THE RELATIONSHIP BETWEEN CONFLICT AND DECISION OUTCOMES: MODERATING ROLE OF TRUST IN STRATEGIC DECISION-MAKING TEAMS

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CHAPTER I

INTRODUCTION

This dissertation proposes to study the relationship between conflict in strategic decision-making teams and decision outcomes. The introductory chapter begins with the discussion of the importance of top management teams and the decision-making process in an organization. This is followed by brief description of information processing perspective as a theoretical foundation for the present study. Taking information processing perspective leads to identification of conflict and trust as two important variables. After a brief explanation of these variables, the research question is presented. Finally, theoretical and practical contributions of the study will be discussed.

The Importance of Top Management Teams

Top management teams (TMTs) are responsible for making strategic decisions which have long-term strategic direction and performance implications for a firm (Eisenhardt & Zbaracki, 1992; Hambrick, 1994; Schwenk, 1995). TMTs are important because:"(1) they are centrally responsible for determining the strategic direction of the organization, (2) they link organization to external constituencies and bear the ultimate responsibility for providing integration across functional domains and ensuring the fit among strategy, structure, and process, and (3) they foster organizational learning and ensure that the firm adapts to changing circumstances" (O'Reilly, Snyder &

Boothe, 1993: 150-151). The success of an organization depends on the effectiveness with which team functions. Early writers on management suggested involvement of the entire executive group for success of an organization (e.g., Cyert & March, 1963; Thompson, 1967). The evidence in support of the effects of team over a single leader on organizational performance is promising (e.g., Hage & Dewar, 1973; Hambrick & D'Aveni, 1992; Norburn & Birley, 1988).

Though research on TMT is abundant (Finkelstein & Hambrick, 1996) very little is known about the actual decision-making process. The present study will look at actual TMT decision-making process. Because the focus is on the process, only those members who are involved in key decision-making as identified by the CEO, called strategic decision-making team (SDMT), are included in the study. Since the present research focuses on context-specific single decision, it is imperative to include only the participating members of the top management. This is consistent with other studies (e.g., Amason & Sapienza, 1997; Dess, 1987; Judge & Miller, 1991; Wooldridge & Floyd, 1990; Fredrickson, 1984).

SDMT is responsible for formulating and implementing strategies, and decision-making lies at the heart of such formulation and implementation (Eisenhardt & Zbaracki, 1992; Schwenk, 1995). The stream of strategic decisions and the process of making such decisions often shape the destiny of organizations. Strategic decisions are "important, in terms of the actions taken, the resources committed, or the precedents set" (Mintzberg, Raisinghani & Theoret, 1976: 246). A few examples of strategic decisions are: restructuring decisions, launching new product decisions, new process technology decisions, diversification decisions, marketing and human resource decisions and total

quality control program decisions (Hickson, Butler, Cray, Mallory & Wilson, 1985). These strategic decisions are essentially unstructured, vague and complex (Mintzberg et al., 1976). While making these strategic decisions, managers often work in teams because the *complexity* and *ambiguity* involved in such decisions may be beyond the capabilities of a single individual. By discussing and debating the issues involved, managers collectively resolve the ambiguity in strategic decisions. Strategic decisions also requires the continuous monitoring and integrating of external events and trends, dealing with external constituencies, and also formulating, communicating, and monitoring the organization's responses to the environment. Performing the complex, non-routine, and ambiguous tasks requires problem-solving skills. Teams will have more problem-solving capabilities than individuals alone (Daft, Bettenhausen & Tyler, 1993; Haleblian & Finkelstein, 1993). Team members bring a variety of information, number of critical judgments, solution strategies and provide a wide range of perspectives to bear on a problem (Harrison, 1975; Hoffman & Maier, 1961; Shaw, 1981). The effectiveness of teamwork is often reflected in the quality of strategic decisions, which in turn, affects the organizational performance. Therefore, teams (not individual actors like CEO alone) may have substantial influence over organizational outcomes (Ancona & Nadler, 1989; Hambrick, 1994).

The Importance of the Decision-Making Process

The outcomes of decisions partly depend on the decision-making process. A tightly- knit decision-making process where members constantly interact with each other and discuss divergent viewpoints results in high quality decisions. Effective interaction

is a process in which top managers share a variety of information, synthesize and process that information and offer different perspectives. Extant research revealed that interaction enables the members to define and solve strategic problems (Schweiger, Sandberg, & Ragan, 1986). Strategic decision-making process is important because the outcomes of this process (i.e., strategic decisions) have organization-wide ramifications and set the future course of action for the firm. The ultimate success of an organization hinges on the effectiveness of the decision-making process (Dean & Sharfman, 1996).

While research has examined the techniques for improving decision quality, very little research has examined the decision-making process. Early researchers focused on the tools / techniques (e.g., dialectical inquiry, devil's advocacy, and consensus) involved in the decision-making process (Cosier, 1982; Cosier & Schwenk, 1990; Mitroff, 1982). These tools explain, to some extent, the interaction process; i.e., the way in which members interact while making decisions. Other than examining the tools, decision-making process largely remained an under-unexplored area. Hambrick (1994) points out that much management research places too little attention on the actual decision-making process and suggests exploring the black box to determine the informational exchange on decision-making. Focusing on the black box, some scholars attempt to explore the decision-making process (Lawrence, 1997). Following this stream, the present research is an attempt in the direction of unraveling the process of making strategic decisions.

Theoretical Background

Since the study looks at the decision-making process (black box), one way to view the process is from information processing perspective. According to information

processing theory, members exchange, process, and interpret the information from a variety of sources and then act upon it before making decisions (Galbrith, 1973). Organizations are, in many respects, information-processing systems (Daft et al., 1993: 112). Information processing theory leads to the identification of conflict and trust as two important variables. Conflict because it is a mechanism by which information is introduced and trust because it provides framework for interpreting information. The following discussion illustrates how conflict and trust are derived from the information processing theory.

Organizations attempt to match processing requirements with processing capacity. The information processing requirements for making and executing decisions are directly proportional to the degree of task uncertainty involved in strategic decisions. Greater task uncertainty calls for greater information processing capacity (Galbraith, 1973). Further, information is the key for both strategy formulation and implementation. Strategic decisions are by nature complex, ambiguous, and uncertain, and require the members to gather information from as many sources as possible to minimize risk. Acquiring information is essential for making strategic decisions whereas dissemination of information is essential for decision implementation. A problem with strategic decisions is the lack of complete information based on which decisions can be made. There may also be information asymmetries. If members make a decision on the basis of incomplete information the decision outcomes may be disastrous. Since members have high stakes in the decision outcomes, it is unlikely that they would make risky decisions based on incomplete information. If the information is reliable the element of risk is minimized.

One way of assessing the reliability of the information is the level of trust among the members. For example, conflict provides the variety of information necessary for complex, uncertain decisions. However, that in and of itself says nothing how information is processed. Given that information can be processed either in a negative or positive manner depending on how the information (i.e., conflict) is perceived (i.e., either positively or negatively) depends on the interpersonal trust among the members. In sum, in presence of uncertainty, ambiguity and information asymmetries, individuals rely on information from other sources based on the element of trust. It is reasonable to believe that individuals provide accurate and timely information only when they trust other members. Available empirical evidence suggests that interpersonal trust contributes to problem-solving efforts by the members as they provide information relevant to the task on hand (Zand, 1972). In sum, following information processing theory, two most important study variables are conflict and trust.

Conflict in Strategic Decision-Making Teams

Viewing from information processing perspective lens, the present study aims at unraveling the black box, which is gap in existing top management research. Exploring the black box focuses on the identification of conflict and trust as process variables. Early research demonstrates that conflict has the potential to affect decision outcomes in both positive and negative ways. Strategic management scholars (e.g., Amason, 1996; Amason & Sapienza, 1997; Tjosvold, Dann & Wong, 1992) and organizational behavior scientists (e.g., De Dreu & Vianen, 2001; Jehn, 1995; Pelled, Eisenhardt & Xin, 1999) continue to explore the nature of conflict and its impact on organizational outcomes.

Research so far has been illuminating as well as challenging: illuminating, because additional research provides new insights; challenging because newer dimensions unfold. Earlier management scholars viewed conflict as negative and detrimental to performance and satisfaction (Blake & Mouton, 1984; March & Simon, 1958; Pondy, 1967). The negative connotation of conflict suggests that conflict is something to be avoided or immediately resolved (Losey, 1994; Stone, 1995). Other studies have examined the positive side of conflict and suggested methods of stimulating productive conflict (Amason, 1996; Amason & Schweiger, 1994; Jehn, 1995; Tjosvold et al., 1992). The contradictory effects of conflict on organizational outcomes has resulted in a paradoxical phenomenon that conflict has both positive and negative outcomes. Existence of two types of conflict is the crux of this paradox.

One of the earliest studies to analyze the nature and types of conflict in decision-making in groups was an exploratory study by Guetzkow & Gyr (1954). They observed the existence of two types of conflict: 'affective' and 'substantive'. 'Affective' conflict is the "tension generated by emotional clashes aroused during the interpersonal struggle involved in solving the group's agenda problems" (Guetzkow & Gyr, 1954: 380). Affective conflict is associated with conflict in interpersonal relations. 'Substantive' conflict is "intellectual opposition among participants, deriving from the content of the agenda" (Guetzkow & Gyr, 1954: 380). Substantive conflict is associated with the task. Following the study of Guetzkow & Gyr (1954), substantive and affective conflict have been the predominantly studied types of conflict in organizations (Jehn, 1997: 531).

In the present study, the terms cognitive conflict and affective conflict are used to be consistent with terminology in strategic management literature (e.g., Amason, 1996).

Cognitive conflict is "a perception of disagreements among group members about the content of their decisions and involves differences in viewpoints, ideas and opinions" (Jehn, 1995: 258). Cognitive conflict often arises in reference to the distribution of scarce resources, implementation of policies and procedures, and in interpretation of facts (De Drew & Van Vianen, 2001). Cognitive conflict is task-related. On the other hand, affective conflict is "the perception of interpersonal incompatibility and typically includes tension, annoyance, and animosity among group members" (Jehn, 1995: 258). Affective-conflict is person-and relationship oriented.

Though research has progressed on the study of conflict and its outcomes, an area left unexplored is the relationship between cognitive and affective conflict. Previous research considered cognitive and affective conflict as independent variables with independent effects on behavioral dynamics and outcomes of team decision-making (e.g., Amason, 1996; Amason & Schweiger, 1994, 1997; Jehn, 1995, 1997). More specifically, the independent study of cognitive and affective conflict has led to different predictions about the effects of conflict on group outcomes (Amason, 1996; Jehn, 1977). For instance, research supports the view that conflict about task disagreements results in productive outcomes, but conflict that is predominantly people-centered has dysfunctional outcomes (Wall & Nolan, 1986). The recommendation of these studies to date is the encouragement of cognitive conflict and the mitigation of affective conflict (Janssen, Vliert & Veenstra, 1999).

More recently it has been suggested that a more fruitful research approach is to explore the relationship between cognitive and affective conflict (e.g., Simons & Peterson, 2000; Ensley & Pearce, 2001). The rationale for studying the relationship

between cognitive and affective conflict is two-fold: (1) both task-related and person-related aspects are involved in strategic decisions, and (2) while engaging in task disagreements, person-related conflict may erupt. That is to say, one type of conflict has potential to breed another type of conflict (Janssen et al., 1999). For example, in a study of 70 top management teams from multi-site US based hotel companies, Simons and Peterson (2000) documented that cognitive conflict results in affective conflict. In a study of two samples of new venture top management teams, Ensley & Pearce (2001) found that greater cognitive conflict led to greater affective conflict. These studies suggest that the relationship between two conflict types (cognitive and affective) cannot be ignored in studies of the relationship between conflict and outcomes.

Trust in Strategic Decision-Making Teams

Another important process variable that plays an important role in strategic decision-making is the interpersonal trust among the team members. Given the nature of strategic decisions, teams interact to generate more information, evaluate alternatives, and look at the problem from multiple perspectives. While conflict introduces information, the way in which the information is processed, interpreted, and acted upon depends on interpersonal trust (Leifer & Mills, 1996; O'Reilly et al., 1993).

It has been documented that when individuals work together trust becomes a major determining factor for economic action and efficiency (Seabright, Leventhal & Fichman, 1992). Trust lies at the heart of relationships and contracts and plays a useful role in interpretation of social behavior of members in that relationship. The way in which members interact and influence each other depends largely on trust (Robinson,

1996). In the context of strategic decision-making, trust is important because interpretation of information provided by the fellow members largely depends on interpersonal trust (McAllister, 1995). According to McAllister (1995), interpersonal trust can be studied using the two dimensions of trustworthiness identified by Lewis and Wiegert (1985). These dimensions are cognition-based trust and affect-based trust. Cognition-based trust is defined as: "the trust based on cognitive process of choosing whom we will trust in which respects and under which circumstances, and we base the choice on what we take to be "good reasons," constituting evidence of trustworthiness" (Lewis & Weigert, 1985: 971). The elements essential for 'good reasons' are competence and responsibility (Butler, 1991) and reliability and dependability (Johnson-George & Swap, 1982). Thus, cognition-based trust is competence-based and reflects the abilities of the members. Affect-based trust is defined as: "the trust consisting of an emotional bond among all those who participate in the relationship" (Lewis & Weigert, 1985: 971). Affect-based trust is manifested in the form of reciprocated interpersonal care and concern by the members (McAllister, 1995). When individuals make genuine emotional investments in trusting relationships and express concern for the welfare of others, they expect reciprocation of these sentiments (Pennings & Woiceshyn, 1987). These emotional ties gradually result in affect-based trust.

Research Question

Teams make strategic decisions which have long-term performance implications for a firm. What is little known is the actual decision-making process (i.e., black box). The present study focuses on the process and concentrates on the members who

participate in the decision-making process. Since the researcher is looking at the decision-making process, one way to view the process is from an information processing theory perspective. This perspective leads to the identification of conflict and trust as two important variables. Conflict because it is a mechanism by which information is introduced and trust because it provides a framework for interpreting information. While conflict introduces information, trust plays a major role in how information is processed, interpreted, and acted upon. Information asymmetries make the strategic decision-making process risky and trust mitigates the risk. Despite the importance of both process variables, prior research focused on either conflict or trust but not both. Though some recent studies (Dooley & Fryxell, 1999; Simons & Peterson, 2000) cast light on the importance of trust in strategic decision-making teams, the role of trust in the relationship between conflict and decision outcomes is yet to be examined. The present research is aimed at filling the gap in the existing literature. In light of this, the basic research question of the present study is**:**

How does conflict during the strategic decision-making process affect strategic decision-making outcomes and under what conditions does conflict yield positive and negative results?

More specifically, the above research question can be divided into four specific questions: (1) How does conflict within strategic decision-making teams affect decision quality and other outcomes; (2) How does cognition-based trust moderate the relationship between cognitive conflict in strategic decision-making teams and decision quality and other outcomes; (3) How does affect-based trust moderate the relationship between cognitive conflict and affective conflict; and (4) How does affective conflict partially

mediate the relationship between cognitive conflict and decision quality and other outcomes.

Substantive Contributions

By unraveling the paradox of conflict in strategic decision-making teams, this study proposes to enrich the literature on strategic decision-making. In a sense, this study is integrative in nature as it ties the literature on socio-psychological foundations of trust to the strategic decision-making literature. This study will also make contributions to practitioners as it specifies the conditions under which top management teams can have conflict and still make quality oriented decisions.

To the Strategic Decision-Making Literature

Successful organizations are separated by unsuccessful ones by virtue of the strategic decisions they make and implement. According to Levinthal and March (1993), strategic management is concerned with three grand problems of decision-making: (1) the problem of ignorance; (2) the problem of conflict; and (3) the problem of ambiguity. Ignorance is characterized by uncertainty about the causal structure of the world and the nature of decision problems. Ambiguity is rooted in the lack of clarity and instability of the problems associated with decisions. Conflict naturally emerges because managers have different preferences, perspectives and identities (Levinthal & March, 1993). Focusing on conflict, the present study will contribute to the strategic decision-making literature in three ways. First, it fortifies the existing literature that examines decisions in the context-specific fashion (Amason, 1996; Dean & Sharfman, 1996; Dooley & Fryxell,

1999; Hickson et al., 1985). This micro perspective will be an added contribution to the field (Rajagopalan et al., 1993: 374). Second, this study integrates socio-psychological perspective into the examination of strategic decision-making. Third, this study emphasizes the role of interpersonal trust in strategic decision-making. Consistent with the recommendations of several scholars (Dooley & Fryxell, 1999; Eisenhardt & Zbaracki, 1993), investigation of the relationship between conflict that arises during interaction of the team members and decision outcomes in the presence of interpersonal trust will be an added contribution to the existing literature.

To the Management Practice

In addition to its contribution to the academic literature, the present study has several implications for management practice. It examines the strategic decision-making processes and outcomes and attempts to reveal the black box to see how top managers make and implement decisions. Understanding the role of interpersonal trust will be useful to the practicing managers. Though it is difficult to see what goes on in 'black box', this study highlights the conditions under which benefits of conflict among the teams will be realized.

More specifically, the study is useful for practitioners in five different ways. First, the study suggests that strategic decision-making is a complex process. Second, through this study managers understand that conflict that arises during the decision-making process can be both productive and destructive. For example, this study demonstrates that conflict arising from discussions on the content of the decision yields positive outcomes whereas conflict based on the personality clashes yields negative

outcomes. Third, the study introduces the notion that trust among the members plays a critical role in shaping decisions. The study suggests that the success of managerial decisions largely depends on the way in which members interpret, process, and act on the information on the decision platform. Fourth, managers will understand that lack of trust among the members may hinder the quality of decisions. By providing empirical support, this study will guide the Chief Executive Officers to invite the members who trust each other so that decision outcomes will be beneficial to both individuals and organization. Fifth, this study will aid managers in understanding that different types of trust have different roles to play. Chief Executive Officers (CEOs) understand that teams who have developed cognition-based trust perform better than the teams that do not. Finally, managers will understand that trust based on emotions plays a vital role in minimizing the effect of cognitive conflict on person-related conflict. Through this study managers will understand that managing complexity requires competent individuals using interactive process in an open trusting environment. Trust solidifies efforts and directs creative energy to increase commitment of the managers to decision implementation. Managers understand that trust in competence of colleagues, in the information they provide, and in the integrity of the members is helpful in making better decisions. Executives may become aware of the available alternatives through interaction and uncover unspoken assumptions and biases that affect decision outcomes. Since this study focuses on the dynamics of decision-making process in teams, practitioners find the results particularly useful. In sum, practitioners will understand that this study goes one step further in understanding the top management team dynamics and their role in decision-making.

Outline of Dissertation

The review of relevant literature and theoretical foundations of the study is presented in Chapter II. The relevance of strategic decision-making teams, identification of process variables and information processing theory in the context of decision-making are discussed in this chapter. The conceptual model is presented in this chapter using conflict, trust and decision outcomes as variables. Research hypotheses are developed and presented in Chapter III. Chapter IV deals with methodology, tests of hypotheses and research results. Chapter V is devoted to the discussion of research results, major contributions, limitations and implications for research and for management practice.

CHAPTER II

LITERATURE REVIEW

The purpose of this chapter is to review the literature relevant to the research topic of conflict in strategic decision-making teams. After explaining the importance of studying teams, the chapter explains how information- processing theory is useful in identifying the variables in the study. The chapter also provides an overview of the relevant empirical studies and points out gaps in existing literature. The rationale for the selection of variables in the model and the relationships between the variables will be presented. Finally, a conceptual model will be outlined.

Why Study Strategic Decision-Making Teams?

Building on the traditional idea of dominant coalition (Cyert & March, 1963), upper echelons perspective asserts that organizational performance is a reflection of the decisions top management executives make and implement (Hambrick & Mason, 1984). Early writers on management acknowledge that effective leadership requires involvement of the entire executive team (e.g., Cyert & March, 1963; Thompson, 1967). The rationale for the executive team is to create 'synergy'; i.e., to increase coordination across functions and activities so that the performance of the whole is greater than the sum of its parts. According to Ancona and Nadler (1989) the quality of organizational performance depends largely on the collaborative effort of the executive teams. The collective

capacity of teams reflects the quality of strategic and operational decisions made by the team members, which in turn, affect organizational performance. Though, sometimes, individual leaders are credited with the success of organizations, the real heroes behind such glory are the teams (O'Reilly et al., 1993). This is because the executive team, rather than the top executive alone, essentially performs three important functions—providing strategic leadership and allocating strategic resources, integrating the organization with outside constituencies, and creating a platform for organizational learning (O'Reilly et al., 1993: 148). Strategic decision-making lies at the heart of these functions. But unfortunately, strategic decision-making lies within the black box, about which little is known (see Figure 1). What is suggested is to explore the black box (Hambrick, 1994).

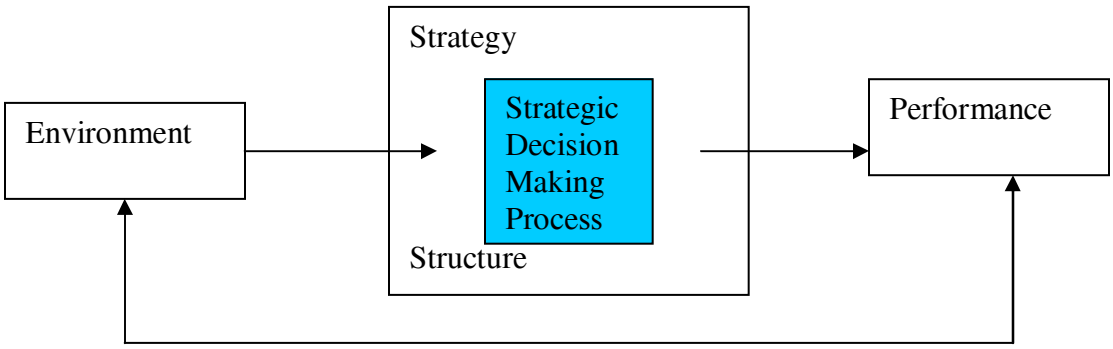

Figure 1. Black Box
(Adapted from Hambrick, 1994: 188)

Explaining the strategic decision-making process is very important because the decisions team make and their implementation ultimately influence firm performance. More specifically, the success of an organization depends on the effectiveness of the

decisions the managers make at the apex of the organization. Strategic decisions are complex because they arise in dynamic and uncertain organizational environments and managers are required to deal with incomplete information about the linkages between various environmental elements (Sandberg & Ragan, 1986). The ambiguity of available information coupled with the conflict concerning the outcomes of decisions among interested parties make the decision-making task complicated. Thus, firms establish management teams in order to formulate strategic decisions, which are non-routine, ambiguous, and complex in nature (Mintzberg et al., 1976). Strategic decision-making teams (SDMTs) use the collective cognitive skills in both defining and solving the complex decision problems (Wanous & Youtz, 1986; Murray, 1989). Top managers are responsible not only for making decisions, but also for implementation of these decisions (Hickson et al., 1986). The dependent variables in the present study are decision quality, decision commitment, and understanding. These in turn will have performance implications.

Organizational success depends not only on making decisions but also on implementation of the decisions. Without implementation of decisions made it is not possible to derive the benefits of decisions. Decisions made but not implemented is an indication that members are not interested in committing funds for decision implementation. In fact, decision implementation is as important as decision-making because implementation requires honest commitment of organizational resources. Often members spend more time in making decisions but tend to be laid back at the time of implementation of the decisions. Research indicates that organizations fail because of

lack of involvement of the members toward implementation (Wooldridge & Floyd, 1990).

Implementation implies translation of decisions into actions. Successful implementation requires managers to understand the rationale of decisions in the context of broad organizational objectives. A mere agreement on means, ends, and environmental perceptions will not result in organizational performance unless managers understand the relationship between the decisions, chosen goals, and means (Wooldridge & Floyd, 1990). Further, high stakes involved in outcomes of strategic decisions motivate the top managers to understand the rationale of the decision and act accordingly (Mason & Mitroff, 1981). The managers are cognizant that they can realize these stakes only when they understand the rationale for the decision and in its relationship to achieve broad organizational goals.

In addition, successful implementation of strategic decisions demands commitment to decisions by the top managers. Commitment is a widely researched topic in organizational behavior literature. Commitment is important because it binds individuals to behavioral acts (Salancik, 1977). According to Mowday, Porter, & Steers (1982), organizational commitment occurs when individuals identify with and extend efforts toward organizational goals and values. It is "reflection of individual's identification with organizational goals and his/her willingness to work towards them" (Reichers, 1985: 468). In other words, when individuals have attachment to the goals, they remain 'committed to pursue' the goals (Hackett, Bycio & Hausdorf, 1994: 15). Additionally, since the managers have a considerable stake in the decision outcomes, commitment is also a function of rewards and costs associated with organizational

membership (Hrebiniak & Alutto, 1972; Rusbult & Farrell, 1983). Dooley, Fryxell, and Judge (2000) studied 68 strategic decision-making teams to find that "the more committed the decision-making teams to the strategic decisions, the greater the likelihood of the decision being implemented successfully" (Dooley et al., 2000: 1247). Therefore, successful implementation of decisions requires whole-hearted commitment of the members to the decision. In sum, managers should both understand and commit to the decision if it is to be implemented effectively (Wooldridge & Floyd, 1990).

While the chief proposition of the upper echelons perspective is that decision-making by top managers will have a strong bearing on the success of an organization (Hambrick & Mason, 1984), a question remains as to how to measure the effectiveness of the team. To assess the effectiveness of teams, some researchers use firm performance (e.g., Bourgeois & Eisenhardt, 1988; Eisenhardt, 1989; Fredrickson, 1984; Gladstein & Reilly, 1985; Goll & Rasheed, 1997; Judge & Miller, 1991; Miller, 1987). There is no doubt that firm performance is a reflection of a series of decisions. However, using firm performance to assess the team's effectiveness on a particular decision may be problematic (Amason, 1996; Dean & Sharfman, 1996; Dooley & Fryxell, 1999). Owing to the difficulty in identifying and isolating the effect of a single decision on overall firm performance it is suggested to focus on individual decisions. As Dean and Sharfman (1996) observed, "the theories tested in the literature have not focused on decision effectiveness per se, but rather on the overall firm performance. This focus is problematic because firm performance is a function of a diverse array of factors, which may mask the effect of decision processes. Therefore, it is recommended to have 'decision-level focus' instead of overall firm performance in assessing the strategic

decision effectiveness" (Dean & Sharfman, 1996: 371). Using the 'decision-level' focus, Dean and Sharfman (1996) have conducted a longitudinal study of 52 decisions from 24 companies to examine the relationship between strategic decision-making processes and decision effectiveness. Following Dean and Sharfman (1996), effectiveness of team decisions is seen in terms of the quality of the decisions (Amason, 1996; Dooley & Fryxell, 1999). While it looks simple and direct as to how to assess the effectiveness of a team's decision-making post hoc, the internal process or mechanism of attaining decision effectiveness is not easy to explain.

A review of top management literature (Finkelstein & Hambrick, 1996) reveals that there is a gap in the research (i.e., do not know much about the "black box" or decision-making process). Information processing theory (Galbraith, 1973) provides theoretical lens for understanding what happens inside the black box (Hambrick, 1994; Lawrence, 1997). This leads to the identification of conflict and trust as important variables in the study.

Information Processing Theory

According to information processing theory, organizations are information processing systems and strategic decisions require information processing by the managers (Galbraith, 1973; Daft et al., 1993). Viewing from the lens of information processing perspective, members exchange, process, and interpret the information from a variety of sources and then act upon it before making decisions. As Daft et al. (1993) contend, "strategic decisions get reflected in both strategy formulation and

implementation. Team members 'acquire' information for strategy formulation and 'send' information during strategy implementation" (Daft et al., 1993: 134).

By definition, strategic decisions are ambiguous, complex, and uncertain in nature and involve commitment of substantial organizational resources (Mintzberg et al., 1976). Strategic decisions require processing a variety and quantity of information (Ashby, 1956). The information processing requirements are high in making complex decisions. Strategic decision-making itself is construed as a process where information is exchanged, processed and acted upon by the managers. In this process, managers employ several ways of eliciting and disseminating information. First, they may use their experience and develop schema as templates to observe, interpret and explain the events they encounter in organizations (Hastie, 1981; March & Simon, 1958). The executives develop their own cognitive representations of reality called 'schema' or 'mental understanding' from their experience. These mental structures allow the executives to select the information that is most relevant in a given situation (Simon, 1957). Basically these mental structures control encoding and interpreting of information from the environment. From time to time, executives reconstruct the information stored in memory as they acquire new information from other members in particular and the environment in general.

Secondly, members use exchange relationships in acquiring and disseminating information. To the decision platform, each team member brings different perspectives, specialized knowledge, values, priorities and assumptions to bear on the decision resulting in 'information asymmetries' (Dooley & Fryxell, 1999: 390). Absence of complete knowledge of the information provided by the members involves considerable

risk in accepting such information at the face value. Further, the team members are aware that outcomes of decisions will have significant bearing not only on the organization but also on its respective departments and also may affect the future of individual members. Thus, high stakes involved and risk associated with lack of complete knowledge of others' inputs places a high premium on the members to act in such a way to reduce the risk and optimize the outcome (Chiles & McMackin, 1996). Additionally, successful strategic decision-making and implementation require interdependence and ongoing cooperation among the team members (Hambrick & Mason, 1984). Interdependence further aggravates the risk because members may have to rely on the information provided by others despite the lack of knowledge of source, content, and reliability of such information.

To reduce the risk, members often rely on subjective attributions of their fellow decision- makers and assess the intent, dependability, and reliability of such information. The level of perceived trustworthiness of the members plays a crucial role here. As Leifer and Mills (1996) pointed out:

> trust emerges from social interaction and is an atomistic belief or faith that is held by the members in organization. Such faith emerges from and simultaneously compensates for, incomplete information in the presence of uncertainty and information asymmetry. Incomplete information or lack of information implies risk, especially regarding the certainty of members acting correctly (1996: 128).

The interactions of members prior to and during the decision provide cues about the trust fellow members have on each other. This influences the way in which they perceive ideas, information and perspectives presented. The interactions enable the members to judge the attitudes towards each other and assess the trustworthiness (Jones & George, 1998). Uncertainty about the outcome and lack of complete information make

the members rely on each other for information. The degree to which the information provided by fellow members can be relied upon depends on the perceived trustworthiness of the members. However, information asymmetries make members vulnerable to the risk of accepting and relying on information provided by fellow members (Dooley & Fryxell, 1999).

In the presence of uncertainty and information asymmetry, trust acts as a substitute for information because the interpretation of available information depends on trust (Leifer & Mills, 1996). In other words, members attempt to interpret the quality and usefulness of the information received by the co-members depending on the interpersonal trust.

Thus, the team members' attributions of trustworthiness often plays critical role in which information is processed, interpreted and acted on. Higher levels of trustworthiness may result in higher quality of decisions because trust mitigates the perceived risk of relying on information from other members. Social interaction is built on expectations that are partially cognitive and based on past experience. Therefore it is likely that people's attitudes towards others contain beliefs about their trustworthiness based on past experience, knowledge, and interactions (Rempel, Holmes & Zanna, 1985). The presence or absence of trust makes a big difference in interpreting the information, which in turn would affect decision outcomes. In other words, members interpret the information received by the co-members based on the interpersonal trust they have with each other. Information processing theory is, thus, helpful in identifying the two major variables of conflict and trust in strategic decision-making process.

Conflict and Trust

Conflict and trust are critical to this study because the researcher is (1) studying decision-making process which is a gap in the top management literature (i.e., little is known about the decision-making process or "black box"); (2) one way to view the process is from an information processing perspective (i.e., information exchanged, interpreted, and processed); and (3) looking from an information processing perspective then two major constructs are of interest are conflict and trust. These variables affect the quality of decisions and their implementation. Over time the decisions teams make and their implementation ultimately influence a firm's performance. For example, Shaw (1981) points out that the way in which the interpersonal processes influence various organizational outcomes such as firm performance (Shaw, 1981). Top management researchers have occasionally used other decision process variables such as comprehensiveness, extensiveness, speed, political behavior, and agreement- seeking behavior in decision-making processes (Fredrickson & Iaquinto, 1989; Miller et al., 1998; Flood, Fong, Smith, O'Regan, Moore, & Morley, 1992; Eisenhardt & Bourgeois, 1988; Knight et al., 1999). Conflict and trust in strategic decision-making teams have not been extensively examined in earlier studies (Eisenhardt & Zbaracki, 1992).

Conflict: Cognitive and Affective

Given the nature of strategic decisions, conflict is inevitable in strategic decision-making teams. There are several reasons why conflict would arise within strategic decision-making teams. First, in the process of making decisions and taking actions members create cognitive schema different from others (Ensley & Pearce, 2001). Thus,

members differ in their cognitive schema. It can be argued that deviating from the existing cognitive maps results in conflict. Second, conflict arises when teams attempt to illuminate divergent issues that exist within the organization and between the team members. Third, conflict occurs among the members because of the perceived incompatibilities (Boulding, 1963). As pointed out by Deutsch (1973): "A conflict exists whenever incompatible activities occur. An action that is incompatible with another action prevents, obstructs, interferes, injures or in some way makes the latter less likely or less effective" (Deutsch, 1973: 10). Fourth, in the context of strategic decision-making teams, conflict sometimes arises when members attempt to cooperate and coordinate their efforts to arrive at decisions (Jehn, 1997). Past research on conflict has primarily focused on disagreements about ends, but conflict can just as easily occur about means (McGrath, 1984), even when ends are shared (e.g., Cosier & Rose, 1977; Thompson, Mannix, & Bazerman, 1988). Some researchers contend that lack of consensus on means is more troublesome than disagreement on ends (Bourgeois, 1980). Arising over the means or ends or both, conflict represents interpersonal incompatibilities and has both harmful and beneficial effects on organizations (Jehn, 1995). Irrespective of how conflict arises, teams experience conflict during the decision-making process. Early research, therefore, focused on the study of the nature of conflict in teams and the effects of conflict on decision outcomes. Several other researchers studied these types of conflict. These studies are summarized in Table 1.

Table 1

Types of Conflict Studied by Different Researchers

Scholars	Terms
Guetzkow & Gyr (1954)	Substantive conflict (task-related)
	Affective conflict (relationship-related)
Coser (1956)	Goal-oriented conflict (task-related)
	Emotional conflict (people-related)
Wall & Nolan (1986)	Substantive (task) conflict
	Relationship-focuses (people) conflict
Pinkley (1990)	Task conflict
	Relationship conflict
Priem and Price (1991)	Cognitive-conflict (task-related)
	Socio-emotional conflict (people-related)
Jehn (1992)	Task conflict
	Relationship conflict
Amason (1996; 1997)	Cognitive conflict
	Affective conflict
De Dreu & Van Vianen (2001)	Task conflict
	Relationship conflict

The study of conflict in organizations has been of particular interest for researchers over five decades (Guetzkow & Gyr, 1954; Pondy, 1969; Deutsch, 1969; Lippett, 1982). Interestingly, prior research revealed the negative and positive aspects of conflict. On the negative side, conflict is viewed as detrimental to satisfaction and performance (March & Simon, 1958; Pondy, 1967). Conflict was thought to be something that should either be avoided or managed (Brown, 1992).

Research also revealed that conflict is not always unproductive. It has a positive side too. Conflict is viewed as beneficial since it can give an opportunity for the members to increase the understanding of both task and people. Conflict can often help bind people together because it provides an opportunity for learning about one another's ideas, viewpoints, and perspectives (Donohue & Kolt, 1992). In this sense, conflict is capable of bolstering interdependence among people. The benefits of conflict can help analyze

the task systematically by synthesizing diverse viewpoints of the individuals. Some recent studies examined the benefits of conflict and suggested ways of stimulating productive conflict (e.g., Jehn, 1995; Van de Vliert & De Dreu, 1994; Pelled, 1996; Amason & Speinza, 1997). The positive and negative outcomes of conflict create an interesting paradox. The paradox of conflict can be seen in Figure 2.

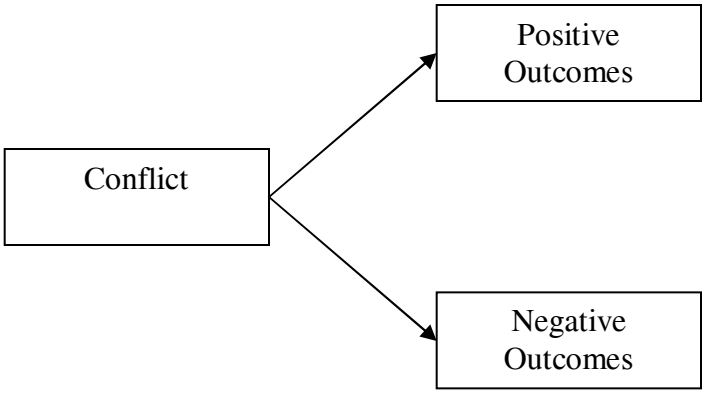

Figure 2. Paradox of Conflict in Strategic Decision-Making Teams

Conflict, though defined as perceived incompatibilities between the members (Boulding, 1963), is an important aspect of cooperation (Tjosvold, Dann & Wong, 1992). Contrary to the basic assumption that conflict involves competition, most of the conflict occurs largely within the cooperative context. For example, Tjosvold et al. (1992) conducted interviews with 34 people from three departments in a telecommunication company and concluded that "cooperative goals and open discussion of opposing views found to contribute substantially to completing tasks, using resources effectively, and strengthening the expectations of future collaboration"(1992: 1035). The results also suggest that "common tasks, shared vision, tasks requiring team work, and complementary roles underlie the conclusion of cooperative goals" (Tjosvold et al., 1992: 1035).

A review of literature reveals that the analysis of conflict in decision-making teams dates back to a classic exploratory study by Gutzkow and Gyr (1954). Involving a large sample of 700 persons, Gutzkow and Gyr (1954) attempted to "identify the conditions under which conflict in a conference may be either harmful or useful" (1954: 380). Their study revealed that conflict associated with intellectual opposition among the participants deriving from the content of the agenda enhanced the decision effectiveness. On the other hand, the tensions generated by emotional clashes aroused during the interpersonal struggle involved in solving the group's agenda problems were considered detrimental. These scholars labeled the former as 'substantive' and later 'affective'. Subsequent scholars represented the same constructs using different labels (see Table 1 from Chapter I). Most central to the understanding is that all conflict occurs within some social or institutional context (Donohue & Kolt, 1992). Context provides a great deal of information about conflict. In the present study the conflict in teams is examined in the context of specific strategic decisions.

In solving the strategic problems characterized by ambiguity, novelty, complexity, and open-endedness (Mintzberg et al., 1976: 250), firms use cognitive capabilities and some decision aids as interaction techniques to arrive at the 'best' solution (Priem & Price, 1991: 206). According to Bantel and Jackson, "when solving complex, non-routine problems, groups use a variety of skills, knowledges, abilities and perspectives" (1989: 109). Murray (1989) has demonstrated that teams using diverse cognitive capabilities are found to make more innovative, high-quality decisions than the teams with less diverse capabilities. Research has shown that the dialectically styled interaction

techniques provide a means to synthesize conflicting alternatives into a single decision (Cosier & Schwenk, 1990).

The byproduct of cognitive capabilities and interaction techniques is the conflict in teams (Amason, 1996; Jackson, Brett, Sessa, Cooper, Julin, & Peryronnin, 1991; Smith et al., 1994). Conflict is thus an inevitable and inescapable phenomenon of organizational life. Research has shown that conflict is multidimensional in that one dimension of conflict may be productive while another may be detrimental. Conflict may be productive in that it provides executives with a broader range of information, a deeper understanding of problems and related issues, and a greater variety of possible solutions. Conflict may be detrimental in that it might result in personal animosities, which in turn affect the outcomes. Thus, consistent with the findings of Gutzkow & Gur (1954), both task-related and person-related conflict exists in teams (Jehn, 1992; Mintzberg et al., 1976).

The literature provides some interesting studies on the effects of conflict on outcomes. One of the widely cited studies in strategic management literature is a study by Amason (1996). Amason (1996) examined cognitive conflict and affective conflict and their effect on decision outcomes. From two different samples (larger sample consisted of 48 teams from food-processing firms and small sample consisted of five furniture manufacturing units), Amason (1996) observed, "teams that experienced cognitive conflict better understood the rationale underlying their decisions" (1996: 142). Results also showed, "higher quality decisions were not positively related to all conflict. In fact, although cognitive conflict appears to improve decision quality, affective conflict likely erodes it" (Amason, 1996: 142). While making decision about spending millions

on new computerized machinery, teams experienced cognitive conflict in the beginning. The cognitive conflict expanded beyond the issue at hand and resulted in affective conflict. In Amason's study (1996), one company's general manager reported that there was too much disagreement and that much of it was only for criticism's sake, without the goal of improvement (Amason, 1996: 142).

Following the Amason's (1996) study, several other studies were conducted. Pelled, Eisenhardt, and Xin (1999) examined the relationship between various types of conflict and performance from a sample of 317 respondents from 45 teams from the electronic divisions of three major corporations. The teams were involved in monitoring and changing work processes and were often involved in the design of new products. Since teams were engaged in cognitive tasks that ranged from moderate to high complexity, some of the findings are particularly useful in the context of strategic decision-making. According to Pelled et al. (1999), "task conflict evidently fosters a deeper understanding of task issues and an exchange of information that facilitates problem-solving, decision-making, and the generation of ideas" (1999: 22-23). However, contrary to Amason's (1996) findings, Pelled et al.'s (1999) study did not find evidence that emotional conflict impaired performance.

In a recent study by De Dreu and Van Vianen (2001), of 27 teams performing complex, non-routine tasks in various organizations the effect of relationship conflict on team effectiveness were examined. The study pointed out "relationship conflict is difficult to settle to mutual satisfaction. Tension and frustration rooted in discrepant personal norms and values, political preferences and sense of humor is difficult to reduce, simply because it requires changing issues fundamental to one's personal identity and

acquired in the course of entire life" (2001: 313). The study suggests that relationship conflict has deleterious consequences and affect team functioning.

Some studies reveal a positive relationship between cognitive and affective conflict. For instance, Jehn (1997) conducted an exhaustive study on various dimensions of conflict in 27 top-level managers and 21 employees. This study involved repeated semi-structured interviews (as many as 89 interviews) and on-site observations for a 20-month period. Jehn (1997) observed "task conflict can lead to relationship conflict if they are not resolved" (1997: 541). The study also found that relationship conflict may also be manifested as task conflict. Jehn's (1997) study also revealed that "low performing groups had higher levels of relationship conflict than higher performing groups" (1997: 541). According to Jehn (1997) high emotionality led members lose sight of the task and to focus on negative affect (1997: 549).

In another study by Amason and Sapienza (1997), of 48 top management teams it was found that "cognitive and affective conflict to be positively related to one another" (1997: 511). Amason and Sapienza (1997) contend that "conflict can be like Pandora's box: once opened, its forces become difficult to control. That cognitive and affective conflict often occurs together suggest the need for caution" (1997: 511). The principal findings of this study are that "team size and team openness were positively related to cognitive and affective conflict and cognitive conflict occurs normally as teams compare and contrast diverse perspectives of their members" (1997: 512)

One study by Janssen, DeVliert, and Veenstra (1999) is of particular interest because it opens up a new perspective of conflict. Janssen et al. (1999) surveyed 102 members of top management teams and observed "(a) conflict during decision-making

involves both task related and person-related issues, and (b) both types of issues moderate each other's impact on decision-making effectiveness" (1999: 136). Janssen's study proposes that positive interdependence between members enables them to gain the benefits of task-related disagreements by preventing them from the cost of person-oriented animosity (Janssen et al., 1999). The positive interdependence provides a platform for the members to assess the perceived trustworthiness of others, which in turn has its own role in the decision-making process.

To sum up the above literature review, the members of the team are in conflict as soon as they perceive their viewpoints incompatible. Studies identified two types of conflict that are generated during the interaction of the teams: cognitive and affective (Baron, 1991; Brehmer, 1976; Eisenhardt & Bourgeois, 1988; Jehn, 1995). Available empirical evidence suggests that cognitive conflict is task-related and functional, and affective conflict is person-related and dysfunctional (Amason, 1996). Task conflict refers to disagreements about the strategic tasks such as allocation of resources, development of implementation policies, construction of new plant, and organizational restructuring. Cognitive conflict is beneficial because (1) groupthink is prevented by the dialectically styled interactions (Janis, 1982), and (2) it enables the members to identify, scrutinize and synthesize different perspectives that are necessary to produce high quality decisions (e.g., Amason, 1996; Amason & Schweiger, 1997; Cosier & Schwenk, 1990; Jehn, 1995,1997).

On the other hand, affective conflict is a person-related disagreement that typically includes 'tension, animosity, and annoyance among the team members' (Jehn, 1995: 258). Affective conflict is dysfunctional because it limits the cognitive processing

of new information (Amason & Schweiger, 1994). Affective conflict decreases the willingness of the members to tolerate opposition. When members are in personality conflict, they will not be able to be receptive to the ideas of others. Additionally, affective conflict has potential to give rise to hostile attributions concerning other members' intentions. Taken together, affective conflict disturbs effective cooperation and communication within the team members. Janssen et al. (1999) point out that affective conflict "consumes time and energy preserved for working on substantive decision task" (Janssen et al., 1999: 120).

Researchers unanimously agree that both cognitive and affective-conflict are likely to co-exist in team decision- making (Amason, 1996). The problem is that despite such co-existence, cognitive and affective conflict is studied separately as to their decision outcomes. In other words, the link between cognitive conflict and affective conflict is ignored while studying the effect of conflict on outcomes. This is a non-mediation perspective which posits that cognitive and affective conflict are considered mutually independent and have mutually independent effects on behavioral dynamics and outcomes of team decision-making. Research encourages cognitive conflict and mitigation of affective conflict in order to gain the benefits of conflict without the cost. Challenging the non-mediation perspective, some of the most recent studies also show that both cognitive and affective conflict are inter-related, present in teams, and are related to some dimension of performance (Ensley & Pearce, 2001; Simons & Peterson, 2000). In a study of two samples of new venture top management teams by Ensley and Pearce (2001), it was found that greater cognitive conflict led to greater affective conflict. In their study of 70 top management teams from multi-site US based hotel companies,

Simons and Peterson (2000) documented that cognitive conflict results in affective conflict. The point is that when one type of conflict (cognitive conflict) engenders another type of conflict (affective conflict), a further examination of the mediated relationship is warranted. This necessitates the consideration of a mediation perspective. That is to say, the effect of cognitive and affective conflict ought to be studied incorporating the mediation between these two conflict types as can be seen in Figure 3.

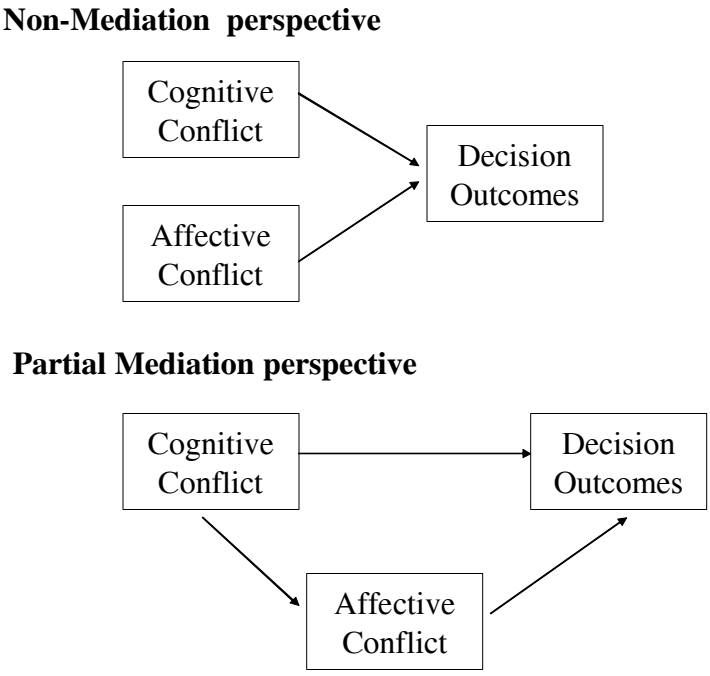

Figure 3. The 'Non-Mediation' and 'Partial Mediation' Perspectives of Conflict and Decision Outcomes

While conflict is one important process variable that influences strategic decision-making (Eisenhardt & Zbaracki, 1992), interpersonal trust among the members affects the way in which the conflict is interpreted. Despite its importance, trust has been underemphasized in the past research on conflicts (Korsgaard, Schweiger & Sapienza, 1995). The existence of interpersonal trust among the members affects the way that

conflict generated during the decision-making process affects decision outcomes. The next section examines the concept of interpersonal trust.

Trust: Cognition- and Affect-Based

The topic of trust has received an increasing attention in organizational research (Zand, 1972; Granovetter, 1985; Zucker, 1986; Mayer, Davis & Schoorman, 1995). It has been documented that trust is generated in the process of interactions among familiar actors and becomes a major determining factor for economic action and efficiency (Pennings & Woiceshyn, 1987; Seabright, Leventhal & Fichman, 1992). Based on the premise that one finds what is expected rather than what is feared (Deutsch, 1973), trust is defined as "the extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another"(McAllister, 1995: 25). Using this definition, McAllister identifies two dimensions of trustworthiness: cognition-based and affect- based. Perceptions based on the competence of members and perceptions based on the interpersonal relationships are referred to here in this study. The perceived trustworthiness based on these subjective attributions plays a vital role in interpreting information provided by members in the decision-making process. Thus, two dimensions of trustworthiness that are of particular interest in the present study are cognition-based and affect-based trust.

Cognition-Based Trust

Cognition-based trust is based on the ability or competence of members. According to Lewis and Wiegert (1985), trust is cognition based in the notion that "we

choose we will trust in which respects and under what circumstances, and we base the choice on what we take to be 'good reasons', constituting evidence of trustworthiness" (Lewis & Wiegert, 1985: 970). When cognition-based trusting relationships among the members of the top management exist, they will have fewer tendencies in doubting the competence of the members with regard to presentation of alternatives and the cognitive evaluation of such alternatives. The reliability and dependability of members are ingredients for the creation and maintenance of trusting working relationships. Members' past interactions and experiences are instrumental in assessing the reliability and dependability of the co-members. The point is that once cognition-based trust is formed, it affects the way in which members receive, process, and interpret the information from co-members, which in turn may affect the outcomes.

Affect-Based Trust

Trust as a byproduct of peoples' emotions is often referred to as 'affect- based' trust (Holmes, 1991; Johnson-George & Swap, 1982; McAllister, 1995). This also goes by the terms relationship-based or person-based trust. When individuals interact with each other and demonstrate interpersonal care than enlightened self-interest, affect-based trust is said to have been developed (Clark & Miles, 1979; Holmes & Rempel, 1989; Clark & Waddell, 1985). Affect-based trust represents the emotional bonds between individuals (Lewis& Wiegert, 1985) and the strength of these bonds depends on the extent to which individuals invest in trusting relationships and the premium they place on the intrinsic value of such investments (Pennings & Woiceshyn, 1987). Furthermore,

affect-based trust is also based on the reciprocation of such emotional ties and when members do have faith (two-sided) then the strength of affect-based trust will be greater.

One of the earliest studies on trust in decision-making was by Zand (1972). It was revealed that high-trust groups were more effective in solving problems than the low-trust groups. Interpersonal relationships interfered with and distorted the perceptions of problems and increased the uncertainty (Zand, 1972). Despite the importance of intragroup trust, efforts have been made recently to examine the role of trust in its relationship to conflict (Simons & Peterson, 2000) and its relationship to dissent and commitment (Dooley & Fryxell, 1999). Simons and Peterson (2000) demonstrated that when an appropriate intragroup trust is established, there is minimal danger of cognitive conflict evolving into affective conflict. In their study of 86 decision-making teams, Dooley & Fryxell (1999) reported that "the perceptions of trustworthiness within strategic decision-making teams play different roles in enabling dissent to enhance decision quality and build decision commitment" (1999: 389). The focus of this study is to examine the moderating role of the cognition-and affect-based trust in the relationship between various types of conflict and decision outcomes.

Literature is scarce with regard to the examination of the role of trust in decision-making and interpersonal conflict (Simons & Peterson, 2000). To date only a handful of studies are available. In a study of 86 strategic decision-making teams in US hospitals, Dooley and Fryxell (1999) examined the contradictory forces of dissent and consensus during strategic decision-making process using interpersonal trust as a moderator. This study reveals, "reaping the benefits of dissent requires shared trustworthiness, which results from attributions of competence and loyalty among group members" (1999: 400).

However, one of the limitations of this study is that conflict behind the dissent is not examined. The dissent may be due to cognitive or affective conflict or both. In the absence of a specific type of conflict as antecedent to dissent, the results may not accurately demonstrate the moderating relationship of trust.

In a recent study, Simons and Peterson (2000) examined the relationship between task and relationship conflict using intragroup trust as a moderator. Extensive research performed in this area reveals this to be the only study available that incorporated trust with reference to conflict. In their study of 380 members from 70 top management teams, Simons and Peterson (2000) found "groups with low levels of intragroup trust displayed a much stronger positive association between task conflict and relationship conflict than did groups with high levels of intragroup trust" (2000: 108). They posit, "trust at a group level appears to play a pivotal role in group processes" (Simons & Peterson, 2000: 108). The principal findings of Simons and Peterson (2000), which guide future researchers, are "(1) task conflict and trust have accounted for 52% of the variance in relationship conflict, and (2) the interaction term between task conflict and trust accounted for additional 6 % of the variance in the relationship conflict" (2000: 107). Most importantly, the coefficient for this interaction term is significant and negative, which indicates that when trust levels are high, task conflict is only weakly related to relationship conflict (2000: 107). Thus, theory and available empirical support suggest the including trust as a variable in studying the relationship between conflict and decision outcomes.

Prior research on trust focused on exploring the benefits of trust on individuals and organizations. The benefits include improved communication, higher team

performance, and greater job satisfaction. Despite the importance of trust, it has remained an under-researched area in the context of strategic decision-making. In the present research, the role of trust in the relationship between conflict and decision outcomes will be examined.

The Conceptual Model

The conceptual model is developed based on the gaps in the existing research. First, the literature review suggests that a partial mediation perspective of conflicts warrants consideration. Using a non-mediation perspective, previous research has examined only the effects of conflict on outcomes without taking into account the interrelationship between the cognition and affect- based conflict. Second, trust between the members has received little attention as a factor that affects the decision process. Interaction among the members and the techniques used in the decision-making not only give rise to conflict, they are also instrumental in generating trust—both competence based and affect based. As McKnight, Cummings, and Chervany (1998) contend "though initial trust will be based on an individual's disposition to trust or on institutional cues that enable one person to trust another" trust gradually evolves from the "interactions among people's values, attitudes, moods, and emotions" (Jones & George, 1998: 535). The interactions pave way for the members to accumulate meaningful knowledge about and/or establish affective bonds with each other, which affect the decision-making process (Bigley & Pearce, 1998: 413). The conceptual model is built around the variables of conflict and trust. The theoretical rationale is provided by information processing theory as explained in previous sections.

The information processing perspective is helpful in explaining how the level of shared trustworthiness among the team members would moderate the relationships between conflict generated during the decision platform and decision outcomes. In addition to the theoretical support, empirical evidence suggests that cognitive conflict can degenerate into affective conflict in the absence of intra-group trust (Simons & Peterson, 2000). Cognition-based trust is more context-specific; affect-based trust is based on personal relationships between the members. When members have reciprocated trust based on personal relationships, it is quite unlikely that they would carry the task disagreements to the level that seriously affect the relationships. For example, a marketing vice-president may disagree with the recommendation of vice-president of finance about the process of introducing the organic structure in the organization (i.e., cognitive conflict). If these two are golf partners, the cognitive conflict is unlikely to disturb their partnership at golf course in the presence of affect-based trust. Though this may be an exaggerated example, affect-based trust is likely to prevent cognitive conflict from degenerating into affective conflict.

Cognition-based trust has its role to play in moderating the relationship between task-based disagreements and decision outcomes. The degree of confidence the members of a team have in the competence of others determines the cooperation and willingness of the members to share information (Ring & Van de Ven, 1992). Presence of competence-based trust enables the members to understand and implement the strategic decisions. As Dooley and Fryxell (1999) observe, "the perceptions of team members' competence most squarely address other's nagging uncertainties, concerns that contingencies have been set aside and that issues relevant to the decision have been adequately dealt with" (1999:

392). Thus, competence builds confidence in team's capabilities and reassures the team to commit to the decisions through implementation.

Using the information processing theory and group process variables, the present study investigates the relationships between the various types of conflict and interpersonal trust in strategic decision-making teams and their effect on organizational decision outcomes. More specifically, this research examines: (1) direct relationship between conflict and decision outcomes, (2) the relationship between cognitive conflict and decision outcomes mediated through affective conflict, (3) the moderating role of cognition-and affect-based trust in the relationship between conflict and decision outcomes, and (4) the partial mediation of affective conflict in the relationship between cognitive conflict and decision outcomes. Taking the partial mediation perspective as depicted in Figure 3, the conceptual model is presented in Figure 4. The next chapter deals with development of research hypotheses.

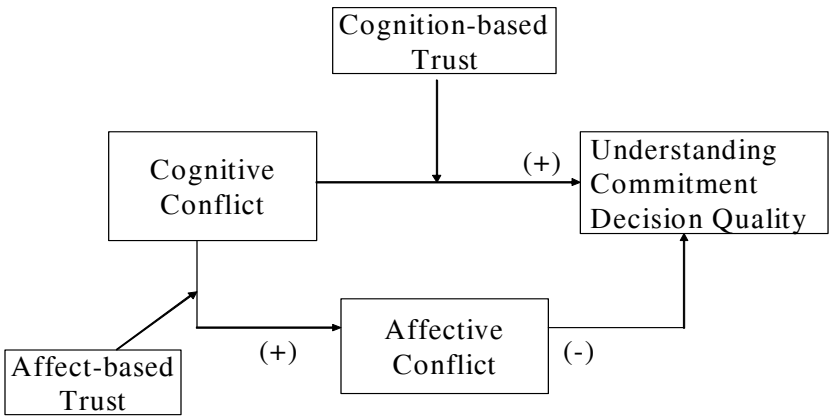

Figure 4. Proposed Conceptual Model

CHAPTER III

RESEARCH HYPOTHESES

The previous chapter dealt with the review of literature on conflict in strategic decision-making teams and development of theoretical base for the conceptual model. This chapter is devoted to the statement of hypotheses.

Research Hypotheses

As can be seen from the conceptual model presented in Figure 4, the present study focuses on (1) the relationship between cognitive and affective conflict, (2) the relationship between cognitive conflict and decision outcomes, (3) the relationship between affective conflict and decision outcomes, (4) cognition- based trust as a moderator in the relationship between cognitive conflict and decision outcomes, (5) affect-based trust as a moderator in the relationship between cognitive conflict and affective conflict, and (6) the affective conflict as a partial mediator in the relationship between cognitive conflict and decision outcomes.

To briefly recap, the variables in the present study—conflict, trust and decision outcomes are driven from the information processing theory (Galbraith, 1973). As discussed in Chapter II, available theory and empirical evidence suggest that interaction of team members engenders conflict (O'Reilly, Snyder & Boothe, 1993; Pfeffer, 1981); conflict among group members has an effect on decision quality (Amason, 1996) and

decision effectiveness (Dean & Sharfman, 1996); and relationships between these variables need to be studied using the 'partial mediation' perspective. The research hypotheses, following the proposed conceptual model, are presented below.

The Relationship Between Cognitive and Affective Conflict

As pointed out earlier, strategic decision-making is not a smooth process; conflict is inevitable. Studies of top management teams report the presence of two types of conflict: cognitive and affective (Amason, 1996). Teams meet on a decision platform with a task to complete. Therefore, conflict begins with task-related discussions and disagreements. Cognitive conflict is inevitable because people differ in their perceptions of problems, decision situations, and alternative solutions. Members often evaluate diverse perspectives of a decision situation cognitively on a common platform before arriving at a strategic decision. Affective conflict emerges when members view the disagreement purely as 'personal criticism' rather than cognitive evaluation (Jehn, 1997). Personal animosity and incompatibility "may also be described as a shadow of 'task' or cognitive conflict" (Simons & Peterson, 2000: 103). Thus, studies on top management teams also reported the presence of conflict, tensions and disagreements based on relationships (Jehn, 1997).

Three often cited reasons why cognitive conflict might result in affective conflict are misattribution, behavioral factors, and sabotage. First, misattribution occurs when members infer the intentions of the other skeptically and assume that they have been personally attacked (Jehn, 1997) or when they have a hidden agenda (Eisenhardt & Bourgeois, 1988). This biased information-processing triggers affective conflict.

Secondly, behavioral attributes of members might result in affective conflict. For example, intimidation tactics, use of harsh or emotional language by the members during the process of discussion and such behavioral tendencies may hurt, humiliate and frustrate members (Pelled, 1996). As Ross (1989) observed, "it is possible for task-related disagreements to generate emotionally harsh language, which can be taken personally. We then have both task and psychological conflict occurring at the same time" (1989: 140). Third, sabotage by some members (e.g., when one group member makes the life of another member difficult) could also result in affective conflict (Simons & Peterson, 2000).

Previous research supports the relationship between task/cognitive conflict and emotional/ affective conflict (Jehn, 1995; Ross, 1989). When members have task-related arguments and disagreements, they may infer these as personal attacks and eventually trigger affective conflict. Misattributions, use of harsh and emotional language in arguments, or hurtful and aggressive tactics by the members to convince the others about their viewpoints may adversely affect the relationship between the members and result in affective conflict (Jehn, 1997; Torrance, 1997). The correlations between cognitive and affective conflict in previous research ranged from .34 to .88 (Simons & Peterson, 2000: 103). Though cognitive and affective conflict occur at the same time, the temporal sequence that is expected to follow is from cognitive conflict to affective conflict. This is because members whose ideas are disputed (cognitive conflict) may feel that others in the group do not respect their judgment. They assume that their competence is challenged when others criticize their ideas, thus triggering emotional or affective conflict. Based on the above logic, it can be hypothesized that:

H1. Teams that experience higher levels of cognitive conflict will experience higher levels of affective conflict.

The Relationship Between Cognitive Conflict and Decision Outcomes

Prior research has shown that conflict is multidimensional (Jehn, 1992; Pondy, 1969: Rahim, 1982), and one dimension of conflict enhances decision quality while another has negative outcomes. The conflict arising from the judgmental differences about the task on hand is expected to be related to positive outcomes. The theoretical rationale for this is provided both by Ashby's (1956) theory of requisite variety and the information processing theory of Galbraith (1973). The theory of requisite variety states that the complexity / variety of a given state must match the complexity of the environment in which it operates. The theory of requisite variety is a relevant in the context of strategic decisions because of these reasons: (1) strategic decisions are highly complex; therefore, there must be a variety of information to match that complexity; and (2) variety comes from individuals with multiple backgrounds that are manifest in conflict. Thus conflict provides the variety of information necessary (although members know that different types of information are contained in different types of conflict) but says nothing how that information is processed. Following the same lines, Amason (1996: 27) suggests that "cognitive conflict contributes to decision quality because the synthesis that emerges from the contesting diverse perspectives is generally superior to the individual perspectives themselves" (Mason & Mitroff, 1981; Schweiger et al., 1986; Schweiger & Sandberg, 1989; Schwenk, 1990). Furthermore, when members evaluate the alternatives from a variety of perspectives, they will be able to understand the context

and its relationship to broad organizational goals. Amason (1996) found "teams that experienced cognitive conflict better understood the rationale underlying their decisions" (1996: 142). Cognitive conflict, as noted by Pelled et al. (1999), "fosters a deeper understanding of task issues and an exchange of information that facilitates problem-solving, decision-making and the generation of ideas" (1999: 22-23). Such an understanding is necessary for successful implementation of decisions (Wooldridge & Floyd, 1990).

The processing requirements are high for making strategic decisions (Galbraith, 1973) and this necessitates exchange of information. Cognitive conflict enables members to 'process' the information exchanged in light of broad organizational objectives and to remain 'committed to pursue' the decision till implementation (Hackett, Bycio & Hausdorf, 1994). As observed by Dooley, Fryxell, and Judge (2000), "the more committed the decision-making teams are to the strategic decisions, the greater likelihood of the decision being implemented successfully" (Dooley et al., 2000: 1247). This occurs because 'commitment binds members to behavioral acts' (Salancik, 1977). Continued debates enable the members to have a voice in the decision process and make them committed to the decision (Erez, Early & Hulin, 1985). In sum, cognitive conflict motivates the members to be committed to decisions, once they understand the importance and relevance of decisions in specific context.

Cognitive conflict provides an opportunity for the members to synthesize conflicting alternatives into a single decision (Schweiger et al., 1986). The decisions are reached after a critical and investigative debate about task. This task-related conflict has potential to produce high quality decisions. Cognitive conflict is interpreted positively

because it is task-oriented and positive interpretation results in positive outcomes. First, cognitive conflict enables the team members to understand the rationale behind the decision. Understanding is important because it provides a common direction for the team members (Amason, 1996). Individual team members will act in a way consistent with other members because they follow the same direction. A common understanding of the rationale underlying a decision will make the members to act in a binding manner in the spirit of the decision. For example, when all the members understand that the rationale behind a particular decision is to control costs, it is likely that their actions will be consistent with other members. Lack of understanding may result in members' acting independently or contrary to the actions of others. Some members may focus on cost control, others may focus on marketing or innovation and product development. An inconsistency of focus may result because of lack of understanding of the decision rationale.

Cognitive conflict is interpreted positively to enhance the commitment. Commitment is important because it reduces the likelihood that a particular decision will become the target of a counter-effort (Guth & MacMillan, 1986) and increases the likelihood of implementation by overcoming resistance to change (Mason & Mitroll, 1981). Positive interpretation of cognitive conflict enables the members to remain committed to the decision throughout the implementation. Taken together, cognitive conflict enhances understanding, commitment and decision quality. Based on the above logic, the following hypotheses can be advanced

H2. Teams that experience higher levels of cognitive conflict will have higher levels of understanding of decisions.

H3.Teams that experience higher levels of cognitive conflict will have higher levels of commitment to decisions.

H4.Teams that experience higher levels of cognitive conflict will produce higher-quality decisions.

The Relationship Between Affective Conflict and Decision Outcomes

Affective conflict is concerned with person-related disagreements that include "tension, animosity, and annoyance among the team members" (Jehn, 1995: 258). Affective conflict arises because of personality clashes and continued cognitive disagreements that may trigger animosity among the members. Affective-conflict is dysfunctional because: "(1) it limits the cognitive processing of new information, (2) decreases the willingness of the members to tolerate opposition, (3) disturbs effective cooperation and communication within the team members (4) reduces the receptiveness of the ideas advocated by others who are disliked, (5) gives rise to hostile attributions concerning each other's intensions and behaviors, and (6) consumes time and energy preserved for working on the substantive decision task"(Janssen, Vliert & Veenstra, 1999: 120). The rationale for the negative outcomes of the affective conflict is that when members differ from each other on emotional grounds, they are not able to synthesize their diverse perspectives to produce high quality decisions (Amason, 1996). Additionally, it will be less likely that they divert their energies to understand the decisions and commit to these decisions. Extreme affective conflict also may trigger members to sabotage decisions and engage in political gamesmanship (Eisenhardt & Bourgeois, 1988; Finkelstein, 1992; Simons & Peterson, 2000). When affective conflict

erupts, emotional clashes and tensions cloud the task-related effort. Members spend time on interpersonal aspects of the group rather than on technical details of tasks (Evan, 1965). At the extreme, affective conflict causes members to be 'negative, irritable, suspicious, and resentful' (Jehn, 1997: 532). By diverting energies to persons rather than tasks, members will not be able to understand the decision in relation to the broad organizational goals. Furthermore, the members will be less committed to the decisions because affective conflict decreases goodwill and mutual understanding, which hinders the completion of tasks (Deutsch, 1969). Affective conflict limits the information-processing ability of the group because the group diverts its time and energy to members rather than to task-related problems (Jehn & Mannix, 1997). The affective conflict may also limit the cognitive functioning of the group by increasing stress and anxiety levels (Jehn & Mannix, 1997; Staw, Sandelands & Dutton, 1981). The quality of the decision suffers because of these cumulative effects and explains why affective conflict is labeled 'dysfunctional' (Amason, 1996). The negative consequences of affective conflict have been amply demonstrated by prior research (Coser 1956; Amason & Schweiger, 1994; Janssen et al., 1999;Eisenhardt & Bourgeois, 1988; Priem & Price, 1991; Schweiger et al., 1986). Based on the above, the following hypotheses can be advanced:

H5. Teams that experience higher levels of affective conflict will have lower levels of understanding of decisions.

H6. Teams that experience higher levels of affective conflict will have lower levels of commitment to decisions.

H7. Teams that experience higher levels of affective conflict will produce lower- quality decisions.

Trust as a Moderator

The role of trust as a moderator in the context of strategic decision-making teams is examined with the help of information processing theory (Galbraith, 1973). Strategic decisions by definition are non-routine, vague, and complex and deal with uncertainty (Mintzberg et al., 1976). Members need a great variety of information to make decisions (Ashby, 1956). Furthermore, the information-processing requirements are high for making decisions involving complexity (Galbraith, 1973). Since each member brings an array of different information which other members may be unaware of, there is considerable risk involved in relying upon such information. One way to reduce the risk is to use perceptions of trustworthiness of the members before relying on the information, interpreting it, and acting upon it. Trust emerges from interaction of members in a decision platform and represents an atomistic belief or faith that they hold. As Leifer and Mills (1996) points out, "trust compensates for, incomplete information in the presence of uncertainty and information asymmetry. Incomplete information or lack of information implies risk, especially regarding the certainty of members acting correctly" (1996: 128).

In exchange relationships, members often rely on the interpersonal trust they have in each other to interpret the information they receive. In this process, both cognitive and emotional components of trust would be present in interpersonal trust. The dominant influence of cognitive and emotional component on a person largely depends on the context. According to Lewis and Weigert (1985), "if all cognitive content were removed from emotional trust, we would be left with blind faith or fixed hope, the true believer or

the pious faithful. On the other hand, if all emotional component were removed from cognitive trust, we would be left with nothing more than a cold-blooded prediction or rationally calculated risk" (1985: 972). Trust is, therefore, a mix of feelings and rational thinking, and the existence of trust in these two dimensions is theoretically comprehensible (Lewis & Weigert, 1985). Both these cognitive- and affect based trust play a major role in the exchange relationships. Information-processing theory is helpful in explaining how members' trustworthiness affects the way in which information is received and interpreted by the members. It is expected that information will be interpreted in a way that is consistent with what members feel about the cognition-based trust and affect-based trust they have in the other team members. Again, the cognition-based trust is context specific and varies with the situation. For example, members may have cognition-based trust in the Vice President of Production and accept his/her argument to implement new technology in the production process. At the same time, if the Vice President of Production tries to recommend a new software development, members may feel that he/she is not competent in that area and may reserve their right to accept his arguments unless he/she has already established through past interaction that he/she is competent in several functional areas. Thus, cognition-based trust depends on the success of past interaction and organizational context (Zucker, 1986). On the contrary, affect-based trust is "grounded in an individual's perceptions concerning the motives for others' behavior and therefore is limited to contexts of frequent interaction" (McAllister, 1995: 29). In other words, affect-based trust depends solely on the interpersonal relations. An example of affect-based trust is the feeling that "this colleague genuinely cares about my welfare" (McAllister, 1995: 30). In sum, both

cognition-and affect-based trust provides cues for members to exchange information, process it, and interpret it before making decisions.

Empirical work on decision-making has provided both empirical and theoretical support for incorporating trust as a moderator variable in the decision-making process (Dooley & Fryxell, 1999). It was demonstrated that the relationship between dissent among top management team members and decision quality was moderated by the perceptions of loyalty (affect-based trust) whereas the competence (cognition-based trust) enhances the relationship between the decision commitment and decision quality. Thus, trust plays a vital role in interpreting the available information and acting upon it. Trust actually consists of not only people's beliefs about other members, but also their willingness to use that knowledge as the basis for action.

Cognition-Based Trust as a Moderator in the Relationship Between Cognitive Conflict and Decision Outcomes

While the group process research distinguishes conflict on the bases of tasks and relationships that have different performance consequences, literature on trust distinguishes two perceptions that influence a person's willingness to trust (i.e., engage in trusting behavior) viz., cognition-based and affect-based. Cognitive conflict among group members encourages cognitive understanding of the content of decisions, which involves consideration of different viewpoints, ideas and opinions. The positive relationship between cognitive conflict and various outcomes will be enhanced by the presence of cognition-based trust.

As explained earlier, the theoretical rationale for the moderating role of cognition-based trust stems from the information processing theory (Galbraith, 1973). Teams would use the collective capacity to process complex information before making decisions. Mutual confidence in the ability and competence of the members is a necessary ingredient for sustained coordinated action and use of collective capacity (Thompson, 1967). Cognition-based trust depends on the context and success of past interactions. Past interaction provides significant clues about the competence of the members and context considerations specify the members on whom cognition-based trust is bestowed upon (Zucker, 1986). For example, if there is a cognitive conflict with regard to the implementation of 'organic structure' in an R&D department, the Vice-president of Finance may put forward his/her arguments in favor, and other members will assess his/her argument in light of the cognition-based trust they have in him/her. If the members have such a feeling that "He/she knows what he/she is talking about and it makes sense" then they will have cognition-based trust in him/her. Cognition-based trust enables the members to use diverse skills and become more creative in strategic problem defining and solving (Dutton & Duncan, 1987; Bantel & Jackson, 1989). While cognitive conflict enables the members to understand and remain committed to the decisions through implementation, cognition-based trust would strengthen the relationship between cognitive conflict and commitment to decisions. This occurs because members assess their co-member's trustworthiness on task-related issues and interpret the information they provide and act on it. Cognition-based trust is thus helpful in understanding and explaining how the information is inferred and interpreted by members, which in turn, will have performance outcomes. It reassures the team members

as to the efficacy of the team and strengthens their belief about the successful implementation of decisions (Dooley & Fryxell, 1999). Since competence and responsibility are central to cognition-based trust (Cook & Wall, 1980), members are willing to use the knowledge of others as the basis of further action (Luhmann, 1979). While cognitive conflict has positive performance outcomes (direct effect), cognition-based trust strengthens the relationship between cognitive conflict and decision outcomes (moderator effect). Cognition-based trust among team members enables them to be more committed to decisions. If cognitive conflict is present in a strategic decision, such as launching a plant in Europe, then the members would likely be committed to the decision throughout the implementation. The positive interpretation of cognitive conflict will be reinforced if the members believe that the proponent of decision to launch plant in Europe has full knowledge of the pros and cons of such a decision (cognition-based trust). It is likely that the members will not hesitate to commit to the decision. Cognition based trust will fortify the efforts toward commitment. The commitment will also be enhanced because each member has high stakes involved in the decision outcomes. Similarly, when a hospital administrator proposes to launch a new facility to meet the increasing demands from patients, the level of commitment from other members depends on how knowledgeable and competent the administrator is in assessing the benefits of new facility. If the members have a high level of cognition-based trust in him, it is likely that their commitment will be stronger than at lower level of cognition-based trust. In other words, as decision commitment refers to their effort towards the implementation of decision (Bandura, 1986), cognition-based trust fortifies the effort. In sum, the

relationship between cognitive conflict and decision outcomes will be strengthened by cognition-based trust. Based on the above, the following hypotheses are proposed:

H2a. Cognition-based trust will moderate the relationship between cognitive conflict and understanding of decisions such that the relationship will be stronger under the conditions of higher level of cognition-based trust than lower level of cognition-based trust.

H3a. Cognition-based trust will moderate the relationship between cognitive conflict and commitment to decisions such that the relationship will be stronger under the conditions of higher levels of cognition-based trust than low levels of cognition-based trust.

H4a. Cognition-based trust will moderate the relationship between cognitive conflict and quality of decisions such that the relationship will be stronger under the conditions of higher levels of cognition-based trust than low levels of cognition-based trust

Affect-Based Trust as a Moderator in the Relationship Between Cognitive Conflict and Affective Conflict

Affect-based trust is grounded on perceptions of individual members concerning others' behavior (Lewis & Wiegert, 1985) and hence is viewed differently from cognition-based trust. Affect-based trust emerges from the interpersonal relationships and emotional investments members make over a period of time (McAllister, 1995; Clark & Mills, 1979). Interpersonal care and reciprocation of such care are the hallmarks of the affect-based trust (Holmes & Rempel, 1989). Though task-based disagreements have potential to result in affective-conflict, the nature and amount of emotional investments made by the members interferes with before cognitive conflict manifests into affective

conflict. For example, in the absence of affect-based trust, group members may perceive task disagreements as personal attacks on the members who propose their viewpoints (Jehn, 1977; Torrance, 1957). This may result in biased information-processing, withholding information required by other members and may have negative outcomes. If group members have affect-based trust toward each other, they will be more likely to accept the stated task disagreements as genuine and are less likely to misinterpret such disagreements as having hidden agendas or personal attacks (Mishra, 1996). In sum, in the presence of affect-based trust it is less likely that cognitive conflict will get degenerated into affective conflict.

Initially behavior that is interpreted as serving to meet legitimate needs such as demonstrating interpersonal care and concern rather than enlightened self-interest is critical for the development of the affect-based trust (Holmes & Rempel, 1989). The greater the affect-based trust or emotional trustworthiness (Johnson-George & Swap, 1982), the lesser be the possibility that members carry the cognitive conflict to become affective conflict. The essence is that affect-based trust is likely to reduce emotional misbehavior (e.g., using harsh language, hurtful tactics, and sabotage of the members) (Jehn, 1997; Simons & Peterson, 2000). Thus, the strength of positive relationship between cognitive and affective conflict will be weakened by the affect-based trust between the members. Affect-based trust, in fact, will have a buffering impact on affective conflict. Affect-based trust among the members encourages them to explore ideas, communicate openly, and concentrate on a task (Gibb, 1964). As Gibb (1964) observes, "integration of group goals occurs only as rapidly as members build sufficient trust and awareness to verbalize openly their intrinsic goals" (1964: 283). Affect-based

trust encourages members to work towards group goals as it promotes fuller processing of information provided by other members (Dooley & Fryxell, 1999). That means to say, presence of high level of affect-based trust makes the relationship between cognitive conflict and affective conflict neutral, and absence of affect-based trust makes the relationship positive. Based on the above, the following can be advanced.

H1a. Affect-based trust will moderate the relationship between cognitive conflict and affective conflict such that the relationship will be weaker under the conditions of higher levels of affect-based trust than lower levels of affect-based trust.

Affective Conflict as a Partial Mediator in the Relationship Between Cognitive Conflict and Decision Outcomes

Available theoretical support followed by empirical evidence that cognitive conflict breeds affective conflict, it is important to examine the mediating role of affective conflict. Following the information processing theory, the 'interrelatedness or interdependence' between conflict and the complexity of the pattern of interdependence necessitates study of a complicated model (Galbraith, 1973: 391). Strategic decisions are non-routine tasks characterized by a high degree of uncertainty. The uncertainty and complexity / variety of a given state must match the complexity of the environment in which it operates. Strategic decisions are complex; therefore, there must be variety of information to match that complexity. Information from individuals with multiple backgrounds that are manifest in conflict may be interpreted positively or negatively. If the level of "task variety and the amount of information required to complete the task exceeds the level of variety and number of different viewpoints among group members,

the costs associated with searching for information and evaluating solutions may be unreasonable" (Jehn, 1995:260). Though task conflict fosters a group's learning and accurate assessment of task content issues and encourages them to advance new ideas and approaches (Fiol, 1994; Putnam, 1994; Baron, 1990), the protracted conflict is costly in time and effort because it hinders the members' capacity to gather, integrate, and adequately assess the valuable information (Gersick, 1989). As Jehn (1995) argues, "members may respond with defensiveness and animosity to even constructive criticism and disagreements, which may interfere with the decision outcomes" (Jehn, 1995: 263). Decision outcomes, therefore, are affected by the cognitive conflicts directly, as well as through the affective conflicts that are flowing from the cognitive conflict. For example, constructive criticism is helpful in high quality decisions, enhanced commitment and increased understanding. However, constructive criticism and disagreements may sometimes foster affective conflict which will have negative decision outcomes. Thus, cognitive conflict plays a dual role—positively affecting the outcomes directly, and negatively affecting the outcomes through affective conflict. Based on the above arguments and also on the previous hypotheses (that cognitive conflict is positively related to affective conflict) and also that affective conflict is dysfunctional, it can be argued that affective conflict partially mediates the relationship between cognitive conflict and outcomes. In other words, while cognitive conflict is functional (in its direct relationship to outcomes) the indirect effect of cognitive conflict through affective conflict cannot be ignored. While non-mediation perspective dealt with these two types of conflict as having different outcomes, the mediation perspective makes it imperative to study the effect of cognitive conflict in totality. Available empirical data also suggest

that "conflict during decision-making involves both task and person-related issues", both have to be considered simultaneously (Janssen et al., 1999: 136). Furthermore, "as top management teams engage in cognitive conflict, they may inadvertently trigger affective conflict" and this attenuates and obscures the positive outcomes of cognitive conflict (Amason, 1996: 129). Thus, top management must be aware not only of the direct effects of cognitive disagreements, but also of the indirect effect of 'such disagreements when turned into a full-scale emotional conflict' (Brehmer, 1976: 986) warrant study. Thus, considering the holistic view that cognitive conflict has both direct and indirect impact on outcomes, the following partial mediation hypothesis can be proposed.

H8. Affective conflict partially mediates the relationship between cognitive conflict and understanding, commitment, and decision quality.

The proposed empirical model along with the hypotheses is presented in Figure 5.

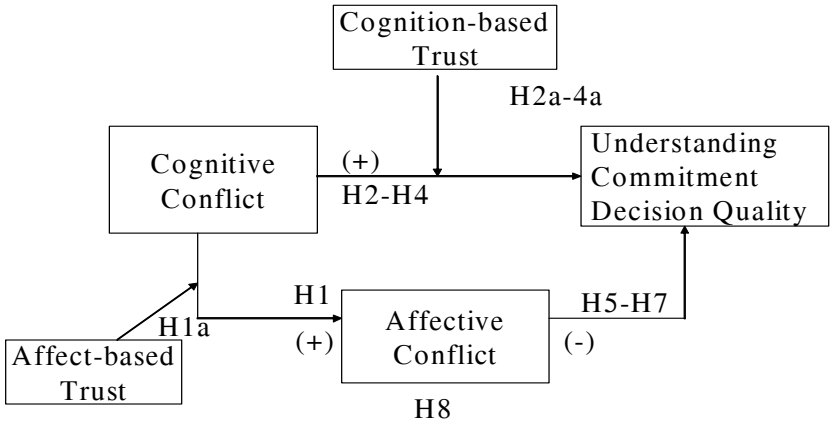

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Figure 5. Proposed Empirical Model

CHAPTER IV

RESEARCH METHODOLOGY, TESTS OF HYPOTHESES, AND RESEARCH RESULTS

This chapter presents the methodology, test of hypotheses, and empirical findings from this study. A brief description of the sample followed by the data collection method is presented in the first section. An assessment of measures of key variables is presented in the second section. The tests of hypotheses and the results of the study are presented in the last two sections of this chapter.

Methodology

Sample

To test the hypotheses presented in Chapter III, data for this research were collected on the variables from strategic decision-making teams in the health care industry. The rationale for selecting the healthcare industry was based on the following: (1) health spending accounts for nearly 15 percent of the nation's economy, the largest share on record. Health spending rose from 13.3 percent of the G.D.P. in 2000 to 14.1 percent in 2001 and 14.9 percent in 2002 (Pear, 2004); (2) greater competition for providing healthcare services made the healthcare industry a fertile ground for strategic decision-making. Strategic decision-making, by its very nature, is complex and

healthcare setting serves to heighten the complexity. Decisions are made in hospitals by a diverse group of people who differ in functional and administrative backgrounds (Dooley & Fryxell, 1999; Provan, 1991); (3) the healthcare industry is important to the national economy; and (4) decision-making teams in this industry are diverse in administrative and technical functions.

Utilizing the Hospital Blue Book (2003), the researcher surveyed the entire population of 980 hospitals from the states of Florida, California, Illinois, and Colorado. Of the 980 surveys mailed, 146 questionnaires were returned, a response rate of 15 percent. Of these 146 responses, CEOs from 12 hospitals replied that they were new to the hospital, and thus could not participate; 11 hospital CEOs reported that they were too busy to take part in the survey; and the CEOs of 9 hospitals declined to participate without mentioning any particular reason(s). In all, 114 usable surveys were returned. Although somewhat low by general standards, the response rate of 15% is similar to that in other top management research using survey methods (e.g., Simons, Pelled & Smith, 1999). When the researcher inquired as to why the response rate was less than 18-20%, the secretaries of hospital CEOs reported one single reason: Health Insurance Privacy and Portability Act of 1996 (HIPPA) regulations. The secretaries reported that they were instructed not to bring any surveys to the attention of CEOs. Therefore, the response rate in the present research should be interpreted in the context that (1) HIPPA regulations may have restricted the number of CEO respondents, (2) the researcher is requesting rather sensitive personal evaluations (Dooley & Fryxell, 1999), and (3) a low response rate is usual in top management research using the survey method (Simons et al., 1999).

Collection of Data

A survey instrument was designed to collect data from the members of strategic decision-making teams. Data were collected in two phases. During the first phase, surveys were mailed to the CEOs requesting them to describe a strategic decision made during the last eighteen months. Following the recommendations of Huber and Power (1985) and Golden (1992), an eighteen month time period was chosen because retrospective reports may not be reliable if the time is extended beyond two years. The methodology was designed to reduce the pitfalls of retrospective reports of team members and to increase the accuracy as far as possible.

During the first phase, in addition to identifying a specific strategic decision made during the last eighteen months, CEOs were requested to identify key people (from the list provided by the researcher along with the survey instrument) who participated in the decision. The list of members is obtained from Hospital Bluebook (2003). Dillman's (1978) total design method was employed to increase the response rate. The following sequential steps were taken during the survey process: (1) The surveys were mailed with a detailed letter requesting participation and a business-reply postage-paid envelope; (2) a reminder letter was sent to all non-respondents six weeks after the first letters were sent; (3) a web-based survey was created to give the CEOs an option to fill out surveys on line; and (4) the secretaries of CEOs were contacted by telephone. To secure a higher rate of participation, a detailed letter was sent to CEOs with a brief description of the importance of the study.

The first phase of surveys yielded usable questionnaires from 114 CEOs. These CEOs identified 623 strategic decision participants. The average size of the strategic

decision-making teams reported was 5.71. The strategic decisions reported were related to new product development, improved customer service, restructuring and downsizing, and strategic alliances.

The next step in the data collection process consisted of sending a descriptive letter and survey to the 623 individuals identified by the participating hospital CEO. Along with the cover letter an insert was placed with the list of these individuals identified by the CEO as the key participants in the decision. It was requested that when answering the survey questions the participants consider both the decision and the other participants.

In the second phase, 257 of the 623 surveys were returned, yielding a response rate of 41.2%. Of these, two surveys were incomplete and one survey was returned with a note from the hospital that the participating member had moved to an undisclosed hospital. This resulted in 254 usable questionnaires from the members. The responses ranged from 2 to 8, with an average of 2.3.

The respondents consisted of Executive Officers (e.g., CFO, COO, HR, CTO) - 61%; Chiefs of Staffs (e.g., Chief of Surgery, Chief of Ambulatory Services) - 23%; Nursing services-14%; and personnel involved in facilities, maintenance, and Medical Records-2%. Five hospitals had no responses other than the CEO. These responses were dropped from the data sample. This resulted in a total sample of 109 hospitals.

Non-Response and Sampling Bias

The researcher examined the representativeness of the sample by comparing the sample with the larger population on two key dimensions—number of beds and number

of employees. First, the average size of the hospital (measured by the number of beds) for responding hospitals was compared to the average size of non-responding hospitals. These averages were 163 beds and 180 beds, respectively. One-way between-groups analysis of variance (ANOVA) resulted in a statistically non-significant F of 1.007 (p=.316). Second, the number of employees in responding hospitals was compared with the number of employees in non-responding ones. The average number of employees in responding hospitals was 725; for non-responding hospitals, 661. The one way between-groups analysis of variance (ANOVA) resulted in a statistically non-significant F of .896 (p=.344), thus the responding hospitals did not differ significantly from the non-responding hospitals in terms of number of employees and number of beds.

A comparison was also made on the basis of profit-orientation and ownership of hospitals. The sample hospitals consisted of 55% not-for-profit, 8% for profit, 1% private, 18% proprietary, 12% church ownership, and 6% government hospitals. The respective percentages for the population were: 50 % not-for-profit, 6% for profit, 1% private, 22% proprietary, 11% church ownership, and 7% government hospitals ($\chi 2$ = 7.59, df = 5, p>.05). This suggests that there were no significant differences in the data from sample and population.

Reliability of Retrospective Accounts

One of the problems associated with strategic management and organizational research is the reliability and validity of having to depend on CEOs' and team members' retrospective accounts. The first problem is how far members of the SDMTs can go back to recall the strategies of the past. Although team members may be cognizant that the

effects of a strategy of recent past will be generally enduring (Petty & Cacioppo, 1986) and hence will be able to recall them quite accurately, retrospective errors occur either because of (1) the faulty memory of a CEO, (2) hindsight bias, and (3) attributional bias (Golden, 1992; Fischhoff & Beyth, 1975; Nisbett & Ross, 1980). With difficulty in recalling strategies two years back, retrospective accounts might not be accurate because individuals may "attempt to project a socially desirable image by casting a light of rationality upon their past decisions" (Golden, 1992: 849). According to Fischhoff "In hindsight, people consistently exaggerate what could have been anticipated in foresight. They not tend only to view what happened as having been relatively inevitable, but also to view it as having appeared relatively inevitable before it happened" (Fischhoff, 1982: 341). On the other hand, attributional bias occurs when individuals attribute favorable outcomes to their actions and unfavorable outcomes to external forces (Bettman & Weitz, 1983). In this study, to improve the accuracy of retrospective reports, the researcher followed the guidelines by Huber and Power (1985). First, only those individuals who were involved in the decision-making process were contacted to complete the surveys. Second, the informants were briefed about the importance of the research question and its results to the managers, organizations, and strategic management field. Third, respondents were assured of anonymity ensuring confidentiality. Fourth, pre-tested and structured survey questions were used in data collection to reduce the potential bias of misunderstanding the questions. Therefore, the methodology was designed to minimize the pitfalls of retrospective reports.

Common Method Variance

Since self-report measures were used in the data collection, there is a concern for the biases associated with common method variance. This bias is most problematic in examining the relationships among psychological or attributional data (e.g., conflict, trust and decision outcomes) collected from a single respondent on all the variables. The problem lies in the difficulty in determining whether observed covariance among the variables—conflict, trust and decision outcomes, is attributable to valid relationships or to common method variance. To minimize the common method variance, the researcher used the responses on DVs from some respondents (e.g., CEOs) and responses on IVs from other respondents (members). More specifically, data on decision quality was taken from the CEOs, and data on commitment was taken from the members of the team. The researcher used the aggregated data from the entire team for independent variables—affective conflict and cognitive conflict. This separation of measures was expected to reduce the common method bias. Further, as Podsakoff and Organ (1986) argue when respondents possess accurate knowledge of the content in the survey, common method bias would not be a serious problem. In the present study, data was collected from CEOs and senior level managerial personnel, and it was expected that they possess accurate knowledge of the content; therefore, the threat of common method variance is minimized, if not dismissed completely. Further, confidentiality and anonymity of the respondents will likely reduce the social desirability bias.

Measurement of Key Variables

This section examines the measurement of the key variables used in this study. The key variables are affective conflict, cognitive conflict, affect-based trust, cognition-based trust, decision quality, commitment, and understanding. In addition, size of the strategic decision-making teams, tenure of members in the hospital, and organizational slack are the control variables used in this study. The reliability of the measures was examined through Cronbach's alpha (α) and confirmatory factor analysis (CFA). The summary of measures and sources and reliability coefficients (Cronbach's alphas) from the extant literature as well as from this study are reported in Table 2. A complete survey questionnaire is provided in Appendix A.

The confirmatory factor analysis was estimated on the 31 items measuring the affective conflict, cognitive conflict, affect-based trust, cognition-based trust, decision quality, and decision commitment. Using structural equation modeling, estimates are done by constraining each item to load on that factor for which it was a proposed indicator. The goodness of fit measures reveal the following: χ^2 = 1285.38, 390df'; χ^2 / df = 3.29; GFI=0.80; CFI=0.94; and RSMEA= 0.084. Overall, these results suggest that the factor-structure of the variables is a good fit of the data and provide discriminant validity to the measures. The results of CFA for all the variables are reported in Table 3.

This study involves the responses of two or more individuals that participated in a specific strategic decision, thus data was aggregated. Aggregation was done by considering the mean scores. Aggregation was necessary for three reasons, namely that (1) it is a more objective estimate of the group attributes and conduct (Simons & Peterson, 2000), (2) it reduces the impact of individual differences in the perception

within each hospital, and (3) individual survey responses are interdependent and therefore should be analyzed as a collective data set rather than separate data points.

Before aggregating, it was necessary to assess the within-group agreement: therefore, inter-rater agreement was calculated for each of the key variables before aggregating (Glick, 1985). The measure developed by James, Demaree, and Wolf (1984) called R_{wg} coefficient, was used to assess the within-group agreement. The coefficient ranges between -1 and 1. A value of 1 indicates complete agreement, -1 represents complete disagreement, and 0 represents lack of agreement (which does not equal disagreement). The general rule of thumb is that data can be aggregated when the coefficient is greater than 0.6 (Glick, 1985). The R_{wg} coefficients for the key variables ranged between 0.89 and 0.93 and were reported in Table 3. The R_{wg} coefficients have uniform distribution and suggest that there were no problems associated with aggregating the data.

Independent Variables

Affective Conflict

Affective conflict was measured with four items from a scale developed by Jehn (1994) and used by Jehn (1994, 1995), Janssen, Van De Vliert, and Veenstra (1999) and Amason (1996). The respondents were asked to rate on seven point Likert-type scales with anchors ranging from 1, "none" to 7, "a great deal." A sample item from affective conflict reads as "How much personal friction was there in the group during this decision"?

The reliability of the scale was confirmed through examining the Cronbach's alpha. The alpha value of 0.92 indicates a high degree of reliability. The confirmatory factor analysis revealed that the factor loadings for all these indicators ranged between 0.83 and 0.92. The mean value of inter-rater agreement (R_{wg}) for affective conflict was 0.932, with values ranging between 1.00 and .41. The results of CFA for affective conflict are provided in Table 3.

Cognitive Conflict

Cognitive conflict was measured with three items from a scale developed by Jehn (1994) and used by Jehn (1994, 1995), Janssen, Van De Vliert, and Veenstra (1999) and Amason (1996). An example of an item representing the cognitive conflict is "How many disagreements over different ideas about this decision were there?" Previous research documented that affective conflict items load heavily on single factor (producing a sub-scale reliability coefficient of over 0.8 in various studies) and cognitive conflict items load on a single factor (with reliability coefficient of around 0.8 in various studies).

The confirmatory factor analysis of this construct revealed factor loadings that ranged between 0.77 and 0.86. Further, the reliability coefficient (Cronbach's alpha) of 0.85 indicates that the scale is reliable. The mean value of inter-rater agreement (R_{wg}) for cognitive conflict was 0.853, with the values ranging between 1.0 and .44. The results of confirmatory factor analysis (CFA) for cognitive conflict can be seen in Table 3.

Moderators

Affect- and Cognition-Based Trust

To assess the affect-and cognition-based trust, the instrument developed and used by McAllister (1995) was used. Drawing from available measures of interpersonal trust (Cook & Wall, 1980; Rotter, 1971; Johnson-George & Swap, 1982), McAllister (1995) created an initial pool of 48 items and identified 11 strongest-loading items (5 items for affect-based trust and 6 items for cognition-based trust).

Affect-Based Trust

Affect-based trust was measured using five items developed and used by McAllister (1995). The respondents were asked to answer on a seven point Likert-type scale these items. One sample item from the affect-based trust reads as: "The team members have a sharing relationship. The group members can freely share their ideas, feelings, and hopes".

The results of CFA reveal that the factor loadings are well above 0.7 for all these items. The reliability coefficient of 0.88 provides support for the reliability of the instrument. The mean value of inter-rater agreement (R_{wg}) for affect-based trust was 0.947 with the values ranging between .99 and .51.

Cognition-Based Trust

Cognition-based trust was measured using six items developed and used by McAllister (1995). A sample item from cognition-based trust reads as: "The track record of members gives no reason to doubt their competence and preparation for the job".

The results of CFA indicated that the factor loadings provide support for capturing the construct through these indicators. Further the reliability coefficient of 0.92 is well above the acceptable level of Nunnally's (1978) criterion of coefficient of alpha of 0.7. This reinforces the confidence of using this measure for analysis. The mean value of inter-rater agreement (R_{wg}) for cognition-based trust was 0.949 with the values ranging between 1.00 and .35.

Dependent Variables

Decision Quality

Decision quality was measured with six items, three items from Amason (1996) and three items developed by Diehl and Stroebe (1987) and used by Montoya-Weiss, Massey, and Song (2001). The respondents were asked to rate the overall quality of the decision relative to its intent on a Likert-type seven-point scale. The indices of decision quality developed by Diehl and Stroebe (1987) pertain to the range, organization, and depth of the decisions. *Range* is the degree to which a team's decision rationale covered the maximum range of relevant issues. *Organization* refers to the degree to which the team's decision rationale was well structured and reflective of the interrelationships and

intra-relationships among the relevant issues. *Depth* refers to the degree to which the team's decision rationale explored issues deeply.

Use of perceptual measures for decision quality is consistent with previous research (Dooley & Fryxell, 1999; Amason, 1996). T o relate the decision-process to overall performance of an organization might not be justified because it would be difficult to isolate the impact of a single decision on overall performance. Instead, it would be better to ask the respondents to gauge the decision quality by considering the specific context in which the decision was made and observe its effects. Though such a retrospective account is not devoid of limitations, it is a better method to judge the quality of a specific strategic decision. As the design is attempted to minimize the flaws of retrospective reports, it is expected that the perceptual measure is an appropriate way of measuring the decision outcome. This is consistent with the suggestion by Dess and Robinson (1984) that when objective measures are unavailable, the perceptions of the team members are considered to be effective substitutes.

The confirmatory factor analysis for decision quality revealed the factor loadings levels of 0.50 or higher. The loadings ranged between 0.54 and 0.82. Though a single respondent measure (from CEO) was used in the final analysis, inter-rater agreement was calculated for decision quality. The mean value of inter-rater agreement (R_{wg}) for decision quality was 0.917 with the values ranging between 1.0 and .60. The reliability coefficient for items on decision quality is 0.85.

Commitment

Commitment was measured using six items adapted from Wooldridge and Floyd (1990). The respondents were asked to answer on a seven point scale questions such as "How much were the team members willing to do to see that the decision was properly implemented?" and "Did that particular decision inspire the members to work hard or enthusiastically?" This is consistent with the approach followed by Amason (1996). The confirmatory factor analysis for commitment indicated that one of the items "How much did the team members argue in favor of the alternative that ultimately became the final decision?" loaded low (0.29) on decision commitment factor, while other items loaded substantially high. The reliability analysis also indicated that dropping this item would improve reliability from 0.83 to 0.88. Further the goodness of fit indices improved when this item is dropped. The comparison of factor loadings before and after dropping this item is provided in Table 3. The mean value of inter-rater agreement (R_{wg}) for commitment was 0.893, with the values ranging between .99 and .49. The Cronbach's reliability coefficient for commitment was 0.85.

After dropping the second item, the goodness of fit indices were: χ^2 = 1285.38, 390df'; χ^2 / df = 3.29; GFI=0.80; CFI=0.94; and RSMEA= 0.084. Including the second item revealed the indices as: χ^2 = 1357.43, 419 df'; χ^2 / df = 3.49; GFI=0.76; CFI=0.94; and RSMEA= 0.081.

Understanding

Understanding was measured by asking the respondents to allocate 10 points, based on the relative importance, among six different areas: (1) cost/efficiency, (2) new

product development, (3) coordination and control, (4) Human resource development, (5) Customer / market development, and (6) Other concerns (specify). The sum of squared differences on these items were computed for each team and were then divided by the team size to produce a distance score, which represents the level of disagreement among the members over the decision rationale. This distance score, subtracted from a constant, produced a measure of how well each team's members understood the organizational strategic priorities while making the decision. The mean score of understanding was 7.69 with standard deviation of 1.28. This operationalization of understanding is consistent with previous research (Dess, 1987; Wooldridge & Floyd, 1990; Amason, 1996).

Control Variables

The control variables included in this study are organizational slack, team size, and the team tenure.

Organizational Slack

Some researchers point out that "scarcity of resources might lead a firm to avoid excessive risk-taking and pay a greater attention for the conservation of resources" (Goll & Rasheed, 1997: 585); it also affects both decision-processes and implementation efforts (Pfeffer, 1981). Further, organizational resources may affect group decision-making processes and other outcomes such as innovation (Hambrick, 1994; West & Anderson, 1996). It was therefore thought necessary to control for the 'resources'. Organizational slack was measured using perceptual measure developed and used by Miller and Friesen (1982; 1983). This is consistent with the previous research (Dooley & Fryxell, 1999).

Organizational slack is measured by four items developed by Miller and Friesen (1982) and the items are related to slack in capital, material supplies, managerial talent and skilled labor. The reliability coefficient for these items was 0.67. The mean value of inter-rater agreement (R_{wg}) for organizational slack was 0.864 with the values ranging between .99 and .41.

Team Size

The size of SDMTs, as previous empirical research documented, has its potential effect on the team's ability to reach consensus and affect the whole decision-making process (McGrath, 1984; West & Anderson, 1996; Dooley, Fryxell & Judge, 2000). For instance, in one study it was reported that team size did predict radicalness in innovation i.e., extent of changes to the status quo and firms with larger teams on upper echelons instituted radical innovation (West & Anderson, 1996). Size was measured as the number of members identified by the CEO as participants in the decision-making process.

This study is aimed at unraveling the decision-making process around a particular strategic decision, therefore, to operationalize teams CEOs were asked to name the key managers who had actively participated in the decision that he or she had identified. This operationalization is consistent with previous top management research (Dess, 1987; Judge & Miller, 1991; Wooldridge & Floyd, 1990). The average size of the team reported in this study was 4.68 members with standard deviation of 0.67.

Team Tenure

Top management research recognized the importance of executive tenure in its impact on organizational outcomes. Tenure can be looked at from three perspectives, viz. (a) tenure in the position (Hambrick & Fukutomi, 1991; Miller, 1991) (b) tenure in the organization (Thomas, Litschert & Ramaswamy, 1991); and (c) tenure in the industry (Hambrick, Geletkanycz & Fredrickson 1993). It is interesting to note that all these types of tenure co-vary because "all time spent in the position is also spent in the organization and in the industry, and all time spent in the organization is also spent in the industry" (Finkelstein & Hambrick, 1996: 82). In this study, the tenure of team members was measured as the number of years each team member had been employed by his or her current hospital. This is consistent with the previous research (Dooley & Fryxell, 2000). In this study, the mean tenure of team members was 9.64 years with standard deviation of 6.24.

Table 2

Summary of Measures

Measures	Sources	Reliabilities (Cronbach alpha) in previous studies	Reliabilities (Cronbach alpha) in the present study
Affective conflict	4 items from Jehn (1994) and used by Janssen et al (1995), Amason (1996)	0.80; 0.86	0.92
Cognitive conflict	3 items from Jehn (1994) and used by Janssen et al (1995), Amason (1996)	0.87; 0.79	0.85
Affect-based trust	5 items from McAllister (1995)	0.89	0.88
Cognition-based trust	6 items McAllister (1995)	0.91	0.92
Decision quality	3 items from Amason (1996) and 3 items from Deihl & Stroebe (1987)	0.91	0.85
Understanding	6 items from Wooldridge & Floyd (1990)	NA	NA
Commitment	6 items from Wooldridge & Floyd (1990)	0.99	0.88
Organizational slack	4 items from Miller & Friesen (1982)	0.69	0.67
Team tenure	Hambrick & Fukutomi (1991); & Miller (1991)	NA	NA
Team Size	Dess (1987); Judge & Miller (1991); Wooldridge & Floyd (1990)	NA	NA

Table 3

Results of Confirmatory Factor Analysis

Variable	Rwg	Alpha	Factor Loadings	Factor Loadings If an item Is deleted
Affective Conflict	0.93	0.92		
1.How much anger was there among the group over this decision?			0.83	
2.How much personal friction was there in the group during this decision?			0.92	
3. How much were personality clashes between group members evident during this decision?			0.83	
4. How much tension was there in the group during this decision?			0.85	
Cognitive Conflict	0.85	0.85		
1.How many disagreements over different ideas about this decision were there?			0.86	
2. How many differences about the content of this decision did the group have to work through?			0.78	
3. How many differences of opinion were there within the group over this decision?			0.77	
Affect-Based Trust	0.94	0.88		
1.Team members have a sharing relationship. The group members can freely share the ideas, feelings, and hopes.			0.80	
2. Team members can talk freely to others about their difficulties at work and know that they will want to listen.			0.88	
3. Team members feel a sense of loss if transferred and they could no longer work together.			0.70	
4. Team members feel that if they shared their problems with other members, the members would respond constructively and caringly.			0.84	
5.The members have made considerable emotional investments in their working relationships.			0.70	

Variable	Rwg	Alpha	Factor Loadings	Factor Loadings If an item Is deleted
Cognition-based Trust	0.94	0.92		
1.The members in the group approach their job with professionalism and dedication.			0.78	
2. The track record of members gives no reason to doubt their competence and preparation for the job.			0.79	
3. The members feel that they can rely on this group not to make their job more difficult by careless work.			0.80	
4. Team members, even those who are not close friends, have trust and respect for each other.			0.87	
5. Team members interacting with others consider them to be trustworthy.			0.89	
6. Team members can be counted on to fulfill their responsibilities in a reliable manner.			0.83	
Decision Quality	0.91	0.85		
1. The effect that that decision has had on company is:			0.73	
2. Relative to what we expected, the results of the decision have been:			0.54	
3. Overall, the group members feel that the decision was:			0.60	
4. The degree to which team's decision rationale was covered the maximum range of relevant issues was:			0.82	
5. The degree to which the team's decision rationale was well structured and reflective of interrelationships and intra-relationships among the relevant issues was:			0.85	
6. The degree to which the team's decision rationale was expressed in depth was:			0.80	
Commitment	0.89	0.88		
1. How much were team members willing to do to see that the decision was properly implemented?			0.59	0.58
2. How much did the team members argue in favor of the alternative that ultimately became the final decision?			0.29	

Variable	Rwg	Alpha	Factor Loadings	Factor Loadings If an item Is deleted
3. How consistent was the final decision with team members personal priorities and interests?			0.70	0.69
4. Did that particular decision inspire the members to work hard or enthusiastically?			0.78	0.78
5. How pleased were the team members that particular decision was chosen over all of the potential alternatives?			0.87	0.87
6. How much did the team members believe that the decision would enhance your hospital's overall performance?			0.76	0.77
7. To what extent the team members believe that the decision represented the best of all the possible alternatives?			0.74	0.75

The assessment of the key variables through CFA and Cronbach's alpha provides strong support for the reliability of the variables. The items were tapping the intended construct and the reliability measures were consistent with Nunnally's (1978) criterion of coefficient of alpha of 0.7.

Test of Hypotheses

First of all, a correlation analysis was conducted to see the association among the key variables. The correlation analysis revealed a strong correlation between the independent variables which necessitates examination of potential multicollinearity problems associated with independent variables. Secondly, multiple regression was used to test the hypotheses. Several multiple regression models were established to examine the linkages between outcome variables, namely decision quality, decision commitment, and understanding and the independent variables—cognitive conflict and affective

conflict. Further, to test the moderation hypotheses, interaction terms were introduced into separate regression models for each of the dependent variables. All the models included control variables prior to introducing the main and interaction variables. Third, regression was used to test the mediation hypothesis suggested by Aiken and West (1991).

Correlation Analysis

The results of correlation analysis are presented in the Table 4.

Table 4

Descriptive Statistics and Correlations Between Variables

Variable	Mean	S.D	1	2	3	4	5	6	7	8	9
1.Organizational Slack	4.41	0.55									
2. Team Size	4.68	1.51	.03								
3. Team Tenure	9.70	6.24	.08	.14							
4. Cognitive Conflict	2.33	0.56	-.09	.22	.13						
5. Affective Conflict	2.05	0.60	-.32***	.24**	-.02	.72***					
6. Cognition-based Trust	5.32	1.27	.02	.06	.16	.71***	.49***				
7. Affect-based Trust	5.47	1.09	.15	-.16	.25**	.03	-.15	.28**			
8. Decision Quality	3.23	0.57	-.04	.17	.15	.83***	.58***	.87***	.19**		
9. Understanding	7.69	1.28	-.02	.09	.18*	.83***	.60***	.75***	.15	.81***	
10. Commitment	5.71	0.67	.02	.10	.12	.74***	.45***	.62***	.17	.76***	.68***

*** p<.01, ** p<.05,* p< .10

Checking for Multicollinearity

The preliminary analysis of correlation reveals significant positive correlations between predictor variables. Since multiple regression accommodates and even assumes correlated predictors, it is warranted to check for multicollinearity. Kennedy (1979) suggests that correlations of .8 or higher may be problematic from the viewpoint of multicollinearity. Further, Tsui, Ashford, Clair, and Xin (1995: 1531) indicate that "there is no definitive criterion for the level of correlation that constitutes a serious multicollinearity problem. The general rule of thumb is that it should not exceed .75". In the present study, the correlation between cognitive conflict and affective conflict ($r= 0.72$: $p< 0.01$), and the correlation between cognition based trust and affect based trust ($r= 0.28$; $p<.01$), are well outside the range of multicollinearity problem. Further, the median correlation magnitude (absolute value) is 0.24 and the correlation with the greatest magnitude was 0.72, suggesting no problem of multicollinearity. Furthermore, CFA provides discriminant validity to the measures and suggest jangle fallacy (high correlations between the variables) is not a problem.

As a third check of multicollinearity, the variance inflation factor (VIF) of each independent variable was examined. The tolerance levels and VIF for predictor and control variables are presented in Table 5. The largest VIF was less than 4, another sign that multicollinearity was not a problem (Guo, Chumlea & Cockram, 1996). Finally, centered variables were used in the analysis so that the results could not be invalidated due to a multicollinearity problem.

Table 5

Tolerance Levels and Variance Inflation Factor (VIF) for Variables

Variable	Tolerance	VIF
Organizational Slack	0.82	1.20
Team Size	0.88	1.13
Team Tenure	0.92	1.08
Cognitive Conflict	0.29	3.37
Affective Conflict	0.38	2.58
Cognition-based Trust	0.46	2.13
Affect-based Trust	0.87	1.14

Tolerance level is the reciprocal of VIF. Multicollinearity is indicated if the tolerance level is below 0.10 and the VIF is over 10 (Hair, Anderson, Tatham & Black, 1995). Since tolerance levels are higher than 0.1 and VIF is lower than the commonly accepted cut off of 10 for the predictor and control variables in this study, it is suggested that multicollinearity is not a problem.

Hypotheses Testing: Cognitive Conflict and Affective Conflict

Hypothesis 1: It was proposed that cognitive conflict is positively related to affective conflict. Specifically, *teams that experience higher levels of cognitive conflict will experience higher levels of affective conflict.*

The results of regression analysis are summarized in Table 6.

Table 6

Regression Analysis of Cognitive Conflict to Affective Conflict

Variables	Affective Conflict[a]
Organizational	-.26***
Slack	(-4.07; .000)
Team Size	.11
	(1.80; .074)
Team Tenure	-.10
	(-1.67; .097)
Cognitive Conflict	.69***
	(10.92; .000)
R^2	.61
Adjusted R^2	.59
F- Value	34.35 ***
df	1, 104

*** $p < 0.001$

a. Standardized regression coefficients are reported; t-values and p-values are shown in parentheses

As hypothesized, cognitive conflict is positively related with affective conflict (b =.69, p< 0.001). It should be noted that high correlation between cognitive conflict and affective conflict (r= 0.72, p<.001) is not surprising as it ranged from 0.34 to 0.88 in previous studies (Simons & Peterson, 2000).

Organizational slack as a control variable is significant (b=-.26, p<.001) whereas team size was not significant in the model. The regression model is significant (with F=34.35, p<0.001) and explains 61 percent of the variance in the affective conflict (Adjusted R^2 = .59). The results provide support for H1.

Hypotheses 2 and 5: It was proposed that teams that experience higher levels of cognitive conflict will have higher levels of understanding of decisions (H2). It was also proposed that teams that experience higher levels of affective conflict will have lower levels of understanding of decisions (H5). Results of regression with understanding as the dependent variable and cognitive and affective conflict as the independent variables are summarized in column 1 (Table 7).

Regression results indicate that team size is negatively and significantly related to understanding ($b = -.11$, $p<.05$) and, team tenure is positively related to understanding ($b=.09$, $p<.10$). Another control variable—organizational slack—did not have any impact on understanding. The regression results suggest that cognitive conflict is positively and significantly related to understanding ($b = .81$, $p<0.001$). However, affective conflict is not significantly related to understanding. The regression model was significant ($F= 53.5$, $p<.001$) and explained 72 percent of the variance. The adjusted R^2 of the model was 0.71. Overall, the regression results provide support for H2 and do not support H5.

Hypotheses 3 and 6: It was hypothesized that teams that experience higher levels of cognitive conflict will have higher levels of commitment to decisions (H3) whereas teams that experience higher levels of affective conflict will have lower levels of commitment to decisions (H6). The regression results concerning the test of these hypotheses are presented in column 2 of Table 7.

The regression results indicate that the control variables—organizational slack, team size and team tenure—do not impact decision commitment on the part of the members. The beta coefficient of cognitive conflict is .86 and is significant ($p< .001$),

which renders support for Hypothesis 3. Affective conflict is negatively related to decision commitment, but the beta coefficient (-.14) is not significant. Thus Hypothesis 6 is not supported.

The model is significant (F= 27.06, p< .001) and it explained 56 percent of the variance. The adjusted R^2 was 0.54.

Table 7

Regression Analysis of Cognitive Conflict and Affective Conflict with Decision Outcomes

Variables	1 Understanding[a]	2 Commitment	3 Decision Quality
Organizational Slack	.06 (1.12 ; .262)	.06 (.828; .409)	.04 (.58;.56)
Team Size	-.11** (-2.02; .046)	-.06 (-.85; .39)	-.02 (-3.16; .753)
Team Tenure	.09* (1.72 ; .087)	.01 (.21; .832)	.04 (.75; .454)
Cognitive Conflict	.81*** (10.31; .000)	.86*** (8.72; .000)	.84*** (10.13; .000)
Affective Conflict	.06 (.71; .480)	-.14 (-1.37; .173)	-.01 (-.12; .908)
R^2	.72	.56	.69
Adjusted R^2	.71	.54	.68
F- Value	53.5***	27.06***	46.61***
df	2,103	2, 103	2, 103

*** p < 0.001, ** p<0.05, * p < .10
a. Standardized regression coefficients are reported; t-values and p-values are shown in parentheses

Hypotheses 4 and 7: The relationship between cognitive conflict and affective conflict to decision quality was studied through these two hypotheses. It was proposed that teams which experience higher levels of cognitive conflict will produce higher quality decisions

(H4) and the teams that experience higher levels of affective conflict will produce lower quality decisions (H7). The regression analysis for testing these hypotheses is presented in column 3 of Table 7.

The model is significant (with $F=46.61$, $p<0.001$) explaining 69 percent of the variance in the data. Except for the cognitive conflict, none of the variables were significant. The beta coefficient for cognitive conflict ($b=.84$, $p<0.001$) provides support for H4. The beta coefficient for affective conflict was not statistically significant ($b=-.01$, $p > .10$), suggesting that the regression results do not support H7. The overall model was significant ($F= 46.61$, $p<0.001$) and explained 69 percent of variance (adjusted $R^2= 0.68$).

So far the regression analysis was concerned with direct relationships between independent variables and the outcome variables. The regression results support the proposition that cognitive conflict is significantly and positively related to decision outcomes—understanding, commitment, and decision quality. However, the hypothesized negative relationship between affective conflict and decision outcomes are not supported. Further, the results provide support for the hypothesized positive relationship between cognitive conflict and affective conflict.

Hypotheses Testing: Moderating Effects of Trust

Hypotheses 1a, 2a, 3a, and 4a are concerned with the moderating effects of trust on criterion variables. While Hypothesis 1a seeks to examine the moderating effect of affect-based trust between cognitive conflict and affective conflict, Hypotheses 2a, 3a and 4a examine the moderating effect of cognition-based trust in the relationship between cognitive conflict and decision outcomes.

To test the interaction effect hypothesized, the researcher used the multiplicative product of the variables in hierarchical multiple regression analysis, as Baron and Kenny (1986) suggest. As a general procedure, change in the amount of variance explained (ΔR^2) along with a significant coefficient for the corresponding interaction term is the most appropriate test of the significance of interaction effect (Cohen & Cohen, 1983). Interactions are plotted by deriving separate equations for the high and low (one standard deviation above and below the mean scores) as recommended by Aiken and West (1991).

Since multiple regression analysis involved interactions, the "main effect" terms and product terms could be highly correlated, thus raising the issue of multicollinearity and make regression coefficients unstable and difficult to interpret (Cohen & Cohen, 1983). To reduce the multicollinearity, it was suggested by Aiken and West (1991) that the variables be centered. The researcher followed this procedure and centered the interaction term while testing the moderation effect in the regression model.

Hypothesis 1a: Moderating Effect of Affect-Based Trust

Affect-based trust was hypothesized to have a negative moderating effect on the relationship between cognitive conflict and affective conflict. The basic argument is that though task-based disagreements will have the potential to create affective conflict, the affect-based trust interferes with it to reduce the impact of cognitive conflict on affective conflict. It was, therefore, hypothesized that affect-based trust will moderate the relationship between cognitive conflict and affective conflict such that the relationship will be weaker under the conditions of higher levels of affect-based trust than lower

levels of affect-based trust (H1a). The results of moderated regression analysis are presented in Table 8.

Table 8

Moderated Regression Analysis of Cognitive Conflict and Affect-Based Trust with Affective Conflict

	Step1	Step2
Variables	Affective Conflict	Affective Conflict
	Step 1[a]	Step2
Organizational Slack	-.23*** (-3.78; .000)	-.24*** (-3.99; .000)
Team Size	.08 (1.37; .171)	.08 (1.40; .164)
Team Tenure	-.07 (-1.15; .25)	-.06 (-.94; .349)
Cognitive Conflict	.70*** (11.15; .000)	1.23*** (4.6; .000)
Affect-based Trust	-.12* (-1.83; .071)	.36 (1.49; .138)
Cognitive Conflict x Affect-based trust		-.75** (-2.06; .042)
R^2	.62	.64
F- Value	34.35 ***	30.23 ***
ΔR^2		.015
Δ F-Value		4.23**
df	2, 103	1, 102

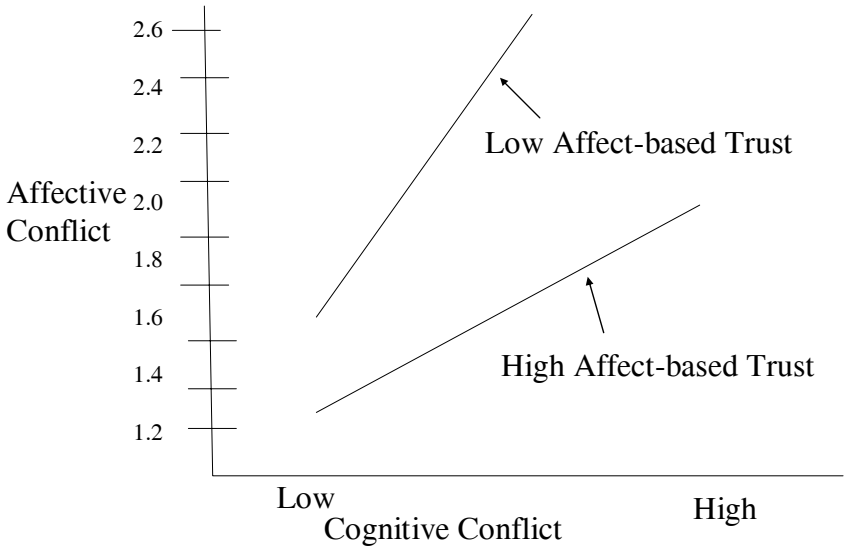
*** p < 0.001, ** p < .05, * p<.10
a. Standardized regression coefficients are reported; t-values and p-values are in parentheses

The direct effects model (step 1) suggest that the direct effect of cognitive conflict on affective conflict was significant (b=.70, p<.001). The model was significant (F=34.35, p<.001) and explained 62 percent of variance in affective conflict prior to the interaction term. The results of moderated regression in step 2 do show a significant interaction between cognitive conflict and affect-based trust in its effect on affective

conflict. The moderated regression model yielded the beta coefficients for cognitive conflict (b=1.23, p<.001) and the beta coefficient for the interaction term (b= -.75, p<0.05). The results suggest that affect-based trust reduces the impact of cognitive conflict on affective conflict. The moderated regression model was significant (F=30.23, p<0.001), explaining 64 per cent of the variance. In step 2, the inclusion of interaction between cognitive conflict and affect-based trust accounted for additional 1.5 percent of the variance in affective conflict (Δ F = 4.23, p < 0.05). This interaction was plotted as shown in Figure 6. The moderated regression results support H1a.

Figure 6

Moderating Effect of Affect-Based Trust on the Relationship Between Cognitive Conflict and Affective Conflict

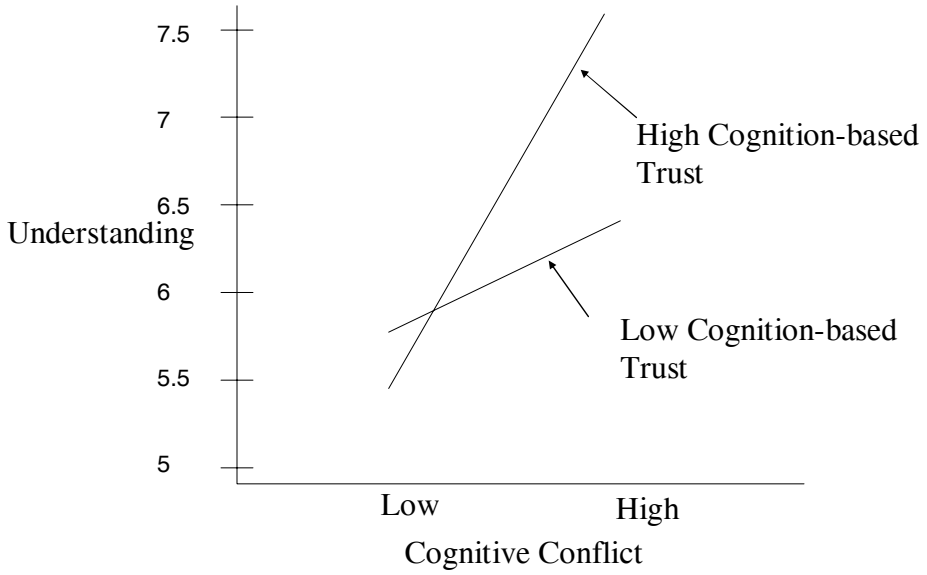


Hypothesis 2a: Moderating Effect of Cognition-Based Trust on Understanding

It was argued that while cognitive conflict enables the members to use diverse skills and orientations that help in understanding the rationale behind the decisions, cognition-based trust will strengthen the relationship between cognitive conflict and understanding. This is because members would assess their co-member's trustworthiness on task-related issues, positively interpret the information they provide, and act on this information. Thus, it was hypothesized that cognition-based trust will moderate the relationship between cognitive conflict and understanding of decisions such that the relationship will be stronger under the conditions of higher levels of cognition-based trust than lower levels of cognition-based trust (H2a). The results of testing this hypothesis are presented in columns 1 and 2 of Table 9. The direct effects model (column 1) suggest that the direct effects of cognitive conflict and cognition-based trust are statistically significant and the beta coefficients respectively are .61($p<.001$) and .28($p<.001$). The moderated regression model yielded beta coefficients for cognitive conflict ($b=1.29, p<.001$), and cognition-based trust ($b=.75, p<.001$). The moderated regression results indicate that the model is significant ($F=49.07$, $p<0.001$), explaining 77 percent of the variance. Inclusion of interaction between cognitive conflict and cognition-based trust increased variance by 1.3 percent ($\Delta F= 5.62$, $p< 0.05$) in understanding and render support for the moderation regression model. The beta coefficient of the centered interaction term cognition conflict with cognition-based trust ($b= - 1.07$, $p< 0.05$), suggesting that the hypothesis H2a is supported. The interaction is presented in the Figure 7.

Figure 7

Moderating Effect of Cognition-Based Trust on the Relationship Between Cognitive Conflict and Understanding



Hypothesis 3a: Moderating Effect of Cognition-Based Trust on Commitment

Since competence and responsibility are central to the cognition-based trust (Cook & Wall, 1980), they strengthen the beliefs of the members about successful implementation through the commitment (Bandura, 1986). It was, therefore, hypothesized that cognition-based trust will moderate the relationship between cognitive conflict and commitment to decisions such that the relationship will be stronger under the conditions of high levels of cognition-based trust than low levels of cognition-based trust (H3a). The results of moderated regression are presented in columns 3 and 4 of Table 9.

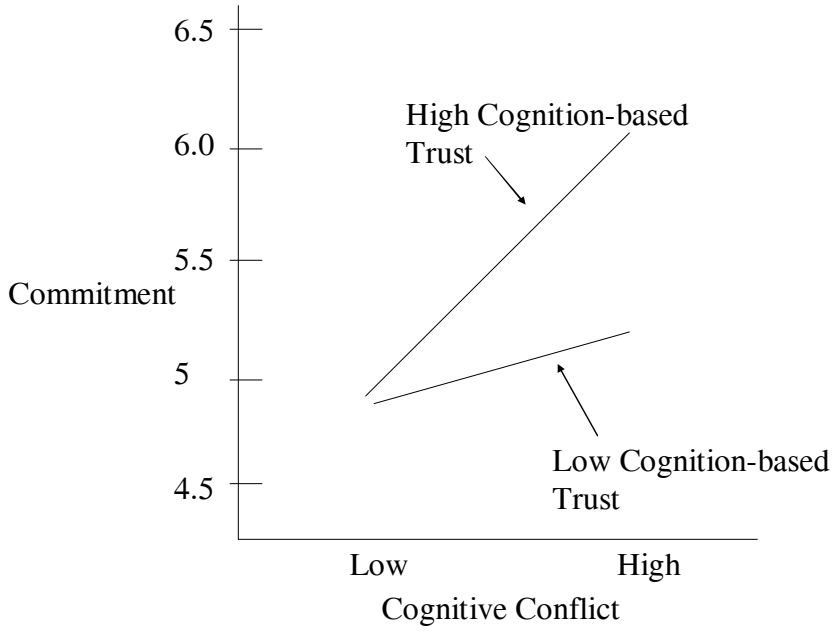
The overall model ($F=21.58$. $p< .001$) is significant and explained 59 percent of the variance. The direct effects model (column 3) suggest that the direct effects of cognitive conflict and cognition-based trust are statistically significant and the beta

coefficients respectively are .73(p<.001) and .18 (p<.05). Inclusion of interaction between cognitive conflict and cognition based trust increased variance by 1.6 percent in commitment and is significant (Δ F= 4.09, p<.05). The moderated regression results suggest that cognition-based trust increased the explanatory value of the model predicting commitment. The beta coefficients for cognitive conflict (b=1.5, p<.001), and of cognition-based trust is (b=.71, p<.05) are statistically significant. The beta coefficient for the centered interaction term between cognitive conflict and cognition-based trust (b= -1.21, p<.05) is significant. The results support Hypothesis H3a.

Figure 8 illustrates the moderating effect of cognition-based trust on the relationship between cognitive conflict and commitment.

Figure 8

Moderating Effect of Cognition-Based Trust on the Relationship Between Cognitive Conflict and Commitment



Hypothesis 4a: Moderating Effect of Cognition-Based Trust on Decision Quality

Cognition-based trust reassures the team members about the efficacy of the team and strengthens their beliefs about the successful implementation of decisions (Dooley & Fryxell, 1999). While cognitive conflict enables members to use diverse skills and become more creative in problem solving and defining, cognition-based trust will strengthen the relationship between conflict and decision quality. It was therefore hypothesized that cognition-based trust will moderate the relationship between cognitive conflict and quality of decisions such that the relationship will be stronger under the conditions of high levels of cognition-based trust than low levels of cognition-based trust. The results of moderated regression are presented in columns 5 and 6 of Table 10.

The overall model ($F=93.11$, $p< 0.001$) is significant and explained 86 percent of variance. The direct effects model (column 5) suggest that the direct effects of cognitive conflict and cognition-based trust on decision quality are significant and the beta coefficients respectively are 0.43 ($p<.001$) and 0 .58($p< .001$). The model explained 85 percent of variance in decision quality prior to the inclusion of interaction term. Inclusion of interaction between cognitive conflict and cognition based trust explained 1.6 percent in variance in decision quality ($\Delta R^2 =.016$, $\Delta F= 12.35$, $p<.05$). The moderated regression model yielded the beta coefficients for cognitive conflict ($b= 1.21$, $p< .001$), cognition-based trust ($b=1.11$, $p<.001$), and for interaction term between cognitive conflict and cognition-based trust ($b= -1.22$, $p<.001$) are statistically significant. Overall, the results provide support for H4a that cognition-based trust is as a

moderator in the relationship between cognitive conflict and decision quality. The interactions are plotted in Figure 9.

Figure 9

Moderating Effect of Cognition-Based Trust on the Relationship Between Cognitive Conflict and Decision Quality

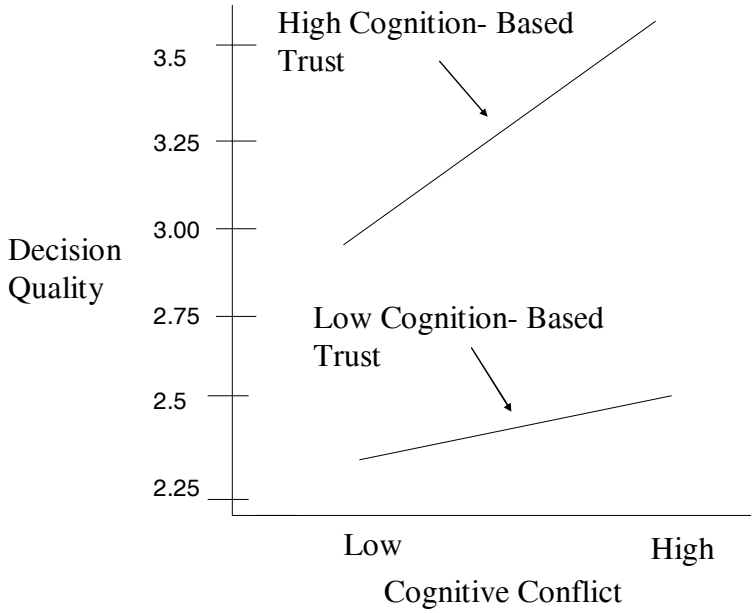


Table 9

Moderated Regression Analysis of Cognitive Conflict and Cognition-Based Trust with Decision Outcomes

	Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Variables	Understanding	Understanding	Commitment	Commitment	Decision Quality	Decision Quality
	Step1[a]	Step2	Step 1	Step2	Step1	Step 2
Organizational	.03	.01	.04	.012	-.03	-.06
Slack	(.62; .53)	(.18; .853)	(.55; .579)	(.17; .861)	(-.63; .527)	(-1.32; .191)
Team Size	-.08	-.08	-.04	-.04	.05	.04
	(-1.49; .138)	(-1.62; .107)	(-.54; .589)	(-.63; .529)	(1.19; .235)	(1.11; .267)
Team Tenure	.07	.06	.00	-.008	-.001	-.01
	(1.41; .161)	(1.29; .198)	(.01; .994)	(-.12; .908)	(-.03; .972)	(-.25; .803)
Cognitive Conflict	.61***	1.29***	.73***	1.5***	.43***	1.21***
	(6.89; .000)	(4.31; .000)	(6.23; .000)	(3.76; .000)	(6.14; .000)	(5.23; .000)
Affective Conflict	.05	.04	-.15	-.16	-.04	-.04
	(.59; .553)	(.55; .581)	(-1.47; .145)	(-1.53; .128)	(-.58; .561)	(-.69; .488)
Cognition-based	.28***	.75***	.18**	.71**	.58***	1.11***
Trust	(4.01; .000)	(3.59; .001)	(1.93; .056)	(2.56; .012)	(10.27; .000)	(6.89; .000)
Cognitive Conflict x		-1.07**		-1.21**		-1.22***
Cognition-based		(-2.37; .020)		(-2.02; .046)		(-3.51; .001)
Trust						
R^2	.76	.77	.58	.59	.85	.86
F- Value	53.87***	49.07***	23.78***	21.58***	95.87***	93.12***
ΔR^2		.013		.016		.016
Δ F-Value		5.62**		4.09**		12.35***
df	1, 102	1,101	1,102	1,101	1, 102	1, 101

*** $p < 0.001$, ** $p<0.05$, * $p < .10$

a. Standardized regression coefficients are reported; t-values and p-values are in parentheses

Hypotheses Testing: Mediating Effect of Affective Conflict

Hypothesis 8 in the model is concerned partial mediation of affective conflict in the relationship between cognitive conflict and decision outcomes. It was hypothesized that cognitive conflict affects decision outcomes directly as well as indirectly through affective conflict. Prior research indicates that cognitive conflict is positively and significantly related to affective conflict. Further, affective conflict is negatively related to decision outcomes. Therefore, it is necessary to see the partial mediation effect of affective conflict in the relationship between cognitive conflict and on decision outcomes.

Hypothesis 8: Mediating Effect of Affective Conflict

One of the conditions necessary to support mediation of affective conflict is the relationship between affective conflict and decision outcomes. Regression results show that affective conflict to be unrelated to any of the decision outcomes (H5, H6 and H7 are not supported) mediation is not possible. The fact that mediator (affective conflict) has no relationship with the decision outcomes means that the conditions necessary to support mediation fail on in the testing sequence as advocated by Baron and Kenny (1986). To test Hypothesis 8, prediction about the mediating effect of affective conflict, first control variables were entered in step1. In step 2 main effects and in step 3 interactions were entered. Finally in Step 4 mediator was entered. This was consistent with what other researches followed (e.g., Simons et al., 1999). The results of partial mediation analysis of affective conflict on decision outcomes are presented in Table 10.

The results indicate that affective conflict is not a mediator in any of the decision outcome variables. The regression model of mediating effect of affective conflict on

understanding was not significant (Δ F= .397, p>.10). The regression model showing the mediating effect of affective conflict on commitment was not significant (Δ F= 1.203, p>.10). Finally, the regression model showing the mediating effect of affective conflict on decision quality was also not significant (Δ F= .198, p>.10). Thus, Hypothesis H8 that affective conflict mediates the relationship between cognitive conflict and decision outcomes were not supported.

Table 10

Results of Partial Mediation Analysis of Affective Conflict on Decision Outcomes

Variables	Understanding	Understanding	Commitment	Commitment	Decision Quality	Decision Quality
	Model 1[a]	Model 2	Model 1	Model 2	Model 1	Model 2
Step 1: Control Variables						
Organizational	-.004	.009	.04	.01	-.05	-.06
Slack	(-.08; .936)	(.15; .874)	(.64; .519)	(.19; .844)	(-1.32; .189)	(-1.39; .168)
Team Size	-.07	-.08	-.04	-.03	.04	.05
	(-1.39; .167)	(-1.46; .146)	(-.63; .524)	(-.47; .635)	(1.23; .221)	(1.27; .205)
Team Tenure	.05	.06	-.02	-.03	-.02	-.02
	(1.10; .273)	(1.15; .251)	(-.35; .727)	(-.45; .653)	(-.44; .661)	(-.48; .634)
Step 2: Main Effects						
Cognitive Conflict	1.38***	1.31**	1.24**	1.38**	1.26***	1.30***
	(3.42; .001)	(3.15; .002)	(2.36; .020)	(2.56; .012)	(4.16; .000)	(4.13; .000)
Cognition-based	.73***	.72***	.73*	.75**	1.12***	1.13***
Trust	(3.36; .001)	(3.32; .001)	(2.62; .010)	(2.67; .009)	(6.92; .000)	(6.90; .000)
Affect-based Trust	.09	.07	-.14	-.10	.06	.07
	(.45; .654)	(.35; .720)	(-.55; .582)	(-.40; .689)	(.40; .690)	(.45; .650)
Step 3: Interactions						
Cognitive Conflict x	-1.04**	-1.03**	-1.37**	-1.38**	-1.31***	-1.32***
Cognition-based Trust	(-2.20; .030)	(-2.18; .032)	(-2.23; .028)	(-2.25; .026)	(-3.69; .000)	(-3.69; .000)
Cognitive Conflict x	-.09	-.05	.39	.31	.00	-.02
Affect-based Trust	(-.30; .761)	(-.17; .861)	(1.02; .309)	(.79; .431)	(-.01; .991)	(-.09; .923)
Step 4: Mediator						
Affective Conflict		.05		-.11		-.03
		(.63; .530)		(-1.09; .275)		(-.45; .657)
R^2	.77	.77	.61	.61	.87	.87
Adjusted R^2	.75	.75	.57	.58	.85	.85
F- Value	41.36*	36.58	19.44**	17.45	82.39	72.67
ΔR^2		.00		.01		.000
Δ F-Value		.39		1.20		.19
df	2,100	1,99	2,100	1,99	2,100	1,99

*** $p < 0.001$, ** $p<0.05$, * $p < .10$

a. Standardized regression coefficients are reported; t-values and p-values are in parentheses

Summary

Table 11 provides a summary of the tests of the research hypotheses. Out of seven (7) main effect hypotheses, four (4) were supported. Results suggest that cognitive conflict is positively related to understanding, commitment, decision quality and affective conflict. Results do not support the hypotheses that affective conflict is negatively related to understanding, commitment, and decision quality.

Out of the four moderated regression models, all of the moderated terms in the equations increased the explanatory power of the models. The moderated regression results suggest that cognition-based trust acts as a positive moderator in the relationship between cognitive conflict and decision outcomes. Results also support the negative moderating effect of affect-based trust in the relationship between cognitive conflict and affective conflict as hypothesized. The results do not support the partial mediation hypothesis.

Table 11

Summary of the Tests of Hypotheses

Hypothesis		Result
H1	Teams that experience higher levels of cognitive conflict will experience higher levels of affective conflict.	Supported***
H2	Teams that experience higher levels of cognitive conflict will have higher levels of understanding of decisions.	Supported***
H3	Teams that experience higher levels of cognitive conflict will have higher levels of commitment to decisions.	Supported***
H4	Teams that experience higher levels of cognitive conflict will produce higher-quality decisions.	Supported***
H5	Teams that experience higher levels of affective conflict will have lower levels of understanding of decisions.	Not supported
H6	Teams that experience higher levels of affective conflict will have lower levels of commitment to decisions.	Not supported
H7	Teams that experience higher levels of affective conflict will produce lower-quality decisions.	Not supported
H8	Affective conflict will partially mediate the relationship between cognitive conflict and understanding, commitment, and decision quality.	Not supported
H1a	Affect-based trust will moderate the relationship between cognitive conflict and affective conflict such that the relationship will be weaker under the conditions of higher levels of affect-based trust than lower levels of affect-based trust.	Supported**
H2a	Cognition-based trust will moderate the relationship between cognitive conflict and understanding of decisions such that the relationship will be stronger under the conditions of higher levels of cognition-based trust than lower level of cognition-based trust.	Supported**
H3a	Cognition-based trust will moderate the relationship between cognitive conflict and commitment to decisions such that the relationship will be stronger under the conditions of higher levels of cognition-based trust than low levels of cognition-based trust.	Supported**
H4a	Cognition-based trust will moderate the relationship between cognitive conflict and quality of decisions such that the relationship will be stronger under the conditions of higher levels of cognition-based trust than low levels of cognition-based trust.	Supported**

*** $p < .001$, ** $p < .05$

CHAPTER V

DISCUSSION AND IMPLICATIONS

This chapter is devoted to the discussion and implication of the research findings, limitations of the present study, and recommendations for future research. First, research findings are discussed. The results of the study in light of the hypotheses, the major contributions of the study and theoretical and practical implications of the study are then discussed. Finally, the limitations of the study and recommendations for future research are presented.

Discussion of Research Findings

In addition to the direct effects, this study examined the moderating effects of cognition-based and affect-based trust in strategic decision-making teams in enhancing decision quality, commitment, and understanding. The results indicate that cognitive conflict has positive decision outcomes. This finding is consistent with the previous research (Amason, 1996). The results provide additional support to the notion that team members often evaluate diverse perspectives of decision situations cognitively on a common platform before arriving at a final decision. Task-related disagreements have a positive impact on decision outcomes because members are in a position to evaluate the alternatives from a variety of perspectives and understand the context of the decision in its relationship to broader organizational goals.

Present research findings support the earlier research on the relationship between cognitive conflict and decision outcomes. As expected, cognitive conflict contributes o decision quality because it takes into account diverse perspectives and members critically examine the task on hand before making decisions.

Surprisingly, the relationship between affective conflict and decision outcomes is not significant. Affective conflict is not dysfunctional in this study and did not limit the cognitive processing of new information and reduces the receptiveness of the ideas advocated by others who are disliked. Though it is expected that when members differ from each other on emotional grounds, they would not be able synthesize diverse perspectives to produce high quality decisions, the results of present study indicate that the emotional differences did not affect the decision quality and other outcomes. Though prior research has demonstrated that extreme affective conflict may also trigger the members to sabotage decisions and engage in political gamesmanship (Simons & Peterson, 2000; Eisenhardt & Bourgeois, 1988), the results from the present study did not give any indication that teams engage in political gamesmanship so that it hurts the decisions. As against the growing body of literature that suggests affective conflict is dysfunctional, the present study reveals that members do not carry it to the extent that it affects the decision outcomes adversely. Present study did *not* find support for a negative relationship between affective conflict and decision outcomes. This finding is consistent with another research study (Janssen et al., 1999). Some of the plausible explanations for lack of a significant relationship between affective conflict and the decision outcomes include the following: 1) members may not allow affective conflict to take its extreme form because of deleterious consequences, 2) the level of affective conflict was not high

enough to have negative outcomes, 3) affect-based trust runs counter to the affective conflict. The lack of a significant relationship between affective conflict and decision outcomes needs further examination and future research.

Regression results also suggest that cognitive conflict has potential to degenerate into affective conflict. The regression results from the present study provide additional support to the existing literature on the relationship between cognitive and affective conflict. Since correlations between cognitive and affective conflict were high (ranging between 0.34 to 0.88) in previous research (Simons & Peterson, 2000), it is not surprising that in the present research the correlation was 0.72 ($p<.001$). This suggests that, as explained earlier, when members have task-related arguments and disagreements they may infer these as personal attacks which may eventually trigger affective conflict. It is quite possible that misattributions or the use of harsh and emotional language in arguments, hurtful and aggressive tactics used by members to convince others of their viewpoints, eventually result in affective conflict.

With regard to the relationship between cognitive conflict and affective conflict, one area of concern is about the temporal sequence. Although cognitive and affective conflict occurs at the same time, the temporal sequence as hypothesized in this research was from cognitive conflict to affective conflict. This is consistent with previous research (Simons & Peterson, 2000). It is also quite likely that affective conflict may trigger cognitive conflict. That is to say, personality and emotional clashes may escalate task-related disagreements. Members may hide the personality differences and instead express differences of opinion on task. The temporal sequence from affective to cognitive conflict was not considered in the present research.

This study provides empirical evidence documenting the moderating role of both cognition-based trust and affect-based trust in strategic decision-making teams. The results of moderating regression in this study indicate distinctly different roles of cognition-and affect-based trust. Instead of combining both constructs into a single one, as has been done previously (Simons & Peterson, 2000), it was felt by the researcher to study the impact of these variables separately on different dependent variables. In exchange relationships, members often rely on the interpersonal trust they have towards each other in interpreting the information they receive from other members. Undoubtedly, both cognitive and emotional components of trust are present in interpersonal trust, and the dominant, or most influential of these components would largely depend on the context. For example, cognition-based trust is founded on the competence of the members, success of past interactions, and organizational context. Therefore, cognition-based trust is context-specific. On the other hand, affect-based trust is grounded on an individual's perceptions concerning motives for others' behavior, and therefore is limited to contexts of specific interaction. Previous research on decision-making has provided both empirical and theoretical support for studying cognition- and affect-based trust separately as moderators. For example, Dooley and Fryxell (1999) demonstrated that the relationship between dissent among top management team members and decision quality was moderated by the perceptions of loyalty (affect-based trust), whereas competence (cognition-based trust) enhanced the relationship between decision commitment and decision quality. One recent study reported that "in every one of 43 empirical studies reviewed by Dirks and Ferrin (2001), the effect of trust on behavior and performance has been weaker and less consistent than the effect of trust on

attitudes and perceptions, suggesting that trust might exert a moderating rather than a direct effect on performance outcomes" (Langfred, 2004: 385). The results from the present study render support that trust is a moderator in the relationship between conflict and decision outcomes.

In addition to the direct hypothesis that cognitive conflict is positively related to decision outcomes—decision quality, understanding, and commitment—it was hypothesized that cognition-based trust would enhance such a relationship. The moderating regression results provide support for moderator hypotheses. This suggests teams that are high on cognition-based trust are able to interpret conflict-inducing information positively. The teams that are low on cognition-based trust are not able use trust as a substitute for lack of information. This adversely affects decision outcomes. The results suggest lower-levels of cognition-based trust would result in lower levels of understanding, commitment, and decision quality.

Since affect-based trust is based on interpersonal sharing relationships and emotional bonds, it minimizes the effects cognitive conflict can have on affective conflict. The moderating results indicate that affect-based trust has a buffering effect on affective conflict. This study suggests that although task-related disagreements have potential to degenerate into affective conflict, emotional investments made by the members intervene before cognitive conflict manifests itself into affective conflict. The point is that affect-based trust among the members is likely to reduce the emotional misbehavior. The results indicate that the strength of the positive relationship between cognitive conflict and affective conflict will be weakened by affect-based trust. It should be pointed out that in the present study, since the negative relationship (direct) was not

found between affective conflict and decision outcomes, affect-based trust among the members really does not mater. However, if the level of affective conflict is high such that it affects decision outcomes adversely, affect-based trust is important.

The study did not find support for partial mediation of affective conflict in the relationship between cognitive conflict and decision outcomes. This raises an important question: why does cognitive conflict have potential to increase affective conflict, yet the outcomes are not affected negatively? It may be that affect-based trust runs counter to affective conflict because the power of affective conflict is not high enough to affect outcomes. It may be that members have high stakes in outcomes such that they would not allow person-related conflict to affect the decision outcomes. These findings open up avenues for future research. These avenues are discussed in later section.

Major Contributions

This research has made at least four contributions: 1) developing a model on the basis of strong theory; 2) testing the theory in light of the existing empirical evidence; 3) extending support for the existing theory and providing empirical evidence for the new relationships and boundary conditions using trust; and 4) adding to the strategic decision-making literature by providing new directions upon which future research may be focused.

Contributions to the Strategic Decision-Making Literature

The present study adds to the strategic management literature in several ways. First, a new empirical model was built and tested incorporating conflict, trust and

decision outcomes as independent, moderator and outcome variables. The model highlights the dynamic interaction between the levels of trust the members have in each other as boundary conditions in affecting the decision outcomes. Previous literature paid little attention to the relationship between cognitive and affective conflict. Using a non-mediation perspective, previous research demonstrated that cognitive conflict is functional and affective conflict is dysfunctional. The present study took a mediation perspective and demonstrated that one type of conflict (cognitive conflict) has the potential to degenerate into another type of conflict (affective conflict), and explicitly looked at the outcomes from this partial mediation perspective. Although the study did not provide support for the mediation perspective, it opened up avenues for future research. For example, future researchers may measure affective conflict before-and-after cognitive conflict so that differences in the decision outcomes as a result of affective conflict can be observed. Secondly, longitudinal analysis of cognitive and affective conflict on decision outcomes may explain causal mechanism. Although the partial mediation perspective has theoretical justification it lacks empirical support. Despite this, one of the major contributions of this research is that cognitive conflict can deteriorate into affective conflict, and this reinforces previous research (Simons & Peterson, 2000).

Second, the research model incorporated the boundary conditions under which the decision outcomes would be affected. For example, teams having high levels of cognition-based trust will have better understanding and greater commitment to decisions when there are task disagreements than the teams having lower levels of cognition-based trust. Further, the cognitive conflict leads to better quality decisions for teams with a

high level cognition-based trust than for the teams that are low on cognition-based trust. Thus, under the conditions of high cognition-based trust, cognitive conflict would produce better decision outcomes. Therefore, cognition-based trust is the boundary condition for the relationship between cognitive conflict and decision outcomes. Similarly, for the teams that have high affect-based trust, cognitive conflict leads to less affective conflict than the teams that are low on affect-based trust. Affect-based trust is the boundary condition for the relationship between cognitive and affective conflict.

The research provides empirical evidence to support the recent theoretical contributions about the importance of task-related conflict on effectiveness of decisions. Further, the moderation (or interactive) effect of trust on performance outcomes (e.g., decision outcomes) adds to the existing literature. Prior research on trust demonstrates that the effects of interpersonal trust on team performance are interactive rather than direct (Dirks, 1999; Simons & Peterson, 2000), and that the role of trust in organizational settings needs to be examined from a moderating viewpoint (Dirks & Ferrin, 2001. The study provides an empirical base for Dirks and Ferrin's (2001) concluding remarks that trust may have moderating rather than direct effects on performance outcomes. Under the conditions of low levels of affect-based trust, there is little reason to suspect that the task-based arguments the members have on the decision platform will result in more personality clashes and conflict. Similarly, under the conditions of higher levels of cognition-based trust, there is little reason to expect that the task-based disagreements will have better performance outcomes than at lower levels of trust. To sum up, the divergent role of different types of trust on the outcomes is adds to existing literature.

The study suggests the consideration of a mediation perspective on the basis of an existing empirical relationship between cognitive and affective conflict as well as an existing theoretical base. This study makes a theoretical contribution by providing a mediation perspective of affective conflict. However, the lack of empirical support for the mediation perspective needs further examination. In addition, future researchers may also study the reverse causality between cognitive and affective conflict. Furthermore, longitudinal studies may be helpful in taking the research further in understanding the dynamics of strategic decision-making. Researchers need to examine why the interrelationship between cognitive and affective conflict is significant, yet affective conflict does not lead to significant negative outcomes. The study posits that cognitive and affective conflict were *not* mutually independent variables with mutually independent effects on behavioral dynamics and outcomes of team decision-making as other researchers point out (e.g., Amason, 1996; Amason & Schweiger, 1994, 1997). It should be remembered that some of the recent studies report that (i) both task-related and person-related aspects are involved in strategic decisions, and (ii) while engaging in task-disagreements, people-related conflict may erupt (Janssen et al., 1999). Research also supports the view that greater cognitive conflict leads to greater affective conflict (Ensley & Pearce, 2001). Ignoring such inter-relationships between cognitive and affective conflict may result in a partial explanation of the relationships between conflict and decision outcomes. The present research thus bridges the gap by incorporating the partial mediation perspective in the model. While this in itself is an added contribution, lack of empirical support for the mediation perspective, despite strong relationship between

cognitive and affective conflict, leaves a perplexing question that needs to be answered by future research. The study therefore provides avenues for future research.

The study also contributes to the literature on trust in several ways. First, the study demonstrates that just like cognitive conflict and affective conflict ((De Dreu et al., 1999; Jehn, 1997; Simons & Peterson, 2000; Amason, 1996), affect-based trust and cognition-based trust are different phenomena with different dynamics (McAllister, 1995). The research suggests not combining the two forms of trust (cognition-and affect-based trust) into a global variable. For instance, in a study by Simons and Peterson (2000) a global measure of trust by aggregating both types of trust into one was used as a moderator in the relationship between cognitive conflict and affective conflict. The present study went one step further and revealed that it was the 'affect-based' trust that moderates the relationship between the cognitive conflict and affective conflict. Post-hoc analysis reveals that cognition-based trust does not moderate the relationship between cognitive conflict and affective conflict. This study demonstrates that cognition-based trust has a potential role to play in the relationship between cognitive conflict and decision outcomes. The results of post-hoc analysis reveal that affect-based trust does not play a significant role in the relationship between the cognitive conflict and decision outcomes. This suggests that each type of trust has a different role to play in the strategic decision-making process, and therefore, should not be combined into one global measure. The researchers need to use a fine-grained approach to use appropriate moderators and tease out the redundant one. In sum, the results from the present study expand the conventional wisdom that trust plays a very important role in strategic decision-making

process. Researchers need to pay attention to the type of trust they refer to while examining the relationships between the variables.

Contributions to the Management Practice

The study contributes to the management practice in several ways. First, chief executive officers (CEOs) and their members recognize that decision-making is a complex process and that trust plays a vital role in the decision-making process. Second, the study enables the CEO and his team members to understand that different types of trust have different roles to play in decision-making process. Third, the results of the study reveal that disagreements that are generated in the decision-making platform have differing consequences. Some may be positive and some negative. The consequences depend on how the members exchange, process, interpret and act upon the information. Effective strategic decision-making teams are comprised of members who express divergent opinions and viewpoints on a cognitive platform (cognitive conflict), yet like each other on a personal basis (affect-based trust). Further, teams that trust each other on the level of abilities and competence (cognition-based trust) are likely to perform better than the teams that are low on competence and abilities. Thus, from a practical point of view, the results from this study suggest the CEOs invite the members who trust each other for making decisions. The study makes CEOs believe that it would be in the interests of the organization to involve only the members who have interpersonal trust so that decision outcomes are positive and help healthy functioning of organization.

The results of the study reveal that teams that have high cognition-based trust have the ability to interpret the cognitive conflict positively and affect the decision

outcomes positively. At the same time, teams that are high on affect-based trust were able to see that the team members' disagreements on the content would not result in personality based conflict. Thus, the study helps CEOs understand when the team members have interpersonal trust, person-related conflict becomes less of a problem. What is more important is to build trusting relationship among the members so that the resultant decision outcomes would be beneficial to both individuals and organizations.

The fact that the study makes a contribution to the practitioners can be seen from the comments of CEOs and members in the surveys sent. Some comments from the CEO of a hospital were: "This is an interesting survey. Will we see the results?" Another CEO commented that the "survey was reflective and provided opportunity to assess team decisions." In regards to the members of the team, one member of one hospital mentioned that the "CEO aggressively pursued opening up new departments in the hospital, and maintained a positive attitude." Another member of another hospital commented that "we have an excellent hospital management team. Our concern for patient care, employees, and community service are always important issues when making hospital wide decisions." Overall, the CEOs and members felt that the survey was interesting, and some of them also expressed their interest in seeing the research results.

Limitations of the Present Study

Before discussing the results and their implications acknowledgement of the limitations of this study is warranted. First, the generalizability of the findings from this study may be questionable. This study surveyed hospitals in healthcare industry, and the

results of the study may not be generalizable across the other industries. However, to the extent that the process of strategic decision-making is same in other industries the findings can be generalizable. One CEO of a hospital mentioned, "some dynamics that may work in most job careers will not replicate in the healthcare industry. Pure service oriented organizations more closely replicate the ideas but the cost / reimbursement is not equally proportionate with products providers." Second, social desirability bias may be another concern of this study. However, the anonymity and confidentiality of the respondents is expected to reduce the social desirability bias (Konrad & Linnehan, 1995). In this study social desirability may not be a problem. Had this bias been operating then we might have negative consequences for affective conflict. Research suggests that affective conflict has negative decision outcomes such as commitment, understanding and decision quality (Amason, 1996). Third, as usual in surveys, the common method variance may be another problem because 1) self-report data was used, and 2) data on dependent, independent, and moderator variables comes from the single source. Self-report data are susceptible to biases associated with common method variance. This bias is a problem because it is difficult to determine whether the observed covariance among study variables is attributable to valid relationships or to common method variance. This problem was addressed by separating the responses on independent variables from dependent variables. Since the respondents were CEO and senior level executives from hospitals who possess accurate knowledge common method bias would not be a serious problem (Podsakoff &Organ, 1996).

Multicollinearity is another problem that warrants special mention. First, correlational properties of the data were checked before conducting regression analysis.

Kennedy (1979) suggests that correlations of .8 or higher may be problematic from the viewpoint of multicollinearity. Further, Tsui, Ashford, Clair, and Xin (1995: 1531) indicate that "there is no definitive criterion for the level of correlation that constitutes a serious multicollinearity problem. The general rule of thumb is that it should not exceed .75." In this study, the median correlation magnitude (absolute value) is 0.24 and the correlation with the greatest magnitude was 0.72. These are well within the acceptable limits so as not to constitute a multicollinearity problem. Second, factor analysis using SPSS and confirmatory factor analysis (CFA) using structural equation modeling (Lisrel Package) were conducted, and the results suggest that multicollinearity is not a problem. To further check for multicollinearity, the researcher examined the variance inflation factor (VIF) of each independent variable. The largest VIF was less than 4, another sign that multicollinearity was not a problem (Guo, Chumlea & Cockram, 1996). Finally, centered variables were used in the analysis so that the results could not be invalidated due to a multicollinearity problem.

Another potential limitation regards causality. It was hypothesized that task-related conflict lead to affective conflict and there is some theoretical as well as empirical support for this causality (Ensley & Pearce, 2001). This posits that task conflict may be taken personally by the team members. By the same token, emotional conflict may also prompt group members to criticize other's ideas, thereby fostering cognitive-conflict. The causality between affective conflict to cognitive conflict was not considered in this study. This may explain why a negative relationship between affective conflict and decision outcomes was not supported in the present study.

Implications for Future Research

In addition to contributing to the existing literature, the present study provides several avenues for future research. One avenue is to continue exploring the role of process variables in strategic decision-making. To be more specific, future researchers may focus on antecedent conditions of cognitive and affective conflict among team members. For example, the relationship between team heterogeneity and conflict needs to be studied. Further, some types of diversity may lead to cognitive conflict (e.g., differences in functional background) and some other types of diversity may lead to affective conflict (e.g., age). Second, the effects of conflict-inducing techniques such as dialectical inquiry and devil's advocacy in generating the conflict may need focus on future studies.

Additionally, the relationship between team heterogeneity and perceptions of cognition and affect-based trust can be another line of inquiry future researchers may want to pursue. For example, some similarity between the functional and educational backgrounds may promote affect-based trust, and diversity may promote affective conflict.

In addition to the conflict, other process variables that can be studied in the strategic decision-making process could be social comparison, categorization, and informal communication (Smith et al., 1994). For example, future researchers may wish to examine the role of informal communication between the members prior to the decision-making on the decision-making process. The members may discuss the agenda on an informal platform which may influence the decision-making process. Further, members may make social comparisons with other members which may affect the way in

which they interact and exchange information. In addition, members may apply a categorization scheme (e.g., on the basis of age, gender, experience) before expressing their ideas and opinions on a decision platform. Future researchers may focus on these demographic and psychological variables which may affect the relationship between conflict and decision outcomes.

Studying reward structure and its impact on generating conflict among the members in the strategic decision-making process also merits attention in future research. For example, cooperative reward structure may reduce the tendency of generating affective conflict from cognitive disagreements. Some scholars suggest that a cooperative reward structure is important in strategic decision-making (e.g., Gomez, Mejia & Balkin, 1992). Finally, the impact of members' cultural values on strategic decision-making process may be another way to expand the present study.

The present study can be extended by focusing on how and why partial mediation hypothesis that affective conflict mediates between the cognitive conflict and decision outcomes did not find support. The results of the study strongly support that affective conflict does not matter as long as teams are characterized by high interpersonal trust. Future researchers need to explore the conditions under which cognition-based trust overpowers the affective conflict.

This study also poses an interesting paradox that needs to be studied further. For example, teams were encouraged to promote cognitive conflict to achieve desirable decision outcomes, and at the same time, teams were discouraged to produce affective conflict because of its negative consequences. This study revealed that it is not possible to encourage cognitive conflict and simultaneously reduce affective conflict because

cognitive conflict has a potential to increase the affective conflict. However, the findings suggest that the affective conflict does not have significant role to play in decision outcomes.

One of the interesting avenues for future research is to compare the differences between the strategic decision-making teams and teams at the lower level in studying the relationship between conflict and decision outcomes. Some evidence is available that affective conflict among the teams operating at the lower level in organization has negative outcomes (Pelled et al., 1999). Why does affective conflict in teams at the lower level has deleterious consequences compared to the teams at the higher level in organizations. One explanation could be the differences in the stakes of the decision outcomes. Strategic decision-making team members have a higher stakes than the teams at the lower level. The perceived importance of the decision outcomes may act as a moderator. For example, if the team members believe that decisions will not have significant consequences both at the individual and organizational level, affective conflict may result in adverse decision outcomes. Future research needs to explore the differences between the teams in the lower level and SDMTs while examining the relationship between conflict, trust and decision outcomes.

Conclusions

In conclusion, this study attempts to explain the boundary conditions for the affect-and cognition-based trust in the relationship between conflict and decision outcomes. The findings suggest that teams that are high in both cognition and affect based trust are more effective in making decisions than the teams that are low in both

types of trust. While cognition-based trust has a positive impact on the decision outcomes, affect-based trust acts as a moderator in the relationship between cognitive and affective conflict. The divergent roles of these types of trust as moderators are a significant contribution of this study. This study also provides several avenues for future research: 1) exploring the reasons why results did not support the negative relationship between affective conflict and decision outcomes, 2) understanding cognitive conflict has the potential to degenerate into affective conflict, yet affective conflict does not partially mediate the relationship between cognitive conflict and decision outcomes. This study suggests to the practitioners that teams that are high in interpersonal trust do better than the teams that are low on interpersonal trust. As long as the members have high cognition-based and affect-based trust, the person-related conflict does not affect the decision outcomes. The study encourages CEOs to promote both cognition-based trust and affect-based trust among the team members so that members make decisions that benefit the organization as well individuals. Thus, both academicians and practitioners can benefit from the results of this study. In sum, the findings from this study provide strong support and reinforce the argument that trust is a very important variable that is central to strategic decision-making.

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APPENDIXES

APPENDIX A

SURVEY QUESTIONNAIRE

OKLAHOMA STATE UNIVERSITY

TOP MANAGEMENT TEAM DYNAMICS AND DECISION QUALITY

EXECUTIVE SURVEY

Satyanarayana Parayitam
Department of Management
Oklahoma State University
Stillwater, Oklahoma
Ph: 405-744-5822 (off)
Email: parayit@okstate.edu

What this survey is about?

Significance of this research. This research investigates top management team dynamics and decision-making processes and their affects on the quality of strategic decisions and strategic decision implementation. More specifically this study investigates the positive and negative aspects of conflict in the decision-making process and how conflict affects decision quality and decision implementation. This study will help us to understand how top management teams can improve strategic decision quality through debate and dissent during the decision-making process, while simultaneously building high levels of team member commitment and consensus necessary for strategic decision implementation. shape the decision outcomes.

Confidentiality issue. The surveys and the results of the survey will be kept strictly confidential. Data will be reported only in aggregate form. I will be the only person who will have access to the surveys and in no case will the individuals from organizations be identified.

Voluntary Participation. Your participation, however, is voluntary. You are under no obligation to answer these questions. Your participation will be appreciated. Should you choose to participate, please provide thoughtful and honest answers.

How much time it takes to complete survey? This questionnaire should take about fifteen minutes to complete. When you are finished, please check the questionnaire to see that you have answered all questions. If you have any questions, please feel free to contact me.

When to return the surveys? I would appreciate your responses within two weeks, if at all possible. A postage-paid return envelope has been provided.

Executive summary of the research. If you think you are interested in getting a copy of Executive Summary, please provide mailing information below.

Name _____

Firm _____

Address _____

City, State _____

Zip Code _____

Thank you for your participation. If you have further questions, please feel free to call me at (918) 594-8159.

Section A: Organizational goals

Indicate how important you feel each of the following objectives is to your firm by circling your response on the seven point scale to the right of each item

		Not Important		Moderately important				Extremely important
1	Net profits (profitability)	1	2	3	4	5	6	7
2	Rate of growth	1	2	3	4	5	6	7
3	Market share	1	2	3	4	5	6	7
4	Employee rewards and benefits	1	2	3	4	5	6	7
5	Company prestige	1	2	3	4	5	6	7
6	Innovation	1	2	3	4	5	6	7
7	Assets and reserves	1	2	3	4	5	6	7
8	Service to community	1	2	3	4	5	6	7
9	Equipment and plant modernness	1	2	3	4	5	6	7
10	Dividend payout	1	2	3	4	5	6	7

Section B: Resources

Please rate the availability of the following resources in your firm.

		This resource is very scarce / or prohibitively expensive						This resource is quite plentiful
1	Capital	1	2	3	4	5	6	7
2	Skilled labor	1	2	3	4	5	6	7
3	Materials supplies and equipment	1	2	3	4	5	6	7
4	Managerial talent	1	2	3	4	5	6	7

Section C: Means

Please indicate the degree of importance your firm attaches to each item as a part of its overall strategy.

		Not important		Moderately important				Extremely important
1	Financial liquidity	1	2	3	4	5	6	7
2	New source of funds	1	2	3	4	5	6	7
3	Advertising	1	2	3	4	5	6	7
4	Cost reduction	1	2	3	4	5	6	7

5	Employee efficiency	1	2	3	4	5	6	7
6	Employee morale	1	2	3	4	5	6	7
7	Product quality	1	2	3	4	5	6	7
8	New Product development	1	2	3	4	5	6	7
9	Existing product improvement	1	2	3	4	5	6	7
10	Prediction of competitor actions	1	2	3	4	5	6	7

The following sections of the survey are concerned with particular strategic decision made by your firm and the strategic decision process surrounding this decision. Please keep the strategic decision in mind when answering the questions in the following sections.

Section D: Identification of strategic decision

As members of the top management team, you make strategic decisions that shape the future of your organization. Decisions are said to be strategic when they (i) involve commitment of substantial resources (ii) are rare in occurrence, and (iii) have organization-wide consequences. Some examples of strategic decisions include reorganization and restructuring, new product development, plant location, forming strategic alliance, change in the recruitment policies etc. I request you to identify the most important strategic decision your firm made in the past 18 months. In the space provided below please identify the most important strategic decision your organization made in the past 18 months in which you participated in decision-making process.

_____

_____

_____

Section E: Management Team Members

From the provided list, please identify the **key** individuals in your organization who were involved in making strategic decision identified above. If the list does not contain the names of the people involved, please include their names and titles at the end of the list. Please return this list along with the survey.
How many members participated in this decision? _____

Section F: Importance of strategic decision

Please indicate the strength of strategic decision you identified with regard to the following statements.

		Strongly agree						Strongly Agree
1	This decision involves commitment of substantial resources of the firm.	1	2	3	4	5	6	7

2	This decision is rare in that there was no adequate precedent to guide this decision.	1	2	3	4	5	6	7
3	This decision has widespread consequences for the firm.	1	2	3	4	5	6	7

Section G: Conflict

The following questions relate to the strategic decision you identified and the nature of conflict among team members you identified while making the decision. Please indicate the most appropriate score for each of the items.

		None						A great deal
1	How much anger was there among the group over this decision?	1	2	3	4	5	6	7
2	How much personal friction was there in the group during this decision?	1	2	3	4	5	6	7
3	How much were personality clashes between group members evident during this decision?	1	2	3	4	5	6	7
4	How much tension was there in the group during this decision?	1	2	3	4	5	6	7
5	How many disagreements over different ideas about this decision were there?	1	2	3	4	5	6	7
6	How many differences about the content of this decision did the group have to work through?	1	2	3	4	5	6	7
7	How many differences of opinion were there within the group over this decision?	1	2	3	4	5	6	7

Section H: Interpersonal trust

The following statements relate to the working relationship and interpersonal trust the members you identified. Please indicate the extent to which you agree or disagree with each of the items.

		Strongly Disagree						Strongly Agree
1	Team members have a sharing relationship. The group members can freely share the ideas, feelings, and hopes.	1	2	3	4	5	6	7
2	Team members can talk freely to others about their difficulties at work and know that they will want to listen.	1	2	3	4	5	6	7
3	Team members would feel a sense of loss if transferred and they could no longer work together.	1	2	3	4	5	6	7
4	Team members feel that if they shared their problems with other members, the members would respond constructively and caringly.	1	2	3	4	5	6	7
5	The members have made considerable emotional investments in their working relationships.	1	2	3	4	5	6	7
6	The members in the group approach their job with professionalism and dedication.	1	2	3	4	5	6	7
7	The track record of members gives no reason to doubt their competence and preparation for the job.	1	2	3	4	5	6	7
8	The members feel that they can rely on this group not to make my job more difficult by careless work	1	2	3	4	5	6	7
9	Team members, even those who are not close friends, have trust and respect for each other.	1	2	3	4	5	6	7
10	Team members interacting with others consider them to be trustworthy.	1	2	3	4	5	6	7
11	Team members can be counted on to fulfill their responsibilities in a reliable manner.	1	2	3	4	5	6	7

Section I: Agreement-seeking behavior

The following questions are related to the extent to which members strive to exhibit agreement-seeking behavior during the strategic decision-making process for the decision you identified. Please indicate the extent to which you agree or disagree with each of the items.

		Strongly Disagree						Strongly Agree
1	Strategic decisions are not final until all the members agree that the decision is acceptable to them.	1	2	3	4	5	6	7
2	Everyone's input is incorporated into most important company decisions.	1	2	3	4	5	6	7
3	The members believe that taking more time to reach consensus on a strategic decision is generally worth it.	1	2	3	4	5	6	7
4	When the final decisions are reached, it is common for at least one member of the team to be unhappy with the decision.	1	2	3	4	5	6	7
5	When making decisions, the team works hard to reach decision.	1	2	3	4	5	6	7
6	All the members of the team are committed to achieving the company's goals.	1	2	3	4	5	6	7

Section J: Decision quality

Please indicate how you believe that this particular decision turned out. In other words, now in retrospect, has the decision proven to be a good one?

1. The effect that that decision has had on company is:

   (1) Poor (2) Fair (3) Good (4) Excellent

2. Relative to what we expected, the results of that decision have been:

   (1) Poor (2) Fair (3) Good (4) Excellent

3. Overall, I believe that that decision was:

(1) Poor (2) Fair (3) Good (4) Excellent

4. The degree to which team's decision rationale covered the maximum *range* of relevant issues was:

(1) Very low (2) Low (3) High (4) Very High

5. The degree to which the team's decision rationale was well *structured* and reflective of interrelationships and intra-relationships among the relevant issues.

(1)Very low (2) Low (3) High (4) Very High

6. The degree to which the team's decision rationale was expressed issues in *depth*.

(1) Very low (2) Low (3) High (4) Very High

Section K: Understanding of decisions

Please indicate which concerns most influenced the group's decision in this matter by allocating a total of ten (10) points across the following areas. Weight each area according to its importance. Those concerns that influenced the decision greatly should be weighted more heavily than those concerns that did not influence the decision heavily.

1. Cost control / efficiency _____

2. Innovation / new product development _____

3. Coordination and control _____

4. Human resource development _____

5. Customer / market development _____

6. Other concerns (specify) _____

Section L: Decision commitment

The following questions are related to the extent to which the members are committed to the decision you identified. Please answer the following questions, circling the appropriate one.

		None						A great deal
1	How much were the team members willing to do to see that that decision was properly implemented?	1	2	3	4	5	6	7
2	How much did team members argue in favor of the alternative that ultimately became the final decision?	1	2	3	4	5	6	7
3	How consistent was the final decision with team members' personal priorities and interests?	1	2	3	4	5	6	7
4	Did that particular decision inspire the members to work hard or enthusiastically?	1	2	3	4	5	6	7
5	How pleased were the team members that particular decision was chosen over all of the potential alternatives?	1	2	3	4	5	6	7
6	How much did the team members believe that that decision would enhance your hospital's overall performance?	1	2	3	4	5	6	7
7.	To what extent the team members believe that that decision represented the best of all the possible alternatives?	1	2	3	4	5	6	7

Section M: Cognitive diversity

The following questions are related to the extent to which the members agree or disagree with each other about the organization's priorities. Please answer the following questions, circling the appropriate one.

	How strongly do members of the top management team agree or disagree with each other about….	Strongly Disagree						Strongly Agree
1	the best way to maximize the firm's long term profitability ?	1	2	3	4	5	6	7
2	what the firm's goal priorities should be?	1	2	3	4	5	6	7
3	the best way to ensure the firm's log-run survival?	1	2	3	4	5	6	7
4	which organizational objectives should be considered most important?	1	2	3	4	5	6	7
5	Your firm must frequently change its production/ service technology to keep up with competitors and/or consumer preferences.	1	2	3	4	5	6	7
6.	Actions of the competitors are easy to predict.	1	2	3	4	5	6	7

Section O: Biographical Information

The following questions are related to your demographics. Please answer the questions.

1. Name (optional)
2. How old were you on your last birthday ? _____ years
3. What is your gender? _____ female _____ male
4. Circle the number that corresponds to the level of formal education that you have received.
    a. less than a high school degree
    b. high school degree
    c. some college
    d. college degree
    e. some graduate school
    f. graduate degree
5. How long have you been with the present company? _____ years
6. How long have you been in the current management position in the company? _____ years.

7. In what functional area have you spent most of your career?

☐ Marketing ☐ Production ☐ Finance ☐ Human Resources
☐ Information Systems ☐ General Management ☐ Legal ☐ Accounting
☐ Administration ☐ Doctor ☐ Nursing
☐ Other (specify) _____

Comments

_____
_____
_____
_____
_____
_____

Thank you for your participation! Completion and return of this survey indicates your consent to participate in this study.

APPENDIX B

IRB FORM

Oklahoma State University
Institutional Review Board

Protocol Expires: 7/1/2004

Date: Wednesday, July 02, 2003 IRB Application No BU0315

Proposal Title: THE REATIONSHIP BETWEEN CONFLICTS AND DECISION OUTCOMES: MODERATING ROLE OF TRUST IN STRATEGIC DECISION MAKING TEAMS

Principal Investigator(s):

Satyanarayana Parayitam
417 Business
Stillwater, OK 74078

Robert Dooley
206 Business
Stillwater, OK 74078

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact Sharon Bacher, the Executive Secretary to the IRB, in 415 Whitehurst (phone: 405-744-5700, sbacher@okstate.edu).

Sincerely,

Carol Olson

Carol Olson, Chair
Institutional Review Board

VITA

Satyanarayana Parayitam

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE RELATIONSHIP BETWEEN CONFLICT AND DECISION OUTCOMES:MODERATING ROLE OF TRUST IN STRATEGIC DECISION-MAKING TEAMS

Major Field: Business Administration

Biographical:

Personal: Born in Nandivelugu, Andhra Pradesh, India, in 1957, the son of Krishna Murthy and Padmavati, married to Nagamani, and blessed with a daughter Dini and a son Sailohit.

Education: Completed Senior Secondary School in 1974 at S.S.N.College, Narasaraopet, Andhra Pradesh; Received Bachelor of Commerce degree from University of Delhi in 1977; Received Master of Commerce degree of University of Delhi in 1979; Received Master of Science degree in Economics from Oklahoma State University, Stillwater, Oklahoma in 1998; Completed the requirements for the Doctor of Philosophy degree with a major in Business Administration at Oklahoma State University in May, 2005.

Experience: Served as a Lecturer in Commerce in University of Delhi from 1979 to 1991; Served as a Lecturer in Commerce Sherubtse College, Bhutan from 1991 to 1996; Employed as a Graduate Teaching and Research Assistant in the Department of Management, College of Business, Oklahoma State University from 1997 to 2003; Employed as a Visiting Professor of Management in Oklahoma State University - Tulsa from 2003 to 2004; Employed as an Assistant Professor of Management at McNeese State University, Lake Charles, Louisiana from August 2004.

Professional Memberships: Academy of Management.

Name: Satyanarayana Parayitam Date of Degree: May, 2005

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: THE RELATIONSHIP BETWEEN CONFLICT AND DECISION OUTCOMES: MODERATING ROLE OF TRUST IN STRATEGIC DECISION-MAKING TEAMS

Pages in Study: 150 Candidate for the Degree of Doctor of Philosophy

Major Field: Business Administration

Scope and Method of Study: This study examines the interrelationships among conflict, trust, and decision outcomes. Taking information processing perspective as a theoretical base, this study explores the conditions under which conflict during decision making process affect strategic decision making outcomes. In addition to the direct effects, the moderating effect of affect-based trust and cognition-based trust on decision outcomes was examined in this study. Data includes 109 hospitals in health care industry. Multiple regression and moderated regression was utilized to examine the proposed relationships. The researcher examined both moderation and mediation effects.

Findings and Conclusions: The researcher found that cognitive conflict has significant positive relationship with decision quality, understanding, and commitment. However, contrary to what was hypothesized, affective conflict was not significantly related to decision outcomes—decision quality, understanding, and commitment. Cognitive conflict, as hypothesized, was positively related to affective conflict. It was also found that affect-based trust moderated the relationship between cognitive conflict and affective conflict such that high levels of affect-based trust decreased the strength the relationship between cognitive conflict and affective conflict. Additionally, cognition-based trust moderated the relationship between cognitive conflict and decision outcomes positively. Contrary to what was hypothesized, affective conflict was not a partial mediator between cognitive conflict and decision outcomes. Overall, results suggest that trust among the team members plays an important role in the study of conflict and decision outcomes.

ADVISER'S APPROVAL: _____Dr. Robert S. Dooley_____