Transactional and transformational leadership as an element of organizational context for team behavior and effectiveness

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TRANSACTIONAL AND TRANSFORMATIONAL LEADERSHIP AS AN ELEMENT OF ORGANIZATIONAL CONTEXT FOR TEAM BEHAVIOR AND EFFECTIVENESS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
In
Psychology:
Industrial / Organizational

by
Ahu Gokmen
March 2000
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Approved by:

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Abstract

The purpose of this project was to look at the relationship between leadership behaviors as an element of organizational context and teamwork behaviors which in turn affect overall team effectiveness. Specifically, two leadership styles, transactional and transformational were the main focus in terms of leadership. It was proposed that both leadership styles were necessary for team effectiveness. Data were collected by administering a "leadership and team effectiveness" questionnaire to teams in several organizations. Team members rated their perceptions of their organizational leaders, their teamwork processes, and effectiveness. Data were analyzed through regression and structural equation modeling (EQS) analyses. Overall, results indicated that transformational leadership was the strongest predictor for teamwork behaviors and effectiveness. The EQS model provided support that the relationship between transformational leadership and team effectiveness is mediated by team behaviors.
ACKNOWLEDGMENTS

This project has been a challenging, yet a valuable experience for me. There are a lot of people who were constantly by my side during this one and a half year effort. First of all, I want to thank my family, Nesrin, Feyyaz, and Eda Gokmen who have been incredibly supportive of me with their love and encouragement. Having a good education and work experience in the U.S. was one of my biggest dreams and they made it happen. Special thanks to my thesis advisor, Dr. Janelle Gilbert, whose intelligence, and deep knowledge in groups and leadership made this project a unique contribution to research. Her insights and patience is greatly respected and appreciated. I also want to thank a few of the very special people in my life, the true friends, Carrie Rodgers, Kim Holley, Tim Hickey, Tammy West, and Kathy Rowland who have been so wonderful, helpful, supportive, and encouraging in the completion of this project. I want to acknowledge my manager and mentor, John Mulholland for being very understanding and flexible for me to finalize this project in a timely manner. Finally, I want to thank Tutku Perkin who deserves a special acknowledgement
for his endurance and understanding. His presence helped me
go through the tough times and look forward to the good
ones.
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CHAPTER ONE

Introduction

Today's work environment is growing and rapidly changing. Economic, environmental, and social changes affect the way work needs to be done. Globalization continues to create more and more competitiveness in the business environment. There is an expressed need to grow and employ contemporary practices for organizations to stay competitive. In order to achieve competitiveness, organizations need to work smarter, improve their quality in products and services, and enhance their productivity and satisfaction. This can only be achieved through employing more effective management systems and strategies such as improved coordination and integration systems, participative management, and empowered employees. Therefore, organizations have started to redesign jobs so that they are done in the most effective way. One way of redesigning work is to implement team-oriented systems.

We see an apparent increase in team-oriented organizations because organizations have realized that the whole effort is more than the sum of its individual parts.
As an empowerment strategy, teams "accelerate productivity and quality as well as enhance human competencies and commitment" (Moravec, et al., 1998). Organizations are turning to team-oriented systems, designing work to be done interactively by groups of their employees in order to meet the demands and adjust to today's business environment. Research has shown that "at their best, teams are ideal structures for generating knowledge, enhancing quality and performance, and improving satisfaction" (Tannenbaum, Salas, & Cannon-Bowers, 1996, p. 504). Teams provide organizations with a valuable and flexible human resource (Harris & Barnes-Farrell, 1997). However, in order for teams to provide their respective organization with these valuable human resources, certain contextual conditions must be met within the organization. These conditions might include providing the appropriate training, teaming the right people together, providing team members with the necessary resources, and establishing the appropriate performance evaluation and reward systems. In other words, it is important to keep in mind that teams operate within a
particular environmental context, in which all these processes take place and the resources are provided. Researchers and practitioners have paid quite a lot of attention to certain topics such as creating high-performance teams, designing team-based organizations, and selecting the right people for teamwork. However, relatively few have discussed the impact of organizational context on teams.

Organizational context of teams can be described as "the overarching structures and systems external to a team that facilitate or inhibit teamwork" (Denison, Hart & Kahn, 1996). An empowering and supportive organizational context in which teams perform their tasks can be extremely important for those teams to be successful. Therefore, it is important to have a clear understanding of the organizational context where teamwork can be performed in a efficient and productive way. The purpose of this project is to look at the relationship between managerial leadership behaviors, as an element of organizational context, and teamwork behaviors which in turn affect overall team effectiveness.
Generally speaking, the concept of organizational context is rather vague, complex, and elusive. It's defined in many ways by different people, yet it hasn't been defined in sound operational terms. Because being able to operationalize and measure it is also complex, this makes it difficult to study "organizational context" per se. That's why, the empirical research on this concept is not very rich. So, if measuring organizational context is that complex, why should we study it?

Many successful organizations are the ones, which have succeeded to align their environmental context to their organizational goals (Mohrman, Cohen & Mohrman, 1995). An organization's culture is reflected in its organizational context. In other words, norms, values, and premises held by organizational members affect the organizational structure and its institutionalized processes (Schein, 1992). Likewise, the existing structures and systems also influence the behaviors of the members of an organization. Such factors as information flow, the structure of communication processes, availability of resources, formalization, centralization, and the dress-code help organizational
members perceive how the work is done and "what works" and "what does not work" within their organization. Therefore, contextual factors have a profound influence on the behavior and performance of the members of an organization. Since organizational context variables are said to mold behavior, they can have a significant impact on overall organizational effectiveness. With respect to team level effectiveness, those contextual variables are also expected to have an impact on group/team behaviors.

One way of enriching the literature is to look at the organizational context as a concept that’s composed of certain elements. Organizational context is a broad term because it has many components. All these components have differential impact on the overall outcome of the group. Some are distinct, yet most of them are interrelated with each other. Examples of these contextual elements are organizational structure, culture, managerial support systems, leadership behaviors, performance evaluation systems, and physical settings. All these pieces come together and make up the broad concept of organizational context. By looking at the pieces, we can narrow the
broadness of organizational context down, study it empirically (i.e., in operational terms) and thereby, contribute to the research literature on organizational context.

Among these contextual variables, effective management has been one of the most critical practices that bring about organizational effectiveness. Specifically, leadership behaviors of managers can play a tremendous role for the organization's success. Why is the concept of leadership important? As Bass (1997) emphasizes leadership has a profound influence on an organization in that leaders are able to facilitate the adjustment of the organization in its context and to alter that environment if necessary. When organizations need to adjust to their external environment in order to survive and/or stay competitive, it is their leadership that is crucial for orchestrating the process (Bass, 1997). Similarly, an existing culture can be changed to the extent that its leaders have the ability to communicate the need for change by creating a new vision, motivating employees to change, clarifying the paths that lead to change, and rewarding change. This is because the
leaders provide symbolic support for the development of norms, values, and beliefs that contribute to organizational development and change. "They revitalize the shared beliefs and help keep the values fresh. They conceive and articulate goals that move people from their own interest to unite for higher achievements" (Bass, 1997, p. 14).

Culture is reflected in the organizational context, which include written/non-written policies and procedures and formal/informal management systems, and the leaders have the ability to shape culture, as well as the context within which culture exists (Schein, 1992). It is considered that the impact of leaders plays a crucial role in organizations and organizational change. Given the information of its importance, leadership behavior, as one of the aspects of organizational context, is chosen to be the focus in this study. The present research will look at the relationship between managerial leadership behaviors and team behaviors, which has not been emphasized in prior research.

The increased use of teams within organizations has added new dimensions to leadership roles of managers. Therefore roles and behaviors for senior managers who lead
teams need to be redefined (Harris & Lambert, 1998). The question then becomes, what are the key behaviors of managers that facilitate and promote teamwork and help teams to be successful?

Throughout the history of leadership research, different approaches have been used to define leadership (Yukl, 1994). More recent attempts include a broader approach that integrates past theories. More specifically, Bass's (1985) work on transactional and transformational leadership has been successful in capturing effective leader behaviors. Bass (1985) stated that this approach is more inclusive than other approaches. This was the most appealing reason why Bass's model of transactional and transformational leadership has been chosen for this project. Today, modern leadership is characterized by two key factors; initiating the structure of work and showing consideration to others. Bass' (1985) leadership model cuts across these two dimensions. The critical elements of these two dimensions also characterize transformational and transactional leadership. Both transactional and transformational leaders utilize initiation and
consideration in their style. However, understanding of modern leadership requires expansion. There is more than initiating tasks and considering for others in reaching group and organizational goals. Greater emphasis needs to be placed on clarifying the paths to reach organizational goals, recognizing the needs and values of the employees, communicating these needs to upper management and/or stakeholders, and articulating a vision to intrinsically motivate and inspire them to exert their best effort for attaining goals (Avolio & Bass, 1987). These skills reflect transactional and transformational leadership styles and go beyond the two concepts of initiating structure and considering others.

Moreover, empirical research also indicates that the new team-centered role demands both transactional and transformational leadership behaviors (Harris & Lambert, 1998; Yukl, 1994; Keller, 1995; Sosik, 1997). As mentioned earlier, the present study attempts to address the leadership behaviors of managers that facilitate teamwork, which in turn, affect team effectiveness. The aim is to provide a conceptual framework for integrating and extending
the knowledge for supporting and managing teams in contemporary work environments.

Teams: What do we know? / What do they need?

The use of teams has become an extremely prevalent work design and intervention in all types of organizations today. Academic and management research increasingly highlights the importance of teams for organizational success in today's modern economy (Cohen & Bailey, 1997). Some organizational development professionals have gone even further suggesting that work teams should be incorporated into all aspects of organizational functioning (Mohrman, et. Al., 1995). In fact, the business environment is abounding with teams.

There are many different types of teams named in terms of their mission: work teams, project teams, functional, cross-functional teams, empowered teams, self-directed/self-managed teams, and executive teams. The use of teams seems to continue to expand in response to competitive challenges because the definition of work has changed and become more complex. It can no longer be done individually as effectively. Teams can provide organizations with a valuable and flexible human resource to do the work in a more
effective way (Harris & Barnes-Farrell, 1997). Therefore, organizations rely on teams more and more everyday, to attain their organizational goals because teams can outperform individuals performing alone when performance requires multiple skills, interdependency, and commitment to common goals (Katzenbach & Smith, 1993a). Since the organizational environment has become very competitive, organizations need to be more effective and efficient in getting work done in order to survive and become successful in this competitive arena. Teams may be more effective than individuals in getting the work done, and that's why, organizations need and utilize team-based systems more than before.

What is a team in an organizational setting? As defined by Greenberg and Baron (1995), a team is "a collection of people who have complementary skills, who are committed to a common purpose or set of performance goals for which they hold themselves mutually accountable, and who manage their relationships across organizational boundaries". In this present study, the words "team" and "group" are used interchangeably, although groups vary in their degree of
"groupness", with some groups being more interdependent and integrated than others (Cohen & Bailey, 1997).

What does a team do? How do teams work? The process is called "teamwork". McIntyre & Salas (1995) describe teamwork as a complex of behavioral characteristics and define it as "the activities that serve to strengthen the quality of functional interactions, relationships, cooperation, communication, and coordination of team members" (p. 15). Teamwork involves more than the accomplishments of certain tasks that are more technical in nature. Teamwork includes cooperation and integration of team members. The individuals who comprise the team or the group interact with each other in a certain way to achieve the desired, common goals. Research agrees that teamwork is critical to the success and the performance of the work group.

**Essential Components of Teamwork**

As mentioned earlier, teamwork is defined as a set of behavioral characteristics and composed of certain elements (McIntyre & Salas, 1995). The following taxonomy was adapted from the works of Dickinson (1993 as cited in Harris & Barnes-Farrell, 1997) and McIntyre and Salas (1995). Smith-
Jentsch, Johnston, & Payne (in press) at the Naval Air Warfare Center developed and used a measure called Anti-air Teamwork Observation Measure (ATOM) to obtain reliable descriptions of teamwork and to link those dimensions to team outcomes. Their goal was to use this measure in team training. ATOM was developed in order to evaluate team-level processes that contribute to performance outcomes at certain simulations used in the study. The original version of the ATOM included the following dimensions:

**Communication** refers to the exchange of information between a sender and a receiver. In the team context, it is the degree to which information is transmitted among the team members of the work group. In McIntyre and Salas' taxonomy, communication included behaviors such as using proper terminology and communication procedures, avoiding excess nets, passing complete information to correct members, acknowledging requests from others, and receipt of information, etc.

**Monitoring** relates to observing the activities and performance of other team members. Effective team members keep track of the other team members' work while carrying
out their own tasks in order to ensure that the work is being done properly and in a timely manner. Other examples of monitoring behavior are recognizing when a team member makes a mistake, and recognizing when a team member performs exceptionally well.

**Feedback** involves giving, receiving, and acceptance of information. Actually, feedback is a follow-up process to monitoring. In a team context, team members should feel free to provide feedback to each other. Relevant teamwork behaviors for feedback include responding to others’ requests for information, accepting reasonable suggestions, avoiding non-constructive comments, asking for advice when needed, asking for input regarding performance, providing specific, constructive suggestions to others.

**Coordination** refers to the team members executing their activities in a timely and integrated manner. It includes behaviors such as passing relevant information in a timely and efficient manner, facilitating performance of other team members, carrying out individuals tasks in a synchronized manner, and avoiding distractions during critical operations.
Team Initiative/Leadership involves providing direction, structure, and support for other team members. This does not necessarily relate to a formal authority among team members. Team leadership can be shown by several team members. It includes behaviors such as encouraging others to make decisions, providing direction, support, and needed information to other members, clarifying the expectations from other team members, and encouraging others to take on extra duties.

Back-up behavior involves assisting the performance of other team members. Back-up behavior requires that the team member understands the other team members' tasks and provides and seeks assistance when needed. Some examples of such behaviors are completing own duties even while helping others, providing assistance to those who need it, asking for help when needed rather than struggle alone.

The authors conducted factor analyses and found the existence of these dimensions. However, there were some drawbacks to these dimensions. Some of the dimensions had demonstrated poor interrater reliability. Moreover, they had a low discriminant validity in that they failed to describe
distinct performance processes that were evaluated by the raters. Many of them were also highly correlated with each other, which contributed to low discriminant validity. In other words, the original items in the measure involved redundancy across descriptions of teamwork behaviors. For example, the "coordination" dimension included "facilitating performance of other team members, while the "team initiative/leadership" dimension included "providing direction and support to other team members" (Smith-Jentsch, et. al., in press). Therefore, the authors asked the subject matter experts to recreate a list of teamwork behaviors that they considered distinct. Based on focus group discussions, eleven specific behaviors were identified under four high level dimensions. The following is a brief summary of the dimensions and behaviors:
### Table 1

**Teamwork Behaviors**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition of Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Exchange</td>
<td>Seeking information from all available resources,</td>
</tr>
<tr>
<td></td>
<td>Passing information to the appropriate people before having to be asked,</td>
</tr>
<tr>
<td></td>
<td>Providing &quot;big picture&quot; situation updates.</td>
</tr>
<tr>
<td>Communication</td>
<td>Using proper terminology,</td>
</tr>
<tr>
<td></td>
<td>Providing complete internal and external reports,</td>
</tr>
<tr>
<td></td>
<td>Avoiding excess chatter,</td>
</tr>
<tr>
<td></td>
<td>Ensuring communications are clear.</td>
</tr>
<tr>
<td>Supporting Behavior</td>
<td>Correcting team errors,</td>
</tr>
<tr>
<td></td>
<td>Providing and requesting backup or assistance when needed.</td>
</tr>
<tr>
<td>Team Initiative/Leadership</td>
<td>Providing guidance or suggestions to team members,</td>
</tr>
<tr>
<td></td>
<td>Stating clear team and individual priorities.</td>
</tr>
</tbody>
</table>

In order to test the reliability and the validity of the new dimensions, the authors collected data with the help of raters evaluating 100 videotaped performance exercises using the new measure. Interrater reliabilities ranged from .82 to .91. They also compared the discriminant validity for the two types of dimension items. They computed correlations.

---

1. Table is cited from Smith-Jentsch, et. al., in press
among items in different dimensions. Scores on specific items were summed within a dimension and made up the composite ratings. Results indicated low correlations (e.g. .15, p<.05). This suggested that the new items discriminated between unique performance definitions. The authors concluded that results provided evidence for composite ratings of the four ATOM dimensions to represent superior teamwork strategies (Smith-Jentsch, et al., in press). Therefore, the final version of the ATOM was used in this study.

Research literature has addressed topics such as creating high performance teams (Katzenbach & Smith, 1993b; Campion, Medsker, & Higgs, 1993; Bassin, 1988; Hyatt & Ruddy, 1997; Moravec & Hjelmas, 1998), designing teams (Hackman, 1990; Guzzo & Shea, 1992; Sundstrom, DeMeuse, & Futrell, 1990), designing team-based organizations (Mohrman, et al., 1995), and selecting the right people for teams (Stevens & Campion, 1994; Tannenbaum, et al., 1996; Campion, Papper, & Medsker, 1996; Offerman & Gowing, 1993). However, relatively few have discussed the organizational context in which teams operate. The present study brings more insight
to the related literature by specifically focusing on the managerial leadership behaviors as contextual elements and how they relate to effective team functioning within the organizational context.

Organizational Context: What Do We Know?

Organizational context is a very broad, and at the same time vague concept. Since it is very broad, it is difficult to define it in operational terms. Moreover, it is also not feasible to conduct a study on "organizational context" per se because there are so many components to look at that make up the organizational context. Some examples of these contextual elements are organizational structure, culture, information systems, reward systems, managerial support systems, leadership, training, and resources. Although we do have some knowledge about the elements of organizational context, we have limited research on how these elements influence the effectiveness of teams.

As defined earlier, organizational context for teams is any kind of "overarching structures and systems external to a team that facilitate or inhibit teamwork" (Denison, Hart, & Kahn, 1996). The success of a team depends not only on
technical knowledge and ability or the interaction abilities of team members, but also on the organizational features external to the team. Teams are often viewed as the context variable for individual behavior (Gladstein, 1984). However, organizational context should also be considered as an influential variable for group behavior since behavior is affected and shaped by its environment. In explaining group behavior, Lewin (1947) came up with a simple but quite comprehensive formula; \( B = f(P, E) \) (i.e., "Behavior is some function of the environment and the person"). In other words, individuals manifest behaviors with respect to the environment in which they perform. This explanation is also similar to the essential concept of social learning theory; we learn and manifest behaviors by observing our environment and the interactions that take place within that environment. Moreover, Hackman (1990) supports these assumptions by stating that group behavior and interpersonal interaction are significantly shaped by environmental cues. Here, referring to organizational culture literature would also help us better understand the relationship between group behavior and its environment. As one of the elements
of organizational context, culture refers to collective values and norms shared by the people within an organization. The culture of an organization is one of the main factors that determines the various practices within the organization and the behaviors of its people (Recardo & Jolly, 1997). In other words, organizational characteristics reflect its culture and structure and will be reflected on its people. Schneider (1990) examined organizational climate and culture and found positive relationships between organizational norms/values and the norms/values of the members of those organizations, both at the individual and the group level. He concluded that people who make up the organization have consistent norms and values within its culture since this is a two-way interaction. Culture is formed by the norms and the values of the people who are in that environment. People adopt and manifest their behaviors according to the culture and the environment they are in, as well as to the extent that those behaviors are consistent, accepted, and promoted in that environment. With regards to the team environment, characteristics of an organization will be reflected on groups' and teams' characteristics to
the extent that they are appropriate and consistent to promote teamwork behaviors. An organization which tries to implement team-based work processes would likely fail to do so if it does not create a physical setting that enhances teamwork. Similarly, organizations which attempted to promote teams would fail to do so if their reward and performance appraisal systems reinforce individual rather than team performance. Coordination and effective communication are extremely critical components of teamwork. Organizations, which are turning to team-oriented systems, should have effective coordination and integration systems at an organizational level, which would further be adopted at the team level. Mechanisms for empowering teams and facilitating teamwork would fail to succeed if there were inconsistencies between what the organization values and what it actually employs. An organizational environment, which values and promotes team-oriented systems, should have structures and cultures that are congruent with teamwork and group behaviors, which in turn affect team effectiveness.

In their study on measuring team performance, McIntyre and Salas (1995) stated that teamwork would take place to
the extent the organization fosters team behaviors. Gladstein (1984) showed that contextual factors were more powerful determinants of team effectiveness than internal team processes. She indicated that research has ignored the organizational context variables that would mold group behavior, and recommended the examination of the organization as a context variable influencing group behavior. Sundstrom, et al. (1990) proposed an analytical framework in which team effectiveness is dynamically interrelated with organizational context as well as team boundaries such as work team differentiation, and team development processes such as interpersonal processes. These authors followed an ecological perspective in that the organizational context was composed of elements such as organizational culture, physical environment, rewards and recognition, performance feedback, training, task design, autonomy, and mission clarity. They suggested that the framework brings about the premise that work teams can be best understood in relation to their external environment as well as internal processes. Finally, Campion, Papper, and Medsker (1996) expressed the need to look at a context theme
that considers resources and contextual influences to make teams more effective. They stated that teams needed adequate managerial support and encouraging supervisory behaviors.

Introduction to Leadership Behaviors

Since the very beginning of leadership research, there have been many questions on the definition of leadership, effective leadership behaviors, what the best style would be, and even whether leadership exists (Yukl, 1994). Most of the research on leadership has focused on the determinants of leadership effectiveness. What are some characteristics of leaders that make them different than followers? What is the best style of leadership? How do certain leadership behaviors affect group performance and accomplish group and organizational objectives?

First of all, it would be beneficial to begin with a general definition of leadership, although there are many definitions; Tannenbaum, Weschler, and Massarik (1961, p.24, as cited in Yukl, 1994) defined leadership as “interpersonal influence, exercised in a situation and directed through the communication process, toward the attainment of a specified goal(s)”. Another working definition of leadership could be
"the process whereby one individual influences other group members toward the attainment of defined group and/or organizational goals (Greenberg & Baron, 1995, p.498). Secondly, it is also necessary to describe the term "leadership effectiveness". The most commonly used description for this concept is "the extent to which leader's organizational unit performs its tasks successfully and attains its goals" (Yukl, 1994, p. 5). Effective leadership at the managerial level implies that managers as leaders influence their employees. Leadership effectiveness is usually evaluated in terms of the leader's contribution to the quality of teamwork, to the extent that s/he enhances group coordination and integration systems, cohesiveness, problem-solving, conflict-resolution, decision-making, and innovation among team members. Furthermore, studies have found that effective managers differed from ineffective ones in that the former placed more emphasis on building more effective teams with higher performance standards. They also paid more attention to the human side of their employees (Yukl, 1994).
In their book entitled "The wisdom of teams", Katzenbach and Smith (1993a), discussed the new role of the leader as building trust and inspiring teamwork. The new leader is the one who facilitates and supports the decisions made by their team, expands team capabilities, creates a team identity, and influences change. Even self-directed teams need leaders. Just because team members become more self-managed in self-directed teams, it does not mean that they do not need a manager(s) who is in charge of monitoring them and responsible for their performance. For example, Manz and Sims (1987) studied the external leaders of self-managed work teams in a manufacturing plant in order to identify key leadership behaviors that encourage self-management. Although self-managed teams are independent and usually have considerable authority to make decisions, the authority is not absolute, and the term does not imply the absence of direct management. Even though the role of a leader of a self-managing team can be different than that of traditional supervisors, most self-managed teams have formal leader-managers. Similarly, Harris and Lambert (1998) stated that a 1995 IRI study found that even for the self-directed
teams, 63% of the teams in the sample stated that the management support was extensive. In other words, there is a vital role for a leader who manages self-managed teams; boundary spanning, (i.e., providing support to the group while representing the group to the larger organization). External leaders of such teams act as boundary spanners between their teams and the upper management and/or other levels of the organization to ensure the team meets its needs and communicates effectively.

Larson and LaFasto (1989) looked at effective leadership behaviors among teams. They found that an effective leader is the one who articulates the team’s goal in such a way as to inspire commitment; exhibits personal commitment to the team’s goal; stands behind the team and supports the team members; exhibits trust by giving members meaningful levels of responsibility; presents challenging opportunities which stretch individual abilities; recognizes and rewards superior performance; and is open to new ideas and information from team members.

In addition, Harris and Lambert (1998) emphasized that teamwork is one of the most popular strategies used by the
organizations in order to increase productivity and organizational effectiveness. Thus, managerial effectiveness is often measured by the performance of his/her team, for which he/she is responsible. In a recent study, Harris and Lambert (1998) looked at the changing roles of managers in team-based organizations and identified the essential components of a new, dynamic, team-centered role for senior managers, which help teams to accomplish their goals and attain organizational success. Some examples of the key behaviors that they have identified are clarifying responsibilities of team members, maintaining consistent standards of performance, and monitoring team performance, fostering learning, organizing information flow among teams and other levels of the organization, assessing the effectiveness of team coordination, linking the work of the team to organizational goals, establishing commitment among team members by linking their self-interests to group and organizational goals, and rewarding and recognizing teams for collective performance. This is consistent with the findings of the Larson and LaFasto’s (1989) study.
Having identified these behaviors in their study, Harris and Lambert (1998) suggested that managers need proficiency in these areas to be effective. They added that two broad areas of leadership might offer a style and a set of leadership behaviors that are well suited to teams; transactional and transformational leadership.

**Transactional Leadership**

Transactional leadership is defined as "the leader-follower relations that are founded on a series of implicit bargains or contingent exchanges" (Harris & Lambert, 1998, p. 3). Avolio and Bass (1987) simply defined transactional leadership as contingent reinforcement. The general idea is that a transactional leader is the one who takes actions in order to compensate for the deficiencies by providing the necessary motivation, direction, and satisfaction when the tasks and/or the environment fail to provide those necessary conditions for employees (Den Hartog, Van Muijen, & Koopman, 1997). Deluga (1988) also describes the typical transactional behaviors of managers; they analyze employees' lower-level needs on Maslow's hierarchy and determine their goals. There is support in the literature that when properly
implemented, active transactional leadership is effective on lower-order change (Avolio, Waldman, & Einstein, 1988). In other words, managers in the transactional mode, help their employees recognize their roles in order to attain the desired goals. Besides identifying their needs to perform effectively, transactional leaders also clarify how those needs can be met and how rewards can be obtained and therefore enhance employees' motivational level to perform the tasks.

Transactional leadership can be considered as having taken its foundations from the Path-Goal Theory of Leadership, and Vertical-Dyad Theory (Yukl, 1994). According to the Path-Goal theory, leader behaviors are instrumental, supportive, participative, and achievement-oriented. It attempts to explain why and when leadership by contingent reward behavior works. In other words, they clarify the responsibilities, and the performance criteria. Vertical-Dyad theory is also known as "Leader-Member Exchange" theory. It describes the pattern of exchange relationships between the leader and their employees. This exchange leads
to a reciprocal reinforcement between the leader and the follower.

There are three main components of transactional leadership; contingent reward behavior, active management by exception and passive management by exception. Contingent reward behavior includes clarification of tasks and expected outcomes, and creating conditions to help followers achieve those outcomes. Managers with transactional leadership behaviors reward their employees when they attain certain performance criteria. This means that rewards are contingent on the performance level achieved as well as the effort invested to reach that level. Simply, contingent rewarding or reinforcement describes the notion of pay-for performance as well as non-monetary rewards such as praise and recognition. Employees are given directions on what they need to do to obtain rewards.

The other dimension is management-by-exception, which has two types; active and passive. In general, it includes monitoring behavior and corrective action in order for the tasks to be carried out in an effective way. The active form of transactional leadership involves an interaction between
the manager and the employee with a more proactive positive exchange relationship. Again, the emphasis is on rewarding the employees for meeting the expected performance goals (Avolio, et al., 1988). On the other hand, the passive form represents a manager who takes corrective action only after the problems occur. The difference between the active and passive form of transactional leadership is that in the former, the leader seeks information to determine the needs of the employees to solve their problems, whereas the passive transactional leader waits until a problem emerges and then tries to exert corrective action (Den Hartog, et al., 1997). Leadership literature includes support for active transactional leadership in terms of leader effectiveness. Research found that passive transactional leadership is negatively related with leader effectiveness (Yukl, 1994; Bass & Avolio, 1987; Hater & Bass, 1988). The focus of the present study is also on active transactional leadership (i.e. active management by exception).

Transformational Leadership

The original theory of transformational leadership has been proposed by Bass (1985), which refers to "the building
commitment to organizational objectives and empowering followers to accomplish these objectives" (as cited in Yukl, 1994, p. 350). Basically, a transformational leader is the one who inspires and motivates followers to perform beyond expectations to achieve challenging goals (Keller, 1995). A manager, who employs transformational leadership behaviors, typically focuses on changing values and beliefs of the employees. S/he reaches out to those people personally and turns the ideal goals into a concrete vision. Employees who work with effective transformational leaders usually demonstrate behavioral change towards organizational mission and goals. This is because transformational leaders are able to change employees' values and beliefs (Bass & Avolio, 1994). Moreover, they ensure followers set goals beyond expectations, and encourage and motivate them for high level of performance in order to attain goals (Sosik, 1997). In a similar explanation, Hater and Bass (1988) state 'the dynamics of transformational leadership involve strong personal identification with the leader, joining in a shared vision of the future, or going beyond the self-interest exchange of rewards for compliance" (p.695). Empirical data
provide support for these assumptions. Sosik (1997) evaluated the effects of transformational leadership style on 36 undergraduate student work groups using a Group Decision Support System to perform an idea generation task. Results indicated that transformational leadership was related to higher levels of followers’ actual and perceived performance, extra effort, and satisfaction compared to other leadership styles such as laissez faire and transactional.

Transformational leadership is composed of three behavioral dimensions; charisma, intellectual stimulation, and individualized consideration (Bass, 1985). Recent research also talks about inspirational motivation, as another component of transformational leadership (Sosik, 1997). With charisma, the leader arouses strong emotions and therefore influences the followers. Bass, (1985) defines a charismatic leader as the one who provides a sense of mission, instills pride, gains respect and trust, and increases optimism. Usually, if employees perceive their leader as charismatic, they support and adopt his/her values.
Another dimension is intellectual stimulation where the leader helps followers become more aware of the problems and bring in new perspectives to solve those problems. As Den Hartog, et al. (1997) describes “intellectual stimulation arouses awareness of the problems and a recognition of their beliefs and values in employees” (p. 22). In other words, transformational leaders “intellectually stimulate” their employees by emphasizing problem solving and looking for alternative ways before taking any action.

Still another dimension is individualized consideration where the leader encourages integration, provides support and coaching for the development of his/her followers (Yukl, 1994). Managers as coaches and mentors, provide continuous feedback and demonstrate concern for individual needs of their employees. Here, the aim is to respond to employee needs as well as link those needs to the organizational mission (Avolio, et al., 1988). They elevate the needs of the employees and increase their confidence in taking more responsibility. Individualized consideration might be the most critical element in transformational leadership for a manager who wants to maximize his/her team’s performance.
This calls for providing opportunities that support growth and development and innovation based on employee needs (Atwater & Bass, 1994).

Finally, with inspirational motivation, the leader makes followers join in a shared vision by inspiring and empowering them toward accomplishing a common goal. Here, the manager as a transformational leader acts as a role model for his/her employees. S/he communicates the vision and the organization’s high expectations of the employees (Bass, 1997). S/he makes use of symbolic explanations to show what employees can accomplish and thereby motivate them to achieve organizational goals (Deluga, 1988).

Prior research indicates a positive relationship between transformational leadership and high team performance. Harris and Lambert (1998) looked at the implications of the transformational leadership style for senior managers who work with teams in team-based organizations. They found that managers with transformational leadership behaviors sought to improve the context for teams. They also facilitated teamwork behaviors in order to reach organizational goals. The key behaviors
identified in their study were building the shared purpose among team members as well as their stakeholders, and creating a vision of how teams work effectively and efficiently.

**Transactional Versus Transformational Leadership**

Do transformational and transactional leaders differ from each other? Are they mutually exclusive or different facets of an effective leadership style? Can they be effective if they stand alone? Bass and Avolio (1994) suggests that those leaders who identify the needs of their followers and exchange rewards for appropriate levels of effort and performance are viewed as transactional leaders. In contrast, transformational leaders move beyond transactions to increase the level of followers' awareness of valued outcomes by expanding and elevating their needs and encouraging them to transcend their self-interests. "To an extent, transforming leadership can be viewed as a special case of transactional leadership with respect to exchanging effort for rewards. In the case of transformational leadership, the reward is internal. The transformational leader communicates a vision to the
subordinate and in return the subordinate is self-rewarded for efforts to convert the vision into reality" (Avolio & Bass, 1987, p. 33). However, they are still different to the degree that the transformational leader raises expectations of the followers for their needs and performance. One other objective of transformational leadership is to improve the ability of employees so that they can solve their own problems and the problems of others.

Hater and Bass (1988) provide an example of how both types of leaders motivate their employees and set goals; "A transactional leader may initiate structure and display consideration to increase employees expectations in that if their efforts succeed, they will be rewarded with a merit increase. On the other hand, a transformational leader may display transactional leadership at times but also use symbolism to elevate the importance of increased effort for an organizational mission, which serves as a motivator itself" (p. 695). Finally, Deluga (1988) emphasized that while transactional leaders fulfill employees lower level needs, transformational leaders incorporate and amplify the transactional leadership by means of recognizing and
fulfilling higher level needs such as need for achievement and self-actualization.

Several studies examined leadership effectiveness and how it is related to leadership behaviors. Bass (1997) investigated the results of some studies conducted by using the "Multifactor Leadership Questionnaire (MLQ)". The MLQ was developed to measure the transformational, transactional and laissez faire leadership concepts. Respondents rate the behavior of the leader, usually their manager, by filling out the MLQ. The MLQ has been revised several times and MLQ-Form 5X is one of the latest forms which focuses on transactional and transformational leadership concepts, and also includes a few items for laissez-faire leadership (Bass, 1997). Bass (1997) found that both transactional (active) and transformational leadership were perceived as effective, although transformational leaders were more likely to be seen as more satisfying than transactional.

Yukl (1994) states that most of the studies revealed transformational leadership was more correlated with effectiveness criteria than transactional leadership behaviors, although some transactional behaviors like
monitoring and contingent reward behavior were also relevant for leader effectiveness.

Avolio and Bass (1987) state "...that transformational leadership cannot be effective if it stands alone. The most successful transformational leaders are the ones who have the ability to effectively manage (transact with subordinates) the day-to-day mundane activities that clog most leaders' agendas. Without transactional leadership skills, even the most awe-inspiring transformational leader may fail to accomplish his/her intended mission" (p. 33). Therefore, managers should be able to practice both styles according to the needs at different times and situations. There is no best style of leadership. Similarly, no manager or leader displays one single style of leadership at all times. Rather these individuals demonstrate different styles at different times for different situations. Avolio, et al., (1988) investigated the practices of transactional/transformational leadership in a management simulation game that spanned a 3-month period. Transactional/transformational leadership was measured by the MLQ - Form 4. Data were collected from 27 teams on the
perceived leadership and the financial performance of their respective teams. Analyses demonstrated positive relationships between active transactional and transformational leadership and organizational effectiveness. The authors concluded that both leadership styles have been frequently displayed in "effective" leaders. In other studies, Bass and Avolio (1994) used the MLQ in business, industry, government, the military, educational institutions, and non-profit organizations and found that transformational leaders were more effective and satisfying as leaders than transactional. However, results also indicated that the best of the leaders in the studies were the ones who frequently used transactional leadership as well as their own transformational style. The authors then emphasized that contingent reward behavior has been found to be effective in motivating others to achieve higher levels of development and performance. Furthermore, the authors also found management-by-exception tended to be required in certain situations where the transactional leader actively monitored deviances from standards,
mistakes, and errors in employees’ assignments and took corrective action.

Transactional / Transformational Leadership and Teamwork

Managers who are responsible for teams are changing their leadership style from a supervisory-type to more of a facilitator/coaching type. The new relationship is more collaborative and participative, where managers foster team processes and help team members improve their skills (Tannenbaum, et al., 1996). Today, managers act just like leaders. And as leaders, they have the capability to shape the environment and culture of the organization. They conceive new systems and policies, initiating improvements that would transform the culture of the organization, rather than just implementing the already set procedures. The aim is to adjust the organization and its people to fit into the corporate world.

Specifically, in team-based organizations, it is crucial for managers to establish a positive working environment conducive to teams for them to be successful. They can establish such environment by facilitating
effective teamwork behaviors and motivating team members to work toward organizational goals.

Research suggests modern leadership be defined by two leadership styles; transactional and transformational (Bass, 1997; Avolio & Bass, 1987; Harris & Lambert, 1998). It is recommended for managers to work on and adopt these styles to effectively manage teams (Harris & Lambert, 1998). Although other research found that employees showed more satisfaction with transformational leaders than transactional ones, effectiveness criteria should not be measured only with employee satisfaction. It has other components like productivity and quality of outcomes. Therefore, as mentioned earlier, it is suggested that these two styles of leadership are not mutually exclusive, yet complimentary. Contingent reinforcement of transactional leaders who constantly monitor their employees for reaching the desired performance outcomes and reward high performance is a critical aspect for individual, group, and organizational effectiveness. Similarly, by articulating a vision for the employees via inspiration and motivating them to commit to work collaboratively for a shared goal,
transformational leaders help employees perform beyond what is expected from them.

Organizations increasingly rely on teams because teams are expected to outperform individuals performing alone. A team’s performance is expected to go beyond expectations than a group of individuals working separately. The difference is that the former requires teamwork such as collaboration, coordination, monitoring, giving and receiving feedback. Especially, when performance requires interdependency and commitment to a shared goal(s), teams are seen as ideal structures to attain such performance. In other words, teamwork involves more than achieving certain technical tasks. Team members interact with each other in a certain way to attain common goals. A new way of doing the tasks, making decisions, communicating, and problem solving is brought about when individuals start working as a team. Similarly, managing/leading a group of individuals working separately is quite different than leading a team members of which work interdependently. This does call for adjustment of behavioral roles of leader-managers who are responsible for the performance of their teams. Today, one of the most
vital roles that modern leaders have to perform is the "boundary spanner" role (Katz & Kahn, 1978). As mentioned earlier, even the self-managed teams need leaders who can monitor their performance, give constructive feedback and also be the link between those teams and other levels of the organization. External leaders of such teams act as boundary spanners between them and the other levels of the organization (Manz & Sims, 1987). Research supports that leadership does affect the performance of teams, however, it also obligates management to learn which type of leadership is effective (Keller, 1995). Keller (1995) conducted a study of 66 industrial Research & Development (R & D) teams and found that transformational leadership accounted for higher project quality in research projects. He concluded that transformational leadership might offer a style that is well suited for R&D teams.

Leadership effectiveness is usually evaluated in terms of leader's contribution to the quality of teamwork. That is, to the extent that s/he enhances coordination and integration systems among team members and between teams and other levels of the organization, as well as cohesiveness,
problem-solving, decision-making, conflict resolution, and innovation among team members. The following section explains the potential conditions where transactional and transformational leadership are employed by managers;

When managing a team, a manager's crucial responsibility is to give direction to the team, establish performance standards, identify its needs, and provide the right resources. Managers who employ transactional leadership behaviors are the ones who bring in this structure, coordination, clarification of tasks and organization of information flow (Harris & Lambert, 1998). As a transactional leader, a manager should be directive if tasks are vague, and when there are time constraints. Also, by means of contingent rewarding, the manager can establish a clear link between high performance and the rewards.

On the other hand, managers as transformational leaders focus on working with a shared vision. They motivate and empower team members and try to make the team perform more than what is expected from them. The need for change and transformation are crucial concepts for the organization to stay competitive although it is tough to make change happen.
Transformational managers should define the necessity for change. By means of their charisma and inspiration, they should convince their team to commit to change. Through their coaching and mentoring behaviors, they play a central role in the development of team members' competencies and help them generate new ideas for growth and change.

Furthermore, in the transformational mode, managers show individualized consideration in order to help members do away their dissatisfaction with complex and tough tasks. Also, by means of inspirational motivation, s/he can encourage team members set higher performance standards and increase their confidence to meet challenges.

In general, managing teams is different than managing a group of individuals who work separately. As organizations turn to team-based systems, we will observe the need for new roles and styles of leadership that managers should employ for their teams. Research strongly supports that leadership does affect the performance of a team, however, it also urges management to learn and adopt the type of leadership that is effective (Keller, 1995). Team management requires different styles of leadership. Coordination and integration
become crucial in the team context. It requires constant monitoring of team members' performance, clarification of their responsibilities for them to function more effectively and efficiently. It calls for more proactive and interactive management and leadership when motivating team members to commit and work cohesively towards common goals. These will affect teams to outperform a group of individuals doing the similar kind of tasks, yet work separately.

As organizations turn into team-based systems, their culture also changes (Recordo & Jolly, 1997). Then, these organizations need leaders who not only react to the changing situations, but also help members adjust to those changes and therefore shape the culture. Transformational leaders can go beyond initiating structure, communicating the need for change by creating a new vision. They go beyond considering the current needs of their team members and help and motivate them for their long-term development both as individuals and as a team. Teamwork requires the team members commit to a common goal(s) and work interdependently toward that goal. It is the transformational leader who inspires and motivates the team members toward common goals.
They inspire a sense of mission and the importance of team's work, and stimulate new ways of doing the work as a team. However, transformational leadership can not stand alone. It is effective to the extent the managers have the ability to "transact" with team members for basic, daily but also necessary activities. Managers are required to provide direction to the team, establish performance standards, identify its needs, and provide the right resources. These can be achieved when a manager employs transactional leadership behaviors. Therefore, managers need to perform both leadership styles based on the needs of the team they are responsible for.

Teamwork demands different styles of leadership than individual work. Managers are expected to go beyond providing structure and consideration for their team members. As transactional leaders, managers focus on the allocation and coordination of tasks among team members. They do this differently than simply initiating structure which is more directive, where leaders define the structure and assign the duties. Transactional leaders work with the team members while identifying their needs. They constantly
monitor their performance, clarify their responsibilities and set performance standards. They provide contingent reinforcement by rewarding high performance and therefore motivate team members to achieve their goals. Transformational leaders are able to inspire teams to work collaboratively by making them recognize the importance of their work as a team. They motivate their team members and elevate their standards to create new ways of doing the work as a team which outperforms individual work. With their charisma and intellectual stimulation, they have the ability to shape the environment and adjust it to be conducive to teamwork.

Team Effectiveness

Cohen and Bailey (1997) reviewed conceptual and theoretical articles to understand the factors that contribute to effectiveness of teams and presented a heuristic framework for team effectiveness. According to the authors, effectiveness is a function of environmental factors, design factors (which include organizational context), group processes (which include teamwork behaviors), and psychosocial traits. They provided some
examples for each of these factors. Supervision is an example for organizational context variables, and communication is an example for group processes. They categorized effectiveness into three major dimensions according to the team's impact on; 1) performance effectiveness, 2) member attitudes, and 3) behavioral outcomes. Some examples of performance effectiveness include productivity, efficiency, quality, customer satisfaction, and innovation. Examples of behavioral measure include absenteeism, turnover, and safety. Similarly, Sundstrom, et al. (1990), Hackman (1990), and Gladstein (1984) include multiple dimensions similar to the above dimensions in their framework for team effectiveness. For example, Gladstein (1984) states that group effectiveness can be represented by performance and satisfaction. She refers to the McGrath (1964 as cited in Gladstein, 1984) model, which predicts that teamwork processes lead to effectiveness. Teamwork processes are defined as the intragroup and intergroup actions that transform resources into products. These process behaviors are similar to the definition of teamwork behaviors which are the foci of the present study.
The present study will provide a framework which draws attention to the leadership behaviors as an element of team context. The specific focus is given to transactional/transformational leadership behaviors and how they relate to teamwork, which further influences team effectiveness. In the model, team effectiveness includes two major criteria: performance and satisfaction. Performance can be rated by the team members. Performance includes perceived quality, productivity, customer satisfaction, and innovation of teamwork. Team-member satisfaction includes members satisfaction with their team, job satisfaction, and satisfaction with the manager.

Hypotheses

McIntyre and Salas (1995) defined teamwork as the complex set of behaviors that enhance interactions, cooperation, and coordination of team members. The application of these behaviors is critical to the success of the team. Research suggests that teams are successful as long as the environment, in which they operate, fosters it. As a contextual characteristic, leadership behaviors of managers who are responsible for managing teams are critical
factors that would facilitate or impede the essential teamwork behaviors.

Prior research suggests that transactional and transformational leadership is more effective to manage teams in today's changing and competitive business environment than traditional supervisory roles in which managers used to control and direct individuals. The present study specifically focuses on how these two leadership styles can foster teamwork behaviors which in turn influence the effectiveness of teams.

The following section demonstrates how teamwork behaviors can be linked to different dimensions of transactional and transformational leadership behaviors.

Information exchange can be described as seeking for information from multiple resources in order to have accuracy; passing information to the appropriate people properly and in a timely manner; and updating other team members or others outside the team with an overall summary of the "big picture." The transactional leader helps his/her team execute its activities in a timely and integrated manner and facilitates the effective information exchange
both within the team and between the team and other levels of the organization. Through contingent reward behavior, s/he clarifies what is required in seeking necessary information and what is expected to be done when giving out information to internal and external sources. Therefore, s/he helps team members exchange information in an effective manner. Similarly, the leaders in the transformational mode, can help team members gather and relay information effectively. Through intellectual stimulation, they can enhance ways of information exchange within the team(s), and therefore help team members gather information from the appropriate resources as well as provide accurate information to the right parties in a timely manner.

**Hypothesis 1.** The linear combination of transactional and transformational leadership will be positively related with information exchange in teamwork.

**Hypothesis 1a.** Contingent reward behavior will have the strongest relationship among the sub-dimensions of transactional leadership with information exchange in teamwork.
Hypothesis 1b. Intellectual stimulation will have the strongest relationship among the sub-dimensions of transformational leadership with information exchange in teamwork.

**Communication.** Team effectiveness may depend on effective communication. Effective communication within the team as well as between the team and the other levels of the organization includes using proper terminology and communication procedures, avoiding excess nets, providing complete internal and external reports, acknowledging requests from others, and receipt of information, etc. Managers should ensure that communication is effective within the team and all the necessary information is transmitted from other levels of the organization. Managers, as transactional leaders, organize the information flow, clarify responsibilities, and avoid excessive efforts. The manager as a transactional leader can use various communication tools and strategies to ensure these processes occur effectively. By means of "contingent reward behavior", transactional leaders organize information flow within the team thus, are able to clarify tasks and responsibilities to
avoid duplicated efforts. In contrast, transformational leaders can bring about effective communication among team members through intellectual stimulation. They can help team members communicate more effectively by addressing the problems creatively. They help team members seek/provide information from/to each other for better ways of doing work.

**Hypothesis 2.** The linear combination of transactional and transformational leadership will be positively related with communication in teamwork.

**Hypothesis 2a.** Contingent reward behavior will have the strongest relationship among the sub-dimensions of transactional leadership with communication in teamwork.

**Hypothesis 2b.** Intellectual stimulation will have the strongest relationship among the sub-dimensions of transformational leadership with communication in teamwork.

**Supporting Behavior** involves providing assistance or guidance to team members, as well as correcting and/or helping correct other team members' mistakes. Managers, as transactional leaders, can act as role models to team members by means of active management-by-exception, i.e.,
showing how they can identify the needs of the other team members and provide assistance when needed. Moreover, through individualized consideration, transformational leaders also provide support and continuous feedback for the team members in order to reach an error-free environment. This will also help other team members monitor their manager’s behaviors and role-model him/her on how to provide assistance and/or feedback as well as seek assistance when needed.

**Hypothesis 3.** The linear combination of transactional and transformational leadership will be positively related with supporting behavior in teamwork.

**Hypothesis 3a.** Active management-by-exception will have the strongest relationship among the sub-dimensions of transactional leadership with supporting behavior in teamwork.

**Hypothesis 3b.** Individualized consideration will have the strongest relationship among the sub-dimensions of transformational leadership with supporting behavior in teamwork.
**Team Initiative/Leadership.** This aspect of teamwork includes behaviors such as encouraging team members to make decisions with confidence, and providing support for innovative thoughts, providing guidance or suggestions to team members and stating clear team and individual priorities. By means of management by exception, transactional leaders help clarifying the priorities for the work to be done more effectively. They constantly monitor the team’s work and provide directions for more efficient and effective ways of doing work. On the other hand, transformational leaders, inspire and empower. By means of their charisma and inspirational motivation, they provide opportunities that support innovation based on team’s needs as well as provide support and continuous feedback for the long-term development of the team members by means of setting clear individual priorities for each member in their teams.

**Hypothesis 4.** The linear combination of transactional and transformational leadership will be positively related with team initiative/leadership in teamwork.
Hypothesis 4a. Active management-by-exception will have the strongest relationship among the sub-dimensions of transactional leadership with team initiative/leadership in teamwork.

Hypothesis 4b. Charisma and inspirational motivation will have the strongest relationship among the sub-dimensions of transformational leadership for team initiative/leadership in teamwork.

In terms of effectiveness, leadership behaviors do make a difference in the performance and satisfaction within teams. Moreover, as proposed in this study, leadership behaviors also affect teamwork behaviors. Therefore, it is expected that both transactional and transformational leadership behaviors will predict the teamwork behaviors that are essential for teams to be effective and be significantly related to overall team effectiveness.

Hypothesis 5. The linear combination of transactional and transformational leadership will be positively related with team effectiveness.

Furthermore, through individualized consideration, transformational leadership will be more predictive of job
satisfaction and satisfaction with the manager among the team members than transactional leadership. Managers, as transformational leaders, provide support, encouragement, and continuous feedback for the growth and development of the team members in their long-term career goals. Therefore, it is expected that teams with transformational leaders managing them, will score higher on the satisfaction component of team effectiveness than teams with transactional leaders.

**Hypothesis 6.** In terms of satisfaction with the manager, transformational leadership will have the strongest relationship.

Information exchange, communication, supportive behavior, and team initiative/leadership, as elements of teamwork behaviors will positively affect the effectiveness of the teams. The more these behaviors are exhibited, the more effective teams are expected to perform.

**Hypothesis 7.** Teamwork behaviors will be positively related with team effectiveness which is defined by performance and satisfaction.
To sum up, it is claimed that both transactional and transformational leadership behaviors are required for teams to be effective. The aforementioned hypotheses will be tested to find out the soundness of the framework.

**Hypothesis 8.** The proposed model will fit the variance of the sample data (see Appendix C, Figure I).

CHAPTER TWO

Method

**Participants**

Data were collected from various organizations such as the Arrowhead Water Company, the Federal Aviation Administration, Southern California Edison, JB Oxford & Company, Turkish headquarters of Price Waterhouse, as well as two different Turkish banks in Istanbul. The targeted sample was organizational teams. One prerequisite was that the targeted teams report to an immediate supervisor or manager. 33 teams, which included a total number of 213 participants, made up the sample. The number of the teams ranged from 3 to 13. Most of the teams had 5 members, with the average number of team members being 6.
Design and Procedure

This study was a correlational design in which all participants completed a paper-pencil survey. Data were collected through administration of three different measures. In terms of administration, the same survey in English was given to the Turkish sample of which the participants spoke very fluent English. Before responding to the surveys, participants were informed about the purpose of the study and that their responses were going to be kept confidential. They would have the opportunity to receive feedback on the results, upon their request.

The first measure of this study was the Multifactor Leadership Questionnaire - 5X (MLQ), which assessed the perceived leadership behaviors of the managers and was administered to their respective teams. The second measure was a questionnaire called the “Anti-air Teamwork Observation Measure” (ATOM). It looked at various components of teamwork, which were mentioned earlier. Finally, the third measure looked at team effectiveness, which had two major criteria: performance and satisfaction. Both criteria were rated by team members.
Measures

The MLQ looked at the perceived transactional and transformational leadership behaviors of managers who are responsible for teams. The MLQ was developed to measure transformational, transactional and laissez-faire leadership concepts (Bass & Avolio, 1994). Respondents rated the behavior of their manager/supervisor. The rating scale used for the MLQ ranged from 0 ("Not at all") to 4 ("Frequently, if not always"), including an "N/A" option for a "Do not Know/Not Applicable" response (see Appendix B). The MLQ has been revised several times and the MLQ - 5X is one of the latest forms. It is composed of 28 items. All of the sub-scales consist of four items with an exception of the "charisma" sub-scale with eight items. In terms of the scale statistics of this measure, the MLQ had an overall internal consistency of .95. Furthermore, transformational leadership had an internal consistency of .93, which also has the most items (20 items). The internal consistency of the transactional leadership dimension was .79 (8 items). With regard to the internal consistency of the sub-scales, the coefficient alphas were .87 (charisma), .79 (individualized
consideration), .86 (intellectual stimulation), .82 (inspirational motivation), .79 (contingent reward), and .84 (management-by-exception).

The ATOM (Anti-air Teamwork Observation Measure) measured teamwork behaviors. This questionnaire was developed by the Naval Air Warfare Center to obtain reliable descriptions of teamwork and evaluate team-level processes that contribute to team performance outcomes. Questionnaire items include descriptions of critical teamwork behaviors. Participants rated the perceived teamwork behaviors that occur in their teams on a 1-5 scale, 1 representing a "real weakness" and 5 representing a "real strength" of the team. The ATOM includes four high-level dimensions; information exchange (3 items), communication (4 items), supporting behavior (2 items), and team initiative/leadership (2 items) (see Appendix B). There were a total number of 11 distinct teamwork behaviors categorized under these dimensions (see Table 1). The overall internal consistency for the ATOM was .90. Furthermore, the internal consistency estimates were also computed for each of the four dimensions. The coefficient alphas were .83 (information exchange), .80
The last measure looked at team effectiveness. Team effectiveness had two major criteria, performance and satisfaction, and was again rated by team members. The total number of the items was 20. Items were in the form of descriptive statements. Participants rated their perceptions of their teams’ performance and their satisfaction on a 0-4 scale, 0 representing “strong disagreement” and 4 representing “strong agreement” on the statement (see Appendix B). A total of eight items for the measures of performance on the perceived quality, productivity, customer satisfaction, and innovation were constructed for this project. Satisfaction was measured by three criteria, members’ satisfaction with their team, job satisfaction, and satisfaction with the manager. Four items were created for the “satisfaction with the team” sub-dimension for this project. For the other two sub-dimensions (satisfaction with the manager and job satisfaction), Eight pre-existing items were incorporated from the Job Diagnostic Survey (JDS, Hackman & Oldham, 1974). The overall internal consistency of
the team effectiveness scale was .94. The internal consistency of the performance and satisfaction dimensions were .89 and .90, respectively. With regards to the internal consistency of the sub-scales, the coefficient alphas were .64 (customer satisfaction), .79 (job satisfaction), .84 (team satisfaction), .90 (managerial satisfaction), .76 (perceived productivity), .81 (innovation). The internal consistency estimates for the "perceived quality" and "overall performance" scales were not computed because there was only one item for each scale.

Results

Prior to testing the hypotheses, the data were screened for normality. Histograms were computed in order to detect normality for each of the variables within the three scales by comparing the data to the normal curve and looking at the skewness of each variable. The leadership and teamwork variables were normally distributed. However, most of the variables such as customer satisfaction, job satisfaction, overall performance, perceived productivity, perceived quality, and team satisfaction in the team effectiveness scale were slightly negatively skewed. This negative
skewness is common in the literature, and was not extreme enough to warrant transformations of the data. Traditional analyses are robust to this level of skewness (Tabachnick & Fidell, 1996).

Next, descriptives and frequencies were run. The following tables report a summary of the means and the standard deviations of all the variables.

Table 2
Descriptives for Leadership Variables

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<th>Mean</th>
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</tr>
<tr>
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<td>.889</td>
</tr>
<tr>
<td>Consideration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspirational Motivation</td>
<td>213</td>
<td>2.82</td>
<td>.825</td>
</tr>
<tr>
<td>Intellectual Stimulation</td>
<td>212</td>
<td>2.62</td>
<td>.872</td>
</tr>
<tr>
<td>Contingent Reward</td>
<td>213</td>
<td>2.81</td>
<td>.833</td>
</tr>
<tr>
<td>Management-by-Exception</td>
<td>209</td>
<td>2.15</td>
<td>.953</td>
</tr>
</tbody>
</table>

Participants rated the leadership variables on a 0 - 4 scale. The overall average of the scale was $M = 2.57$, $SD = .69$ (N = 213). As seen Table 2, inspirational motivation and contingent reward behavior had higher ratings than the overall average. Management-by-exception had the lowest
average. Overall, all the averages fell around the high end of the middle range.

Table 3
Descriptives for Teamwork Variables

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>213</td>
<td>3.50</td>
<td>.761</td>
</tr>
<tr>
<td>Information Exchange</td>
<td>212</td>
<td>3.55</td>
<td>.854</td>
</tr>
<tr>
<td>Supporting Behavior</td>
<td>212</td>
<td>3.64</td>
<td>.873</td>
</tr>
<tr>
<td>Team Initiative</td>
<td>212</td>
<td>3.58</td>
<td>.760</td>
</tr>
</tbody>
</table>

Participants used a scale of 1 - 5 for the teamwork behaviors scale. The overall average of the scale was M = 3.57, SD = .69. As seen in Table 3, the averages of the variables are within the range of 3.50 and 3.65 with slight differences, communication (M = 3.50) and information exchange (M = 3.55) being slightly lower, supporting behavior (M = 3.64) and team initiative/leadership (M = 3.58) being slightly higher than the overall average of 3.57.

Table 4
Descriptives for Team Effectiveness Variables

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Satisfaction</td>
<td>213</td>
<td>3.27</td>
<td>.698</td>
</tr>
</tbody>
</table>
Innovation 213 2.77 .868
Job Satisfaction 213 2.75 .895
Satisfaction with the Manager 213 2.95 .850
Overall Performance 213 3.15 .810
Perceived Productivity 213 3.11 .754
Perceived Quality 213 3.42 .694
Satisfaction with the Team 213 3.25 .744

Participants used a scale of 0 - 4 for the team effectiveness scale. The overall average of the scale was \( M = 3.06, \, \sigma = .61 \). As seen in Table 4, the averages of the variables fell within the range of scores of 2.50 and 3.50. Innovation (\( M = 2.77 \)) and job satisfaction (\( M = 2.75 \)) were below the overall average whereas customer satisfaction (\( M = 3.27 \)), satisfaction with the team (\( M = 3.25 \)), and perceived quality (\( M = 3.42 \)) were above the middle in the team effectiveness scale.

Intercorrelations

In order to examine the relationship between the variables, a table of intercorrelations was calculated based on all the independent and dependent variables. Significant relationships were found between most of the variables (see Appendix D, Table 5). From a statistical standpoint, if all
the variables were highly correlated, it might have brought about the issue of common method variance. Common method variance may occur when, in a survey/test, subjects respond similarly to the items of the same construct. This may occur not because their perceptions on that construct are consistent, but due to the fact that items are asked in a similar manner. This may result in very high correlations among the variables.

Scale items measuring similar constructs should have common variance (DeVellis, 1991). However, differential patterns across categories of variables provide support that common method variance was not the source of variability in this study. Specifically, the fact that correlations between the leadership behavior variables and outcome variables ranged from -.006 to .734 suggests that the true nature of the variables was measured.

Regression Analyses

Multiple regression analyses using simultaneous entry method, were conducted to investigate the degree to which the transactional and transformational leadership styles predicted teamwork behaviors, and the degree to which the
teamwork behaviors predicted team effectiveness. In order to make decisions regarding significance, a more conservative alpha (p = .01) was used to avoid Type I error due to the large number of regressions that were run. Hypotheses 1 through 4, as well as Hypothesis 6 were tested by conducting multiple regression analysis.

A multiple regression analysis was conducted to test the positive relationship between the transactional/transformational leadership styles and information exchange, which is the first component of teamwork. The linear combination of the two leadership styles was significantly related to information exchange, $F(2, 209) = 32.202, p<.001, R^2 = .236, \text{ adjusted } R^2 = .228$. Hypothesis 1 was supported. However, although the positive relationship between transformational leadership and information exchange was significant, there was no significant relationship between transactional leadership and information exchange as seen in Table 6.

Table 6
Relationship between the linear combination of transactional and transformational leadership and information exchange of teamwork
A multiple regression analysis was conducted to examine the unique contributions of each of the sub-dimensions of transactional leadership to the variance in information exchange of teamwork. Therefore, information exchange was regressed onto contingent reward and management-by-exception. The linear combination of the two dimensions of transactional leadership was significantly related to information exchange, $F(2, 206) = 21.631, p < .001, R^2 = .174, \text{adjusted } R^2 = .166$. Hypothesis la was supported in that contingent reward behavior had the strongest relationship with information exchange when considered in the same equation with the other sub-dimension, management-by-exception of transactional leadership (see Table 7). Contingent reward behavior was the only significant contributor in the equation, so no further statistical comparisons were conducted.
A multiple regression analysis was conducted to examine the unique contribution of each of the sub-dimensions of transformational leadership to the variance in information exchange of teamwork. Therefore, information exchange was regressed onto charisma, individualized consideration, intellectual stimulation, and inspirational motivation. The linear combination of the four dimensions of transformational leadership was significantly related to information exchange, \( F(4, 207) = 15.956, \ p < .001, \ R^2 = .236, \ \text{adjusted} \ R^2 = .221 \). Contrary to Hypothesis 1b, intellectual stimulation did add uniquely to the variance in information exchange when other sub-dimensions were included in the equation (see Table 8).
A multiple regression analysis was conducted to test the positive relationship between the transactional/transformational leadership styles and communication, which is the second component of teamwork. The linear combination of the two leadership styles was significantly related to communication, $F(2, 210) = 50.435$, $p < .001$, $R^2 = .324$, adjusted $R^2 = .318$ (see Table 9). Therefore, Hypothesis 2 was supported. However, although the positive relationship between transformational leadership and communication was significant, there was no significant relationship between transactional leadership and communication as seen in Table 9.
Table 9
Relationship between linear combination of transactional and transformational leadership and communication of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>R²</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership</td>
<td>.324</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>.166</td>
<td>.031</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.445</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Communication

A multiple regression analysis was conducted to examine the unique contributions of each of the sub-dimensions of transactional leadership to the variance in the communication component of teamwork. Therefore, communication was regressed onto contingent reward and management-by-exception. The linear combination of the two dimensions of transactional leadership was significantly related to communication, \( F (2, 206) = 33.975, p < .001, R^2 = .248, \text{adjusted } R^2 = .241 \). Hypothesis 2a was supported in that the contingent reward behavior was the only variable to contribute uniquely to the variance in communication when considered in the same equation with the other sub-dimension, management-by-exception of transactional leadership (see Table 10).
### Table 10
Relationship between contingent reward behavior of transactional leadership and communication of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>$R^2$</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingent Reward Behavior</td>
<td>.248</td>
<td>.000</td>
<td>.452</td>
<td>.000</td>
</tr>
<tr>
<td>Management by Exception</td>
<td></td>
<td></td>
<td>.108</td>
<td>.092</td>
</tr>
</tbody>
</table>

Dependent Variable: Communication

A multiple regression analysis was conducted to examine the unique contribution of each of the sub-dimensions of transformational leadership to the variance in teamwork communication. Therefore, communication was regressed onto charisma, individualized consideration, intellectual stimulation, and inspirational motivation. The linear combination of the four dimensions of transformational leadership was significantly related to communication, $F(4, 207) = 23.086, p< .001, R^2 = .254, \text{adjusted } R^2 = .295$. Contrary to Hypothesis 2b, intellectual stimulation did not uniquely contribute to the variance in communication when other sub-dimensions were included in the equation. Therefore, Hypothesis 2b was not supported. Instead,
inspirational motivation uniquely contributed to the variance in communication (see Table 11).

Table 11
Relationship between intellectual stimulation of transformational leadership and communication of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>R^2</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charisma</td>
<td>.254</td>
<td>.000</td>
<td>.061</td>
<td>.626</td>
</tr>
<tr>
<td>Individualized</td>
<td></td>
<td></td>
<td>.142</td>
<td>.171</td>
</tr>
<tr>
<td>Consideration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspirational</td>
<td></td>
<td></td>
<td>.296</td>
<td>.005</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual</td>
<td></td>
<td></td>
<td>.110</td>
<td>.285</td>
</tr>
<tr>
<td>Stimulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Communication

A multiple regression analysis was conducted to test the positive relationship between the transactional/transformational leadership styles and supporting behavior, which is the third component of teamwork. The linear combination of the two leadership styles was significantly related to supporting behavior, F(2, 209) = 34.145, p< .001, R^2 = .246, adjusted R^2 = .239. Therefore, Hypothesis 3 was supported. However, although the positive relationship between transformational leadership and supporting behavior was significant, there
was no significant relationship between transactional leadership and supporting behavior (see Table 12).

Table 12
Relationship between linear combination of transactional and transformational leadership and supporting behavior of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>R²</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership</td>
<td>.246</td>
<td>.000</td>
<td>.002</td>
<td>.979</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>.495</td>
<td>.000</td>
<td>.495</td>
<td>.000</td>
</tr>
</tbody>
</table>

Dependent Variable: Supporting Behavior

A multiple regression analysis was conducted to examine the unique contributions of each of the sub-dimensions of transactional leadership to the variance in supporting behavior of teamwork. Therefore, supporting behavior was regressed onto contingent reward and management-by-exception. Although the linear combination of the two dimensions of transactional leadership was significantly related to supporting behavior, $F(2, 206) = 24.412, p < .001, R^2 = .192, adjusted \ R^2 = .184$, Hypothesis 3a was not supported. Results indicated that it was contingent reward behavior, which contributed uniquely to supporting behavior.
rather than the hypothesized management-by-exception (see
Table 13).

Table 13
Relationship between management-by-exception of
transactional leadership and supporting behavior of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>R²</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingent Reward Behavior</td>
<td>.192</td>
<td>.000</td>
<td>.447</td>
<td>.000</td>
</tr>
<tr>
<td>Management by Exception</td>
<td>-.033</td>
<td>.622</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Supporting Behavior

A multiple regression analysis was conducted to examine
the unique contribution of each of the sub-dimensions of
transformational leadership to the variance in the
supporting behavior of teamwork. Therefore, supporting
behavior was regressed onto charisma, individualized
consideration, intellectual stimulation, and inspirational
motivation. Although, the linear combination of the four
dimensions of transformational leadership was significantly
related to supporting behavior, F(4, 207) = 17.656, p< .001,
R² = .254, adjusted R² = .240, Hypothesis 3b was not
supported. Contrary to Hypothesis 3b, individualized

79
consideration did not uniquely added to the variance in supporting behavior when other sub-dimensions were included in the equation (see Table 14).

Table 14
Relationship between individualized consideration of transformational leadership and supporting behavior of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>R²</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charisma</td>
<td>.254</td>
<td>.000</td>
<td>.288</td>
<td>.028</td>
</tr>
<tr>
<td>Individualized</td>
<td></td>
<td></td>
<td>.171</td>
<td>.114</td>
</tr>
<tr>
<td>Consideration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspirational</td>
<td></td>
<td></td>
<td>.062</td>
<td>.566</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual</td>
<td></td>
<td></td>
<td>.019</td>
<td>.857</td>
</tr>
<tr>
<td>Stimulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Supporting Behavior

A multiple regression analysis was conducted to test the positive relationship between the transactional/transformational leadership styles and team initiative/leadership, which is the last component of teamwork. The linear combination of the two leadership styles was significantly related to team initiative/leadership, $F(2, 209) = 34.549$, $p<.001$, $R^2 = .248$, adjusted $R^2 = .241$. Therefore, Hypothesis 4 was supported. Moreover, the positive relationship between
transformational leadership and team initiative/leadership was significant. Although there was not any significant relationship between transactional leadership and team initiative/leadership, there seems to be a trend (see Table 15).

Table 15  
Relationship between linear combination of transactional and transformational leadership and team initiative/leadership of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>$R^2$</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership</td>
<td>.248</td>
<td>.000</td>
<td>.192</td>
<td>.018</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td></td>
<td></td>
<td>.350</td>
<td>.000</td>
</tr>
<tr>
<td>Dependent Variable: Team Initiative/Leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A multiple regression analysis was conducted to examine the unique contributions of each of the sub-dimensions of transactional leadership to the variance in team initiative/leadership of teamwork. Therefore, team initiative/leadership was regressed onto contingent reward and management-by-exception. Although the linear combination of the two dimensions of transactional leadership was significantly related to team
Results indicated that it was contingent reward behavior which uniquely contributed to the variance in team initiative/leadership rather than the hypothesized management-by-exception (see Table 16).

### Table 16

Relationship between management by exception of transactional leadership and team initiative/leadership of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>Standardized Coefficients</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>R²</td>
<td>.227</td>
<td>.000</td>
<td>.438</td>
<td>.000</td>
</tr>
<tr>
<td>Contingent Reward Behavior</td>
<td></td>
<td></td>
<td>.093</td>
<td>.152</td>
</tr>
<tr>
<td>Management by Exception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dependent Variable:** Team Initiative/Leadership

A multiple regression analysis was conducted to examine the unique contribution of each of the sub-dimensions of transformational leadership to the variance in team initiative/leadership of teamwork. Therefore, team initiative/leadership was regressed onto charisma, individualized consideration, intellectual stimulation, and inspirational motivation. Although, the linear combination
of the four dimensions of transformational leadership was significantly related to team initiative/leadership, $F(4, 207) = 19.626, p < .001, R^2 = .275$, adjusted $R^2 = .261$.

Hypothesis 4b was only partially supported. In other words, charisma as predicted, did contribute uniquely to the variance in team initiative/leadership, but inspirational motivation did not (see Table 17). All other betas were not significant, so no further statistical comparisons were conducted.

Table 17
Relationship between charisma and inspirational motivation of transformational leadership and team initiative/leadership of teamwork

<table>
<thead>
<tr>
<th>Variables</th>
<th>Standardized Coefficients</th>
<th>$R^2$</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charisma</td>
<td></td>
<td>.275</td>
<td>.000</td>
<td>.544</td>
<td>.000</td>
</tr>
<tr>
<td>Individualized</td>
<td></td>
<td></td>
<td></td>
<td>-.142</td>
<td>.217</td>
</tr>
<tr>
<td>Consideration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspirational</td>
<td></td>
<td></td>
<td></td>
<td>.055</td>
<td>.607</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual</td>
<td></td>
<td></td>
<td></td>
<td>.044</td>
<td>.673</td>
</tr>
<tr>
<td>Stimulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Team Initiative/Leadership

Hypothesis 6 was supported. A multiple regression analysis was conducted to test the prediction that between the two leadership styles, transformational leadership would
have the strongest relationship with one of the components of team effectiveness, "satisfaction with the manager." The linear combination of the two leadership styles was significantly related to the satisfaction with the manager component, $F(2, 210) = 164.672, p < .001, R^2 = .611, adjusted R^2 = .607$. Results indicated that although both leadership styles had a significant relationship with managerial satisfaction, transformational leadership predicted a stronger relationship than transactional leadership (see Table 18).

Table 18
Managerial satisfaction with transactional versus transformational leadership

<table>
<thead>
<tr>
<th>Variables</th>
<th>R'</th>
<th>Probability</th>
<th>Beta</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional</td>
<td>-.190</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformational</td>
<td>.896</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Managerial Satisfaction

Because both variables had significant betas, an additional analysis was conducted to test the difference between the magnitudes of the relationships. Using Cohen and Cohen's (1983) test for the significance of the difference
for dependent partial coefficients, transformational leadership was found to be more strongly related to managerial satisfaction than transactional leadership, \( t(207) = 25.365, p < .01 \).

**EQS Analyses**

EQS was used to test Hypotheses 5, 7, and 8. The hypothesized model includes four factors (transformational leadership, transactional leadership, teamwork behaviors, and team effectiveness). The relationships between both leadership behavior factors and the team effectiveness factor were proposed to be mediated by the teamwork behaviors factor. The hypothesized model is presented in Figure I (see Appendix C). In the figure, circles represent latent factors, and rectangles represent measured variables. The hypothesized model did not represent a good fit of the sample data as indicated by the comparative fit index, CFI = .85, \( \chi^2(\text{df} = 101) = 445.320, p < .001 \).

Post hoc modifications were performed to better fit the data. While the measured variables of contingent reward behavior and management-by-exception remained in the model, a good fit was not established. When these variables were
removed, and the direct link between transformational leadership behaviors and team effectiveness was added, the resulting model was a good fit of the data, $\text{CFI} = .95$, $\chi^2(\text{df} = 74) = 165.84$, $p < .001$. While the chi-square was significant, a CFI greater than .90 indicates a good fit. Research also supports that the CFI is considered the more appropriate index of fit (Ullman, 1996). No direct comparison can be made between the modified model and the hypothesized model because some of the variables were dropped from the model, thus changing the overall variance. However, the second model demonstrates a good fit of the data (see Appendix C, Figure II).

Figure II presents the standardized coefficients for each path. Results indicate that the measured variables were significant indicators of each of the factors. The relationship between transformational leadership behaviors and team effectiveness was mediated by teamwork behaviors. In addition, transformational leadership had a direct effect on team effectiveness.
Discussion

This study has examined the relationship between managerial leadership behaviors, as an element of organizational context, and team behaviors and effectiveness. Among the various elements of organizational context, managerial leadership was chosen to be the focus since leadership can play a very important role for an organization's success. It is the leadership that orchestrates the adjustment of the organization to its context in order to stay competitive (Bass, 1997). Lots of organizations are turning to team-based systems to stay competitive. Therefore, the increased use of teams in organizations has broadened the leadership roles of managers (Harris & Lambert, 1998), which triggered the key research question for the study as the following: "What are the key behaviors of managers that facilitate and promote teamwork and help teams to be successful"?

A conceptual framework was developed in order to integrate and extend the knowledge to support and manage teams in the work environment today and in the future. This model was framed in terms of three domains - leadership
behaviors, internal teamwork behaviors, and team effectiveness. Specific attention was given to the transactional and transformational leadership behaviors and how they relate to teamwork, which further influence team effectiveness. This study was attempted to present a comprehensive model that can be used to guide both future research and practice.

First, multiple regression analyses were conducted to look at the relationship between the components of both transactional and transformational leadership, and the teamwork components. Secondly, structural equation modeling provided data with regards to the relationship between the factors of leadership, teamwork, and team effectiveness. The following section discusses the results for the regression analyses.

The findings from the regression analyses appeared to support the hypotheses that proposed a positive relationship between the teamwork behaviors and the linear combination of transactional and transformational leadership. This provides empirical evidence for the connection of the leadership behaviors to team behaviors. However, strong support was not
found when looking at the relationship between the individual components of each of the two leadership styles and the components of teamwork. In the case of transactional leadership components, management-by-exception did not contribute to the variance in teamwork behaviors. Contingent reward behavior of transactional leadership did contribute to the variance in the information exchange and communication components of teamwork, as claimed in hypotheses 1a and 2a. However, it was again the contingent reward behavior, which appeared to contribute to the variance in the supporting behavior and the team initiative/leadership components of teamwork, not management-by-exception as proposed in hypotheses 3a and 4a. These results indicate that when we look at the individual components of transactional leadership separately, contingent reward behavior was found to be more associated with teamwork behaviors than was the management-by-exception. As mentioned earlier, contingent reward behavior includes clarification of tasks and expected outcomes, as well as creating the conditions to help team members achieve those outcomes (Bass, 1985). One of the critical roles of
managers who are responsible for teams is to provide direction and clarify performance expectations. Even in the self-directed team settings, there is a manager who is responsible for overseeing the work, clarifying the roles, and the expected performance goals. In a team setting, there might be times in which team members give positive feedback to each other. However, it is their manager’s feedback that rewards good performance.

On the other hand, management-by-exception includes monitoring behavior and corrective action in order for the tasks to be carried out in an effective way (Bass, 1985). One of the major reasons why this variable may not have contributed to teamwork behaviors might be due to the nature of teamwork. That is, although leadership literature includes support for the management-by-exception component, this might be specific to managing a group of individuals who work separately. This monitoring and/or correcting individual work of others may be provided by other team members. People who work individually are almost always dependent on their supervisors/managers for support and feedback. On the other hand, it is the nature of a team
setting that team members support each other, monitor each other’s work, and make corrections if necessary, and provide feedback. In other words, they are not solely dependent on their managers for support and feedback (Kerr & Jermier, 1978). Therefore, management-by-exception may not be a significant factor in a team environment.

When looking at the relationship between the individual components of transformational leadership and the components of teamwork, none of them appeared to have unique contributions to the variance in teamwork variables as proposed in the hypotheses 2b and 3b. Results indicated that it was only charisma which contributed uniquely to the variance in team initiative/leadership of teamwork as proposed in hypothesis 4b. However, the combination of the four components into the transformational leadership factor was significantly related to each of the teamwork behaviors. The overlap between the variables, as well as the additive affect of each component may account for the lack of support at the individual component level. Therefore, when looked at separately, the transformational leadership variables may not make a unique contribution to the equation for team
behaviors. However, considered together, transformational leadership components were strong indicators of a transformational leadership factor, which was verified by the structural equation modeling (EQS) analysis (see Figure II). This means that they belong to the same factor and are not mutually exclusive. Since there is an overlap between the variables, they might not have individually contributed to the variance in teamwork behaviors. On the other hand, at the factor level, when the four variables of transformational leadership were combined, the relationship was significant for each teamwork behavior.

In fact, when the combination of both transactional and transformational leadership factors were looked at, it was the transformational leadership factor that had the significant relationship with each teamwork behavior. Both regression and the EQS analyses provided strong support for the transformational leadership factor being the strongest indicator of both teamwork behaviors and effectiveness.

The hypothesized model was modified due to the results of the EQS analysis (see Appendix C, Figure II). Overall, the modified model did not include the transactional
leadership factor. It was found that the transformational leadership factor was related to the team effectiveness factor, mediated by teamwork behaviors. These results provide further evidence to the findings in the regression analyses. In other words, EQS analysis indicated that, as a factor, transactional leadership did not contribute to the model. Consistent with the previous regression analyses, it was the transformational leadership factor which was the strongest indicator for teamwork and team effectiveness.

These findings on the importance of transformational leadership are consistent with the findings in the literature. For example, Harris and Lambert (1998) studied managers who worked with teams and found that transformational leadership sought to improve the context for teams. Similarly, Avolio and Bass (1987) stated that one objective of transformational leaders is to improve the ability of their employees so that they can solve their own problems and problems of others. They found that through inspirational motivation and individualized consideration, team members felt more confident to self-manage their teams.
Transformational leaders inspire and motivate their employees to perform beyond expectations to achieve goals (Keller, 1995). In his study Keller (1995) found that transformational leadership accounted for higher project quality in the targeted teams' research projects. Again, providing support to the findings in this study. Transformational leaders focus on changing the values and beliefs towards a common mission and goals. As opposed to transactional leaders, transformational leaders go beyond the exchange of rewards for compliance (Avolio & Bass, 1987). This is also consistent with Yukl's (1984) studies which revealed the transformational leadership has stronger correlations with effectiveness than the transactional.

This study has shown that more effective teams are more associated with transformational leadership rather than transactional. In other words, the characteristics of transformational leadership seem to facilitate a better environment for teams to be effective. Providing direction/correction when things go wrong or performance expectations are not met appear to be less critical in meeting the needs of the teams. In fact, it was interesting
to see the results indicating the transformational leadership being a stronger indicator of teamwork even though the sample came from highly traditional and hierarchical organizations. Those organizations with more traditional, top-down management systems are more likely to operate with transactional leadership (Bass, 1997). Having found transformational leadership being more associated with effective teams in traditional, yet diverse settings makes the findings even more powerful.

Research provides support that both transactional and transformational leadership styles are necessary for effective leadership (Harris & Lambert, 1998). However, there is also support for transformational leadership being more closely associated with change (Hater & Bass, 1988; Schein, 1992; Bass, 1997). It is the transformational leader who inspires and motivates employees toward changing their values and beliefs towards accomplishing common goals (Keller, 1995). Teamwork is in itself a change strategy in terms how work is being done. Team members need to learn to work interdependently. They need to feel committed and work together to achieve group goals. The support for hypothesis
6, which proposed managerial satisfaction being more associated with transformational rather than transactional leadership, is also consistent with earlier studies. For example, Bass (1997) conducted a series of studies in various settings including educational, industrial, and military and found that transformational leadership was perceived as more satisfying than transactional.

Implementing teamwork, adapting to team-based systems and processes constitute an organizational culture change for many organizations (Larson & Lafasto, 1988; Recardo & Jolly, 1997). Many organizations today operate with a directive, top-down management style, which impedes teams success because the existing culture does not support teamwork development. Those organizations need to create change in their management and leadership styles if they want the teams to effectively operate and be successful. Adjusting to new behaviors may call for changing certain values in people. Leaders/managers, in the transactional mode, operate within the existing culture and have the perspective of "If it ain't broke, do not fix it" (Bass, 1985). On the other hand, transformational leaders work with
full commitment to the challenge of changing the existing culture.

In stable organizations, even management-by-exception can be effective if the managers monitor team performance and take corrective action as needed. However, when organizations are faced with competitiveness, in order to survive and succeed, they need to be flexible and adaptive to change. These organizations call for leaders who can inspire employees to participate in team efforts and work towards common goals (Bass, 1997). Inspiring, motivating, and empowering employees to change their values and to perform beyond expectations to achieve goals is a part of the transformational role of leaders. This study provided further support to this argument and found that transformational leadership acts as a predictor of teamwork behaviors.

Limitations of the study

While the results of this study are consistent with earlier literature, there are limitations to consider. First of all, this study was based solely on self-report data. Due to the nature of organizational attitudes toward filling out
surveys, given the time limits, and the potential problems that would occur during the linkage of separate data, it was decided to use perceptions. In other words, participants, namely team members, rated their perception of leadership, teamwork, and their effectiveness. Future studies could include external validation of leader behaviors and team effectiveness.

Secondly, the use of self-report data might cause common method variance problems. Findings might be due to the fact that the items in the survey belong to the same construct and were asked in the same way, not due to the accurate perceptions of the participants. Although variation in the level of how variables correlate provided some evidence that common method variance might not be the issue, this limitation of the use of self-report data should still be considered.

The third limitation includes the scope of organizational context. The present study solely focused on one element of organizational context, namely leadership behaviors. Furthermore, it exclusively focused on two leadership behaviors. Although research provides support
that transactional and transformational leadership define modern leadership in today’s organizations (Harris & Lambert, 1998), a further look at other leadership styles would provide a broader understanding to the knowledge of leadership and teamwork studies. Moreover, other aspects of organizational context such as performance and reward systems, training and development, and organizational structure may be strongly related to fostering teamwork and increasing teams performance. Therefore, future research should include other elements of organizational context and their impact on teamwork.

A fourth limitation was due to the unit of analysis. Although this study looked at team level processes, analyses were conducted at the individual level. The main reason was related to the nature of the hypotheses. Due to the social nature of teams, it is likely that team members influence each others perceptions. This response interdependence may lead to common perceptions of leaders. Future research could examine the effects of common group perceptions on the perceptions of leadership.
Still another limitation is due to the design of the study. The present study was a field study using correlational design. This type of design provides little control over the other variables, which means that the relationships in the findings can only be implied and show no empirical evidence for causation. However, the main reason for choosing to conduct a field study was to study the factors in a rich contextual environment to increase generalizability to real organizations as opposed to laboratory settings.

Finally, the present study was a cross-sectional study, which is both a strength as well as a limitation. It is a strength because since different organizations were used, the findings are more likely to be generalizable. It is a limitation because different settings call for many different outside factors which make it even harder to control for other variables. For example, a portion of the sample, which comes from Turkish organizations, was too small to be able to test for cultural differences. Therefore, no further analyses were made to compare the teams in the Turkish versus the US organizations.
Implications

The first and foremost implication of this study is that it established an empirical "connection" between leadership, teamwork behaviors, and teams success. There is a lot of theoretical support in the literature, which indicates a positive relationship between leadership and teamwork, but there was not enough empirical evidence, particularly for transactional and transformational leadership.

Findings of the present study also provide a conceptual framework for the relationship between leadership, team behaviors and effectiveness. It is expected that this framework extend the knowledge of team and leadership research and practice. This has implications for the creation of effective teams in contemporary organizations. This model provides support for managers to use transformational leadership in managing organizational teams. Results indicate that transformational leadership is more likely to facilitate teamwork outcomes rather than transactional leadership. Moreover, team satisfaction and perceptions of effectiveness are related to transformational
leadership. Given the highly competitive nature of today's work environment, it seems appropriate that demonstrating transformational leadership styles would result in more effective team outcomes.

Furthermore, organizations taking part in or considering turning into team-based environments may find these results useful in training managers and supervisors to adapt to change to become more effective leaders. Training programs can be developed based on specific transformational leadership behaviors to improve leader behaviors and skills that would result in more effective management of teams. In sum, the present study provided a conceptual framework for the relationship between leadership, and team behaviors and effectiveness. It provided additional evidence to support the use of transformational leadership to promote teamwork behaviors and to increase teams' effectiveness.
APPENDICES
Appendix A: Informed Consent of the Study

Researcher: Ahu Gokmen

California State University, San Bernardino
Master’s of Science in Industrial/Organizational Psychology

The purpose of the present study is to look at the relationship between leader behaviors and their influence on team effectiveness. This study is being conducted by Stacey Smith under the supervision of Dr. Janelle Gilbert, professor of psychology. This study has been approved by the Department of Psychology Institutional Review Board, California State University, San Bernardino. The university requires that you give your consent before participating. You are requested to fill out a survey in which you will see descriptive statements about leadership style, team behaviors, and team effectiveness. Your own input is very important. When giving your responses, please indicate the answer that reflects your thoughts, opinions, and/or perceptions the most. It will take approximately 15 minutes to fill out the survey. It is greatly appreciated that you complete the entire survey or else your responses can not be utilized for the analysis. Individual responses will
strictly be kept confidential and anonymity will be maintained. Your manager/supervisor will in no way be able to see the individual responses. You can receive feedback about the overall results after the completion date of the study which is expected as March, 2000.

I do appreciate your voluntary participation, however you will have the right to withdraw from participating to the research any time. If you have any questions regarding the research, you can contact Dr. Janelle at (909) 880 - 5587. Thank you very much for your cooperation.

By placing a check mark in the space below I acknowledge that I have been informed of, and understand, the nature and purpose of this study. I freely consent to participate.

I agree to participate ________    Date _______________
Appendix B: Leadership and Team Effectiveness

Questionnaire

SECTION 1: LEADERSHIP

This is a questionnaire to provide a description about leadership. In this first part, you are requested to describe your current immediate supervisor/manager. Listed below are descriptive statements. For each statement, we would like you to judge how frequently your current immediate superior has displayed the behavior described. Please read the statements carefully and circle the appropriate rating that corresponds to your judgment. When the item is irrelevant or does not apply, or where you are uncertain or do not know, please check “N/A” section.

The rating scale is as follows:

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly Often</th>
<th>Frequently, If not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

The person I am rating...

1. Provides me with assistance in exchange for my efforts
   - N/A 0 1 2 3 4

2. Re-examines critical assumptions to question whether they are appropriate
   - N/A 0 1 2 3 4

3. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards
   - N/A 0 1 2 3 4

4. Talks about his/her most important values and beliefs
   - N/A 0 1 2 3 4

5. Seeks different perspectives when solving problems
   - N/A 0 1 2 3 4

6. Talks optimistically about the future
   - N/A 0 1 2 3 4

7. Instills pride in me for being associated with him/her
   - N/A 0 1 2 3 4

8. Discusses in specific terms who is responsible for achieving performance targets
   - N/A 0 1 2 3 4

9. Talks enthusiastically about what needs to be accomplished
   - N/A 0 1 2 3 4

10. Specifies the importance of having a strong sense of purpose
    - N/A 0 1 2 3 4

11. Spends time teaching and coaching
    - N/A 0 1 2 3 4

12. Makes clear what one can expect to receive when performance goals are achieved
    - N/A 0 1 2 3 4

13. Goes beyond self-interest for the good of the group
    - N/A 0 1 2 3 4

14. Treats me as an individual rather than just as a member of a group
    - N/A 0 1 2 3 4
<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Acts in ways that build my respect</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>Concentrates his/her full attention on dealing with mistakes, complaints, and failures</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>Considers the moral and ethical consequences of decisions</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>Keeps track of all mistakes</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>Displays a sense of power and influence</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>Articulates a compelling vision of the future</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>21</td>
<td>Directs my attention toward failures to meet standards</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>22</td>
<td>Considers me as having different needs, abilities, and aspirations from others</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>23</td>
<td>Gets me to look at problems from many different angles</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>24</td>
<td>Helps me to develop my strengths</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>25</td>
<td>Suggests new ways of looking at how to complete assignments</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>26</td>
<td>Emphasizes the importance of having a collective sense of mission</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>27</td>
<td>Expresses satisfaction when I meet expectations</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>28</td>
<td>Expresses confidence that goals will be achieved</td>
<td>N/A</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
SECTION II: TEAM WORK

In this section, you will find descriptions of teamwork behaviors. You are requested to evaluate your team by rating each of the descriptions below. Please read the descriptions carefully and rate your team by circling the number that corresponds with your answers. The definition of a score of 1, being the lowest and a score of 5, being the highest is separately defined for each of the descriptions. Thank you for your participation.

My team... (or Members of my team...)

1. Proactively asks for information from multiple sources in order to establish an accurate assessment of the situation. These sources may be internal or external to the team and may include written documentation.

   1 2 3 4 5
   Seeking information
   is a real weakness for my team

   1 2 3 4 5
   Seeking information
   is a real strength for my team

2. Anticipate another team member’s need for information and passing it to him/her without having to be asked. This could be a single piece of information passed to an individual or group of individuals.

   1 2 3 4 5
   Passing information
   is a real weakness for my team

   1 2 3 4 5
   Passing information
   is a real strength for my team

3. Give an update of a situation (project) either to the entire team or a subset of the team which provides an overall summary of the big picture as they see it. This can include updates reported internally within the team as well as updates that go out from the team to others.

   1 2 3 4 5
   Providing situation updates
   is a real weakness for my team

   1 2 3 4 5
   Providing situation updates
   is a real strength for my team

4. Uses of standard terms or vocabulary when sending a report.

   1 2 3 4 5
   Terminology
   is a real weakness for my team

   1 2 3 4 5
   Terminology
   is a real strength for my team
5. Follows standard procedures that indicate which pieces of information are to be included in a particular type of report and in what order.

   1  2  3  4  5
   Incomplete reports are real weakness for my team Providing complete reports is a real strength for my team

6. Avoids excess chatter, stammering and long winded reports which tie up communication lines.

   1  2  3  4  5
   Brevity is a real weakness for my team Brevity is a real strength for my team

7. Sends messages that are clear (e.g., accurate, concise, and sufficient).

   1  2  3  4  5
   Communication/Clarity is a real weakness for my team Communication/Clarity is a real strength for my team

In my team, there are...

8. Instances where a team member points out that an error has been made and either corrects it him/herself or see that it is corrected by another team member.

   1  2  3  4  5
   Error correction is a real weakness for my team Error correction is a real strength for my team

9. Instances where a team member either requests assistance or notices that another team member is overloaded or having difficulty performing a task and provides assistance to them by actually taking on some of their workload.

   1  2  3  4  5
   Offering and requesting backup is a real weakness for my team Offering and requesting backup is a real strength for my team

10. Instances where a team member directs or suggests that another team member take some action or instructs them on how to perform a task.
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing guidance or suggestions is a real weakness for my team</td>
<td>Providing guidance or suggestions is a real strength for my team</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Instances where a team member specifies, either to the team as a whole or to an individual team member, the priority ordering of multiple tasks.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stating priorities is a real weakness for my team</td>
<td>Stating priorities is a real strength for my team</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION III: TEAM EFFECTIVENESS

In the last part of the survey, you will find several statements about your satisfaction at your job as well as the performance of the team you work with. Please read the statements carefully and check the appropriate box that corresponds to your rating. Once again, all your individual answers will strictly be kept confidential. Thank you for your cooperation.

Below are the descriptions of the ratings:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Neutral</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. I like working with the other team members in my team.
2. As a team, we provide quality product and/or services.
3. People on this job often think of quitting.
4. My team meets/exceeds our customers' expectations.
5. I enjoy working in my team rather than working individually.
6. Most people on this job are very satisfied with the job.
7. My teammates show respect for one another.
8. Generally speaking, I am very satisfied with my job.
9. As a team, we work effectively to increase productivity.
10. My team is encouraged to come up with new ways of doing work.
11. I am satisfied with the degree of respect and fair treatment I receive from my manager/supervisor.
12. Generally speaking, I am satisfied with the overall quality of the supervision I receive in my work.
13. Customer relations are viewed as a high priority in my team.
14. As a team, we work in a timely manner to meet project/clients' deadlines.
15. My team experiments new approaches.
16. I am satisfied with the amount of support and guidance I receive from my manager/supervisor.
17. My teammates get along well.
18. I frequently think of quitting this job.
19. My manager/supervisor provides the team with the necessary resources to accomplish team's work successfully.
20. Overall, my team's performance is high.
Appendix C: EQS Models

Figure I: Hypothesized Framework for Leadership and Teamwork

Charisma  
Inspirational Motivation  
Intellectual Stimulation  
Individualized Consideration  
Contingent Reward Behavior  
Management by Exception  
Transformational Leadership  
Team Initiative /Leadership  
Communication  
Supporting Behavior  
Information Exchange  
Teamwork Behaviors  
Team Effectiveness  
Quality(P)  
Productivity(P)  
Customer Satisfaction (P)  
Innovation (P)  
Satisfaction with the team (S)  
Job Satisfaction (S)
Figure II: Framework for Leadership and Teamwork (modified based on the EQS Analysis)

Charisma
  \[.94^*\]

Inspirational Motivation
  \[.86^*\]

Team Initiative \
/Leadership

Communication
  \[.76^*\]

Supporting Behavior
  \[.82^*\]

Information Exchange
  \[.76^+\]

Team Initiative \
/Leadership

Transformational Leadership
  \[.66^*\]

Teamwork Behaviors
  \[.62^*\]

Team Effectiveness
  \[.67^+\]

Team Initiative \
/Leadership

Quality(P)

Productivity(P)

Customer Satisfaction (P)

Innovation (P)

Satisfaction with the team (S)

Job Satisfaction (S)

Note: * indicates a significant path at the .01 level
+ indicates paths with variance fixed to 1.
## Appendix D: Table of Intercorrelations

<table>
<thead>
<tr>
<th>Variables</th>
<th>Charisma</th>
<th>Individualized Consideration</th>
<th>Intellectual Stimulation</th>
<th>Inspirational Motivation</th>
<th>Contingent Reward</th>
<th>Mgmt-by-Exception</th>
<th>Information Exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charisma</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individualized Consideration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectual Stimulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspirational Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingent Reward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mgmt-by-Exception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Exchange</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team Initiative/Leadership</td>
<td>.519**</td>
<td>.374**</td>
<td>.412**</td>
<td>.437**</td>
<td>.464**</td>
<td>.237**</td>
<td>.619**</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>.434**</td>
<td>.392**</td>
<td>.342**</td>
<td>.412**</td>
<td>.332**</td>
<td>-.110</td>
<td>.425**</td>
</tr>
<tr>
<td>Team Satisfaction</td>
<td>.482**</td>
<td>.414**</td>
<td>.423**</td>
<td>.493**</td>
<td>.356**</td>
<td>.084</td>
<td>.525**</td>
</tr>
<tr>
<td>Manager Satisfaction</td>
<td>.734**</td>
<td>.719**</td>
<td>.654**</td>
<td>.687**</td>
<td>.654**</td>
<td>.041</td>
<td>.486**</td>
</tr>
<tr>
<td>Perceived Quality</td>
<td>.333**</td>
<td>.308**</td>
<td>.303**</td>
<td>.387**</td>
<td>.259**</td>
<td>-.006</td>
<td>.407**</td>
</tr>
<tr>
<td>Perceived Productivity</td>
<td>.466**</td>
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