.....	19
	Trust.....	28
	Collaborative Problem Solving.....	41
	Summary.....	49
3.	THEORETICAL MODEL AND HYPOTHESES DEVELOPMENT....	52
	The TMT as a Group.....	52
	The TMT Task.....	53
	Research Hypotheses.....	60
	Summary.....	75
4.	METHODOLOGY.....	76
	Sample.....	76
	Data Collection and Methodology Overview.....	77
	Independent Variables.....	86
	Dependent Variables.....	97
	Control Variables.....	101
	Data Analysis.....	103
	Summary.....	104
5.	RESULTS.....	105
	Descriptive Statistics.....	105
	Tests of Hypotheses.....	105
	Summary.....	121

CHAPTER	PAGE
6. DISCUSSION.....	125
Dimensionality of the Bases of TMT Trust.....	125
Limitations of the Study.....	128
Discussion of Hypotheses.....	130
Theoretical Implications.....	145
Practical Implications.....	149
Future Research.....	150
LIST OF REFERENCES.....	155
APPENDICES.....	179
APPENDIX A.....	180
APPENDIX B.....	188
VITA.....	196

LIST OF TABLES

TABLE	PAGE
4.1 Results of Anova on Bed Size for Responding and Non-responding Hospitals.....	85
4.2 Results of Chi-Square Test for Hospital Ownership and Hospital Type.....	85
4.3 Rotated Factor Pattern of TMT Heterogeneity Variables.....	91
4.4 Rotated Factor Pattern of TMT Trust.....	94
4.5 Rotated Factor Pattern of TMT Collaboration and TMT Dissent.....	96
4.6 Rotated Factor Pattern of Decision Quality and TMT Decision Commitment.....	99
5.1 Descriptive Statistics and Reliability Estimates for Variables in the Study.....	106
5.2 Intercorrelations Among Variables.....	107
5.3 Results of Moderated Regression Analysis: Interactive Effects of TMT Heterogeneity and TMT Trust on TMT Dissent.....	109
5.4 Results of OLS Regression: Effects of TMT Trust on TMT Collaboration.....	113
5.5 Results of Moderated Regression Analysis: Interactive Effects of TMT Dissent and TMT Collaboration on TMT Decision Commitment...	115
5.6 Results of Moderated Regression Analysis: Interactive Effects of TMT Dissent and TMT Collaboration on Decision Speed.....	118
5.7 Results of Moderated Regression Analysis: Interactive Effects of TMT Dissent and TMT Collaboration on Decision Quality.....	120

TABLE	PAGE
5.8 A Summary of Empirical Findings.....	123
6.1 Results of Moderated Regression Analysis: Interactive Effects of Competency and Integrity Based Trust on TMT Collaboration.....	137

LIST OF FIGURES

FIGURE		PAGE
2.1	An Upper Echelons Perspective of Organizations.....	12
2.2	Group Performance Model.....	21
2.3	Multidimensional Model of Problem Solving Behaviors.....	45
3.1	Research Model of the Relationship Between TMT Heterogeneity and Strategic Decision-Making Outcomes.....	58
5.1	Interactive Effects of TMT Experience Heterogeneity and TMT Competency Based Trust on TMT Dissent.....	111
5.2	Interactive Effects of TMT Dissent and TMT Collaboration on TMT Decision Commitment.....	116
5.3	Interactive Effects of TMT Dissent and TMT Collaboration on Decision Quality.....	121
6.1	Interactive Effects of TMT Competency Based Trust and TMT Integrity Based Trust on TMT Collaboration.....	138

CHAPTER 1

PURPOSE OF STUDY

Introduction

Organizational theorists have explained the functioning of organizations from a number of alternative perspectives (Astley & Van de Ven, 1983; Bourgeois, 1984; Hrebiniak & Joyce, 1985; Mintzberg, 1990; Ulrich & Barney, 1984; Van de Ven & Astley, 1981). A persistent debate within the arguments put forth by each perspective is the efficacy of strategic leadership on the functioning of the organization.

Beginning with Barnard (1938), early organizational theorists viewed the role of strategic leadership as critical to the maintenance and survival of the organization. The Carnegie School further elaborated on the role of strategic leadership by focusing on the constraints to the decision-making process in organizations, and by viewing organizational goals as intended outcomes set by the organization's leaders (Cyert & March, 1963; March & Simon, 1958; Simon, 1960; Thompson, 1967).

Later theorists tended to ignore strategic leadership all together, and instead concentrated on an organization's

external environment and technology utilization as the primary determinants of an organization's survival (DiMaggio & Powell, 1983; Hannan & Freeman, 1977; Hannan & Freeman, 1983; Hannan & Freeman, 1989; Lawrence & Lorsch, 1967; Woodward, 1965; Winter, 1990). The importance of strategic leadership was revitalized with the introduction of the concept of "strategic choice" (Child, 1972). Child (1972) criticized the determinists' view of organizations for failing to consider the processes by which choices of organizational structure and technology are influenced by organizational members' preferences.

Until the introduction of Hambrick & Mason's (1984) upper echelons perspective of organizations, most of the research on strategic leadership considered the CEO as the primary decision-maker in organizations (e.g. Lieberman & O'Connor, 1972; Salancik & Pfeffer, 1980). Instead of focusing on a single individual in the organization, Hambrick and Mason (1984) considered the appropriate unit of analysis for studying the effects of strategic leadership on organizational outcomes as the top management team (TMT). This shift from the individual to the TMT as the appropriate unit of analysis takes into consideration that the strategic

decision-making process within organizations involves multiple participants with differing values, beliefs, and preferences which are often manifest in conflicting goals, myriad opinions, and varying aspiration levels (Child, 1972; Cyert & March, 1963; Thompson, 1967). Hambrick and Mason's (1984) upper echelons perspective recognizes that although the CEO may be the most influential decision-maker in large complex organizations, strategic decision-making and strategy implementation are shared tasks, and not the sole purview of a single individual.

The upper echelons perspective proposes that by studying the observable characteristics of the TMT as indicators of managerial beliefs, preferences, and values organizational theorists and strategy researchers in particular can predict an organization's strategy and performance. Using demographic characteristics as proxies for underlying values, beliefs, and preferences, Hambrick and Mason (1984) put forth 21 propositions concerning the relationship between TMT composition and organizational strategy, and TMT composition and organizational performance.

Since its introduction, the upper echelons perspective has generated a plethora of research. While this research has served to support the underlying assumption that TMT composition affects organizational outcomes (e.g. Bantel & Jackson, 1989; Finkelstein & Hambrick, 1990; Fredrickson & Iaquinto, 1989; Michel & Hambrick, 1992; Murray, 1989; Wiersema & Bantel, 1992; Wiersema & Bantel, 1993), little understanding has been gained about the actual processes by which TMT composition affects organizational outcomes. Gupta (1988) noted that although models or theories of executive characteristics view executive behaviors as the mediating variable through which demographic or personality variables influence organizational actions and outcomes, no research has empirically examined this mediating effect. More recently, Hambrick (1994: 186) cites as a serious weakness in upper echelons research the treatment of the "conduits by which compositional characteristics affect outcomes" as a "black box". Hambrick wrote:

This speaks to one of the most serious limitations of most research to date on TMTs: too little attention to the actual mechanisms that serve to convert group characteristics into organizational outcomes (1994: 188).

This research takes a similar position and proposes that extant theory and research from the small group research literature can provide new insights into the relationship between TMT composition and organizational outcomes.

Purpose

The purpose of this research is to examine how TMT composition and TMT behavioral dynamics affect the strategic decision-making process and important strategic decision-making outcomes. In general, the upper echelons perspective suggests that heterogeneous TMTs make higher quality strategic decisions because of the diversity of backgrounds, perspectives, and capabilities that are brought to the decision-making process (Hambrick & Mason, 1984). However, research suggests that the effects of group heterogeneity are more complicated. Heterogeneous groups are often found to have difficulty integrating divergent perspectives into a single decision and in implementing decisions once they are made (Murray, 1989; Nemeth & Staw, 1989; Pfeffer, 1981; Pondy, 1967; Shaw, 1983). Understanding these contradictory observations about the

effects of TMT heterogeneity will require a deeper examination of group processes and TMT dynamics.

Beginning with the work of Hackman and Morris (1975), theoretical models of small group performance have focused on group interaction processes and behavioral dynamics (e.g. problem solving styles, supportiveness, communication patterns) that convert group inputs (e.g. group composition, group structure, group reward structure) into group outputs (e.g. decision quality, decision speed, group member satisfaction with the decision) - see Goodman, (1986) and Goodman, Ravlin & Schminke, (1987) for reviews of group performance models. Group performance models illustrate the relation between input factors, group interaction processes, and group performance. Their fundamental assumption is that input factors affect group performance through the group interaction process.

Building on the small group performance literature, trust is identified as a critical variable in the development of a more comprehensive model which examines the effects of TMT heterogeneity on the strategic decision-making process and the important strategic decision-making outcomes of decision commitment, decision

speed, and decision quality. The integration of the small group research literature to the upper echelons perspective allows us to move away from proposing and hypothesizing simple bivariate relationships that have been characteristic of upper echelons research to date. Small group research provides a rich theoretical and empirical base from which to glean important insights into the relationship between TMT heterogeneity and strategic decision-making outcomes - for reviews of the small group research literature see Bettenhausen, (1991) and Gist, Locke & Taylor (1987).

Significance

The primary contribution of this research is the extension of the upper echelons model to include the effects of TMT behavioral dynamics and decision-making processes, on the relationship between TMT heterogeneity and strategic decision-making outcomes. As such, this research has significant implications for both practitioners and organizational theorists. First, managers of organizations are faced today with increased competition, rapidly changing technologies, and greater complexity and uncertainty. Prescriptions for managers in this increasingly turbulent

environment have emphasized the importance of embracing diversity in the workplace to facilitate organizational learning and innovation (Kiernan, 1993). In fact, the management of diversity in both the workplace and board room is becoming a primary managerial concern (Bettenhausen, 1991). For example, multi-national corporation board of directors often reflect the diversity of the corporation's country specific investments (Schaes, 1993). Some research even suggests a link between board of director diversity and firm performance in multi-national corporations (Douglas, 1995; Hitt, Hoskisson, & Ireland, 1994). Findings from this research should help managers discover how to integrate divergent perspectives to enhance the quality of their decisions, and ultimately firm performance.

Second, it is widely recognized that top management teams play the central role in strategic decision-making (Hambrick & Mason, 1984). Although we have learned a considerable amount about TMTs over the past 10 years, there is likely to be tremendous variance in the effectiveness of TMTs. Understanding the factors that influence their effectiveness seems critical since TMTs, through the decisions they make, shape the future of organizations.

Lastly, this research endeavors to increase our understanding about the strategic decision-making process. The integration of relevant research from different theoretical perspectives, such as the small group literature, to current strategy research has been suggested as fundamental to advancing our understanding of strategic process issues (Huff & Reger, 1987).

Summary

The upper echelons perspective of organizations has generated numerous articles since its introduction. However, very little research has examined the intervening processes that serve to convert TMT composition into organizational outcomes. This study seeks to address this limitation by incorporating theoretical and empirical research from the small group research literature into the upper echelons perspective of organizations. Specifically, this research examines how the level of trust within TMTs affects the relationship among TMT heterogeneity, strategic decision-making processes, and strategic decision-making outcomes.

CHAPTER 2

LITERATURE REVIEW

To set the stage for the model developed in this study, two areas of theory and research are reviewed in this chapter. The literature on the upper echelons perspective of organizations is discussed, and its shortcomings and theoretical adequacy are addressed. The small group literature is also referenced as it provides a useful framework and set of constructs for analyzing and understanding the relationship between TMT heterogeneity and strategic decision-making outcomes.

Theoretical Background

The Upper Echelons Perspective of Organizations

The upper echelons perspective of organizations has become one of the dominant theoretical perspectives in strategy research, generating numerous articles since its introduction. The upper echelons model proposes that by studying the observable characteristics of the TMT as indicators of managerial beliefs, preferences, and values organizational theorists and strategy researchers in

particular can predict an organization's strategy and performance. Using demographic characteristics as proxies for underlying values, beliefs, and preferences, Hambrick and Mason (1984) put forth 21 propositions concerning the relationship between TMT composition and organizational strategy, and TMT composition and organizational performance.

As portrayed in Figure 2.1, the model suggests that characteristics of the top management team both derive from, and influence the perception of the objective situation. More importantly, for the purposes of this research, the model indicates that TMT composition has a direct affect on organizational outcomes. The underlying framework of the model builds on the early work of theorists of the Carnegie School who argued that complex decision-making was largely a result of behavioral factors rather than rational economic decision-making (Cyert & March, 1963; March & Simon, 1958; Simon, 1960). According to the theorists of the Carnegie School, differing beliefs, values, knowledge, and assumptions of organizational decision makers are manifest in bounded rationality, conflicting goals and aspirations,

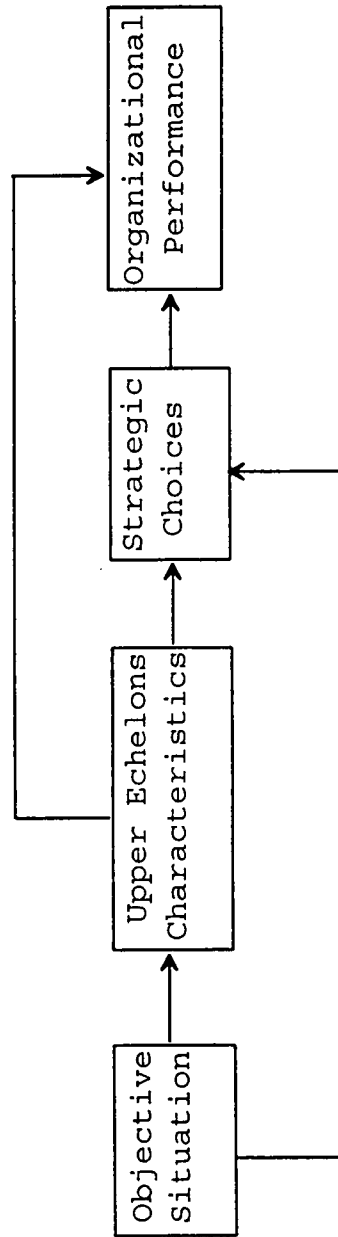


Figure 2.1

An Upper Echelons Perspective of Organizations
(Source: Hambrick & Mason, 1984)

and ill-defined goals which impinge on the decision-making process.

The manner in which TMT composition impinges on organizational outcomes, can be distinguished by the mode of measurement used in assessing the composition of the TMT. Modes of measurement can be classified according to whether they are based upon the examination of TMT characteristic similarities and differences (i. e. heterogeneity) labeled "relational modes of measurement," or whether they are based upon the direct operationalization of TMT characteristics (e. g. average age, average tenure, etc.) labeled "non-relational modes of measurement" (Bacharach & Bamberger, 1992).

Beyond obvious differences in their measurement, the two approaches are conceptually different in their theoretical grounding. With relational modes of measurement, the effects of TMT characteristics are contingent upon the distribution of characteristics among the TMT members. The theoretical basis for this mode of measurement is that the distribution of characteristics within a TMT set in motion some type of group process.

For example, Hambrick and Mason (1984) proposed that TMT heterogeneity would be positively related to organizational performance in firms operating in unstable and complex environments. This proposition is based upon two assumptions. The first is that diversity of opinions and backgrounds reduces the uncertainty in the environment by bringing different perspectives to bear on the decision-making process. The second is that TMT heterogeneity results in a decision-making process where divergent perspectives are fully explored and integrated into high quality decisions. Thus, the dynamics of the decision-making process and the context in which decisions are made act as key intervening variables in the relationship between TMT heterogeneity and organizational performance.

In contrast, non-relational modes of measurement in the upper echelons literature, such as average age of TMT members, make no assumptions about the interaction process consequences of TMT composition. Instead, the focus is on the direct link between characteristics and outcomes. Theoretically, the effects of non-relational measures are based upon the social-psychological profile associated with

the measure, or the resources thought to be captured by the measure. For example, Hambrick and Mason's (1984) proposition linking average age of TMT members with organizational risk taking is based upon the social-psychological assumption that younger individuals make riskier decisions. Therefore, one would expect to find that the younger a TMTs' average age, the higher the level of organizational risk taking.

In sum, the two different modes of measurement used in assessing the effects of TMT composition on organizational outcomes have different theoretical underpinnings. Relational measures assume that TMT composition sets in motion processes within the group that mediate the relationship between TMT composition and organizational outcomes. Non-relational measures make no assumptions about the process consequences of TMT composition, and instead focus on the direct link between TMT composition and organizational actions.

A review of the empirical research on the upper echelons model for the most part supports the underlying supposition that top management team composition affects the strategic choices and organizational performance of firms

(e. g. Bantel & Jackson, 1989; Finkelstein & Hambrick, 1990; Fredrickson & Iaquinto, 1989; Michel & Hambrick, 1992; Murray, 1989; Wiersema & Bantel, 1992; Wiersema & Bantel, 1993). However, when hypotheses from this research are grouped according to the mode of measurement used, either relational measures (i. e. heterogeneity) or non-relational measures (e. g. average age, average tenure), there is little support found for a priori predicted hypotheses using relational measures (Jackson, 1992).

For example, Bantel and Jackson (1989) and Murray (1989) both failed to find consistent support for their hypotheses predicting relationships between TMT heterogeneity and organizational innovation and organizational performance. In a more recent study, Wiersema and Bantel (1992) examined the relationship between TMT composition and strategic change. They found significant a priori predicted relationships between strategic change and the non-relational variables of average age, organizational tenure, education level, and education specialty, but no relationship between strategic change and the relational variables of age heterogeneity, organizational tenure heterogeneity, and team tenure

heterogeneity. In a similar study, O'Reilly, Snyder, and Boothe (1993) found a positive relationship between TMT tenure homogeneity and strategic change, but hypothesized a negative relationship (O'Reilly, et. al., 1993).

Michel and Hambrick (1992) supported their hypotheses predicting relationships between average organizational tenure and functional background and corporate strategy, but had conflicting results concerning the relationship between TMT tenure homogeneity and corporate strategy. Finally, Wieserma and Bantel (1993) failed to support their hypothesis concerning the relationship between TMT tenure heterogeneity and TMT turnover, whereas O'Reilly, et. al. (1993) found a significant negative relationship between TMT tenure homogeneity and TMT turnover.

In a recent review of the upper echelons literature, Jackson (1992) concluded that the reason for such inconsistent findings is that the heterogeneity variables studied may fail to capture the complexities of the strategic decision-making process. Staw (1991) also noted that without studying the interaction processes involved in relational variable hypotheses, it is impossible to predict or know why certain relationships occur. This limitation

was adumbrated by Hambrick & Mason (1984) when they qualified their suggested use of demographic variables by stating contradictory or non-findings may be attributable to the failure of demography to directly capture the psychological profiles or social dynamics of the TMT.

Daft and Buenger (1990) have made a similar observation about the lack of attention to linkages among variables in strategy research. Their critique of the strategy field in general finds an over-reliance on simplistic bivariate relationships with little understanding or empirical investigation of the intervening linkages between the variables of interest. This oversimplification has resulted in reducing the predictive ability of strategy models (Daft & Buenger, 1990). Although it is acknowledged that research must strike a delicate balance between theoretical scope and parsimony, the ability of a theoretical model to predict a priori specified relationships is the sine-qua-non of theoretical adequacy (Bacharach, 1989; Hempel, 1964; Hempel & Oppenheim, 1948).

Consequently, it seems reasonable to conclude that a more fine grained analysis examining intervening linkages in the upper echelons model would enhance our understanding

about the relationship between TMT heterogeneity and organizational outcomes (Harrigan, 1983). Toward this end, the remainder of this chapter will focus on the small group research literature.

Small Group Research

The small group literature has conspicuously ignored TMTs in its study of groups in organizations. Instead, its focus has been on designing effective work groups for specific organizational tasks (see Bettenhausen, 1991 and Gist, et. al., 1987 for reviews). This, in part, may be due to the disciplinary roots of psychology and social-psychology from which the small group literature has grown. Not surprisingly, small group research in organizations has been conducted primarily by industrial/organizational psychologists and organizational development researchers. The theoretical models of small group performance which focus on interaction processes that convert group inputs into group outputs can provide a theoretical bridge for examining relevant processes in the upper echelons model.

Group Performance

Beginning with the work of Hackman and Morris (1975), theoretical models of small group performance have focused on group interaction processes (e. g. communication patterns, coalition formation, conflict, supportiveness, trust) that convert group inputs (e. g. group composition, group structure, group reward structure) into group outputs (e. g. decision quality, decision speed, group member satisfaction with the decision) - see Goodman, 1986 and Goodman, et. al., 1987 for reviews of group performance models. Despite some differences among the various models, recent reviews of the small group research literature conclude that group performance models are for the most part very similar (Bettenhausen, 1991; Gist, et. al., 1987; Goodman, et. al., 1986).

Figure 2.2 depicts the fundamental theoretical model of group performance (Goodman, et. al., 1986; Goodman, et. al., 1987; Hackman & Morris, 1975; McGrath, 1984). This model illustrates the relation between input factors, group interaction processes, and group performance outcomes. The fundamental assumption of this model is that input factors

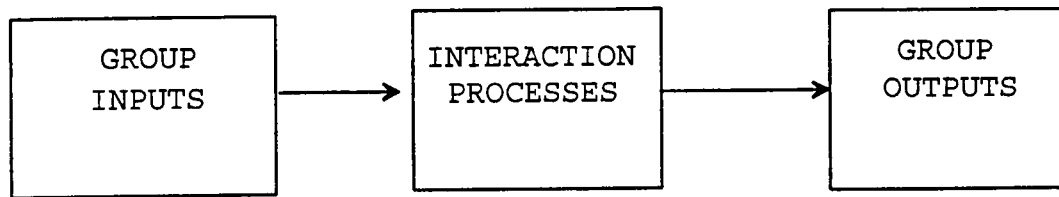


Figure 2.2

Group Performance Model

affect performance outcomes through the group interaction process.

A group begins with a given set of input factors that establish the potential for high group performance (Steiner, 1972). Input factors include such things as the abilities and skills of the group's members, group structure, and reward structures. However, a group's potential for productivity does not necessarily translate into high levels of group performance.

The group interaction process serves as a mediator between potential group productivity and realized group productivity. Process factors include communication patterns, coalition formation, group problem solving styles, and supportiveness (Goodman, et. al., 1986; Hackman &

Morris, 1975). These factors can directly affect group performance individually or they can interact with one another to affect other group process and outcome variables (Hackman & Morris, 1975). When process factors reduce group productivity, the group has experienced "process loss" (Steiner, 1972). Conversely, group interaction processes can result in "process gains." For example, a group may capitalize on the opportunity to pool skills and knowledge and correct errors, and, as a result, outperform its most competent member (Hill, 1982).

Because of the complexity of the interaction process, Hackman and Morris (1975) proposed that the manner in which the interaction process affects group performance is a function of the full utilization of group members capabilities. For example, interaction among group members can either increase or decrease the level of effort members exert in doing the task, and can affect how well the efforts of the individual group members are coordinated. Similarly, group interaction can lead to either efficient or wasteful use of the knowledge and skills of group members.

A final variable of importance is the task at which a group works (Gist, et. al., 1987; Gladstein, 1984; Hackman,

1968; Hackman & Morris, 1975; Hackman, et. al., 1976; McGrath, 1984; Shaw, 1964; Steiner, 1972; Zander, 1977). The nature of the task can determine the kinds of inputs necessary to create the potential for high performance. For example, a heterogeneous group structure is thought to enhance creativity for complex tasks with uncertain outcomes (Filey, et. al., 1976; Hambrick & Mason, 1984; Hoffman & Maier, 1961; Nemeth & Wachtler, 1983; Shaw, 1981).

Effective interaction processes are also contingent upon the group's task. For example, groups faced with complex decision-making tasks with indeterminate answers should encourage the expression of alternative view points and conflicting opinions to ensure the discussion of a wide range of possible alternatives and solutions (Cosier & Schwenk, 1990; Janis, 1972; Schweiger, Sandberg, & Rechner, 1989). The exposure to alternative opinions and view points is argued to improve the quality of decisions and stimulate learning (Nemeth, 1986).

In summary, group performance is contingent upon three factors: the resources of the group or input factors, the process by which the group interacts to accomplish its task, and the demands of the task itself. The input factors

provide the potential for group productivity, while the group interaction process serves to convert group inputs into group outputs and realized productivity. Lastly, the group task is a contingency factor in determining appropriate group inputs and interaction processes for maximum group performance.

Further examination of the group performance model reveals that the relationship among these factors is not as straightforward as the model portrays. For example, research in group behavior has observed that group members are often reluctant to express dissenting points of view during the decision-making process (Baron, Kerr, & Miller, 1992; Goethals, 1987). In fact, research suggests there is a strong tendency for group members to move toward conformity and uniformity of opinions during the decision-making process, and that this tendency becomes stronger the more complex and uncertain the task (Baron, Kerr & Miller, 1992). The result is less creativity and lower quality decisions due to the "process loss" associated with suppression of alternative perspectives and divergent opinions.

Not surprisingly, researchers concerned with overcoming conformity have advocated decision-making techniques such as devil's advocacy and devil's inquiry to stimulate diversity (e. g. Cosier, 1980; Mitroff, Emshoff, & Kilmann, 1979). However, the encouragement of disagreement and the expression of alternative opinions in complex decision-making tasks has been found to have negative consequences as well (e. g. Hoffman, 1959; Pondy, 1967; Shaw, 1983; Steiner, 1972). The expression of divergent perspectives, beliefs, and interests can impede the level of cooperation among group members necessary for integrating diverse perspectives into a single decision (Pfeffer, 1981). Furthermore, while disagreement during the decision-making process may result in higher quality decisions, it is often at the expense of group member satisfaction and group cohesion (Hoffman, 1959; Hoffman & Maier, 1961; Ghiselli & Lodahl, 1958; Schmidt, 1974), both of which are important for the successful implementation of group decisions after they are made.

This discord among the factors affecting group performance reveals a subtle paradox in the group performance model. On the one hand, groups faced with

uncertain and complex tasks should be heterogeneous so to provide a variety of skills, backgrounds, and opinions which can be brought to bear on the task; however, when faced with complex and uncertain tasks, there is a strong tendency toward conformity and uniformity of opinion. To counter the tendency toward conformity, so to fully utilize the group's diverse skills and backgrounds, the decision-making process should encourage open disagreement and expression of alternative points of view; however, open disagreement is found to have negative consequence as well. Thus, groups faced with uncertain and complex tasks are confronted with needing to amplify diversity while simultaneously mitigating its potentially negative consequences.

Some researchers have recently recognized these paradoxical forces at work in groups (Smith & Berg, 1987a; 1987b). In referring to the inherently paradoxical nature of groups, Smith and Berg wrote:

Group members experience the group as being filled with contradictory and opposing emotions, thoughts, and actions that coexist inside the group. As group members struggle to manage the tensions generated by these contradictory and opposing forces, the essential process dynamics of group life are created (1987a: 15).

Unfortunately, there has been little theoretical development or empirical research directed toward explaining and examining the paradoxes found in groups (Bettenhausen, 1991). Instead, researchers have been inclined to examine both sides of group paradoxes independently. For example, researchers concerned with ensuring diversity of opinion during the course of the decision-making process have focused on decision-making techniques such as devil's advocacy and devil's inquiry (e. g. Schweiger, et. al., 1986). In contrast, researchers concerned with reducing the negative consequences of disagreement and diversity during the decision-making process have typically focused on developing constructive ways to manage disagreement (e. g. Deutsch, 1972).

Understanding the paradoxical nature of group requires exploring the processes and mechanisms that allow for a synthesis of these apparently contradictory forces. It is proposed that one such mechanism is the level of trust that exists among group members. Specifically, trust facilitates disagreement by creating a safe context in which dissenting points of view can be expressed, while also reducing the negative consequences associated with disagreement by

cultivating constructive group behaviors which facilitate the integration of different points of view into a single decision. The following sections review relevant literature on trust and collaborative problem solving. Their integration with the upper echelons perspective of organizations and the group performance model is saved for Chapter 3.

Trust

There is perhaps no single variable which more strongly influences interpersonal or group behavior as does trust (Golembiewski & McConkie, 1975). The centrality of trust throughout history was noted by Deutsch (1973: 143) who stated:

If we examine the writings of learned men throughout the ages, we find that, while they often disagreed whether to trust or not, they did agree that the topic was important (cited by Golembiewski & McConkie, 1975: 131).

While there is agreement as to the importance of trust, there are numerous definitions of trust and qualities or attributes that engender trust (Luhmann, 1979; Barber, 1983; Butler, 1991). Nowhere is this more evident than in research that has examined trust in organizations. In fact,

most organizational researchers have dispensed with defining trust altogether, and instead have conceptualized trust according to various qualities or attributes that give rise to it (Butler, 1991; Gabarro, 1978). This has led some researchers to conclude that it is somehow artificial to define trust separate from its antecedents or determinants (e. g. Butler, 1991; Gabarro, 1978). This research attempts to overcome this shortcoming by being more conceptually clear in its definition of trust, and the distinction between trust and its antecedents or determinants.

Definition of Trust

There are multiple conceptualizations of trust found in the organizational literature. The first and perhaps most simplistic is the conceptualization of trust as an expectation on the part of an individual that an event or action will take place in the future (Luhmann, 1979). Later conceptualizations of trust expanded on this conceptualization by introducing an element of vulnerability on the part of the trustor with regard to the expectation of future events or actions. The inclusion of vulnerability moved beyond the earlier conceptualization by suggesting

that the trustor puts him/herself at risk by deciding to trust.

In stressing the vulnerability aspect of trust, Deutsch (1953 :266) wrote that the trusting individual, "perceives that he will be worse off if he trusts and his trust is not fulfilled than if he does not trust." Other conceptualizations of trust have stressed a vulnerability component. Zand (1972) argued that trust was the giving up of control, such that the trustor must rely on others' actions with the knowledge that the certainty of those actions cannot be known a priori. Luhmann (1979) described trust as relevant only in situations where the trustor runs the risk of having his/her trust betrayed. Barber (1983) also conceptualized trust as an expectation that others' will perform certain actions without the ability to monitor or control those actions, and this uncertainty results in vulnerability on the part of the trustor.

Another conceptual distinction found in the literature pertains to the level analysis at which trust is defined. At the individual level of analysis, trust is conceived as unilateral, and the emphasis is on the individual's trust in others. In contrast, trust has also been conceptualized as

a reciprocal orientation and interpretive assumption that is shared (Barber, 1983; Lewis & Weigert, 1985a; Lewis & Weigert, 1985b; Luhmann, 1979). From this perspective, trust is conceived as a property of collective units or groups that results from the inter-relationships among group members.

This distinction is more than just semantics. Trust conceptualized as a property of collectives or groups recognizes that in many relationships individuals are interdependent. In such relationships, individuals are jointly contributing to the accomplishment of some task or greater good. This conception of trust was emphasized in Carnevale, Pruitt, and Carrington's (1982: 13) definition of trust as "a concomitant expectation that the other will reciprocate," which is essential for "the goal of achieving mutual cooperation." Zand (1972: 230) also recognized the interdependent aspect of trust in an organizational setting. He wrote that in organizations, trust becomes "the conscious regulation of one's dependence on another."

The distinction is important for understanding the consequences of trust. As a unilateral concept, the consequences of trusting behavior affects only the trustor.

As property of collectives or groups, the consequences of trust are not limited to idiosyncratic effects on individuals, but its consequences also affect the dynamics of the collective and the accomplishment its task or greater good. Thus for the purposes of this research, trust is defined as

the willingness of individuals within a group to be vulnerable to the actions of others' in the group based upon the shared expectation that others' in the group will perform certain actions.

Having defined trust, it is now important to identify those factors which form the bases of trust.

Bases of Trust

The decision as to whether or not to bestow trust has typically been discussed in the organizational literature in terms of certain behavioral characteristics or attributes that engender trust (Butler, 1991). For example, Butler (1991) identified 11 behavioral characteristics that influenced an individual's perception of the trustworthiness of others. Other researchers have been less exhaustive, and instead have concentrated on only a few predictors of perceived trustworthiness (e. g. Gabarro, 1978). Of these,

the most frequently cited in the literature are competent role performance, consistent behavior, non-opportunistic behavior, and honesty (Gabarro, 1978; Mishra, 1992; Ouchi, 1981; Swan, Tarwick, Rink & Waters, 1988; Williamson, 1981). The extent to which individuals fulfill expectations concerning these four behavioral attributes or characteristics, the more trustworthy they will be perceived to be.

Conceptually, little distinction has been made in the literature as to whether these four factors are each a distinct dimension of trust, or whether they relate to different meanings of trust. One exception is Barber (1983) who suggested that the concept of trust has two primary meanings: one that is based upon moral expectations in our social relationships, and another that is devoid of moral connotations. The first meaning of trust is based upon the expectation that others in our social relationships will behave or act in a manner that does not harm our interests or well being. The second meaning refers to the expectation that others in our social relationships will exhibit consistent and competent role performance. Of the four factors perviously identified, consistency and competency

are indicative of trust based upon consistent and competent role performance, whereas non-opportunistic behavior and honesty best represent Barber's (1983) meaning of trust based upon the moral expectations that exist in social relationships. For the purposed of this research, the first type of trust will be called "Competency Based Trust," and the second will be called "Integrity Based Trust."

With regard to competency based trust, Gabarro (1978) found that successful managers developed relationships based largely on trust, where trust was in part determined by managerial competence. March and Olsen (1989) argued that organizational politics was directly related to the level of trust in the organization, and that the level of trust was contingent upon the level of competency. Swan et. al. (1988) argued that in business relations, trust was contingent upon the competence of business partners; and Kirkpatrick and Locke (1991) identified trust as an important trait of effective managers, which was in part engendered by managerial competence.

Consistency as an expected behavior that can engender competency based trust is summarized by McGregor's (1967: 164) argument that "inconsistencies between words and

actions decrease trust." Nanus' (1989) characteristics of trustworthy leaders also includes reliability as an important dimension. "Nothing is noticed more quickly, and considered more significant, than a discrepancy between what executives preach and what they expect their associates to practice" (Nanus, 1989: 102). Finally, from the marketing literature, Swan, et. al. (1988) found that a purchasing agent's trust in a sales person was heavily dependent upon consistency in the sales person's actions.

The most notable example of integrity based trust comes from Ouchi's (1981) discussion of clan-like organizations. Ouchi argued that trust is critical for the successful functioning of clan-like organizations. Because these organizations typically operate in uncertain and complex environments, it is difficult for them to develop sufficiently detailed contracts that accurately assess the value of participants' contributions to the organization, and that reduce the potential for opportunistic behavior on the part of participants. Trust ameliorates these problems by reducing the potential for self-serving behavior, and making it possible for clan members to engage in collective decision-making.

This combination of collective decision making with individual responsibility demands an atmosphere of trust. Only under a strong assumption that all hold basically compatible goals and that no one is engaged in self-serving behavior will individuals accept personal responsibility for a group decision and make enthusiastic attempts to get the job done (Ouchi, 1981: 79).

Other organizational researchers have also discussed trust in terms of not acting opportunistically or exploiting others' vulnerabilities. McGregor (1967) discussed trust in terms of knowing that an individual will not deliberately or consciously take unfair advantage of another.

Williamson (1981) discussed trust as an important transaction dimension under relational team relationships, where the contributions of individuals are difficult to assess and monitor. In this type of relationship, trust becomes a distinctive feature to ensure that members will not act opportunistically in the absence of more formal methods of control. Finally, Barney and Hansen (1994: 3) defined trust as the "mutual confidence that no party to an exchange will exploit another's vulnerabilities," which they discuss in terms of non-opportunistic behavior.

This basis of trust is also revealed in discussions about honesty in organizations. Gabarro (1978) argued that effective working relationships require a concern for others' interests that is in part engendered by honesty. Nanus (1989) and Kirkpatrick and Locke (1991) both argued that honesty is critical to a leader's perception of trustworthiness in order to avoid perceptions of exploitive behavior. Finally, Davis and Lawrence (1977) argued that trust engendered through honesty was an essential aspect of matrix organizations because it reduced self-interested behavior in the absence of more formal means of control.

At this point, a remaining question to be addressed is whether each of the aforementioned meanings of trust and their engendering attributes are sufficient for a shared expectation of trust to exist in groups or collectives. It is possible that the salience of one meaning over the other may depend upon the situation. For example, competency based trust may be more important than integrity based trust in situations where there is little opportunity for opportunistic behavior and dishonesty. Such might be the case in groups faced with tasks that have known or certain outcomes. The certitude of the outcome and the steps

necessary for achieving the outcome will reduce the ability of group members' to engage in self-serving or dishonest behavior; yet, the competency and skill of the group members' would be essential for accomplishing the task.

In contrast, integrity based trust may become more salient as task uncertainty increases. In such situations, not only is the competency of group members important, but the lack of a clear understanding of the relationship between means and ends increases one's vulnerability to opportunistic behavior and dishonesty (Ouchi, 1979).

Although the salience of one meaning over the other may in part depend upon the situation, one would expect that within the general context of business organizations the absence of either would undermine trust (Barber, 1983). Individuals hired by firms are expected to show both competency and integrity in their actions. The absence of one quality or both results in inefficient and ineffective outcomes within the organization, and not surprisingly will typically result in an individual either never being hired, or later being fired. Thus, one would expect that in general the more of each that exists the higher the overall

level of perceived trustworthiness of an individual, and consequently the higher the overall level of trust.

Consequences of Trust

Strongly tied up in the definition of trust is the concept of risk taking (Luhmann, 1979; Barber, 1983). The willingness on the part of an individual to be vulnerable to others' actions implies that harm as well as benefit can result from trusting behavior. As Luhmann commented:

Trust always bears upon a critical alternative, in which the harm resulting from a breach of trust may be greater than the benefit to be gained from the trust proving warranted. Hence one who trusts takes cognizance of the possibility of excessive harm (1979: 24).

Despite its potential negative consequences, trust has been described as a "nurturant sun" which drives out latent fear and constricting behaviors and allows the individual to "unfold and flourish" (Golembiewski & McConkie, 1975: 134). Thus, trust excludes certain possibilities from consideration by neutralizing certain dangers and risks in relationships, which in turn "discloses possibilities for action which would have remained improbable and unattractive without trust" (Luhmann, 1979: 25).

Because of these characteristics, trust is seen as a key ingredient for cooperative behavior (Deutsch, 1973). Zand (1972) found that trusting behavior among group members' was reciprocated, which resulted in a mutually reinforcing spiral of trust. As the level of trust increased in the group, the group members engaged in more cooperative behavior, more open communication and exchange of ideas, greater perceived influence by all participants, and more extensive search for alternative courses of action.

In low trust environments, Gibb (1961) found that individuals think about how they appear to others and engage in defensive behaviors. The individual behaviors he observed included trying to be seen more favorable by others, trying to escape punishment or ostracism, engaging in competitive behaviors, and concentrating on how to avoid or mitigate attacks. In contrast, Giffin (1967) found that high trust environments allowed individuals to deviate from group opinion and there was more acceptance of diverse behaviors. McGregor (1967: 163) wrote, that in a climate of trust organizational members can "be themselves, and not be fearful of the consequences ... that even in the competitive struggle for power and status and the other rewards of

corporate life, their fellow members and the leader will not take unfair advantage of their openness and attendant vulnerability."

In sum, the potential consequences of trust are both harmful and beneficial, but the possibility of harm must be balanced by the fact that bestowing trust opens up new possibilities that would otherwise be unattainable. And to the extent that trust is reciprocated, it creates a mutually reinforcing spiral of trust that facilitates cooperation, reduces defensive behavior, mitigates fear, and allows individuals to "unfold and flourish."

Collaborative Problem Solving

With diversity comes the need for integration. Exploring differences of opinion and alternative solutions are of little consequence if the result is deleterious group processes that impede the making of a decision or its subsequent implementation. As differentiation increases, (e. g. by having more diverse members and points of view), it is necessary to have mechanisms to provide integration or there will not be gains in effectiveness.

Lawrence and Lorsch's (1967) series of studies into the appropriate structure and functioning of organizations best exemplifies the relationship between differentiation and integration. They found that the division of work in organizations by functional area and task was accompanied by differences in cognitive orientation among the managers in different sub-units, and by differences in the formal structure of different departments. For example, R&D may value creativity, have an informal structure, and long time horizons, whereas production may deal more with day-to-day problems in a more rigidly controlled formal system, with shorter time horizons. Despite these differences, they argued that to maintain the organization's effectiveness the organization as a system had to be coordinated so that a state of collaboration existed across departments. Thus, differentiation necessitated some level of integration.

Lawrence and Lorsch further proposed that the level of complexity in an organization's environment would determine the level of differentiation and the amount of uncertainty in an organization's environment would determine the appropriate type of integration. They found that increasing complexity and uncertainty in an organization's environment

was associated with more differentiation both between and within departments, whereas organization's operating in stable environments required less integration.

Successful organizations were those that matched the level of differentiation with appropriate integrating mechanisms. The integrating mechanisms best suited for high levels of differentiation were behavioral as opposed to structural. Effective highly differentiated organizations worked in a collaborative problem-solving mode to face the issues and work through to the best overall solution to problems, as opposed to exhibiting competitive behaviors or smoothing over differences.

As was previously discussed, researchers in the small group performance literature have also been concerned with the consequences of diversity. Some researchers have argued that group performance suffers from diversity (Axelrod & Dion, 1988; Hickson, et. al., 1986; McDonald, 1972; Messick & Mackie, 1989), while others have argued it is essential for high levels of group performance (Coser, 1964; Cosier & Janis & Mann, 1977; Nemeth, 1986; Pruitt & Rubin, 1986; Schwenk, 1990). A more balanced view takes a position similar to that of Lawrence and Lorsch (1967), in that the

benefits of diversity are contingent upon both the nature of the group's task (i. e. complexity, uncertainty, routinization, etc.) and the way in which diversity is managed (Deutsch, 1949; Deutsch, 1969; Deutsch, 1973; Deutsch, 1990; Kahn & Boulding, 1964; Thompson, 1979).

Organizational members often have opposing ideas and opinions as they make decisions and solve problems. Executives may disagree as to the strategic direction of the firm, or department heads may disagree as to the best way to solve an interdependent problem. Five behavioral styles for managing these types of disagreements during decision-making or problem solving have been identified in the literature. The five styles can be described in terms of two dimensions: cooperativeness and assertiveness (Rahim, 1991; Thomas, 1976). Figure 2.3 portrays this multidimensional model.

Along the cooperativeness and assertiveness dimensions, competing is an attempt to attain one's own concerns at the expense of others. By contrast, acquiescing is satisfying others' concerns at the neglect of one's own. Avoiding neglects both one's own and others' concerns by sidestepping differences. Collaboration is an attempt to satisfy one's

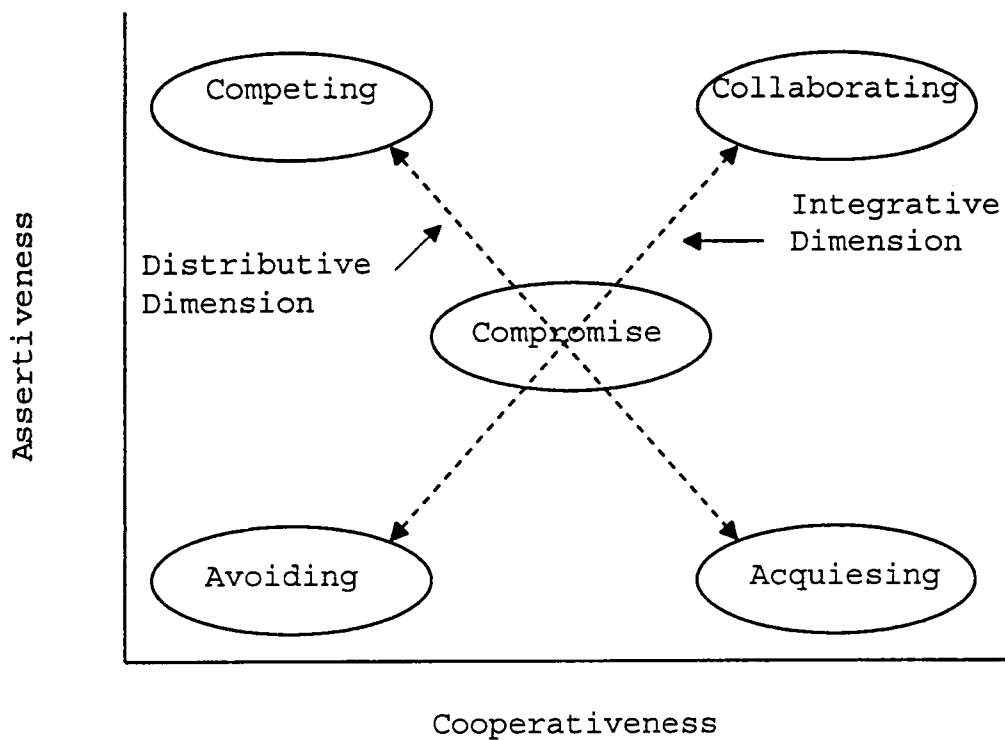


Figure 2.3

Multidimensional Model of Problem Solving Behaviors
(Source: Thomas, 1976)

own concerns and the concerns of others. The remaining mode is compromise which is the mid-point between cooperativeness and assertiveness.

Walton and McKersie (1965) argued that problem solving can be viewed in terms of an integrative dimension - the total satisfaction of all parties' concerns, and a distributive dimension - the division of satisfaction between the parties. These two dimensions are represented

by the off diagonal dotted lines in Figure 2.3. Along the distributive dimension, competing represents extreme taking and acquiescing represents extreme giving. This dimension and these two behavioral styles focus on the win-loose aspects of problem solving.

In contrast, the integrative dimension is concerned with the total satisfaction of all parties. Along this dimension, collaboration attempts to enlarge the pie by searching for alternatives which enable all parties to satisfy their concerns. Avoiding reduces the size of the pie by neglecting the concerns of both parties. Along both dimensions, compromise is considered intermediate.

Research has found that the appropriateness of these behavioral styles is contingent upon the situation (Rahim, 1991; Thomas, 1977). For example, competitive behaviors would be most effective where one party's gain necessitates another party's loss. Such would be the case in litigation. Avoiding would be considered effective when the issue over which there is disagreement is trivial or not worth the bother; and acquiescing might be appropriate when issues are more important to others than yourself.

However, similar to the findings of Lawrence and Lorsch (1967), research in small group performance has found that when integration of differing perspectives is required to find an appropriate solution to a complex problem, or building commitment and consensus among group members is essential for successful implementation, or objective learning is important, collaborative problem solving is the most effective behavioral style (Likert & Likert, 1976; Rahim, 1991; Thomas, 1977).

Collaboration involves open communication, exchange of relevant information, and examination of differences so that an acceptable solution can be made based upon the most relevant information. Gray (1989: 5) describes collaborative problem solving as "a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible."

During collaborative problem solving, there is more effective communication, individuals are more attentive to each others' opinions, and more receptive of others' ideas. Individuals feel challenged when confronted with opposing ideas and perspectives, and are motivated to explore and

understand others' position. They define the problem as a mutual one, and seek solutions that are agreeable to all. There is less obstructive behavior during discussions, and members are more satisfied with the group and its solution (Gray, 1989; Prien, 1976; Rahim, 1992; Thomas, 1979; Tjosvold, 1988a; 1988b; Tjosvold, Andrews, & Jones, 1983; Tjosvold & Chia, 1989; Tjosvold, Andrews, & Struthers, 1991).

The other problem solving styles have been found less productive and even harmful to group performance (Rahim, 1991; Tjosvold, 1985; Tjosvold, 1991; Tjosvold & Field, 1983). For example, competitive behaviors result in polarization of ideas, with only the winners being committed to the decision. Acquiescing and avoiding behaviors both fail to address differences in any meaningful way, resulting in typically unreflected, low quality decisions. In the long-term, the differences that were not addressed may also resurface to undermine the implementation of decisions.

One might expect compromise to be the least destructive problem solving behavior in comparison to collaboration for complex and non-routine tasks since it contains elements of collaboration. However, it is often not as productive as

collaboration since it also contains elements of the other types of behavior. Furthermore, because compromise is an amalgamation of the other forms of behavior, researchers have had difficulty in distinguishing it empirically (Rahim, 1991).

For the purposes of this research, the focus is on collaborative problem solving. The argument put forth here is that the primary task of an organization's TMT is the making of strategic decisions. Decisions of this type are by definition, complex, uncertain, and non-routine (Hickson, et. al., 1986). Thus, based upon the previous discussion collaborative problem solving should be the best approach for maximizing an organization's strategic decision-making capability.

Summary

The literature review revealed the inability of strategy researchers to a priori predict relationships between TMT heterogeneity and organizational outcomes based upon the upper echelons model. This finding was attributed to a lack of attention to the process variables that serve to convert TMT heterogeneity into organizational outcomes.

In an attempt to overcome this shortcoming, the small group research literature was proposed as a theoretical bridge for identifying relevant group interaction processes.

A review of the small group literature revealed a subtle paradox in the group performance model. Groups faced with uncertain and complex tasks are confronted with needing to amplify diversity while simultaneously reducing its negative consequences. Trust was proposed as important mechanism that functions as a critical behavioral dynamic in the synthesis of these paradoxical forces. Trust creates a safe environment in which to express diversity and disagreement, while also fostering collaborative problem solving behaviors that reduce the negative consequences associated with diversity.

Both the literature concerning trust and collaborative problem solving were reviewed. In reviewing the literature on trust, several deficiencies were identified. First, was the lack of definitional and conceptual clarity with regard to trust. Trust was defined by integrating various conceptualizations found in the literature. A clear distinction was also made between trust and factors which form the bases of trust. Lastly, collaboration was found to

be the most appropriate problem solving style for
integrating diverse perspectives into a single decision, and
for building commitment and consensus to decisions.

CHAPTER 3

THEORETICAL MODEL AND HYPOTHESES DEVELOPMENT

The TMT as a Group

Many definitions of what constitutes a group appear in the small group research literature. Shaw (1981: 20) provides a starting point by defining a group as "two or more persons who are interacting with one another in such a manner that each person influences and is influenced by each other person." More specific definitions of group for strategy research emphasize the interdependence among members and their joint effort toward taking action and producing an outcome. For example, McGrath (1984: 7) defines a group as "those social aggregates that involve mutual awareness and potential mutual interaction." Mutual awareness and potential interaction suggest a certain level of interdependence. Interdependence connotes that members choices and behaviors take one another into account (McGrath, 1984). Similarly, Ancona (1987: 209) defines a group as "a set of interdependent individuals who have the common goal of producing something, whether it be a product, service, or decision." Such definitions fit well with

Hambrick and Mason's (1984) justification for studying top management teams in large complex organizations; that is, strategic decision-making and strategy implementation are interdependent shared tasks among TMT members, and not the sole purview of the CEO.

The TMT Task

A fundamental assumption in the normative strategy literature is that the success and sustainability of an organization is dependent upon the timely making and successful implementation of high quality strategic decisions (Hax & Majluf, 1991; Miles & Snow, 1978; Porter, 1980; 1985; Schweiger & Sandberg, 1991). Although it is recognized that strategic decision-making and implementation are not the sole responsibility of an organization's TMT (Mintzberg & Waters, 1985), the primary task of an organization's TMT is making and implementing timely strategic decisions (Castanias & Helfat, 1991; Eisenhardt & Zbaracki, 1992; Hambrick & Mason, 1984; Hickson, 1987). As such, researchers and practitioners have focused on improving top management teams' strategic decision-making and implementation abilities (Bourgeois & Brodwin, 1984;

Isenberg, 1986; Floyd & Wooldridge, 1992; Schweiger, et. al., 1986; Schweiger, et. al., 1989; Schwenk, 1984; Schwenk, 1988; Schwenk, 1990).

The tendency has been for researchers to examine strategic decision-making issues separate from strategy implementation issues (Zahra & Pearce, 1990). Because strategic decision-making requires creativity and innovation due to its complexity, uncertainty, and non-routine nature (Mason & Mitroff, 1981; Mintzberg, et. al., 1976; Schwenk, 1988), much of the research on improving TMTs' decision-making capabilities has focused on encouraging disagreement during the decision-making process to ensure the exploration of a wide range of possible alternatives and solutions (e. g. Schwenk, 1988). In contrast, research concerned with strategy implementation has focused on building consensus, cooperation and commitment during the decision-making process (Bourgeois, 1980; Dess, 1987; Floyd & Wooldridge, 1992; Guth & MacMillan, 1986; Hambrick & D'Aveni, 1992; Priem, 1990; Tjosvold & Field, 1983; Wooldridge & Floyd, 1989).

While upper echelons research concerning the relationship between TMT heterogeneity and organizational

outcomes fails to examine the mechanisms which serve to convert TMT heterogeneity into organizational outcomes, it does make use of arguments from both the strategic decision-making and strategy implementation literatures to support propositions, hypotheses, and suppositions regarding the benefits and detriments of TMT heterogeneity. In arguing for the benefits of TMT heterogeneity, Hambrick and Mason commented:

Routine problem solving is best handled by a homogeneous group, and ill-defined, novel problem solving is best handled by a heterogeneous group in which diversity of opinion, knowledge, and background allows a thorough airing of alternatives (1984: 202).

Similarly, Bantel and Jackson (1989) reasoned that heterogeneous TMTs were important for organizational innovation and performance. They argued:

When solving complex, non-routine problems, groups are more effective when composed of individuals having a variety of skills, knowledges, abilities, and perspectives (1989: 109).

Other research has argued that there are certain costs associated with TMT heterogeneity. TMT heterogeneity can result in restricted information flows, low levels of social integration, and political posturing which may thwart

implementation (Eisenhardt & Bourgeois, 1988; Katz, 1982; Pfeffer, 1981; Pfeffer, 1983; Wiersema & Bantel, 1989). Furthermore, Wiersema & Bantel (1989) suggested that a potential outcome of heterogeneity within top management teams is the inability to make decisions and/or take action on decisions that are made. Eisenhardt & Bourgeois (1988) observed that TMTs with diverse opinions about important goals and policies for the organization resulted in political activity, which consumed valuable managerial time and restricted information flows. This in turn lead to diminished organizational performance.

Findings from research on the use of structured conflict techniques parallels the arguments put forth in the upper echelons literature purporting both positive and negative consequences of TMT heterogeneity. In general, it has been found that when diverse opinions, abilities and skills are forced into the decision-making process, higher quality decisions are made. However, because of the conflict introduced by these decision-making techniques, decisions are often made at the expense of group member satisfaction, acceptance of the decision, and the speed with

which the decision is made (Hoffman, 1959; Hoffman & Maier, 1961; Ghiselli & Lodahl, 1958; Schweiger, et. al., 1986).

When the upper echelons perspective is considered in light of the small group literature, a paradox emerges similar to that discussed in the previous chapter. On the one hand, heterogeneous TMTs are thought to make higher quality decisions because of the alternative opinions and diversity of skills that are brought to bear on the strategic decision. On the other hand, this diversity may result in negative consequences that can impede the quality of the strategic decision, and its successfully implementation. Even the best delineated strategies and plans are of little consequence if they are not successfully implemented. This paradox is aptly summed-up by a quote attributed to Cicero: "Diversity in counsel, unity in command."

It was proposed that a synthesis of these dialectical forces can be found by examining the relevance of trust in the strategic decision-making process. Building on the group performance model and the upper echelons perspective of organizations, the following research model is proposed in Figure 3.1. Research on group performance suggests that

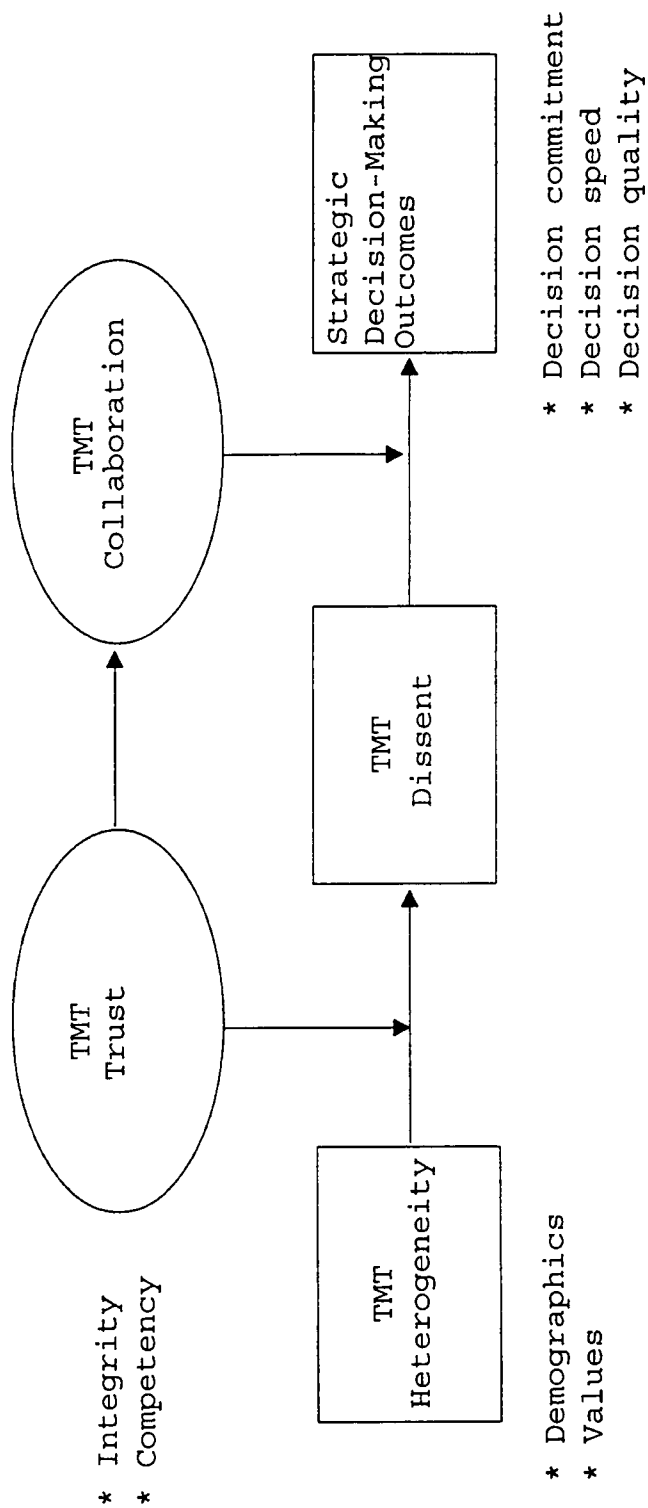


Figure 3.1

Research Model of the Relationship Between TMT
Heterogeneity and Strategic Decision-Making Outcomes

when the decision-making task of the group is complex and non-routine, the group's composition should be heterogeneous (Hambrick & Mason, 1984; Hoffman & Maier, 1961; Filey, et. al., 1976; Nemeth & Wachtler, 1983; Shaw, 1981).

Heterogeneity provides the necessary resources for effective strategic decision-making by bringing a broad range of skills, capabilities and perspectives to bear on the decision-making task. Based upon the group performance model discussed in Chapter 2, heterogeneity is an important input for making high quality decisions, which is the same argument put forth by the upper echelons perspective of organizations.

However, unlike the group performance model, the upper echelons perspective does not account for group interaction processes. Specifically, the upper echelons perspective assumes that TMT heterogeneity results in a decision-making process where dissenting points of view and alternative solutions are expressed by TMT members and dealt with in a constructive manner. Furthermore, both the upper echelons perspective and the group performance model fail to reconcile the benefits and detriments of heterogeneity within a single integrative model. This research model

offers a possible reconciliation by proposing that trust is the critical factor in understanding the relationship between heterogeneity, dissent, and decision-making outcomes. Trust acts as an amplifier of dissent by engendering a climate in which different points of view can be openly expressed, while simultaneously reducing the negative consequences of dissent by fostering collaboration among TMT members.

Research Hypotheses

The Interactive Effect of TMT Heterogeneity and TMT Trust on TMT Dissent

Much of the literature on enhancing the strategic decision-making capabilities of TMTs has focused on overcoming the pitfalls of groupthink (Janis, 1972). With its focus on TMTs as the formulators of organizational strategy, the upper echelons perspective has also been concerned with the consequences of groupthink. Hambrick and Mason (1984) suggested that TMT composition is an important factor that can either contribute to or overcome groupthink. The argument is that homogeneous TMTs may be prone to groupthink because they have a single frame of reference,

whereas heterogeneous TMTs overcome groupthink because they bring a broader range of skills and abilities to the task which is thought to stimulate the expression of divergent perspectives and disagreement during the decision-making process. The assumption is that heterogeneous TMTs result in decision-making processes that fully utilize the divergent skills, abilities, and perspectives of its members. Without studying the decision-making process, however, the issue is whether or not divergent perspectives are expressed and the skills and abilities of the team are utilized.

There is considerable theoretical and empirical evidence to suggest that not all groups fully utilize their potential for productivity (e. g. Steiner, 1972). Regardless of group composition, there is considerable research that suggests there is a strong tendency for group members to suppress the expression of divergent opinions, and this propensity increases the more complex and uncertain the task (Baron, et. al., 1992). Several theoretical perspectives have been put forth to explain this aspect of group life. Among them are social comparison theory, social impact theory, and cognitive dissonance theory - see Mullen

& Goethals, 1987 for a review of these theoretical perspectives.

While each of these theories illuminates a different aspect of group behavior, they are all similar in that they are concerned with the effects of social influence on group conformity. Because group life requires consensus and interdependent action, not only to obtain group goals, but also to meet the needs of individual group members such as prestige, status, affiliation and achievement, social pressure is often directed toward group members to conform to established norms of behavior. Anomalous behavior is often interpreted as undermining the successful functioning of the group, as well as being interpreted as a direct attack on other group members. In response, disagreement and dissension are often met with disapproval and negative sanctions as a means of maintaining consensus and conformity (Levine, 1989). When an individual feels that expressing a dissenting point of view will lead to a personal attack or some other form of sanctions, then the person is less likely to take the risk of expressing a dissenting position (Homans, 1961; West, 1992).

Openly expressing dissent generally requires a safe environment in which the risk and dangers to the individual are neutralized. As a "nurturant sun", trusting environments allow individuals to be themselves and not be fearful of the consequences (McGregor, 1967). In trusting environments, individuals know that their vulnerability and openness will not be taken advantage of. In contrast, low trust environments engender individual behaviors aimed at reducing ones vulnerability to the actions of others for fear of being exploited. Rather than being open and forthcoming with others, individuals take on a defensive posture in order to mitigate their risk. Lastly, Lippit (1969) found that individuals involved in low trust relationships felt as though they were being controlled and forced to conform.

Consequently, the following hypothesis is proposed.

H1: The relationship between TMT heterogeneity and open TMT dissent will be stronger in TMTs with high levels of trust than in TMTs with low levels of trust.

The Effect of TMT Trust on TMT Collaboration

While trust creates an environment which encourages individuals to openly disagree, it also fosters constructive

behaviors for resolving differences once they are expressed. Collaboration is a constructive process through which individuals who have expressed their differences can search for solutions that go beyond their own limited perspective (Gray, 1989). It requires confronting disagreements, defining problems as mutual, and moving toward trying to understand others' positions (Tjosvold, 1985).

Trust fosters this process by encouraging individuals to embrace and recognize their differences (Deutsch, 1972; Zand, 1972), and to "rely on one another and to accept each other's judgments when these are based on unique competence and knowledge" (Davis & Lawrence, 1977: 107). Trust also encourages communication and cooperation among parties who disagree (Golembiewske & McConkie, 1975). Building on these same arguments, Mishra (1992) found that trust positively affected the amount of collaboration among organizational members faced with an organization wide crisis. Finally, Peters and Waterman's (1982) concluded from their qualitative study of excellent companies that organizational members who felt trusted as persons tended to view their disagreements as collaborative (Peters & Waterman, 1982). Therefore, the following hypothesis is proposed.

H2: TMT trust will be positively related to TMT collaboration.

The Interactive Effect of TMT Dissent and TMT Collaboration
on Decision Commitment

Whereas some researchers have argued that expression of disagreement while making decisions can reduce group members' satisfaction with the decision-making process and its resolution (Gladstein, 1984; Wall & Nolan, 1986), others have suggested that expression of dissenting points of view during the decision-making process actually increases acceptance of group decisions (Fisher, 1980). A more balanced view is that what makes dissent either harmful or beneficial are the norms groups develop for dealing with it (Deutsch, 1973; Kahn & Boulding, 1964; Thompson, 1979). This perspective argues that group members behaviors determine how disagreements are interpreted, which in turn affects how group members respond to the decision-making process and resulting decisions.

Effective norms of behavior are characterized by a tolerance for differing points of view , and a willingness to accept disagreements as a part of the decision-making process (Brett, 1991). It requires open communication and

mutual understanding as opposed to being closed minded and less willingness to incorporate others' information into one's own perspective (Tjosvold, et. al., 1981).

These characteristics are embodied in groups which exhibit collaborative problem-solving behaviors. Collaboration results in group members viewing the decision-making process as a win-win situation. More specifically, individuals are more attentive to the others' points of view and more acceptive of others' ideas. Individuals engaged in the decision-making process feel challenged when confronted with opposing ideas and interests, and are motivated to explore and integrate others' positions with their own (Gray, 1989; Prien, 1976; Rahim, 1992; Thomas, 1979; Tjosvold, 1988a; 1988b; Tjosvold, Andrews, & Jones, 1983; Tjosvold, Andrews, & Struthers, 1991; Tjosvold & Chia, 1989).

Based upon these arguments, two theoretical reasons support the positive aspects of collaborative behaviors in reducing the negative aspects of dissent on decision commitment. The first is grounded in the assumption that people value participation in the groups to which they belong and their status as group members (Hackman, 1976;

Locke & Schweiger, 1979). When dissent is expressed in group engaged in collaborative problem-solving, group members expressing dissent will feel that their opinions are given due consideration by other group members. This acceptance will affirm their status as group members and fulfill their desires for active participation in the decision-making process. As a result, group members should develop a strong feeling of support for their group's decision-making process and for the decisions resulting from that process.

The second rationale is grounded in the instrumental value of the characteristics of collaboration (Erez, Earley, & Hulin, 1985; Greenberg & Folger, 1983; Kim & Mauborgne, 1993; Lind & Tyler, 1988; Niehoff & Moorman, 1993). Because collaboration results in problem solving being defined as win-win, individuals will be more likely to believe that decision outcomes are in line with their self interests, which should motivate them to comply with the group's resulting decision. These arguments suggest the following hypotheses.

H3a: In highly collaborative TMTs, open dissent within the TMT will be positively related to decision commitment.

H3b: In less collaborative TMTs, open dissent within the TMT will be negatively related to decision commitment.

The Interactive Effect of TMT Dissent and TMT Collaboration on Decision Speed

The ability to make timely strategic decisions is recognized as being increasingly important for the success of organizations (1991 Eisenhardt; Judge & Miller 1989). Research suggests that the decision-making process greatly affects the ability to make timely strategic decisions (Eisenhardt, 1989; Eisenhardt & Bourgeois, 1988; Judge & Miller, 1991; Mintzberg, 1973; Pettigrew, 1973). Many researchers have found that the generation of multiple alternatives during the decision-making process reduces the speed with which decisions are made (Fredrickson & Mitchell, 1984; Janis, 1982; Vroom & Yetton, 1973). They have argued that consideration of multiple alternatives requires more time because there is more information to process, and it is more difficult to build consensus.

In contrast, other researchers have focused on decision-making process characteristics that facilitate the speed of strategic-decision making. Mintzberg (1973) argued that because strategic decisions faced by organizations often have multiple alternatives, managers need to engage in effective personal exchange of information in order to speed the process. Similarly, Eisenhardt (1989) found that organizations that relied on personal exchange of information via face-to-face communication made faster strategic decisions. Theoretically, these findings support the arguments of Daft and Lengel (1984) who proposed that information richness is an important variable in explaining how organizations reduce uncertainty and complexity and enhance information processing capacity. Rich media, such as face-to-face communication, enable people to interpret and reach agreement about difficult and complex issues.

Eisenhardt (1989) and Judge and Miller (1991) found that it was not the number of alternatives considered per se that affected decision speed, but whether or not the decision-making process facilitated the simultaneous consideration of multiple alternatives. Eisenhardt argued that simultaneous consideration of multiple alternatives

helps decision makers ascertain strengths and weaknesses of various positions so that the most viable alternatives are considered. Thus, diversity of opinion in the presence of a decision-making process that acts as a funneling mechanism to cull the best alternatives from the impractical increases decision speed.

Parallel arguments to this are also found in the innovation literature. Firms that encourage diversity of opinions, yet have selection/retention mechanisms, are faster innovators than those that do not exhibit these characteristics (Kanter, 1988). Eisenhardt (1989) also suggested that simultaneously considering alternatives appears to reduce decision makers' psychological commitment to any one particular option because they can shift between alternatives if there is negative feedback about a particular alternative's feasibility.

A final process characteristic that is found to affect decision speed is the extent to which decision makers openly confront their disagreements. Eisenhardt (1989) observed that a critical determinant of decision speed was the manner in which TMT members dealt with their differences of opinion. TMTs that left disagreements unresolved, as

opposed to embracing them, often engaged in political posturing and power struggles. These TMTs exhibited less overall communication and distorted information for political gain. As a result, the decision-making process was slowed considerably.

Taken together, these arguments suggest that it is the decision-making process that affects the relationship between dissent and decision speed. Specifically, decision making process characterized by the open exchange of information, the full exploration of different perspectives, and the constructive handling of disagreement all positively affect decision speed. Collaborative problem solving embodies this type of decision making process.

Collaborative problem solving is characterized by more effective intragroup member communication and the open exchange of information. It provides for a full exploration of alternative positions during the decision-making process, as individuals are more accepting and attentive to each others' ideas. During collaboration, the presence of negative feedback is not considered a rejection of the individual, but rather an attempt to identify strengths and weaknesses of different positions in an attempt to arrive at

the best solution (Tjosvold, et. al., 1986). Furthermore, because individuals engaged in collaboration define the situation as one of mutual interdependence, the use of power to enhance one's position is less likely to occur. Not surprisingly, collaborative problem solving groups tend to engage in less political activity and view power relationships as balanced (Lawrence & Lorsch, 1967). Therefore, the following hypotheses are proposed.

H4a: In highly collaborative TMTs, open dissent within the TMT will be positively related to decision speed.

H4b: In less collaborative TMTs, open dissent within the TMT will be negatively related to decision speed.

The Interactive Effect of TMT Dissent and TMT Collaboration on Decision Quality

The primary reason for predicting that TMT heterogeneity is positively related to decision quality, is that strategic decision are complex and non-routine. Thus, TMT heterogeneity provides the necessary diversity of ideas and skills to arrive at high quality decisions. This in and of itself, however, is not sufficient for making high

quality strategic decisions if the TMT is unable to successfully integrate these differing ideas or successfully utilize their diverse skills.

As previously discussed, Lawrence and Lorsch's (1967) well known study illustrates this phenomena at the organizational level of analysis. They demonstrated that it was not enough to have a differentiated (heterogeneous) organization in order to cope with a complex environment. Firms also needed mechanisms by which they could become integrated in order to be effective. They found that high differentiation and high integration were associated with high performing firms in complex environments (Lawrence & Lorsch, 1967).

The integrating mechanism for groups is the process by which they solve problems and make decisions. The process can lead to either efficient or wasteful use of the knowledge and skills of group members (Hackman & Morris, 1975). For example, Eisenhardt & Bourgeois (1988) found that TMTs with diverse opinions about important goals and policies for the organization resulted in political activity which restricted information flows. This resulted in lower quality decisions and poorer organizational performance. In

a subsequent study, Eisenhardt (1989) observed that open expression of differing opinions and the consideration of different alternatives in the presence of integrative decision processes increased the quality of TMT decisions.

A collaborative decision process provides the vehicle for the successful integration of differing ideas during the decision-making process. Ideas are fully explored and open communication ensures the flow of accurate information so that the most salient ideas and alternatives can be incorporated into the decision. Individuals are also open to the influence of others and try to understand others' positions. Based upon these arguments the following hypotheses are proposed.

H5a: In highly collaborative TMTs, open dissent within the TMT will be positively related to decision quality.

H5b: In less collaborative TMTs, open dissent within the TMT will be negatively related to decision quality.

Summary

The upper echelons perspective of organizations was combined with the general theoretical model of small group performance to develop an integrative model of the relationship between TMT heterogeneity and strategic decision-making outcomes. This model synthesizes the inherently contradictory benefits and detriments of TMT heterogeneity into a single model of group performance. In the model, trust engenders an environment in which group members are free to express dissent, in addition to fostering collaborative problem solving behaviors. Collaboration, in turn, serves to integrate differences of opinion, thereby enhancing commitment to the decision, decision speed, and decision quality. The model and its eight hypotheses produce a more clear and empirically testable representation of how TMT heterogeneity affects strategic decision-making outcomes.

CHAPTER 4

METHODOLOGY

Sample

The sample for this study was drawn from the TMTs of hospitals operating in the States of Alabama, Kentucky, and Georgia. Hospitals were selected for two primary reasons. First is the need to control for environmental context. Recent research on strategic decision-making has found that environmental context can affect the strategic decision-making process (Judge & Miller, 1991; Eisenhardt, 1989). Therefore, although single industry studies limit the generalizability of results, they avoid the problem of varying effects from different industries (Dess, Ireland, & Hitt, 1990). It has also been proposed that in strategy research, single industry studies should be the first step toward multi-industry studies and attempts at generalization (Ginsberg & Venkatraman, 1985).

The second reason is that hospitals provide a fertile context in which to study the dynamics of group heterogeneity, trust and problem solving within TMTs. Hospital work is highly variable, complex, and

interdependent which requires a high degree of cooperation among diverse professional groups (Fottler, 1987). In a recent survey of 250 hospitals, over 25% of the CEOs reported that the uncertainties associated with health care reform are increasing the level of tension between and among hospital managers and medical staff (Sherer, 1993). The uncertainty related to health care reform is also creating new challenges for chief executives. Successfully meeting these challenges will require creating an atmosphere of cooperation and team work (Kahn, 1993).

Data Collection and Methodology Overview

This research effort began with an attempt to assure that the variables of interest in this study were relevant to the strategic decision-making process. To accomplish this initial goal, the questionnaire was sent to two CEOs and one department head in three hospitals outside the sampling population. Telephone interviews were conducted with these individuals concerning the relevance of the questions to the strategic decision-making process. These individuals were also asked how long it took them to complete the survey, in addition to questions pertaining to the overall

understandability of the questionnaire. The understandability of questions and directions, as well as a reasonable completion time are essential for insuring an adequate response rate (Dillman, 1978).

To help assure the construct validity of the questionnaire items, the questionnaire was pretested on 150 hospitals outside the study's sampling population. Of the 150 surveys mailed, 50 usable surveys were returned. The variables in the returned surveys were subjected to factor and reliability analyses. Based upon these analyses, the wording of some items was modified so to increase their convergent and discriminant validity. This procedure, coupled with the qualitative procedure mentioned above and the literature review, gave confidence in the overall validity of the variables under examination.

The entire population of 450 hospitals listed in the Southeastern Hospital Bluebook (1994) for the states of Alabama, Kentucky, and Georgia were surveyed. A letter describing the study and a questionnaire were mailed to the CEOs at each of the 450 hospitals - see Appendix A. Since the focus of this study was on the strategic decision-making process, it was important to place each questionnaire in the

context of a specific strategic decision faced recently by each hospital. Thus, the CEO was asked to provide a brief description of the most important strategic decision faced by their hospital within the past 18 months. In addition, the CEO was asked to identify the key TMT members that were actively involved in making the strategic decision.

Focusing on a single strategic decision recognizes that over time the specifics of decision-making processes are likely to change (Hickson, et. al., 1986). All subsequent questions in the survey were answered in the context of the identified strategic decision and the TMT members involved in making the strategic decision. Of the 450 questionnaires mailed, 88 usable questionnaires were returned for a response rate of 20%. The reported average TMT size was 8.14.

The next step in the data collection process entailed mailing a descriptive letter and questionnaire to the 534 total TMT members identified by the participating hospital CEOs - see Appendix B. An insert was placed inside each questionnaire that contained the strategic decision and those TMT members identified by the CEO as being key participants in the decision. The TMT members were

instructed to answer all questions in the survey in the context of the identified strategic decision and the identified TMT members.

Of the 534 questionnaires mailed to the TMT members of each hospital in the second stage of data collection, 365 were returned for a TMT response rate of 68%. Two hospitals had no TMT members respond so they were dropped from the data sample, resulting in a final sample of 86 hospitals. Of the 86 hospitals with TMT members responding, the response rate ranged from 2 to 14, with an average of 4.16.

The independent and dependent variables were factor analyzed using conventional factor analysis techniques (Kim & Mueller, 1978). These techniques involved using four factor analytic methods: principal axes, maximum likelihood, alpha, and image analysis. A robust factor was defined as one that showed consistently across methods two or more of the same variables having loadings of .35 or higher. Items that did not have a loading of .35 or higher, or that loaded ambiguously on more than one factor were dropped. To determine the number of factors to retain, two criteria were used: visual inspection of scree plots, and an examination

of the initial factor statistics for factors with eigenvalues greater than one.

After using the four factor analytic methods mentioned above to determine factor structure stability, principal axes with varimax rotation was selected to demonstrate the dimensionality of the independent and dependent variables. Principal axes with varimax rotation was chosen because of its wide acceptance as a robust factor analysis technique (Kim & Mueller, 1978; Manly, 1986).

Factor scores were calculated for each case using the regression method because it allows the factor scores to be correlated even with orthogonal rotation (Norusis, 1990). The scores produced have a mean of 0 and a variance equal to the squared multiple correlation between the estimated factor scores and the true factor values. Factor scores were used in all subsequent analyses as they come much closer to an operational definition of a factor than does unit-weighting items to form subscales based on factor loadings (Manly, 1987).

Because all independent and dependent variables in this study, with the exception of the TMT heterogeneity variables, referred to aggregate processes occurring in each

hospital's TMT (i. e. survey instructions emphasized that items referred to team characteristics) it was necessary to assess whether TMT members exhibited within hospital agreement on these measures (Glick, 1985). Therefore, an inter-rater reliability for each set of items comprising a factor was calculated using an inter-rater reliability measure developed by James, Demaree, and Wolf (1984).

In a review and comparison of different inter-rater reliability measures, James, et. al. (1984) found that traditional measures of inter-rater reliability such as intraclass correlations, mean correlation, mean euclidean distance, and mean percentage agreement underestimated within group agreement for parallel Likert scale indicators of the same construct such as were used in this study. They proposed a method labeled $r_{wg(j)}$, hereafter referred to as Mean RWG, and found it to be a more robust measure. This measure is calculated as follows.

$$\text{Mean RWG} = \frac{J[1 - (\overline{s^2_{xj}}/\sigma EU^2)]}{J[1 - (\overline{s^2_{xj}}/\sigma EU^2)] + (\overline{s^2_{xj}}/\sigma EU^2)}$$

J = number of scale items
 $\overline{s^2_{xj}}$ = mean of observed variances on J items
 σEU^2 = expected error variance calculated as $(A^2-1)/12$, where A corresponds to the number of alternatives in the response Likert scale

The values for Mean RWG range from 0 to 1, where 0 is complete disagreement and 1 is complete agreement. Values of at least .6 indicated that aggregating individual responses within a TMT was justified (Glick, 1985).

A last issue to address was the ability to make meaningful generalizations to the hospitals in the target population. Hospitals have been found to differ significantly along three variables: type of ownership (i. e. proprietary, not-for-profit, and government), size, and hospital type (i. e. general medical and surgical or specialty hospitals) (Graeff, 1980). To ensure that there was no systematic response bias, the data sample was compared with the non-responding hospitals along these three dimensions.

An Anova was performed to assess if responding hospitals differed in size from non-responding hospitals.

Following Graeff's (1980) recommendation, hospital size was measured by the number of staffed hospital beds. The results of the Anova, presented in Table 4.1, indicated no significant differences ($F\text{-value}=.955$, $p\leq.33$). The average number of staffed beds for responding hospitals was 199, and for non-responding hospitals it was 177.

Chi-square tests were performed on the categorical variables of ownership and hospital type, and the results are presented in Table 4.2. The chi-square tests revealed no significant differences in the proportion of responding to non-responding hospitals for ownership or hospital type ($\chi^2=1.83$, $p\leq.18$; $\chi^2=1.32$, $p\leq.57$). In the target population, 88% of the hospitals were classified as general medical and 12% were classified as specialty hospitals, compared to 83% general medical and 17% specialty for the responding hospitals. For ownership type, the target population contained 52% not-for-profit hospitals, 23% government owned hospitals, and 25% proprietary hospitals. This compared to 52% not-for-profit hospitals, 27% government hospitals, and 21% proprietary hospitals in the data sample. Based upon these results, it was concluded

Table 4.1

Results of Anova on Bed Size for Responding
and Non-responding Hospitals

Mean Bed Size Responding Hospitals	Mean Bed Size Non-responding Hospitals	F-value	P-value
199	177	.955	.33

Table 4.2

Results of Chi-Square Test for Hospital
Ownership and Hospital Type

	Hospital Type		Hospital Ownership	
	General	Speciality	Not-for-profit	Government Proprietary
Responding Hospitals	71 83%	15 17%	45 52%	23 27%
			18 21%	
Non-responding Hospitals	396 88%	54 12%	234 52%	103 23%
			113 25%	
$\chi^2=1.83$		$\chi^2=1.32$		
$p<=.78$		$p<=.57$		

that the responding hospitals were representative of the target population.

Independent Variables

Top Management Team Heterogeneity. Top management team studies have typically operationalized TMT heterogeneity in terms of variation on demographic variables such as age, tenure, and level of education (Bantel & Jackson, 1989; Hambrick & Michel, 1992; Murray, 1989; Wiersema & Bantel, 1992). These measures have been used as a proxy for the underlying constructs of diversity in values, beliefs, and preferences among TMT members.

Despite their widespread use, the use of demographic variables for this purpose has come under criticism in recent years (Gupta, 1988; Pettigrew, 1992). In response to this criticism, this study is more comprehensive in its measure of heterogeneity by operationalizing TMT heterogeneity in two ways. First, TMT heterogeneity was operationalized with respect to variation on the demographic variables of age, organizational tenure, TMT tenure, functional background, and educational level. Heterogeneity with respect to the interval scaled data was measured by

the coefficient of variation. This is defined as the standard deviation divided by the mean, where increasing values correspond to increasing heterogeneity. Allison (1978) found this measure to be preferable to both the standard deviation and variance measures for interval scale data because it is scale invariant. Scale invariant measures are sensitive to relative differences rather than absolute differences, which is a desirable property for ranking one distribution as more unequal than another (Allison, 1978). The coefficient of variation as a measure of TMT heterogeneity on demographic variables has also been widely used in previous TMT studies (Bantel & Jackson, 1989; Michel & Hambrick, 1992; Murray, 1989; Wiersema & Bantel, 1992).

Measures of heterogeneity on the categorical variables of functional background and educational level were calculated using Blau's (1977) index of heterogeneity. It is calculated as $1 - \sum (P_i)^2$ where P_i is the proportion of the group's individuals in the i th functional background or educational level category (Blau, 1977). Values close to 0 are interpreted as homogeneous, and values close to 1 are interpreted as heterogeneous.

The second measure of TMT heterogeneity captured heterogeneity with respect to values considered important for managers to possess. To identify relevant values, 36 value descriptors taken from Rokeach's Human Value Survey (1973) were given to three experts in the field of management. These experts included one professor of strategic management and two third-year doctoral students in strategic management. They were asked to identify from these 36 descriptors the top 10 most relevant values they considered important for managers to possess. There was isomorphic agreement across expert raters with respect to the 10 most salient values considered important for managers.

TMT respondents were asked to distribute 100 points across these 10 value descriptors. Based upon Allison's (1978) review of measures of inequality and their applicability, Theil's measure "T" was used to calculate value heterogeneity within TMTs (Theil, 1967). Theil's measure more adequately captures the fact that differences between value beliefs among TMT members are likely to have diminishing marginal utility. That is, one would expect that the impact of value belief differences in a 4 member

TMT with scores on a particular value of 0, 5, 30, 40 would be stronger than value belief differences based upon scores of 40, 45, 70, 80. While the ranges among the scores are the same, in the first example two TMT members place relatively no importance on the value, while in the second example, all TMT members recognize the value as being relatively important.

Theil's measure T was calculated by taking the overall sum of the product of (X_i/u) and $\log(X_i/u)$, and then dividing that number by n. Notationally, Thiel's measure can be represented as follows.

$$T = \frac{1}{n} \sum \left(\frac{X_i}{\mu} \right) \log \left(\frac{X_i}{\mu} \right)$$

X_i = ith score on each value
descriptor

u = the within TMT mean for each
value descriptor

n = TMT size

Factor analysis of the coefficient of variations for the 5 demographic variables and Theil's measure for the 10 values resulted in three clear factors across all four factor analysis techniques. Two of the 10 value heterogeneity measures, imagination and responsibility, had

ambiguous factor loadings across more than one factor. They were therefore dropped from the factor analysis, and the factor analysis rerun with the 5 demographic heterogeneity measures and the remaining 8 value heterogeneity measures. The reduced factor analysis resulted in a clearer three factor structure. The results of the factor analysis using principal axes are shown in Table 4.3.

Factor 1 accounted for 32% of the variance and had an eigenvalue of 4.12. The items that loaded on this factor were the 8 items measuring TMT heterogeneity with respect to managerial value preferences. Consequently, this factor was named "TMT Value Heterogeneity."

Factor 2, which accounted for 13% of the variance had an eigenvalue of 1.64. The TMT heterogeneity characteristics that loaded heavily on this factor were hospital tenure heterogeneity, position tenure heterogeneity and age heterogeneity. This factor was named "TMT Experience Heterogeneity" because it seemed to reflect length of service in both position and hospital.

The third factor had an eigenvalue of 1.28 and explained 10% of the variance. The TMT heterogeneity characteristics which loaded on this factor were educational

Table 4.3

Rotated Factor Pattern of TMT
Heterogeneity Variables

Item	Factor 1	Factor 2	Factor 3
	Value Heterogeneity	Experience Heterogeneity	Occupational Heterogeneity
Logicality	.74	-.02	.08
Wisdom	.69	.17	.02
Courageousness	.66	.01	.33
A sense of accomplishment	.65	.09	.26
Intelligence	.58	.14	.04
Broadmindedness	.55	.11	.32
Capability	.45	.03	.02
Honesty	.41	-.01	.32
Hospital tenure heterogeneity	.15	.78	-.12
Position tenure heterogeneity	.22	.60	.11
Age heterogeneity	-.12	.45	.21
Functional background heterogeneity	.22	.21	.51
Educational background heterogeneity	.06	.01	.50
Variance explained	.32	.13	.10
Eigenvalue	4.12	1.64	1.28

heterogeneity and functional background heterogeneity.

Because educational level and functional background are most likely related to one's occupation within an organization, this factor was named "TMT Occupational Heterogeneity."

TMT Trust. Trust within TMTs was measured by adapting 16 items from the Conditions of Trust Inventory (CTI) (Butler, 1991). These 16 items measured the four attributes of consistency, competent role performance, honesty, and opportunism identified from the literature, which were argued to comprise the competency and integrity bases of trust. Each attribute was measured by 4 items on a 7 point Likert scale ranging from "to a small extent" to "to a large extent." Because the items were negatively worded, they were reversed scored so that a high score would represent higher levels of trust.

Factor analysis of the 16 items measuring dimensions of TMT trust showed two factors for each factor analysis method. Four of the sixteen items failed to clearly load on one factor and were dropped from subsequent analyses. The remaining 12 items were re-analyzed. For the reduced set of items, two interpretable factors emerged across all four factor methods. The principal axes with varimax rotation

factor structure is shown in Table 4.4 for the reduced set of 12 items.

Factor 1 accounted for 60% of the variance with an eigenvalue of 7.23. The items loading on this factor measured non-opportunism and honesty. This factor supports the arguments made in the literature review for a moral basis of trust. It was therefore named "Integrity Based Trust." The scale reliability was .93, and the inter-rater reliability was .81. Therefore, an aggregated average computed score across the TMT members within each hospital was used in the data analysis to measure this variable.

The second factor consisted of 5 items measuring the consistency and competent role performance attributes of trust, which were argued to form a competency basis of trust. This factor had an eigenvalue of 1.12 and accounted for 9.0% of the variance. It was named "Competency Based Trust." The internal scale reliability was .85, and the inter-rater reliability was .76, which justified the use of an aggregated average score in the data analysis for this variable.

Collaboration and TMT Dissent. Collaborative problem solving was measured by adapting items from Tjosvold,

Table 4.4

Rotated Factor Pattern of TMT Trust

Item	Factor 1		Factor 2	
	Integrity Based Trust		Competency Based Trust	
Sometimes team members ('').....				
tried to take advantage of each other's mistakes.	.79		.26	
seemed as though they were trying to make each other look bad.	.77		.31	
seemed to be less than honest with each other.	.76		.41	
seemed to try and mislead each other.	.76		.36	
seemed to be less than sincere with each other.	.71		.45	
seemed like they were trying to take advantage of each other.	.71		.32	
seemed to be less than truthful with each other.	.64		.45	
approached their jobs carelessly.	.22		.77	
performed their jobs less than skillfully.	.36		.73	
could not be counted on to fulfill their responsibilities in a reliable manner.	.32		.68	
did not approach their jobs in a professional manner.	.42		.64	
actions were inconsistent with their words.	.37		.50	
Variance explained	.60		.09	
Eigenvalue	7.23		1.12	

Wedley, & Field's (1986) constructive controversy scale and Rahim's (1991) collaboration scale. The adapted scale contained five items designed to measure the degree of collaboration in the TMT during the strategic decision-making process. Each item in the scale was measured on a 7 point Likert scale, ranging from "strongly disagree" to "strongly agree."

TMT Dissent was measured by two items taken from Rahim (1991). These two items measure the extent to which TMT members expressed openly a difference of opinion during the strategic decision-making process. They were measured on a 7 point Likert scale, ranging from "to a small extent" to "to a large extent."

The results of the factor analysis are presented in Table 4.5. The first factor consisted of all five items measuring collaborative problem solving, and was simply labeled "Collaboration." It accounted for 55% of the overall factor structure variance and had an eigenvalue of 4.41. The internal scale consistency was .89, and the inter-rater reliability score as measured by Mean RWG was 80. Therefore, an aggregated average was used to measure collaborative problem solving.

Table 4.5

Rotated Factor Pattern of TMT Collaboration
and TMT Dissent

Item	Factor 1		Factor 2	
	TMT Collaboration		TMT Dissent	
To what extent did team members.....				
work together to solve problems				
encountered while making this decision?	.86		.19	
work together to make this decision				
jointly?	.79		.18	
collaborate while making this decision?	.79		.18	
work together to investigate the issues				
surrounding this decision?	.78		-.01	
integrate their ideas?	.75		.17	
openly express a difference of opinion?	.04		.84	
voice dissent while making this decision?	.25		.71	
Variance explained	.55		.18	
Eigenvalue	4.41		1.41	

The second factor consisted of the two items measuring TMT Dissent, and was named accordingly. It accounted for 18% of the total variance and had an eigenvalue of 1.41. The internal consistency of the scale was .77 and the Mean RWG was .67. Consequently, an aggregated average score of these two items was used to measure TMT dissent.

Dependent Variables

TMT Decision Speed. Decision speed was measured following Eisenhardt (1989) and Judge and Miller (1991). Decision speed is defined as "the time between the first reference to deliberate action, such as scheduling a meeting or seeking information, to the time in which a commitment to act was made" (Judge & Miller, 1991: 455). Because the CEO is most likely to be involved in the strategic decision-making process from beginning to end, the CEO was asked the decision duration in months for the strategic decision identified.

TMT Commitment & Decision Quality. TMT commitment to the identified strategic decision was measured by adapting six items from the short form of the Organizational Commitment Questionnaire developed by Mowday, Steers, and

Porter (1979). The wording of the scale was changed to reflect the overall level of commitment within a TMT to the strategic decision identified by the CEO. The six items were measured on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree."

The quality of the strategic decision was measured by 7 items on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree." These questions were derived from Tilles' (1963) and Schweiger, et. al.'s (1986; 1989) recommendations for assessing the quality of strategic decisions. Specifically, the items addressed the quality of the information used in making the decision, whether the decision fit with the hospital's current strategy, whether the decision was financially responsible, and whether the decision contributed to the hospital's overall effectiveness.

Factor analysis of these 13 items resulted in two consistent factors across each factor analysis technique. The results of the principal axes analysis with varimax rotation is presented in Table 4.6. The first factor consisted of all 7 items measuring decision quality and was

Table 4.6

Rotated Factor Pattern of Decision Quality
and TMT Decision Commitment

Item	Factor 1 TMT Decision Quality	Factor 2 TMT Decision Commitment
This decision.....		
contributes to the overall effectiveness of this hospital.	.84	.31
helps this hospital achieve its objectives. was a high quality decision.	.83	.32
was made based upon the best available information.	.79	.35
makes sense in light of this hospital's current financial situation.	.77	.31
is consistent with this hospital's current strategy.	.73	.23
was made based upon valid assumptions.	.73	.32
	.70	.30
To what extent.....		
are team members willing to talk this decision up with co-workers as being good for this hospital?	.25	.85
have team members put in a great deal of effort to this decision be successful?	.28	.72

Table 4.6 (continued)

Item	Factor 1		Factor 2	
	TMT Decision Quality		TMT Decision Commitment	
do team members really care about seeing this decision be successful?	.27		.68	
do team members feel there is much to be gained by sticking with this decision?	.28		.66	
are team members proud to tell others they were involved in making this decision?	.24		.60	
do team members find it difficult to agree with this decision?	.26		.42	
Variance explained	.58		.12	
Eigenvalue	7.50		1.56	

therefore named TMT Decision Quality. It had an eigenvalue of 7.50 and accounted for 58% of the total variance.

The second factor consisted of the 6 items measuring decision commitment and was therefore named TMT Decision Commitment. Its eigenvalue was 1.56, and it contributed 12% to the total variance. The internal consistency of the items measuring TMT Decision Quality and TMT Decision Commitment were .93 and .88, respectively. The items measuring TMT Decision Quality had an inter-rater reliability score of .89, and the items measuring TMT Decision Commitment had an inter-rater reliability score of .85. It was, therefore, deemed appropriate to use an aggregated average score to measure each of these variables.

Control Variables

TMT Size. Research on group performance has shown that group size affects the decision-making process (McGrath, 1984; Hackman & Morris, 1975; Yetton & Bottger, 1983) and conflict within groups (Corwin, 1969; Hackman & Vidmar, 1970). Group size can affect group members' ability to exchange information and coordinate the decision making process. TMT size was measured as the number of TMT members

identified by the CEO who participated in the decision-making process.

Organizational Slack. Because resource scarcity affects dissent in organizations (Pfeffer, 1981; Pondy, 1969; Thomas, 1976), organizational slack was included as a control variable. Organizational slack was measured by 4 questions developed by Miller and Friesen (1982). These questions tap the domain of organizational slack as defined by Bourgeois (1981), and pertain to slack in capital, skilled labour, material supplies, and managerial talent. Each question was measured on a 7-point Likert scale ranging from "this resource is very scarce and/or prohibitively expensive" to "this resource is quite plentiful." Cronbach alpha for these four items was .69.

Decision Importance. Not all strategic decisions are of the same relative strategic importance (Hickson, et. al., 1986). Judge and Miller (1991) argued that the relative importance of a strategic decision might impinge on the strategic decision-making process. To control for any potential confounding effects, respondents were asked to evaluate the relative strategic importance of the identified strategic decision with regard to commitment of financial

resources and extent of organizational wide consequences. The internal consistency for these two items was .53.

Data Analysis

The empirical evaluation of the research model was complicated by the existence of several interactive effects. This complication prohibited simultaneous parameter estimation using model fitting programs such as LISREL (Joreskog & Sorbom, 1984). Thus, the model was evaluated in several stages using multiple regression.

To test for the interaction effect of TMT heterogeneity and TMT trust on TMT dissent, hierarchical moderated regression was used. This was a three step process in which TMT dissent was first regressed on the three control variables. The second step involved regressing TMT dissent on the main effects of the three TMT heterogeneity variables and the two bases of TMT trust. The last step regressed TMT dissent on the six first order interactions between the TMT heterogeneity variables and the bases of TMT trust.

Regular OLS regression was used to test for the effect of TMT trust on TMT collaboration. This entailed regressing

TMT collaboration on the three control variables and the two bases of TMT trust.

The last stage of the model assessed the effects of TMT dissent, TMT collaboration, and the interaction between TMT dissent and TMT collaboration on the three strategic decision-making outcome variables. For each of the three strategic decision-making outcome variables, a moderated hierarchical regression was performed following the procedures outlined above.

Summary

To test the hypotheses developed in Chapter 3, an empirical quantitative study was conducted in hospitals operating in the states of Georgia, Alabama, and Kentucky. Data was collected through questionnaires sent to the CEO and TMT members of each hospital. Data were subjected to accepted factor analytic methods, and the hypotheses were tested using hierarchical moderated regression and OLS regression techniques.

CHAPTER 5

RESULTS

Descriptive Statistics

Descriptive statistics for all variables used in the study, inter-rater reliabilities (Mean RWG), and internal consistency estimates of reliability (coefficient alpha) for each measure are presented in Table 5.1. The intercorrelations between all of the measures used in this study are presented in Table 5.2. Reference will made to this table in the next several sections.

Tests of Hypotheses

Hypothesis 1

Hypothesis 1 predicted that the relationship between TMT heterogeneity and dissent would be stronger in high trust environments than in low trust environments. Support for this hypothesis would be found if the beta value for the computed interaction of TMT trust and TMT heterogeneity is significant and positive over the entire range of values for TMT trust (Schoonhoven, 1981).

Table 5.1

Descriptive Statistics and Reliability
Estimates for Variables in the Study

Variables	Mean	S.D.	Alpha	Mean RWG
Control Variables				
TMT size	6.84	3.40	NA	NA
Decision importance	5.26	.69	.53	NA
Organizational slack	4.73	.72	.69	NA
TMT Heterogeneity				
Value heterogeneity	.35	.21	NA	NA
Experience heterogeneity	.62	.24	NA	NA
Occupational heterogeneity	.55	.24	NA	NA
TMT Trust				
Integrity based trust	5.46	.80	.93	.81
Competency based trust	5.37	.79	.85	.76
TMT Collaboration & Dissent				
Collaboration	5.23	.68	.89	.80
Dissent	4.99	.98	.77	.67
Strategic Decision-Making Outcomes				
TMT decision commitment	5.64	.70	.88	.85
TMT decision speed	6.82	5.59	NA	NA
TMT Decision quality	6.02	.63	.93	.89

Table 5.2
Intercorrelations Among Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. TMT size		-.12	.01	.05	-.12	.39	-.16	-.01	-.04	-.08	-.19	-.03	-.26
2. Decision importance			.08	-.05	.09	-.23	-.16	.05	.01	-.33	.14	.03	-.02
3. Organizational slack				-.06	-.08	-.08	.06	.35	.30	.12	.24	.22	.09
4. Value heterogeneity					.05	.19	-.04	.09	.12	.10	.15	.13	.12
5. Experience heterogeneity						.03	.12	-.06	.03	.26	-.23	.04	.16
6. Occupational heterogeneity							-.08	-.01	-.05	.01	-.09	-.24	-.21
7. Integrity based trust								.36	.41	.45	.32	.04	.25
8. Competency based trust									.45	.21	.40	.04	.15
9. TMT collaboration										.15	.57	.32	.29
10. TMT dissent											.16	-.10	.32
11. TMT decision commitment												.25	.12
12. TMT decision speed													-.02
13. TMT decision quality													

All correlations above .20 are significant at $p \leq .05$.

To test the effect of TMT trust as a moderator, a three step moderated hierarchical regression was used (Cohen & Cohen, 1983). This procedure controls for the effects of decision importance, organizational slack, and TMT size while assessing the main and moderator effects of TMT heterogeneity and TMT trust on TMT dissent. In the first step, the three control variables were regressed on TMT dissent. Next, to assess the main effects, the three types of TMT heterogeneity (i. e. value heterogeneity, experience heterogeneity, and occupational heterogeneity) and the two bases of TMT trust (i. e. integrity based trust and competency based trust) were entered into the regression as a group. Lastly, the first-order interaction terms were entered as a group to examine the moderator effects present after the elimination of control and main effects. To test for the statistical significance of each block of variables entered in each step, the significance of the change in R^2 was assessed with an F-test. Within significant blocks of variables, the statistical significance of the effect of each variables was examined.

The results of the moderated regression analysis, presented in Table 5.3, revealed that the three control

Table 5.3

Results of Moderated Regression Analysis: Interactive
Effects of TMT Heterogeneity and TMT Trust on TMT Dissent

Step	R ²	ΔR^2	F	Variables	Beta	t
1	.12		3.62*	TMT size	.038	.70
				Decision importance	-.342	-3.31**
				Organizational slack	.140	1.41
2	.35	.23**	5.35**	Value Heterogeneity	.158	1.60
				Experience Heterogeneity	.314	2.99**
				Occupational Heterogeneity	-.098	-.92
				Competency Based Trust	.034	.31
				Integrity Based Trust	.351	3.42**
3	.45	.10*	3.93**	Value Heterogeneity X Competency Based Trust	.143	1.42
				Experience Heterogeneity X Competency Based Trust	.241	-2.40**
				Occupational Heterogeneity X Competency Based Trust	-.113	-1.11
				Value Heterogeneity X Integrity Based Trust	-.135	-1.26
				Experience Heterogeneity X Integrity Based Trust	.057	.54
				Occupational Heterogeneity X Integrity Based Trust	-.061	-.59

*p<=.05, **p<=.01

variables did have a significant affect on TMT dissent ($R^2=.12$, $F=3.62$, $p<=.01$). Of the three control variables, decision importance accounted for this effect with a negative and significant affect on TMT dissent ($p<=.01$). When the block of main effects was entered next, the $\Delta R^2=.23$ was significant at the $p<.001$. Within this block of variables, experience heterogeneity and integrity based trust were both positive and significantly related to TMT dissent at $p<=.01$.

Concerning Hypothesis 1, the group of first order interaction terms did have a marginally significant joint influence on TMT dissent ($\Delta R^2=.09$, $\Delta F=1.92$, $p<=.10$), with the interaction term of competency based trust and experience heterogeneity accounting for the increase in R^2 ($p<=.05$). This significant interaction term was decomposed to allow for a more precise interpretation of its relationship with TMT dissent. Following the suggestion of Aiken and West (1991), the relationship between TMT experience heterogeneity and TMT dissent was plotted for different levels of competency based trust. This plot is presented in Figure 5.1.

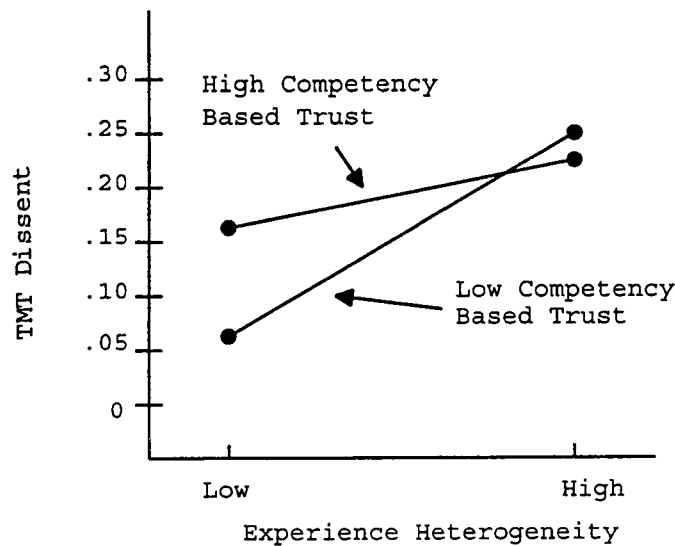


Figure 5.1

Interactive Effects of TMT Experience
Heterogeneity and TMT Competency Based
Trust on TMT Dissent

Examination of the plot in Figure 5.1 reveals that for high levels of competency based trust, increasing TMT heterogeneity appears to have a modest positive affect on TMT dissent. However, in low competency based trust environments, the sharply increasing regression line suggests that increasing TMT experience heterogeneity has a strong positive affect on TMT dissent, which is the opposite of that hypothesized. Based upon these results, hypothesis 1 was not supported.

Hypothesis 2

Hypothesis 2 predicted that TMT trust would be positively related to TMT collaboration. As shown in Table 5.4, the zero-order correlations between competency based trust and collaboration ($r=.45$, $p\leq .01$) and integrity based trust and collaboration ($r=.41$, $p\leq .01$) were significant. To determine the unique amount of variance accounted for by each of the two bases of trust, TMT collaboration was regressed on the three control variables and two bases of trust. As observed in Table 5.4, the overall regression model was significant and explained 32% of the variance in TMT collaboration. Specifically, the control variable organizational slack ($p\leq .05$), integrity based trust ($p\leq .01$) and competency based trust ($p\leq .01$) were all significant and positively related to TMT collaboration. Overall, hypothesis 2 was supported.

Hypotheses 3a and 3b

Hypothesis 3a & 3b predicted that TMT collaboration would moderate the relationship between TMT dissent and TMT decision commitment. Specifically, hypothesis 3a

Table 5.4

Results of OLS Regression: Effects
of TMT Trust on TMT Collaboration

Variables	Beta	t
Control Variables		
TMT size	.016	.18
Decision importance	.006	.07
Organizational slack	.194	2.00*
Independent Variables		
Competency based trust	.281	2.63**
Integrity based trust	.309	2.98**
R ²	.32	
F-value	7.28**	

* $p \leq .05$, ** $p \leq .01$

predicted that for high levels of TMT collaboration, TMT dissent would be positively related to TMT decision commitment, while hypothesis 3b predicted that TMT dissent would be negatively related to TMT decision commitment for low levels of TMT collaboration. As with hypothesis 1, moderated hierarchical regression analysis was performed to test both hypotheses.

To determine the relationship between TMT decision commitment, TMT dissent, TMT collaboration, and their respective interaction terms, a three step procedure was used. The first step regressed TMT decision commitment on the three control variables of decision importance, organizational slack, and TMT size. The second step regressed TMT decision commitment on TMT dissent and TMT collaboration, and the last step regressed TMT decision commitment on the interaction of TMT dissent and TMT collaboration. The results of this analysis are presented in Table 5.5.

The results indicate that TMT size has a moderately significant and negative impact on decision commitment ($p < .10$). The significant and positive interaction term indicates that TMT collaboration moderates the relationship

Table 5.5

Results of Moderated Regression Analysis: Interactive Effects of
TMT Dissent and TMT Collaboration on TMT Decision Commitment

Step	R ²	R ²	F	Variables	Beta	t
1	.11		3.21*	TMT size	-.148	-1.74†
				Decision importance	.079	.83
				Organizational slack	.005	.06
2	.39	.28**	10.14**	TMT dissent	.185	2.00*
				TMT collaboration	.508	5.64**
3	.45	.06**	10.52**	TMT dissent X TMT collaboration	.281	2.83**

†p<=.10, *p<=.05, **p<=.01

between TMT dissent and TMT decision commitment ($p \leq .01$). To determine whether the significant interaction term supports hypotheses 3a & 3b, the relationship between TMT dissent and TMT decision commitment was plotted over different levels of TMT collaboration. This plot is portrayed in Figure 5.2.

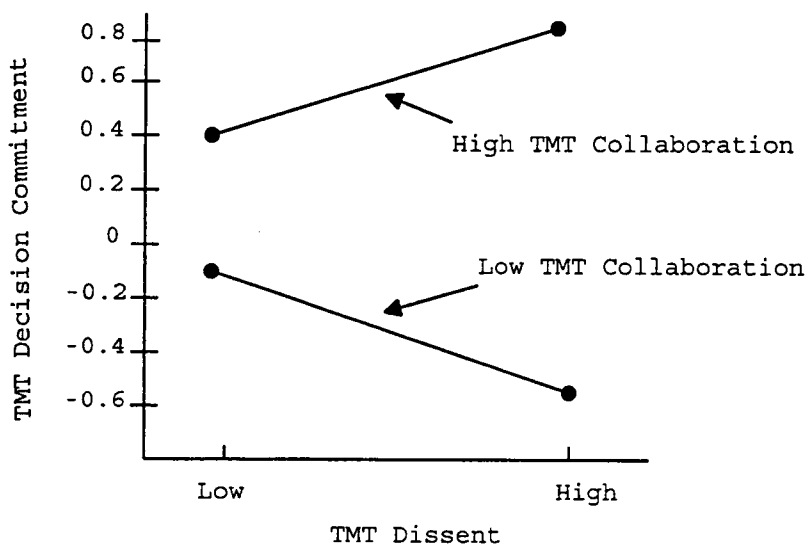


Figure 5.2

Interactive Effects of TMT Dissent and
TMT Collaboration on TMT Decision Commitment

The plot reveals that in highly collaborative TMTs, increasing TMT dissent is positively related to TMT decision commitment. Conversely, in less collaborative TMTs,

increasing TMT dissent is negatively related to TMT decision commitment. Thus, hypotheses 3a & 3b were supported.

Hypotheses 4a and 4b

Hypothesis 4a predicted that in highly collaborative TMTs, TMT dissent will be positively related to decision speed. In contrast, hypothesis 4b predicted that in less collaborative TMTs, TMT dissent will be negatively related to decision speed. The same moderated hierarchical regression procedure was used to test these hypotheses.

The results, presented in Table 5.6, revealed that the overall regression model was significant ($R^2=.16$, $p\leq .05$), but none of the control variables were significantly related to decision speed, nor was the interaction term of TMT dissent and TMT collaboration related to decision speed. However, TMT collaboration was found to have a positive and significant impact on decision speed ($p\leq .01$). Based upon these results, hypotheses 4a and 4b were not supported.

Hypotheses 5a and 5b

The last set of hypotheses predicted that TMT collaboration would moderate the relationship between TMT

Table 5.6

Results of Moderated Regression Analysis: Interactive Effects of
TMT Dissent and TMT Collaboration on Decision Speed

Step	R ²	ΔR ²	F	Variables	Beta	t
1	.05		1.41	TMT size	-.046	-.43
				Decision importance	-.080	-.68
				Organizational slack	.128	1.14
2	.15	.10**	2.76*	TMT dissent	-.142	-1.19
				TMT collaboration	.292	2.62**
3	.16	.01	2.47*	TMT dissent X TMT collaboration	.122	.99

*p<=.05, **p<=.01

dissent and decision quality. Hypothesis 5a suggested that in highly collaborative TMTs, dissent within the TMT would be positively related to decision quality, whereas hypothesis 5b predicted that in less collaborative TMTs dissent would be negatively related to decision quality. A test of these hypotheses was done using the same procedures as before, and the results are presented in Table 5.7.

TMT size was found to significantly predict decision quality in a negative direction ($p \leq .05$). Both TMT dissent and TMT collaboration were significant and positively related to decision quality ($p \leq .05$, $p \leq .05$). However, the interaction term of TMT dissent and TMT collaboration was also significantly related to decision quality ($p \leq .05$; $\Delta R^2 = .04$, $\Delta F = 2.64$, $p \leq .05$).

A plot of the relationship between TMT dissent and decision quality over the range of TMT collaboration is presented in Figure 5.3. Examination of the figure reveals to important features. First is that highly collaborative TMTs appear to make higher quality decisions regardless of the level of TMT dissent. However, the second interesting observation, and the source of the significant interaction,

Table 5.7

Results of Moderated Regression Analysis: Interactive Effects of
TMT Dissent and TMT Collaboration on Decision Quality

Step	R ²	R ²	F	Variables	Beta	t
1	.08		2.40†	TMT size	-.222	-2.24**
				Decision importance	.097	.88
				Organizational slack	.024	.23
2	.21	.13**	4.40**	TMT dissent	.214	1.98*
				TMT collaboration	.262	2.51**
3	.26	.05*	4.46**	TMT dissent X TMT collaboration	-.224	-1.95*

†p<=.10, *p<=.05, **p<=.01

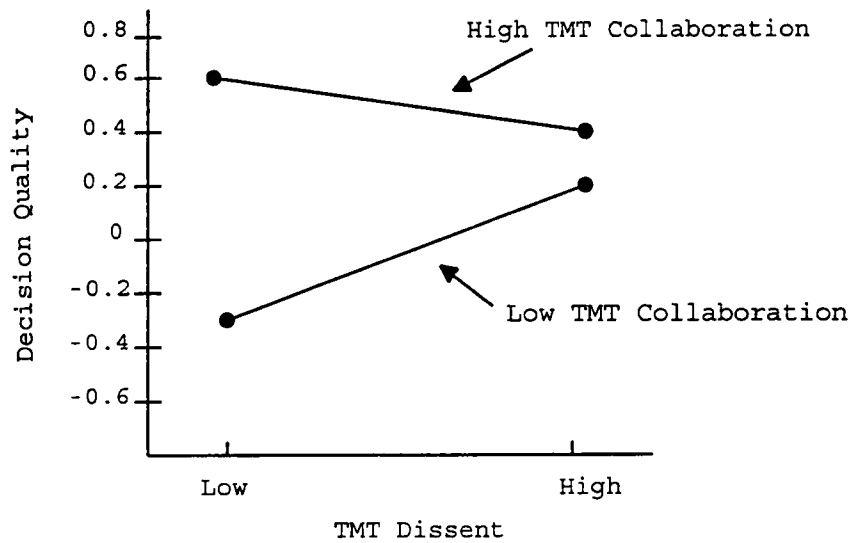


Figure 5.3

Interactive Effects of TMT Dissent and
TMT Collaboration on Decision Quality

is that in less collaborative TMTs, increasing TMT dissent is positively related to decision quality, which is the opposite of that hypothesized. Consequently, hypotheses 5a and 5b were not supported.

Summary

In this chapter, the hypotheses developed in Chapter 3 were tested following the methodology outlined in Chapter 4

and their results were reported. A summary of the results is found in Table 5.8. Overall, strong support was found for hypotheses 2, and 3a and 3b. Tests of hypotheses 1, and 5a and 5b produced results opposite of that predicted, while hypotheses 4a and 4b were not supported.

Table 5.8

A Summary of Empirical Findings

Hypothesis	Finding
1. The relationship between TMT heterogeneity and open TMT dissent will be stronger in TMTs with high levels of trust than in TMTs with low levels of trust.	Not supported. Opposite relationship observed for Competency Based Trust.
2. TMT trust will be positively related to TMT collaboration.	Supported.
3a. In highly collaborative TMTs, dissent within the TMT will be positively related to TMT decision commitment.	Supported.
3b. In less collaborative TMTs, dissent within the TMT will be negatively related to TMT decision commitment.	Supported.
4a. In highly collaborative TMTs, dissent within the TMT will be positively related to decision speed.	Not supported.
4b. In less collaborative TMTs, dissent within the TMT will be negatively related to decision speed.	Not supported.

Table 5.8 (continued)

Hypothesis	Finding
5a. In highly collaborative TMTs, dissent within the TMT will be positively related to decision quality.	Not supported. Opposite relationship observed.
5b. In less collaborative TMTs, dissent within the TMT will be negatively related to decision quality.	Not supported. Opposite relationship observed.

CHAPTER 6

DISCUSSION

The purpose of this study was to extend the upper echelons perspective of organizations to include relevant group process variables identified from the small group literature. A model was developed that incorporates trust and decision-making processes as key intervening variables in the relationship between TMT heterogeneity and strategic decision-making outcomes. In this chapter, the major findings of the study are discussed, with emphasis on the dimensionality of the bases of TMT trust and the relationships among the variables. Theoretical and practical implications of the study are discussed, as well as the limitations of the study.

Dimensionality of the Bases of TMT Trust

To determine the dimensionality of TMT trust, 12 trust items were factor analyzed. It was originally expected that two dimensions of trust would result: an integrity based dimension of trust, and a competency based dimension of trust. Indeed, these two factors did emerge in the factor

analysis. Factor 1, "Integrity Based Trust," represented the extent to which TMT members acted non-opportunisticly and honestly during the course of making the identified strategic decision. Factor 2, "Competency Based Trust," represented the extent to which TMT members were competent in performing their jobs, as well as their consistency of behavior.

The results of the factor analysis provide evidence for the multi-dimensionality of trust, which in turn has several theoretical implications. First, the results suggest that a unidimensional measure of trust will not allow researchers to adequately capture the richness of the construct. This is in support of recent theoretical work on trust by Mayer, Davis, & Schoorman (1995) who theoretically proposed that two of the bases of trust identified in this study, integrity and competency, formed the bases of trust between individuals.

Mayer, et. al. (1995) also suggested that because of its multidimensionality, trust may be domain specific. If so, different dimensions of trust may be more salient depending on the nature of the trustee - trustor relationship or the task at which individuals are involved.

Thus, different dimensions of trust may be related differentially to outcomes of trust.

For example, as was argued in Chapter 2, for complex and uncertain tasks, integrity based trust may be a more salient bases of trust than competency. Tentative support for this supposition is found in the results from hypothesis 1. It was argued that TMT trust would be an important determinant of TMT dissent because it created a safe environment in which differing points of view could be expressed, where a a safe environment was described as being one where an individual who expresses dissent will not be taken advantage of or exploited. It is perhaps not surprising that integrity based trust, measured as non-opportunism and honesty, was found to be positively related to TMT dissent, whereas competency based trust, measured as reliability and consistency, had no direct affect on TMT dissent. In fact, an examination of the Figure 5.1 reveals that TMT experience heterogeneity in the absence of competency based trust results in higher levels of TMT dissent than in the presence of competency based trust. These findings not only suggest that different bases of trust might produce different results depending upon the

task or situation, but they also underscore the complexity of the trust construct.

Limitations of the Study

Before discussing the theoretical and practical implications of the study, several limitations should be mentioned. One limitation is the sole reliance on questionnaire data. As such, common method variance may have inflated the reported relationships among the variables in the study. However, a recent comprehensive study of the effects of common method variance found that when one or more of the covariates under study is a demographic variable the inflationary effects of common method variance diminishes substantially (Crampton & Wagner, 1994). Thus, hypotheses involving demographic variables should be less susceptible to this problem. Moreover, the problems associated with common method variance in general may be overstated. Crampton and Wagner (1994: 72) concluded from the results of their research that "percept-percept inflation may be more the exception than the rule in microresearch on organizations." Nonetheless, future researchers should attempt to use other methods of data

collection (e. g. qualitative methods and archival data sources) in order to increase our understanding of the relationships proposed in this research.

A second problem is that the measures of trust used in this study have not been subject to rigorous confirmatory factor analytic techniques. The factor analysis loadings of the items used to measure the honesty, opportunism, competency, and consistency attributes of trust suggest that further refinement of these measures is needed. It is possible that the ambiguity in distinguishing between the two factors that resulted from the exploratory factor analysis techniques used in this study may have affected the moderating effect of trust.

An additional limitation is the methodological design of the study. Given its cross-sectional design, one must be cautious drawing any causal inferences from the data. Since the model in Figure 3.1 implies a causal order, longitudinal data must be collected in order to test the accuracy of the proposed relationships.

A final limitation that should be mentioned concerns the nature of the sample used in this study. All of the data were collected from hospitals operating in three

southeastern states, which may reduce the generalizability of these findings to hospitals in other geographic locations, and more importantly to other types of organizations. Furthermore, the response rate of 20%, while still somewhat higher than the 10% to 12% typical for mailed surveys to CEOs (Hambrick, et. al., 1993), raises questions about response bias. Results of the comparative statistics reported in Tables 5.1 and 5.2 for responding and non-responding hospitals should mitigate this concern to some extent. Perhaps more problematic are non-responding TMT members in participating hospitals. It was not possible to judge how these individuals may have differed from those choosing to respond.

Discussion of Hypotheses

Hypothesis 1

The results did not support the hypothesis that TMT heterogeneity would be more strongly related to TMT dissent in high trust environments than in low trust environments. Results indicated that integrity based trust had an independent and positive affect on TMT dissent, whereas competency based trust significantly interacted with TMT

experience heterogeneity to predict TMT dissent, but not in the direction hypothesized.

An examination of Table 5.2 reveals that none of the composite heterogeneity variables were significantly correlated with TMT dissent, with the exception of TMT experience heterogeneity. This in and of itself might explain why value heterogeneity and occupational heterogeneity did not interact with either bases of trust to predict TMT dissent. It is also quite possible that the limited range of variables used to measure heterogeneity in this study were not good predictors. More appropriate measures of heterogeneity might include diversity with respect to problem solving skills, personality profiles, or cognitive ability. A study by Glick, Miller & Huber (1993) provides tentative support for this explanation. They found no relationship to exist between the demographic heterogeneity measures of functional background, education, organizational tenure, and age and diversity of opinion among TMT members with respect to important goals and policies of the organization.

Experience heterogeneity, however, was strongly correlated with TMT dissent. An explanation for the

salience of experience heterogeneity can be given if one considers the dramatic changes undergone by the health care industry in the past decade. Health care providers have had to radically rethink the way they provide health care services in light of the changing political spectrum and competitive domain in which they operate. One would expect that more experienced TMT members would view changes in the political and competitive environment differently than less experienced members with limited exposure to the traditional way of providing health care. A similar argument for the positive influence of experience heterogeneity on dissent was made by Eisenhardt and Schoonhoven (1990: 510) who stated that "teams with individuals that have entered an industry at different times are likely to have different points of view about technology, competitive tactics, and so forth." These arguments would account for the strong positive correlation between TMT experience heterogeneity and TMT dissent.

The failure to find integrity based trust as moderator of the relationship between TMT experience heterogeneity and TMT dissent, whereas competency based trust was found to moderate the relationship but in the opposite direction of

that hypothesized, is somewhat more puzzling. An explanation may be that the two bases of trust affect the relationship between TMT heterogeneity and TMT dissent differently. For example, Wilkins and Ouchi (1983) found that in clan-like organizations (i. e. organizations in which members are homogeneous with respect to frames of reference), organizational members expressed a multitude of differing points of view during the decision-making process. They attributed this in part to an organizational environment that eliminated fear of exploitation and opportunism. In sum, they found dissent in the decision-making process prevalent in clan-like organizations even though the organizational members were considered relatively homogeneous. Since the integrity bases of trust would seem to best capture those aspects of an organization's environment relevant to reducing fear of opportunistic behavior, Wilkins and Ouchi's (1983) observations would support the finding in this study of a strong positive effect between integrity based trust and TMT dissent.

In contrast, competency based trust may not be acting as an influencer of an organization's decision-making environment. In a seminal work by Deutsch and Gerrard

(1955), it was argued, and empirically supported, that in a group setting individual's who are uncertain about their own judgment tended to rely on the judgment of more competent others. They also found that individuals who perceived the "trustworthiness" of another's judgment to be low, were more likely to disagree with that person's point of view. Thus, instead of engendering a safe context in which to express dissent, a lack of competency based trust may be capturing the extent to which individuals disagreed over the validity of information being exchanged. This would explain the sharply upward sloping regression line which accounts for the interactive effect in Figure 5.1.

In other words, low trust in the competency of other TMT members' exacerbated the already positive effect of TMT experience heterogeneity on TMT dissent. This raises an interesting question about whether there are some forms of dissent more pertinent to making high quality decisions than others. One would think that dissent resulting from incompetency would be less productive than dissent resulting from competent individuals expressing different points of view. Unfortunately, the measure of dissent used in this study does not discriminate between these types of dissent.

Because of the somewhat unexpected findings, and because it was suggested in Chapter 2 that both bases of trust might be more salient to groups faced with non-routine and complex tasks, a post hoc analysis of hypothesis 1 was conducted. To see if both bases of trust were influential in moderating the relationship between TMT heterogeneity and TMT dissent, an interact term composed of integrity and competency based trust was computed. Following the same statistical procedures used to test hypothesis 1, the resulting new variable was used as the moderator of the relationships between TMT heterogeneity and TMT dissent. The results of this analysis, not reported here, indicated that the two bases of trust did not jointly interact with TMT heterogeneity to predict TMT dissent. This suggests that integrity based trust and competency based trust independently influence the amount of dissent expressed during the strategic decision-making process.

Hypothesis 2

The results indicated that both bases of trust were significantly related to TMT collaboration. Specifically, the greater the level of either integrity based trust or

competency based trust, the greater the level of collaboration. This finding is consistent with previous research. For example, Zand (1972) found that trust affected the extent to which individuals were willing to accept other's ideas and work together to solve a problem, measures that are conceptually similar to collaboration. The relationship between trust and the integrating role of collaboration was conceptually argued for by Gibb (1964: 283) who wrote that "integration of group goals occurs only as rapidly as members build sufficient trust."

A similar post hoc analysis was conducted on the interactive effect of both bases of trust on TMT collaboration. Once again, an interaction term between both bases of trust was computed. This new variable was then used in a moderated hierarchical regression following the procedures outlined in Chapter 4. A significant effect would suggest that both bases of trust interact to predict TMT collaboration.

Results of this analysis are reported in Table 6.1. Entering the newly computed interact term between integrity based trust and competency based trust resulted in a significant increase in the model's explanatory power

Table 6.1

Results of Moderated Regression Analysis: Interactive Effects of
Competency and Integrity Based Trust on TMT Collaboration

Step	R ²	ΔR^2	F	Variables	Beta	t
	.09		2.73*	TMT size	.042	.44
				Decision importance	.022	.82
				Organizational slack	.188	1.89†
2	.30	.21**	6.97**	Competency based trust	.238	2.18*
				Integrity based trust	.282	2.70**
3	.33	.03†	6.39**	Competency based trust X Integrity based trust	.162	1.65†

†p<=.10, *p<=.05, **p<=.01

($\Delta R^2 = .03$, $p \leq .10$), with the interact term significant at the $p \leq .10$ level.

To explore the nature of the newly computed interact term on TMT collaboration, competency based trust was arbitrarily selected to be the main effect. The relationship between competency based trust and TMT collaboration was plotted over the range of values for integrity based trust. This plot is presented in Figure 6.1. Examination of this plot reveals that in the absence of either bases of trust, collaboration suffers. However,

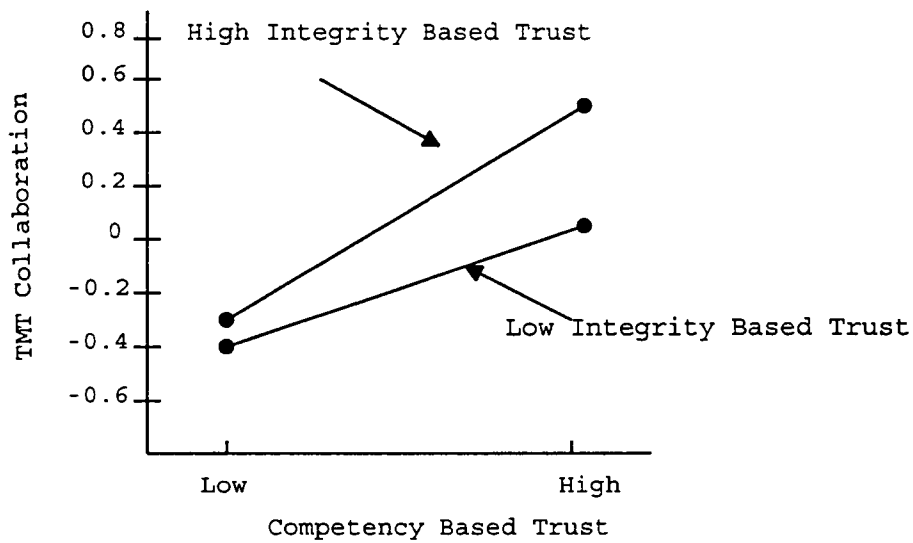


Figure 6.1

Interactive Effect of TMT Competency Based Trust and TMT Integrity Based Trust on TMT Collaboration

in the presence of both bases of trust collaboration significantly increases.

These results partially corroborate the suggestion in Chapter 2 that both bases of trust may be necessary for problem solving when the task is complex and non-routine such as the strategic decisions studied here. Future research should assess the extent to which this relationship holds true in other contexts. For example, it was also suggested in Chapter 2 that competency based trust may be more important for problem solving when the task is less complex and more routine.

Hypotheses 3a and 3b

The results in this research indicated strong support for these hypotheses. Specifically, it was found that in less collaborative TMTs, TMT dissent was negatively related to TMT decision commitment, while in more collaborative TMTs, dissent was positively related to commitment. These findings begin to reconcile previous discrepancies in upper echelons and small group performance research on the benefits and determinants of diversity. Based upon these findings, it appears that when individuals are more

attentive to other's ideas, define problems as win-win, and seek to integrate their ideas with the ideas of others, they are more committed to the final group decision. In contrast, when these behaviors are absent, TMT dissent negatively affects TMT decision commitment.

Hypotheses 4a and 4b

These hypotheses were not supported. Instead, TMT collaboration was found to significantly increase decision speed. There are two possible explanations for this unexpected finding. The first is theoretical, and the second is methodological.

Theoretically, it may be that highly collaborative TMTs require less information for making decisions, while less collaborative TMTs attempt to reduce the amount of information available to speed the decision-making process. Because collaboration fosters an atmosphere of mutual understanding and acceptance, highly collaborative TMTs may develop similar cognitive maps over time, resulting in a shared understanding and interpretation of available information. This may enable perhaps TMTs to better identify relevant information, while quickly culling

irrelevant information from the decision-making process. As a result, the overall amount of information interjected into the decision-making process would be reduced.

In contrast, less collaborative TMTs may actually try to reduce the amount of information available to speed the decision-making process. From an information processing perspective, less collaborative TMTs would be unable to cope with the greater amounts of information that result from increased dissent.

In support of these suppositions, Eisenhardt (1989) observed that slow decision-making TMTs analyzed the relevance of solutions and perspectives sequentially, with little integration. This resulted in a protracted decision-making process, and the inability of the TMTs to process large amounts of information. As the decision-making process progressed, less integrative TMTs were actually forced to rely on even less information in an attempt to speed the decision-making process. However, TMTs which used an integrative decision-making process were better able to identify salient information, and thus make faster decisions. In sum, it may be that both highly collaborative and less collaborative TMTs rely on less

information when making strategic decisions, although for different reasons.

An alternative explanation may be that there was insufficient statistical power to detect a significant interaction term. Statistical power is important because with low statistical power it is possible that a theoretically important interaction effect will go undetected by the researcher (Jaccard, Turris, and Wan, 1990). An examination of the regression results in Table 5.6 indicates that the beta weight of the interaction term was in the direction hypothesized, but it was not statistically significant.

Hypotheses 5a and 5b

Results for these hypotheses suggest that TMT collaboration does act as a moderator of the relationship between TMT dissent and decision-quality. However, examination of Figure 5.3 revealed that the moderating effect of collaboration on the relationship between TMT dissent and decision quality was in less collaborative TMTs. In the absence of collaboration, TMT dissent appears to enhance decision quality, while in the presence of

collaboration, TMT dissent appears to marginally reduce decision quality.

The benefits of dissent on decision quality in the absence of collaboration appears to support previous research suggesting that diversity of opinions enhances decision quality on non-routine tasks (e. g. Jannis & Mann, 1977; Pruitt & Rubin, 1986). The open expression of different opinions seems to ensure that a wide range of possible alternatives and solutions are considered. On the other hand, the fact that in the presence of collaboration increasing dissent has a marginally negative affect on decision quality suggests that trying to explore too many alternatives and integrate too many ideas may be dysfunctional.

It is also possible that high levels of dissent result in information overload that cannot be adequately processed even in collaborative TMTs. Information overload detracts from effective interpretation and the ability to effectively analyze information (Huber, 1991). As a result, performance would be expected to decrease.

Alternatively, the findings may be an artifact of the data. Gladstein (1984) found that internal group processes

were related to self report measures of performance. Thus, TMT members may have rated decision quality as high merely because they exhibited a processes thought to be related to decision quality. In other words, TMT members may attribute what are perceived as effective processes to decision quality. This would account for the relatively high levels of decision quality for high collaborative and low dissent TMTs. Similarly, the negative effect of dissent on decision quality in high collaborative TMTs fits with previous research which has found that executives tend to view dissent as negative and disruptive to the group (Bettenhausen, 1991). If so, TMT dissent may act to reduce the perceived effectiveness of collaboration.

The mixed results for these hypotheses make it difficult to assess the effects of dissent and collaboration on decision quality. The fact that dissent strongly enhances decision quality in the absence of what might have been perceived as an effective decision-making process suggests that dissent is beneficial to the making of high quality decisions. However, this should be balanced with the observation that dissent appears to have a negative affect on decision quality in highly collaborative TMTs.

Discounting methodological concerns, overall the results would suggest that TMTs should concentrate on developing collaborative problem-solving behaviors to enhance decision quality.

Theoretical Implications

Overall, the results of this research suggest that the relationship between TMT heterogeneity and organizational outcomes is more complex than originally conceived by Hambrick and Mason (1984). The results of this study emphasize the importance of including the behavioral dynamics of TMTs and the context in which decisions are made when doing research from the upper echelons perspective. As noted by Hambrick (1994), failure to directly include relevant group processes in the study of TMTs is one of the most serious limitations in upper echelons research to date.

A second theoretical implication is that researchers interested in studying TMT characteristics should consider what characteristics are relevant to the research instead of grabbing several demographic variables because they are convenient. It is possible that some forms of heterogeneity are more salient depending upon the task of the team and the

group process variables of interest. For example, Eisenhardt and Schoonhoven (1990) argued that experience heterogeneity, as measured by industry experience, is strongly related to organizational growth in new firms. Thus, rather than simply hypothesizing relationships between heterogeneity/homogeneity in general and other variables of interests, researchers should be more specific in their hypotheses development.

A third implication concerns the multi-dimensionality of trust and its affect on group processes. As discussed in an earlier section, ignoring the richness and complexity of the trust construct will inhibit researchers from discovering the differing affects trust has on group processes and group member relations. Also, the finding that trust appears to encourage the expression of dissent while acting to minimize some of the negative consequences of dissent through its affect on collaboration, suggests that trust is one aspect of group life that that acts to synthesize the dialectical forces of group diversity.

A final implication of this study, and the most interesting, concerns the role of TMT dynamics and behaviors in the strategic decision-making process. The results of

this study indicate that the amount information available to a TMT may be a less important factor in determining the overall effectiveness of a TMT's strategic decision-making capabilities. In this study, TMTs that exhibited high levels of dissent interjected more information into the strategic decision-making process. The results indicate that this was only beneficial to TMTs which exhibited low levels of collaboration. In contrast, highly collaborative TMTs made faster decisions, and in general higher quality decisions regardless of the amount of TMT dissent. This coupled with the finding that collaboration mitigated the negative impact of TMT dissent on TMT decision commitment, indicates that the way TMTs exchange and utilize information most influences TMT decision quality, decision speed, and decision commitment.

It may be, that high trust, highly collaborative TMTs in this study were operating as "efficient clans" (Wilkins & Ouchi, 1983). Efficient clans require high levels of trust among clan members to encourage cooperation and collective decision-making. These behaviors help to develop a shared social knowledge that helps clan members determine what is in the best interests of the organization. This

paradigmatic perspective of the organization provides participants with "master routines" which reduce their information processing requirements. It also provides shared referents and frameworks that help clan members start from similar assumptions in deriving solutions to non-routine problems. According to Wilkins and Ouchi (1983: 476), the result is "efficiency, in terms of decisions that are in harmony with collective interests, made relatively quickly, and with a relatively high level of agreement." These benefits allow the clan to function well under conditions of high ambiguity and uncertainty.

Lastly, the results of this research also provide new insights into the upper echelons perspective of organizations. In support of the argument for the benefits of TMT heterogeneity, the results indicate that in the absence of TMT trust and collaboration, TMTs that are heterogeneous with respect to experience do make higher quality decisions through the interjection of different perspectives and opinions during the strategic decision-making process. However, the results also indicate that high trust TMTs, and consequently highly collaborative TMTs, make equally good decisions regardless of the amount

of TMT dissent. In fact, in the low trust less collaborative TMTs, both decision speed and commitment to decisions suffered. This would suggest, contrary to the upper echelons perspective, that researchers interested in studying the effects of TMT composition should concentrate on the dynamics and behaviors of TMTs as opposed to relying on convenient measures of TMT composition.

Practical Implications

This research has several implications for management practitioners, especially in light of the growing trend toward the use of groups in organizations (Bettenhausen, 1991). First, establishing and maintaining effective work group processes is essential for high levels of group performance. The findings from this research suggest that managers should focus on developing trusting relationships among group members if they want effective group processes.

Second, this research provides prescriptive advice on how to manage diversity in the workplace. Diversity is argued to be a critical component in the process of organizational learning. Managers need to know how to reap the benefits of different perspectives while overcoming its

negative consequences. This research suggests that productively managing diversity requires an environment which encourages the open expression of different opinions combined with a decision-making process that integrates divergent perspectives into a single decision. One way in which managers can do this is by concentrating on developing an atmosphere of trust in their organizations.

Lastly, CEOs wanting to design effective TMTs should be aware that the composition of the TMT may not be as important as the relationships among TMT members. Efforts should be directed at developing trusting relationships among team members. Trust results in collaborative problem solving behaviors which enhance decision quality, decision speed, and commitment to decisions.

Future Research

This study attempted to extend the upper echelons model to include relevant group processes, as well as propose a model that addresses the paradox found in both upper echelons and group performance research concerning the benefits and determinants of group heterogeneity. The mixed empirical support for the hypotheses suggests that there is

still much to be learned about the dynamics of TMTs. With regard to this research, it is clear that a first step should be a longitudinal research design examining the causal linkages in the model presented in Figure 3.1. Longitudinal research designs are also needed to better our understanding of the group performance model in general. Finally, the strategic decision-making process is not a one-time event but a dynamic, interactive process, and only longitudinal research designs can adequately capture its complexity.

Beyond the need for more research on the dynamics of TMTs, research examining the relationship between TMT effectiveness and organizational effectiveness is needed. This research is a first step toward understanding what makes an effective TMT. However, future research should examine how the performance of TMTs translates into organizational performance. This would necessitate not only examining how group performance affects the quality of various strategic decisions made over time, but also how it affects the implementation of those decisions.

It was also suggested earlier that more attention should be paid to the selection of variables used to measure

TMT heterogeneity. Differences in problem solving styles, locus of control, cognitive ability, and functional skill may be better variables for measuring heterogeneity than the demographic variables that are traditionally used.

More research is also needed on the dimensionality of trust. This research found two bases of trust, measured by four engendering attributes. Previous research has found up to 11 attributes of trust (Butler, 1991), and most recently, Mayer, et. al. (1995) hypothesized that there are three bases of trust; integrity, ability, and benevolence. It is also apparent that different group behaviors and outcomes may be related to different bases of trust. For example, in this research integrity based trust had an independent affect on dissent, whereas competency based trust did not. Lastly, the salience of different bases of trust to group behaviors may be contingent upon the task faced by the group. This research focused on a non-routine and complex strategic decision, and it was found that TMTs collaborated the most when both bases of trust were present. Future research should examine the effects of trust in different contexts.

Lastly, future research should explore other variables relevant to group performance. As the leader of the TMT, research examining how CEO leadership styles influence the behavioral dynamics of the TMT is needed. Research examining TMT reward systems might also prove fruitful. For example, it would be interesting to explore the effects of group based reward systems versus individual based reward systems on TMT effectiveness. One would suspect that individual based rewards would decrease the level of collaboration in the group, but that they would increase individual effort. Organizational strategy and organizational structure may also affect TMT dynamics. For example, the highly interrelated operations of Prospector type organizations may require higher levels of collaboration among TMT members to achieve integration across departments than Defender type organizations (Miles & Snow, 1978).

In sum, there is much to be learned about TMTs and what makes them effective. Toward this end, this research proposed one model among many that could have been developed to help better explain TMT effectiveness. Specifically, it examined the relationship between TMT heterogeneity,

strategic decision-making processes, and strategic decision-making outcomes. More research, however, is needed to examine the complexity of TMTs and how they affect organizational outcomes. The importance of continuing research on TMTs was stressed by Hambrick when he commented:

If organization scientists want to understand why organizations behave and perform the way they do, the answers will lie in great part in an understanding of the individuals and groups that lead those organizations (1992: 388).

LIST OF REFERENCES

REFERENCES

- Allison, P. D. 1978. Measures of inequality. **American Sociological Review**, 43: 865-880.
- Alwin, D. F. & Hauser, R. M. 1975. The decomposition of effects in path analysis. **American Sociological Review**, 40: 37-47.
- Ancona, D. G. 1987. Groups in organizations: Extending laboratory models. In C. Hendrick (Ed.), **Group processes and intergroup relations**: 207-230. Beverly Hills: Sage.
- Astley, W. G. & Van de Ven, A. H. 1983. Central perspectives and debates in organization theory. **Administrative Science Quarterly**, 28: 245-273.
- Axelrod, R. & Dion, D. 1988. Science. **The evolution of cooperation**, 242: 1385-1389.
- Bacharach, S. B. & Bamberger, P. A. 1992. Alternative approaches to the examination of demography in organizations. In S. B. Bacharach (Ed.), **The sociology of organizations**: 85-111. Greenwich, CT: JAI Press.
- Bachrach, S. B. 1989. Organizational theories: Some criteria for evaluation. **Academy of Management Review**, 14: 496-515.
- Bantel, K. A. & Jackson, S. E. 1989. Top management and innovations in banking: Does the composition of the top team make a difference. **Strategic Management Journal**, 10: 107-124.
- Barber, B. 1983. **The logic and limits of trust**. New Brunswick, NJ: Rutgers University Press.
- Barker, J., Tjosvold, D. & Andrews, I. R. 1988. Conflict approaches of effective and ineffective project managers: A field study in a matrix organization. **Journal of Management Studies**, 25: 167-178.

- Barnard, C. I. 1938. **The functions of the executive.** Cambridge, MA: Harvard University Press.
- Barney, J. B. & Hansen, M. H. 1994. Trustworthiness as a source of competitive advantage. **Strategic Management Journal**, 15: 175-190.
- Baron, R. S., Kerr, N. L., & Miller, N. 1992. **Group process, group decision, and group action.** Buckingham, England: Open University Press.
- Bettenhausen, K. L. 1991. Five years of groups research: What we have learned and what needs to be addressed. **Journal of Management**, 17: 345-381.
- Bies, R. J. & Shapiro, D. L. 1987. Interactional fairness judgments: The influence of causal accounts. **Social Justice Research**, 1: 199-218.
- Blau, P. M. 1977. **Inequality and heterogeneity.** New York: The Free Press.
- Bourgeois, L. J. 1980. Performance and consensus. **Academy of Management Journal**, 1: 227-248.
- Bourgeois, L. J. 1981. On the measurement of organizational slack. **Academy of Management Review**, 6: 29-39.
- Bourgeois, L. J. 1984. Strategic management and determinism. **Academy of Management Review**, 9: 586-596.
- Bourgeois, L. J. & Brodwin, D. R. 1984. Strategic implementation: Five approaches to an elusive phenomenon. **Strategic Management Journal**, 5: 241-264.
- Brett, J. M. 1991. Negotiating group decisions. **Negotiation Journal**. 7: 291-310.
- Brewer, M. B. 1981. Ethnocentrism and its role in interpersonal trust. In M. B. Brewer (Ed.), **Scientific inquiry and the social sciences:** New York: Jossey-Bass.

- Butler, J. K. 1991 Toward understanding and measuring conditions of trust: Evolution of conditions of trust inventory. **Journal of Management**, 17: 643-663
- Carnevale, P. J., Pruitt, D. G., & Carrington, P. J. 1982. Effects of future dependence, liking and repeated requests for help on helping behavior. **Social Psychology Quarterly**, 45: 9-14.
- Child, J. 1972. Organizational structure, environments and performance: The role of strategic choice. **American Sociological Review**, 6: 1-22.
- Cohen J. & Cohen, P. 1983. **Applied multiple regression/correlation analysis for the behavioral sciences**. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Coleman, J. S. 1993. Properties of rational organizations. In S. M. Lindenberg & H. Schreuder (Eds.), **Interdisciplinary perspectives on organization studies**: 79-92. Oxford, England: Pergamon Press.
- Corwin, R. G. 1969. Patterns of organizational conflict. **Administrative Science Quarterly**, 14: 507-520.
- Coser, L. 1964. **The functions of social conflict**. New York: Macmillan.
- Cosier, R. A. 1980. Inquiry method, goal difficulty, and context effects on performance. **Decision Sciences**, 11: 1-16.
- Cosier, R. & Schwenk, C. R. 1990. Agreement, consensus, and thinking alike: Ingredients for poor decisions. **Academy of Management Executive**, 4: 69-74.
- Crampton, S. M. & Wagner, J. A. 1994. Percept-percept inflation in microorganizational research: An investigation of prevalence and effect. **Journal of Applied Psychology**, 79: 67-76.

- Cummings, L. L. 1978. Organizational innovation: A model and needed research. **Journal of Business Research**, 6: 33-50.
- Cyert, R. M. & March, J. G. 1963. **A behavioral theory of the firm**. Englewood Cliffs, NJ: Prentice-Hall.
- Daft, R. L. & Buenger, V. 1990. Hitching a ride on a fast train to nowhere: The past and future of strategic management research. In J. W. Fredrickson (Ed.), **Perspectives on strategic management**: 81-103. New York: Harper & Row.
- Daft, R. L. & Lengel, R. H. 1984. Information richness: A new approach to managerial behavior and organization design. In L. L. Cummings & B. M. Staw (Eds.), **Research in organizational behavior**: 191-233. Greenwich, CT: JAI Press.
- Davis, S. M. & Lawrence, P. R. 1977. **Matrix**. Reading, MA: Addison-Wesley.
- Dess, G. G. 1987. Consensus on strategy formulation and organizational performance: Competitors in a fragmented industry. **Academy of Management Journal**, 8: 259-277.
- Dess, G. G., Ireland, R. D. & Hitt, M. A. 1990. Industry effects and strategic management research. **Journal of Management**, 16: 7-27.
- Dess, G. G. & Origer, N. K. 1987. Environment, structure, and consensus in strategy formulation: A conceptual integration. **Academy of Management Review**, 12: 313-330.
- Deutsch, M. 1969. Conflicts: Productive and destructive. **Journal of Social Issues**, 25: 7-41.
- Deutsch, M. 1983. Conflict resolution: Theory and practice. **Political Psychology**, 4: 431-453.
- Deutsch, M. 1990. Sixty years of conflict. **International Journal of Conflict Management**, 1: 237-263.

- Deutsch, M. 1973. **The resolution of conflict: Constructive and destructive processes**. New Haven, CT: Yale University Press.
- Deutsch, M. 1949. A theory of cooperation and competition. **Human Relations**, 2: 129-152.
- DiMaggio, P. J. & Powell, W. W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. **American Sociological Review**, 48: 692-710.
- Dilman, D. A. 1978. **Mail and telephone surveys: The total design method**. New York: John Wiley & Sons.
- Douglas, T. 1995. Global strategy, corporate governance, and firm performance: The internationalization of American firms. Working paper, University of Tennessee Department of Management, Knoxville, TN.
- Dunnette, M. D., Campbell, J. & Jaastad, K. 1963. The effect of group participation on brainstorming effectiveness in two industrial samples. **Journal of Applied Psychology**, 47: 30-37.
- Eisenhardt, K. M. 1989. Making fast strategic decisions in high-velocity environments. **Academy of Management Journal**, 32: 543-578.
- Eisenhardt, K. M. & Bourgeois, L. J. 1988. Politics of strategic decision-making in high-velocity environments: Toward a midrange theory. **Academy of Management Journal**, 31: 737-770.
- Eisenhardt, K. M. & C. B. Schoonhoven. 1990. Organizational growth: Linking founding team, strategy, environment, and growth among U. S. semiconductor ventures, 1978-1988. **Administrative Science Quarterly**, 35: 504-529.
- Eisenhardt, K. M. & Zbaracki, M. J. 1992. Strategic decision-making. **Strategic Management Journal**, 13: 17-37.

- Erez, M., Earley, P. C., & Hulin, C. 1985. The impact of participation on goal acceptance and performance. **Academy of Management Journal**, 28: 50-66.
- Filey, A. C., House, R. J. & Kerr, S. 1976. **Managerial process and organizational behavior**. Glenview, Ill.: Scott Foresman.
- Finkelstein, S. & Hambrick, D. C. 1990. Top management team tenure and organizational outcomes: The moderating role of managerial discretion. **Administrative Science Quarterly**, 35: 484-503.
- Floyd, S. W. & Wooldridge, B. 1992. Managing strategic consensus: The foundation of effective implementation. **Academy of Management Executive**, 6 (4): 27-39.
- Fottler, M. D. 1987. Healthcare organizational performance: Present and future research. **Journal of Management**, 13: 367-391.
- Fredrickson, J. W. & Mitchell, T. 1984. Strategic decision processes: Comprehensiveness and performance in an industry with an unstable environment. **Academy of Management Journal**, 27: 399-423.
- Fredrickson, J. W. & Iaquinto, A. 1989. Inertia and creeping rationality in strategic decision processes. **Academy of Management Journal**, 32: 516-542.
- Gabarro, J. J. 1978. The development of trust, influence, and expectations. In A. G. Athos & J. J. Gabarro (Eds.), **Interpersonal behavior: Communication and understanding in relationships**: 290-303. Englewood Cliffs, NJ: Prentice-Hall.
- Gambetta, D. 1988. Can we trust trust? In D. Gambetta (Ed.), **Trust: Making and breaking cooperative relationships**: 213-238. New York: Basil Blackwell.
- Ghiselli, E. & Lodahl, T. 1958. Patterns of managerial traits and group effectiveness. **Journal of Abnormal Social Psychology**, 57: 61-66.

- Gibb, J. R. 1961. Defensive communication. **Journal of Communication**, 11: 141-148.
- Gibb, J. R. & Gibb, L. M. 1969. Role freedom in a TORI group. In A. Burton (Ed.), **Encounter theory and practice of encounter groups**: 42-57. San Francisco: Jossey-Bass.
- Ginsberg, A. & Venkatraman, N. 1985. Contingency perspectives of organizational strategy: A critical review of the empirical research. **Academy of Management Review**, 10: 421-434.
- Gist, M. E., Locke, E. A. & Taylor, M. S. 1987. Organizational behavior: Group structure, process, and effectiveness. **Journal of Management**, 13: 237-257.
- Gladstein, D. 1984. Groups in context: A model of task group effectiveness. **Administrative Science Quarterly**, 29: 499-517.
- Glick, W. H. 1985. Conceptualizing and measuring organizational and psychological climate: Pitfalls in Multi-level research. **Academy of Management Review**, 10: 601-616.
- Glick, W. H. 1993. The impact of upper echelon diversity on organizational performance. In G. P. Huber & W. H. Glick (Eds.), **Organizational change and redesign**: 177-212. New York: Oxford University Press.
- Goethals, G. R. 1987. Theories of group behavior: Commentary. In B. Mullens & G. R. Goethals (Eds.), **Theories of group behavior**: 209-229. New York: Springer-Verlag.
- Golembiewski, R. T. & McConkie, M. 1975. The centrality of interpersonal trust in group processes. In C. L. Cooper (Ed.), **Theories of group processes**: 131-185. New York: John Wiley & Sons.
- Goodman, P. S. 1986. **Designing effective work groups**. San Francisco: Jossey-Bass.

- Goodman, P. S., Ravlin, E. C. & Argote, L. 1986. Current thinking about groups: Setting the stage for new ideas. In P. S. Goodman (Ed.), **Designing effective work groups**: 1-33. San Francisco: Jossey-Bass.
- Goodman, P. S., Ravlin, E. & Schminke, M. 1987. Understanding groups in organizations. In L. L. Cummings & B. M. Staw (Eds.), **Research in organizational behavior**: 121-173. Greenwich, CT: JAI Press.
- Graeff, C. L. 1980. Some methodolgical issues concerning comparative hospital-organizationa studies. **Academy of Management Review**, 5: 539-548.
- Gray, B. 1989. **Collaboraing: Finding common ground for multiparty problems**. San Diego, CA: Jossey-Bass.
- Greenberg, J. & Folger, R. 1983. Procedural justice, participation, and the fair process effect in groups and organizations. In P. B. Paulus (Ed.), **Basic group processes**: 235-256. New York: Springer-Verlag.
- Gupta, A. K. 1988. Contingency perspectives on strategic leadership: Current knowledge and future research directions. In D. C. Hambrick (Ed.), **The executive effect: Concepts and methods for studying top managers**: 147-178. Greenwich, CT: JAI Press.
- Guth, W. D. & MacMillan, I. C. 1986. Strategy implementation versus middle manager self interest. **Strategic Management Journal**, 7: 313-327.
- Hackman, J. R. 1968. Effects of task characteristics on group products. **Journal of Experimental Social Psychology**, 4: 162-187.
- Hackman, J. R. 1976. Group influences on individuals. In M. D. Dunnette (Ed.), **Handbook of industrial and organizational psychology**: 1455-1525. Chicago: Rand McNally.

- Hackman, J. R., Brousseau, K. R. & Wiess, J. A. 1976. The interaction of task design and group performance strategies in determining group effectiveness. **Organizational Behavior and Human Performance**, 16: 350-365.
- Hackman, J. R. & Morris, C. G. 1975. Group tasks, group interaction process, and group performance effectiveness: A review and proposed integration. In L. Berkowitz (Ed.), **Advances in experimental social psychology**: 45-99. New York: Academic Press.
- Hackman, J. R. & Vidmar, N. 1970. Effects of size and task type in group performance and member reactions. **Sociometry**, 33: 37-54.
- Hambrick, D. C. 1992. Commentary: Consequences of group composition for the interpersonal dynamics of strategic issue processing. In P. Shrivastava, A. Huff, & J. Dutton (Eds.), **Advances in strategic management**: 383-389. Greenwich, CT: JAI Press.
- Hambrick, D. C. 1994. Top management groups: A conceptual integration and reconsideration of the "team" label. In B. M. Staw & L. L. Cummings (Eds.), **Research in organizational behavior**: 171-213. Greenwich, CT: JAI Press.
- Hambrick, D. C. & Brandon, G. L. 1988. Executive values. In D. C. Hambrick (Ed.), **The executive effect: Concepts and methods for studying top managers**: 3-34. Greenwich, CT: JAI Press.
- Hambrick, D. C. & D'Aveni, R. 1992. Top team deterioration as part of the downward spiral of large corporate bankruptcies. **Management Science**, 38: 1445-1466.
- Hambrick, D. C., Gelekanycz, M. A. & Fredrickson, J. W. 1993. Top executive commitment to the status quo: Some tests of its determinants. **Strategic Management Journal**, 14: 401-417.

- Hambrick, D. C. & Mason, P. A. 1984. Upper echelons: The organization as a reflection of its top managers. **Academy of Management Review**, 9: 195-206.
- Hannan, M. T. & Freeman, J. 1983. Niche width and the dynamics of organizational populations. **American Journal of Sociology**, 88: 1116-1145.
- Hannan, M. T. & Freeman, J. 1989. **Organizational ecology**. Cambridge, MA: Harvard University Press.
- Hannan, M. & Freeman, J. 1977. The population ecology of organizations. **American Journal of Sociology**, 82: 929-964.
- Harrigan, K. R. 1983. Research methodologies for contingency approaches to business strategy. **Academy of Management Review**. 8: 398-405.
- Hart, K. 1988. Kinship, contract, and trust: The economic organization of migrants in an African city slum. In D. Gambetta (Ed.), **Trust: Making and breaking cooperative relations**: New York: Basil Blackwell.
- Hempel, C. G. & Oppenheim, P. 1948. The logic of explanation. **Philosophy of Science**, 15: 135-175.
- Hickson, D. J. 1987. Decision-making at the top of organizations. **Annual Review of Sociology**, 13: 165-193.
- Hickson, D. J., Butler, R. J., Cray, D., Mallory, G. R. & Wilson, D. C. 1986. **Top decisions: Strategic decision-making in organizations**. San Francisco: Jossey-Bass.
- Hill, G. W. 1982. Group versus individual performance: Are N+1 heads better than one. **Psychological Bulletin**, 81: 517-539.
- Hoffman, R. 1959. Homogeneity of member personality and its effect on group problem solving. **Journal of Abnormal and Social Psychology**, 58: 27-32.

- Hoffman, R. & Maier, N. 1961. Quality and acceptance of problem solutions by members of homogeneous and heterogeneous groups. **Journal of Abnormal and Social Psychology**, 62: 401-407.
- Hitt, M. A., Hoskisson, R. E., & Ireland, R. D. 1994. A mid-range theory of the interactive effects of internationalization and product diversification on innovation and performance. **Journal of Management**, 20: 297-326.
- Hrebiniak, L. G. & Joyce, W. F. 1985. Organizational adaptation: Strategic choice and environmental determinism. **Administrative Science Quarterly**, 30: 336-349.
- Huff, A. S. & Reger, R. K. 1987. A review of strategic process research. **Journal of Management**, 13: 211-236.
- Isenberg, D. J. 1986. Thinking and managing: A verbal protocol analysis of managerial problem solving. **Academy of Management Journal**, 29: 775-786.
- Jaccard, J., Turrisi, R., & Wan C. K. 1990. **Interaction effects in multiple regression**. London: Sage Publications.
- Jackson, S. E. 1992. Consequences of group composition for the interpersonal dynamics of strategic issue processing. In P. Shrivastava, A. Huff & J. Dutton (Eds.), **Advances in strategic management**: 345-382. Greenwich, CT: JAI Press.
- Janis, I. L. 1972. **Victims of groupthink**. Boston: Houghton Mifflin.
- Janis, I. L. & Mann, L. 1977. **Decision-making: A psychological analysis of conflict, choice, and commitment**. New York: The Free Press.
- Johnson-George, C. & Swap, W. C. 1982. Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. **Journal of Personality and Social Psychology**, 43: 1306-1317.

- Johnson, D. W., Johnson, R. T. & Maruyama, G. 1983. Interdependence and interpersonal attraction among heterogeneous and homogeneous individuals: A theoretical formulation and a meta-analysis of the research. **Review of Educational Research**, 53: 5-54.
- Johnson, D. W., Maruyama, G., Johnson, R. T., Nelson, D., & Skon, S. 1981. Effects of cooperative, competitive, and individualistic goal structures on achievement: A meta-analysis. **Psychological Bulletin**, 89: 47-62.
- Judge, W. Q. & Miller, A. 1991. Antecedents and outcomes of decision speed in different environmental contexts. **Academy of Management Journal**, 34: 449-463.
- Kahn, L. D. 1993. Challenges facing hospital partnerships. **Healthcare Executive**, 8(4): 30-31.
- Kahn, R. L. & Boulding, E. 1964. **Power and conflict in organizations**. New York: Basic Books.
- Kanter, R. M. 1977. **Men and women of the corporation**. New York: Basic Books.
- Kanter, R. M. 1983. **The change masters: Innovation and entrepreneurship in the American corporation**. New York: Simon & Schuster.
- Kanter, R. M. 1988. When a thousand flowers bloom: Structural, collective, social conditions for innovation in organization. In B. M. Staw & L. L. Cummings (Eds.), **Research in organizational behavior**: 169-211. Greenwich, CT: JAI Press.
- Kaplan, A. 1964. **The conduct of inquiry**. San Francisco: Chandler.
- Katz, R. 1982. The effects of group longevity on project communication and performance. **Administrative Science Quarterly**, 27: 81-104.
- Kendall, M. G. 1962. **Rank correlation methods**, 3rd ed. New York: Hafner Publishing Co.

- Kiernan, M. J. 1993. The new strategic architecture: Learning to compete in the twenty-first century. **Academy of Management Executive**, 7: 7-21.
- Kim, W. C. & Mauborgne, R. A. 1993. Procedural justice, attitudes, and subsidiary top management compliance with multinationals' corporate strategic decisions. **Academy of Management Journal**, 36: 502-526.
- Kim, J. & Mueller, C. W. 1978. **Factor analysis: Statistical methods and practical issues**. London: Sage Publications.
- Kirkpatrick, S. A. & Locke, E. A. 1991. Leadership: Do traits matter? **Academy of Management Executive**, 5(2): 48-60.
- Lawrence, P. R. & Lorsch, J. 1967. **Organization and environment**. Cambridge, MA: Harvard University Press.
- Levine, J. M. 1989. Reaction to opinion deviance in small groups. In P. B. Paulus (Ed.), **Psychology of group influence**: 187-231. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Levine, J. M. & Moreland, R. L. 1990. Progress in small group research. **Annual Review of Psychology**. 41: 585-634.
- Lewis, J. D. & Weigert, A. 1985. Trust as a social reality. **Social Forces**, 63: 967-985.
- Lewis, J. D. & Weigert, A. 1985. Social atomism, holism, and trust. **Sociological Quarterly**, 26: 455-471.
- Lieberson, S. & O'Connor, J. F. 1972. Leadership and organizational performance: A study of large corporations. **American Sociological Review**, 37: 117-130.
- Likert, R. & Likert, J. G. 1976. **New ways of managing conflict**. New York: McGraw-Hill.
- Lind, E. A. & Tyler, T. R. 1988. **The social psychology of procedural justice**. New York: Plenum.

- Lindblom, C. 1965. **The intelligence of democracy**. New York: The Free Press.
- Lippit, G. L. 1969. **Organization renewal**. New York: Appleton-Centruy-Crofts.
- Locke, E. A. & Schweiger, D. M. 1979. Participation in decision-making: One more look. In B. M. Staw (Ed.), **Research in organizational behavior**: 265-339. Greenwich, CT: JAI Press.
- Luhmann, N. 1979. **Trust and power**. New York: John Wiley.
- Manly, B. F. 1986. **Multivariate statistical methods**. New York: Chapman and Hall.
- March, J. G. & Olson, J. P. 1989. **Rediscovering institutions**. New York: The Free Press.
- March, J. G. & Simon, H. A. 1958. **Organizations**. New York: John Wiley & Sons.
- Mason, R. O. & Mitirof, I. I. 1981. **Challenging strategic planning assumptions**. New York: John Wiley & Sons.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. 1995. An integrative model of organizational trust. **Academy of Management Review**. 20: 709-734.
- McCann, J. & Galbraith, J. R. 1981. Interdepartmental relations. In P. C. Nystrom & W. H. Starbuck (Eds.), **Handbook of organizational design**: 61-84. New York: Oxford University Press.
- McClelland, D. C. 1970. The two faces of power. **Journal of International Affairs**, 24: 29-47.
- McDonald, A. 1972. Conflict at the summit: A deadly game. **Harvard Business Review**, 50(2): 59-68.
- McGrath, J. E. 1984. **Groups: Interaction and performance**. Englewood Cliffs, NJ: Prentice-Hall.

- McGrath, J. E. & Altman, I. 1966. **Small group research: A synthesis and critique of the field.** New York: Holt, Rinehart & Winston.
- McGregor, D. 1967. **The professional manager.** New York: McGraw-Hill.
- Messick, E. M. & Mackie, D. M. 1989. Intergroup relations. **Annual Review of Psychology**, 40: 45-81.
- Michel, J. G. & Hambrick, D. C. 1992. Diversification posture and top management team characteristics. **Academy of Management Journal**, 35: 9-37.
- Miles, R. E. & Snow, C. C. 1978. **Organizational strategy, structure and processes.** New York: McGraw Hill.
- Miller, D. & Friesen, P. H. 1982. Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. **Strategic Management Journal**, 3: 1-25.
- Mishra, A. K. 1992. **Organizational responses to crisis: The role of mutual trust and top management teams.** Unpublished doctoral dissertation, University of Michigan, Ann Arbor.
- Mintzberg, H. 1990. Strategy formation: Schools of thought. In J. W. Fredrickson (Ed.), **Perspectives on strategic management:** 105-236. New York: Harper Row.
- Mintzberg, H. 1973. **The nature of managerial work.** New York: Harper and Row.
- Mintzberg, H., Raisinghani, D. & Theoret, A. 1976. The structure of unstructured decision processes. **Administrative Science Quarterly**, 21: 246-275.
- Mintzberg, H. & Waters, J. A. 1985. Of strategies, deliberate and emergent. **Strategic Management Journal**, 6: 257-272.

- Mitroff, I. I., Emshoff, J. R., & Kilmann, R. H. 1979. Assumptional analysis: A methodology for strategic problem-solving. **Management Science**, 25: 583-593.
- Mowday, R. T., Steers, R. M., & Porter, L. W. 1979. The measurement of organizational commitment. **Journal of Vocational Behavior**, 14: 224-227.
- Mullen, B. & Goethals, G. R. 1987. **Theories of group behavior**. Springer-Verlag, New York.
- Murray, A. I. 1989. Top management team heterogeneity and firm performance. **Strategic Management Journal**, 10: 125-141.
- Nanus, B. 1989. **The leader's edge: The seven keys to leadership in a turbulent world**. Chicago: Contemporary Books.
- Nemeth, C. 1986. Differential contributions of majority and minority influence. **Psychological Review**, 93: 23-32.
- Nemeth, C. J. & Staw, B. M. 1989. The tradeoffs of social control and innovation in groups and organizations. In L. Berkowitz (Ed.), **Advances in experimental social psychology**: 175-210. New York: Academic Press.
- Nemeth, C. J. & Wachtler, J. 1983. Creative problem solving as a result of majority versus minority influence. **European Journal of Social Psychology**, 13: 45-55.
- Niehoff, B. P. & Moorman, R. H. 1993. Justice as mediator of the relationship between methods of monitoring and organizational citizenship behavior. **Academy of Management Journal**, 36: 527-556.
- Norusis, M. J. 1990. **SPSS/PC+ statistics 4.0**. Chicago: SPSS, Inc.
- O'Reilly, C. A. & Roberts, K. H. 1977. Task group structure, communication, and effectiveness in three organizations. **Journal of Applied Psychology**, 62: 674-681.

- O'Reilly, C. A., Snyder, R. C. & Boothe, J. N. 1993. Effects of executive team demography on organizational change. In G. P. Huber & W. H. Glick (Eds.), **Organizational change and redesign**: New York: Oxford University Press.
- Ouchi, W. G. 1981. **Theory Z: How American business can meet the Japanese challenge**. Reading, MA: Addison-Wesley.
- Ouchi, W. G. 1979. A conceptual framework for the design of organizational control mechanisms. **Management Science**, 25: 833-848.
- Peters, T. J. & Waterman, R. H. 1982. **In search of excellence**. New York: Harper & Row.
- Pettigrew, A. 1973. **The politics of organizational decision-making**. London: Tavistock.
- Pettigrew, A. 1992. Studying managerial elites. **Strategic Management Journal**, 13: 163-182.
- Pfeffer, J. 1981. **Power in organizations**. Marshfield, MA: Pitman Publishing.
- Pfeffer, J. 1983. Organizational demography. In L. L. Cummings & B. M. Staw (Eds.), **Research in organizational behavior**: 299-357. Greenwich, CT: JAI Press.
- Pondy, L. R. 1969. Varieties of organizational conflict. **Administrative Science Quarterly**, 14: 499-505.
- Porter, M. E. 1980. **Competitive strategy**. New York: The Free Press.
- Porter, M. E. 1985. **Competitive advantage**. New York: The Free Press.
- Priem, R. L. 1990. Top management team group factors, consensus, and firm performance. **Strategic Management Journal**, 11: 469-478.
- Prien, H. C. M. 1976. Styles of handling conflict. **Netherlands Journal of Psychology**. 31: 321-346.

- Pruitt, D. G. & Rubin, J. Z. 1986. **Social conflict: Escalation, stalemate, and settlement.** New York: McGraw-Hill.
- Psenicka, C. & Rahim, M. A. 1989. Integrative and distributive dimensions of styles of management interpersonal conflict and bargaining outcome. In M. A. Rahim (Ed.), **Managing conflict: An interdisciplinary approach:** 33-40. New York: Praeger.
- Rahim, M. A. 1991. **Managing conflict in organizations.** Westport, CT: Praeger.
- Rokeach, M. 1973. **The nature of human values.** New York: The Free Press.
- Salancik, G. R. & Pfeffer, J. 1974. The bases and use of power in organizational decision-making: The case of a university budget. **Administrative Science Quarterly**, 19: 453-473.
- Schares, G. E. 1993. Percy Barnevik's global crusade. **Business Week**, (Special Enterprise Issue): 204-211.
- Schmidt, W. H. 1974. Conflict: A powerful process for (good or bad) change. **Management Review**, 63: 4-10.
- Schweiger, D. M., Sandberg, W. R. & Rechner, P. L. 1989. Experiential effects of dialectical inquiry, devil's advocacy, and consensus approaches to strategic decision-making. **Academy of Management Journal**, 32: 745-772.
- Schweiger, D. M., Sandberg, W. R. & Ragan, J. W. 1986. Group approaches for improving strategic decision-making: A comparative analysis of dialectical inquiry, devil's advocacy, and consensus. **Academy of Management Journal**, 29: 51-71.
- Schweiger, D. M. & Sandberg, W. R. 1991. The team approach to making strategic decisions. In H. G. Glass (Ed.), **Handbook of business strategy:** (6) 1-20. Boston: Warren, Gorham & Lamont.

- Schwenk, C. R. 1990. Conflict in organizational decision-making: An exploratory study of its effects in for-profit and not-for-profit organizations. **Management Science**, 36: 436-448.
- Schwenk, C. R. 1988. **The essence of strategic decision-making**. New York: Lexington Books.
- Schwenk, C. R. 1984. Devil's advocacy in managerial decision-making. **Journal of Management Studies**, 21: 153-198.
- Schoonhoven, C. B. 1981. Problems with contingency theory: Testing assumptions hidden within the language of contingency theory. **Administrative Science Quarterly**, 26: 349-377.
- Shaw, M. E. 1981. **Group dynamics: The psychology of small group behavior**. New York: McGraw-Hill.
- Shaw, M. E. 1964. Communication networks. In L. Berkowitz (Ed.), **Advances in experimental social psychology**: 111-147. New York: Academic Press.
- Shepard, H. A. 1964. Responses to situations of competition and conflict. In R. L. Katz & E. Boulding (Eds.), **Power and conflict in organizations**: 127-135. New York: Basic Books.
- Sherer, J. L. 1993. Tension wanes between most hospitals and medical staffs. **Trustee**, 46(7): 20.
- Simon, H. A. 1960. **The new science of management decision**. New York: Harper & Row.
- Smith, K. K. & Berg, D. N. 1987a. **Paradoxes of group life**. Jossey-Bass, San Francisco.
- Smith, K. K. & Berg, D. N. 1987b. A paradoxical conception of group dynamics. **Human Relations**, 40: 633-657.
- Staw, B. M. 1991. Dressing up like an organizations: When psychological theories can explain organizational action. **Journal of Management**, 17: 805-819.

- Steiner, I. D. 1972. **Group process and productivity**. New York: Academic Press.
- Swan, J. E., Trawick, I. F., Rink, D. R., & Roberts, J. J. 1988. Measuring dimensions of purchaser trust of industrial salespeople. **Journal of Personal Selling and Sales Management**, 8: 1-9.
- Tajfel, H. 1978. **Differentiation between social groups: Studies in the social psychology of intergroup relations**. New York: Academic Press.
- Tajfel, H. 1982. **Social identity and intergroup relations**. New York: Cambridge University Press.
- Thomas, K. W. 1976. Conflict and conflict management. In M. Dunnette (Ed.), **Handbook of industrial and organizational psychology**: 889-935. Chicago: Rand McNally.
- Thomas, K. W. 1977. Toward multi-dimensional values in teaching: The example of conflict behaviors. **Academy of Management Review**, 2: 484-490.
- Thompson, J. D. 1967. **Organizations in action**. New York: McGraw-Hill.
- Thomas, J. B., Shankster, L. J., & Mathieu, J. E. 1994. Antecedents to organizational issue interpretation: The roles of single-level, cross-level, and content cues. **Academy of Management Journal**, 37: 1252-1285.
- Tilles, S. 1963. How to evaluate corporate strategy. **Harvard Business Review**, 41(4): 111-121.
- Tjosvold, D. 1991. **Conflict-positive organization**. New York: Addison-Wesley Publishing.
- Tjosvold, D. 1990. Making technological innovation work: Collaboration to solve problems. **Human Relations**, 43: 1117-1131.
- Tjosvold, D. 1984. Cooperation theory and organizations. **Human Relations**, 9: 743-67.

- Tjosvold, D. 1989. Interdependence approach to conflict management in organizations. In M. A. Rahim (Ed.), **Managing conflict: An interdisciplinary approach**: 41-50. New York: Praeger.
- Tjosvold, D. 1988a. Cooperative and competitive interdependence: Collaboration between departments to serve customers. **Group and Organization Studies**, 13(3): 274-289.
- Tjosvold, D. 1988b. Cooperative and competitive dynamics within and between organizational units. **Human Relations**, 41: 425-436.
- Tjosvold, D. 1985. Implications of controversy research. **Journal of Management**, 11: 21-37.
- Tjosvold, D., Andrews, R. I. & Struthers, J. T. 1991. Power and interdependence in work groups; Views of managers and employees. **Group and Organization Studies**, 16(3): 285-299.
- Tjosvold, D., Andrews, I. R. & Jones, H. 1983. Cooperative and competitive relationships between leaders and their subordinates. **Human Relations**, 36: 1111-1124.
- Tjosvold, D. & Chia, L. C. 1989. Conflict between managers and workers: The role of cooperation and competition. **Journal of Social Psychology**, 129(2): 235-247.
- Tjosvold, D. & Field, R. H. 1983. Effects of social context on consensus and majority vote decision-making. **Academy of Management Journal**, 26: 500-506.
- Tjosvold, D. & Wedley, W. C. 1986. Constructive controversy, Vroom-Yetton model, and managerial decision-making. **Journal of Occupation Behaviour**, 7: 125-138.
- Ulrich, D. & Barney, J. B. 1984. Perspectives in organizations: Resource dependence, efficiency, and population. **Academy of Management Review**, 9: 471-481.

- Van de Ven, A. H. & Astley, W. G. 1981. Mapping the field to create a dynamic perspective on organization design and behavior. In A. H. Van de Ven & W. F. Joyce (Eds.), **Perspective on organization design and behavior**: 427-468. New York: Wiley Interscience.
- Vroom, V. & Yetton, P. 1973. **Leadership and decision making**. Pittsburgh, PA: University of Pittsburgh Press.
- Wall, V. & Nolan, L. 1986. Perceptions of inequity, satisfaction, and conflict in task-oriented groups. **Human Relations**, 39: 1033-1052.
- Watson, W., Michaelsen, L. K. & Sharp, W. 1991. Member competence, group interaction, and group decision-making: A longitudinal study. **Journal of Applied Psychology**, 76: 803-809.
- West, M. A. 1992. The social psychology of innovation in groups. In M. A. West and J. L. Farr (Eds.), **Creativity and innovation at work**: 309-333. New York: John Wiley & Sons.
- Wiersema, M. F. & Bantel, K. A. 1993. Top management team turnover as an adaptation mechanism: The role of the environment. **Academy of Management Journal**, 14: 486-504.
- Wiersema, M. F. & Bantel, K. A. 1992. Top management team demography and corporate strategic change. **Academy of Management Journal**, 35: 91-121.
- Wilkins, A. L. & Ouchi, W. G. 1983. Efficient cultures: Exploring the relationship between culture and organizational performance. **Administrative Science Quarterly**. 28: 468-481.
- Williamson, O. E. 1981. The economics of organization: The transaction cost approach. **American Journal of Sociology**, 87: 548-577.
- Winter, S. G. 1990. Survival, selection, and inheritance in evolutionary theories of organization. In J. V. Singh (Ed.), **Organizational evolution**: Newbury Park, CA: Sage Publications.

- Woodward, J. 1965. **Industrial organization: Theory and practice**. London: Oxford University Press.
- Wooldridge, B. & Floyd, S. W. 1989. Strategic process effects on consensus. **Strategic Management Journal**, 10: 295-302.
- Yetton, P. W. & Bottger, P. C. 1983. The relationships among group size, member ability, social decision schemes, and performance. **Organizational Behavior and Human Performance**, 32: 145-159.
- Zahra, S. A. & Pearce, J. A. 1990. Research evidence on the Miles-Snow Typology. **Journal of Management**, 16: 751-768.
- Zand, D. E. 1972. Trust and managerial problem solving. **Administrative Science Quarterly**, 17: 229-239.
- Zander, A. 1977. **Groups at work**. San Francisco: Jossey-Bass.

APPENDICES

APPENDIX A
CEO LETTER AND SURVEY



College of Business Administration
Department of Management
408 Stokely Management Center
Knoxville, Tennessee 37996-0545
(615) 974-3161

<date>

<addressee>

Dear <salutation>:

I am writing to ask for your participation in a research project investigating how hospitals develop and maintain an effective strategic decision-making process among health care professionals who often have conflicting interests and attitudes. For those hospitals which participate, a managerial seminar will be held in <seminar> sometime in the fall of 1995.

At the seminar, discussions will be held on how management team diversity and management team dynamics affect your hospital's strategic decision-making process. It will also include discussion on how the strategic decision-making process affects decision quality and management team and medical staff commitment to decisions. If representatives from your hospital are unable to attend, and executive summary of the results will be mailed to you.

Your participation in this study would involve completing a 20 minute questionnaire focused on a specific strategic decision face recently by your hospital. Also, with your permission, the members of your management team involved in making the strategic decision will be asked to individually complete a similar, but shorter questionnaire. After completing the questionnaire, please return it in the enclosed postpaid envelope within two weeks if at all possible.

Details regarding the specific purposes and design of the study are available on the inside cover of the survey, which provides answers to many questions about this research. Rest assured that all information provided will be kept strictly confidential, both at the individual and organizational level. Information will be used solely for research purposes, and the results will be available only in aggregate form. In no instance will hospitals or individuals be identified.

Thank you for your consideration of this request. If you have any questions please do not hesitate to contact me at the telephone number or address listed above. Your participation in this study is greatly appreciated.

Sincerely,

Robert S. Dooley
Strategic Management

The University of Tennessee

**STRATEGIC RESPONSES TO
HEALTH CARE REFORM**

EXECUTIVE SURVEY

**Robert S. Dooley
Department of Management
University of Tennessee
Knoxville, Tennessee**

Questions & Answers About the Research Study

What is the significance of this research? The health care industry is faced with many uncertainties related to health care reform. In such uncertain times, the ability to develop and maintain an effective strategic decision making process is paramount. This research investigates how the diversity of perspectives common in hospital management teams and management team interactions affect the strategic decision making process. It also investigates how the strategic decision making process affects decision quality and management team commitment to the decision. This study should contribute to our understanding of the dynamics of the strategic decision making process in hospitals, as well as help hospital executives and medical staff better understand how to more effectively develop and maintain an effective strategic decision making process.

How will confidentiality be assured? Results will not be reported at the level of a single individual or hospital. Data will be reported only in aggregate form. Only I will have access to the surveys. In no instance will hospitals or individuals be identified. These surveys will remain confidential and will be destroyed within 6 months of their return.

Can I choose not to participate? Your participation in this study is entirely voluntary. There are no penalties associated with any choice you make concerning your response to this survey. Completion and return of this survey indicates your voluntary participation in this project.

Why are many of the questions similarly worded? Single item scales - attempts to describe a certain characteristic based on response to one question - are usually quite unreliable indicators, as different understandings of a certain word can skew answers, and thus results. To help minimize this problem, multiple items are generally used. Your response to all questions is greatly appreciated.

By when should the survey be returned? I would appreciate your response within two weeks, if at all possible. A postage-paid return envelope has been provided.

If you think you or representatives from your hospital would be interested in attending the managerial seminar and/or you would like a copy of the Executive Summary, please provide mailing information below.

☐ Yes, I am interested in attending the managerial seminar.

☐ Please send me a copy of the executive summary.

Name: _____

Firm: _____

Address: _____

City, State: _____

Zip Code: _____

Thank you again for your participation! If you have further questions, please do not hesitate to call me at (615) 974-3161.

Section 1: Values

Below is a list of characteristics and values which you might consider important for managers to possess. Study the list carefully, then distribute 100 points among those which you consider to be most important.

_____ A sense of accomplishment
_____ Broadmindedness
_____ Courageousness
_____ Imagination
_____ Logicity

_____ Wisdom
_____ Capability
_____ Honesty
_____ Intelligence
_____ Responsibility

Section 2: Organizational Resources

Please rate the abundance of the following resources for your firm.

	This resource is very scarce and/or prohibitively expensive							This resource is quite plentiful
a. Capital	1	2	3	4	5	6	7	
b. Skilled labor	1	2	3	4	5	6	7	
c. Material supplies and equipment	1	2	3	4	5	6	7	
d. Managerial talent	1	2	3	4	5	6	7	

The remaining portion of this survey pertains to a specific strategic decision made by your hospital and the strategic decision making process surrounding the decision. Please keep the strategic decision in mind when answering the questions.

Section 3: Strategic Decision Identification

In the space provided below, please briefly describe in words those involved in making the decision would recognize the most important strategic decision your hospital has made in the past 18 months. Strategic decisions are those decisions which are rare in occurrence, commit substantial financial resources, and have organizational wide consequences. Examples might include forming strategic alliances, adding new services, or internal reorganizing of departments.

Section 4: Management Team Identification

From the inserted list of hospital administrators and medical staff, please identify the key individuals in your hospital who were involved in making the strategic decision identified above. If individuals other than those listed who are still employed by your hospital were involved, please write their names and titles at the end of the list. Please return this list along with the survey.

Section 5: Strategic Importance

Because the relative importance of the strategic decisions your hospital makes may differ, please indicate the strength to which you agree or disagree with each of the following statements concerning the strategic decision you identified.

	Strongly Disagree			Neither Agree or Disagree			Strongly Agree
This decision commits a substantial amount of this hospital's financial resources.	1	2	3	4	5	6	7
This decision has widespread consequences for this hospital.	1	2	3	4	5	6	7

Section 6: Management Team Behavior

Below are some statements that might describe actual or perceived behaviors of the management team members you identified during the course of making the strategic decision you identified. There are no right or wrong answers. The response which is most descriptive of management team members' behaviors is the best answer. Any other answer which may be considered more desirable or acceptable will simply lead to misleading information. Please mark your response on the seven-point scale to the right of each item.

Sometimes team members (').....	Strongly Disagree			Neither Agree or Disagree			Strongly Agree
a. actions were inconsistent with their words.	1	2	3	4	5	6	7
b. approached their job carelessly.	1	2	3	4	5	6	7
c. seemed to be less than truthful with each other.	1	2	3	4	5	6	7
d. seemed like they were trying to take advantage of each other.	1	2	3	4	5	6	7
e. did not appear to approach their jobs in a professional and dedicated manner.	1	2	3	4	5	6	7
f. were inconsistent in their actions even though the situation was the same.	1	2	3	4	5	6	7
g. seemed to be less than sincere with each other.	1	2	3	4	5	6	7
h. could not be counted on to fulfill their responsibilities in a reliable manner.	1	2	3	4	5	6	7
i. seemed to be less than honest with each other.	1	2	3	4	5	6	7
j. tried to take advantage of each others' mistakes.	1	2	3	4	5	6	7
k. behaviors were difficult to anticipate.	1	2	3	4	5	6	7
l. seemed to try to mislead each other.	1	2	3	4	5	6	7
m. performed their jobs less than skillfully.	1	2	3	4	5	6	7
n. seemed as though they were trying to make each other look bad.	1	2	3	4	5	6	7
o. exhibited inconsistent behaviors from one time to the next.	1	2	3	4	5	6	7
p. appeared hesitant to provide information that might make them look bad.	1	2	3	4	5	6	7

Section 7: Decision Making Process

Below are some statements that might characterize how the management team members you identified interacted during the course of making the strategic decision you identified. Again, there are no right or wrong answers. The response which is most descriptive of management team interaction is the best response. Please mark your response on the seven-point scale to the right of each item.

	To a Small Extent				To a Moderate Extent			To a Large Extent
To what extent did team members.....								
a. work together to investigate the issues surrounding this decision?	1	2	3	4	5	6	7	
b. integrate their ideas?	1	2	3	4	5	6	7	
c. work together to solve problems encountered while making this decision?	1	2	3	4	5	6	7	
d. collaborate while making this decision?	1	2	3	4	5	6	7	
e. work together to make this decision jointly?	1	2	3	4	5	6	7	
f. openly express a difference of opinion?	1	2	3	4	5	6	7	
g. voice dissent while making this decision?	1	2	3	4	5	6	7	

Section 8: Decision Commitment

Below are some statements that might express the overall level of commitment of the team members you identified to the strategic decision you identified. Please place your response on the seven-point scale to the right of each item.

	To a Small Extent				To a Moderate Extent			To a Large Extent
To what extent.....								
a. are team members proud to tell others they were involved in making this decision?	1	2	3	4	5	6	7	
b. are team members willing to put in a great deal of effort to see this decision be successful?	1	2	3	4	5	6	7	
c. are team members willing to talk this decision up with co-workers as being good for the hospital?	1	2	3	4	5	6	7	
d. do team members feel there is much to be gained by sticking with this decision?	1	2	3	4	5	6	7	
e. do team members find it difficult to agree with this decision?	1	2	3	4	5	6	7	
f. do team members really care about seeing this decision be successful?	1	2	3	4	5	6	7	

Section 9: Decision Speed

Please indicate in months the duration of the strategic decision making process for the decision you identified. Decision duration is defined as the time between the first reference to deliberate action, such as scheduling a meeting or seeking information, to the time in which a commitment to act was made.

Decision duration _____

Please indicate the strength to which you agree or disagree with the following statements concerning the strategic decision you identified.

Section 11: Personal Information

Please provide the following information about yourself:

- a. Your position / designation _____
- b. In what functional area did you work prior to assuming your current position?
- | | | | |
|-------------------------------------|---|--|---|
| ☐ Operations | ☐ General Management | ☐ Human Resources | ☐ Administration |
| ☐ Marketing | ☐ Finance | ☐ Legal | ☐ Other (specify): _____ |
| ☐ Accounting | ☐ Nursing | ☐ Doctor | |
- c. Your age _____
- d. Number of years you have been in your present hospital: _____
- e. Number of years you have been in your present position: _____
- f. What is your highest level of education?
- | | | | | | |
|--------------------------------------|------------------------------------|----------------------------------|--------------------------------|-------------------------------|---|
| ☐ High School | ☐ Bachelors | ☐ Masters | ☐ Ph.D. | ☐ M.D. | ☐ Other (specify): _____ |
|--------------------------------------|------------------------------------|----------------------------------|--------------------------------|-------------------------------|---|

Comments

[illegible]

Thank you for your participation!

APPENDIX B

TMT LETTER AND SURVEY



College of Business Administration
Department of Management
408 Stokely Management Center
Knoxville, Tennessee 37996-0545
(615) 974-3161

<date>

<addressee>

Dear <salutation>:

Your hospital's <CEO>, <CEO name>, is participating in a study which I am conducting and has authorized me to ask for your help and cooperation. The study examines how hospitals develop and maintain an effective strategic decision making process among health care professionals who often have conflicting interests and attitudes.

Your participation in this study will involve completing a 15-minute questionnaire focused on a specific strategic decision identified previously by <CEO name> has already completed a similar questionnaire and identified you as a key member of your hospital's management team to be surveyed. The strategic decision along with those key individuals involved in making the decision are provided on an enclosed information sheet. After completing the questionnaire, please return it in the enclosed post-paid envelope. While there is no specific deadline for returning the questionnaire, a response within two weeks would be appreciated if possible.

Details regarding the specific purposes and design of the study are available on the inside cover of the questionnaire, which provides answers to many questions about this research. Rest assured that all information provided will be kept strictly confidential, both at the individual and organizational level. Information will be used solely for research purposes, and the results will be available only in aggregate form. In no instance will individuals or hospitals be identified.

At the conclusion of this study, you will be invited to a managerial seminar in <seminar>. At this seminar, discussions will be held on how management team diversity and management team dynamics affect your hospital's strategic decision making process. It will also include discussions on how the strategic decision making process affects decision quality and management team and medical staff commitment to decisions. If you are unable to attend, an executive summary of the results will be mailed to you.

I know that your time is valuable; however, your participation will add greatly to the meaningfulness of this research. Thank you for your participation, and if you have any questions please do not hesitate to contact me at the telephone number or address listed above.

Sincerely,

Robert S. Dooley
Strategic Management

The University of Tennessee

**STRATEGIC RESPONSES TO
HEALTH CARE REFORM**

EXECUTIVE SURVEY

**Robert S. Dooley
Department of Management
University of Tennessee
Knoxville, Tennessee**

Questions & Answers About the Research Study

What is the significance of this research? The health care industry is faced with many uncertainties related to health care reform. In such uncertain times, the ability to develop and maintain an effective strategic decision making process is paramount. This research investigates how the diversity of perspectives common in hospital management teams and management team interactions affect the strategic decision making process. It also investigates how the strategic decision making process affects decision quality and management team commitment to the decision. This study should contribute to our understanding of the dynamics of the strategic decision making process in hospitals, as well as help hospital executives and medical staff better understand how to more effectively develop and maintain an effective strategic decision making process.

How will confidentiality be assured? Results will not be reported at the level of a single individual or hospital. Data will be reported only in aggregate form. Only I will have access to the surveys. In no instance will hospitals or individuals be identified. These surveys will remain confidential and will be destroyed within 6 months of their return.

Can I choose not to participate? Your participation in this study is entirely voluntary. There are no penalties associated with any choice you make concerning your response to this survey. Completion and return of this survey indicates your voluntary participation in this project.

Why are many of the questions similarly worded? Single item scales - attempts to describe a certain characteristic based on response to one question - are usually quite unreliable indicators, as different understandings of a certain word can skew answers, and thus results. To help minimize this problem, multiple items are generally used. Your response to all questions is greatly appreciated.

By when should the survey be returned? I would appreciate your response within two weeks, if at all possible. A postage-paid return envelope has been provided.

If you think you or representatives from your hospital would be interested in attending the managerial seminar and/or you would like a copy of the Executive Summary, please provide mailing information below.

☐ Yes, I am interested in attending the managerial seminar.

☐ Please send me a copy of the executive summary.

Name _____

Firm _____

Address _____

City, State _____

Zip Code: _____

Thank you again for your participation! If you have further questions, please do not hesitate to call me at (615) 974-3161.

Section 1: Values

Below is a list of characteristics and values which you might consider important for managers to possess. Study the list carefully, then distribute 100 points among those which you consider to be most important.

_____ A sense of accomplishment
_____ Broadmindedness
_____ Courageousness
_____ Imagination
_____ Logicity

_____ Wisdom
_____ Capability
_____ Honesty
_____ Intelligence
_____ Responsibility

Section 2: Organizational Resources

Please rate the abundance of the following resources for your firm.

	This resource is very scarce and/or prohibitively expensive							This resource is quite plentiful
a. Capital	1	2	3	4	5	6	7	
b. Skilled labor	1	2	3	4	5	6	7	
c. Material supplies and equipment	1	2	3	4	5	6	7	
d. Managerial talent	1	2	3	4	5	6	7	

The remaining portion of this survey pertains to the strategic decision and the management team members identified on the enclosed information sheet. Please keep the strategic decision and these individuals in mind when answering the remaining questions.

Section 3: Strategic Importance

Because the relative importance of the strategic decisions your hospital makes may differ, please indicate the strength to which you agree or disagree with each of the following statements concerning the identified strategic decision.

	Strongly Disagree			Neither Agree or Disagree			Strongly Agree	
This decision commits a substantial amount of this hospital's financial resources.	1	2	3	4	5	6	7	
This decision has widespread consequences for this hospital.	1	2	3	4	5	6	7	

Section 4: Management Team Behavior

Below are some statements that might describe actual or perceived behaviors of the identified management team members during the course of making the identified strategic decision. There are no right or wrong answers. The response which is most descriptive of management team members' behaviors is the best answer. Any other answer which may be considered more desirable or acceptable will simply lead to misleading information. Please mark your response on the seven-point scale to the right of each item.

	Strongly Disagree			Neither Agree or Disagree			Strongly Agree
Sometimes team members (').....							
a. actions were inconsistent with their words.	1	2	3	4	5	6	7
b. approached their job carelessly.	1	2	3	4	5	6	7
c. seemed to be less than truthful with each other.	1	2	3	4	5	6	7
d. seemed like they were trying to take advantage of each other.	1	2	3	4	5	6	7
e. did not appear to approach their jobs in a professional and dedicated manner.	1	2	3	4	5	6	7
f. were inconsistent in their actions even though the situation was the same.	1	2	3	4	5	6	7
g. seemed to be less than sincere with each other.	1	2	3	4	5	6	7
h. could not be counted on to fulfill their responsibilities in a reliable manner.	1	2	3	4	5	6	7
i. seemed to be less than honest with each other.	1	2	3	4	5	6	7
j. tried to take advantage of each others' mistakes.	1	2	3	4	5	6	7
k. behaviors were difficult to anticipate.	1	2	3	4	5	6	7
l. seemed to try to mislead each other.	1	2	3	4	5	6	7
m. performed their jobs less than skillfully.	1	2	3	4	5	6	7
n. seemed as though they were trying to make each other look bad.	1	2	3	4	5	6	7
o. exhibited inconsistent behaviors from one time to the next.	1	2	3	4	5	6	7
p. appeared hesitant to provide information that might make them look bad.	1	2	3	4	5	6	7

Section 5: Decision Making Process

Below are some statements that might characterize how the identified management team members interacted during the course of making the identified strategic decision identified. Again, there are no right or wrong answers. The response which is most descriptive of management team interaction is the best response. Please mark your response on the seven-point scale to the right of each item.

	To a Small Extent			To a Moderate Extent			To a Large Extent
To what extent did team members.....							
a. work together to investigate the issues surrounding this decision?	1	2	3	4	5	6	7
b. integrate their ideas?	1	2	3	4	5	6	7
c. work together to solve problems encounters while making this decision?	1	2	3	4	5	6	7
d. collaborate while making this decision?	1	2	3	4	5	6	7
e. work together to make this decision jointly?	1	2	3	4	5	6	7
f. openly express a difference of opinion?	1	2	2	4	5	6	7
g. voice dissent while making this decision?	1	2	3	4	5	6	7

Section 6: Decision Commitment

Below are some statements that might express the overall level of commitment of the identified team members to the identified strategic decision. Please place your response on the seven-point scale to the right of each item.

	To a Small Extent		To a Moderate Extent		To a Large Extent	
To what extent.....						
a. are team members proud to tell others they were involved in making this decision?	1	2	3	4	5	6 7
b. are team members willing to put in a great deal of effort to see this decision be successful?	1	2	3	4	5	6 7
c. are team members willing to talk this decision up with co-workers as being good for the hospital?	1	2	3	4	5	6 7
d. do team members feel there is much to be gained by sticking with this decision?	1	2	3	4	5	6 7
e. do team members find it difficult to agree with this decision?	1	2	3	4	5	6 7
f. do team members really care about seeing this decision be successful?	1	2	3	4	5	6 7

Section 7: Decision Quality

Please indicate the strength to which you agree or disagree with the following statements concerning the identified strategic decision.

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	
This decision.....						
a. was made based upon the best available information.	1	2	3	4	5	6 7
b. was made based upon valid assumptions.	1	2	3	4	5	6 7
c. was a high quality decision.	1	2	3	4	5	6 7
d. helps this hospital achieve its objectives.	1	2	3	4	5	6 7
e. makes sense in light of this hospital's current financial situation.	1	2	3	4	5	6 7
f. is consistent with this hospital's current strategy.	1	2	3	4	5	6 7
g. contributes to the overall effectiveness of this hospital.	1	2	3	4	5	6 7

Section 8: Personal Information

Please provide the following information about yourself:

- Your position / designation _____
- In what functional area did you work prior to assuming your current position?
☐ Operations ☐ General Management ☐ Human Resources ☐ Administration
☐ Marketing ☐ Finance ☐ Legal ☐ Other (specify): _____
☐ Accounting ☐ Nursing ☐ Doctor
- Your age: _____
- Number of years you have been in your present hospital: _____
- Number of years you have been in your present position: _____
- What is your highest level of education?
☐ High School ☐ Bachelors ☐ Masters ☐ Ph.D. ☐ M.D. ☐ Other (specify): _____

[illegible]

Thank you for your participation!

VITA

Robert S. Dooley was born in Athens, Tennessee, on August 21, 1961. He graduated from McMinn County High School in June, 1979. The following September he entered the University of Tennessee - Chattanooga where he received a Bachelor of Arts degree in Philosophy and Religion in June of 1983.

From 1983 to 1989, he worked for Westvaco Corporation and Jefferson Smurfitt Corporation while concurrently attending graduate school at the University of Tennessee - Chattanooga. In June of 1990, he received a Masters degree in Business Administration, and entered the doctoral program in Business Administration at the University of Tennessee - Knoxville the following September. He was awarded the Doctor of Philosophy degree in Business Administration in May of 1996.