THE IMPACT OF MIDDLE MANAGER LEADERSHIP ON STRATEGY IMPLEMENTATION EFFECTIVENESS

A Dissertation

Presented to

The Faculty of the C.T Bauer College of Business

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In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

By

Alex Tawse

May 2018

THE IMPACT OF MIDDLE MANAGER LEADERSHIP ON STRATEGY IMPLEMENTATION EFFECTIVENESS

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DEDICATION

To my mother and father, Wilma and Lon Severe, who are a constant source of support and inspiration.

To my many friends and family members who make life such a joy.

To my wife, Sunhee Bang, who gives me strength, makes me laugh, and puts up with me.

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ABSTRACT

Strategy implementation effectiveness is a critical component of organizational performance and middle managers play a key role in the implementation process. However, little has been done to identify the critical dimensions of strategy implementation effectiveness and the impact of middle manager leadership on the process of strategy implementation is not well understood. As a result, strategy research often overlooks the impact of middle management leadership as a source of performance heterogeneity. To improve our understanding of the strategy implementation process, I develop and test a theoretical model that investigates the indirect impact of three types of middle manager leadership behaviors on strategy implementation effectiveness through three mediating mechanisms that are influenced by three moderating contingency factors. The findings, based on survey data gathered from top managers, middle managers, and their teams at Houston METRO Transit Authority, confirm various aspects of the model and highlight the importance of middle manager leadership and team coordination on strategy implementation effectiveness, as well as the moderating effect of perceived organizational support on team commitment to implement strategy.

Keywords: Strategy Implementation Effectiveness, Middle Manager Leadership, Coordination, Perceived Organizational Support.

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CHAPTER 1 - INTRODUCTION

1.1 Motivation for the Study

My motivation for this study is twofold. First, although strategy implementation (SI) effectiveness is widely recognized as a critical component of firm performance (e.g. Hambrick & Canella, 1989; Sull, Homkes, & Sull, 2015), conceptual understanding of SI effectiveness is still underdeveloped and there is no overarching framework on which to base new theoretical knowledge on the subject (Huber, 2011; Noble, 1999b; Yang, Sun, & Eppler, 2010). Thus, I seek to provide clarity to the process of SI. Second, although middle managers play a key role within the SI process (e.g. Ahearne, Lam, & Kraus, 2014; Wooldridge & Floyd, 1990), research on how middle managers influence SI outcomes is limited to their impact on strategy formulation (e.g. Ahearne et al., 2014; Floyd & Wooldridge, 1997; Floyd & Wooldridge, 1992a) and their commitment to SI (e.g. Guth & MacMillan, 1986; Kim & Mauborgne, 1991). While important, these approaches treat middle manager (MM) influence on SI as an outcome variable, and stop short of addressing more micro-level phenomena such as the influence of MM leadership behavior on the employees and teams that report to them. Therefore, in order to also contribute to the depth of understanding about SI effectiveness, I seek to bridge the divide between macro and micro level approaches by investigating the impact of MM leadership on SI effectiveness.

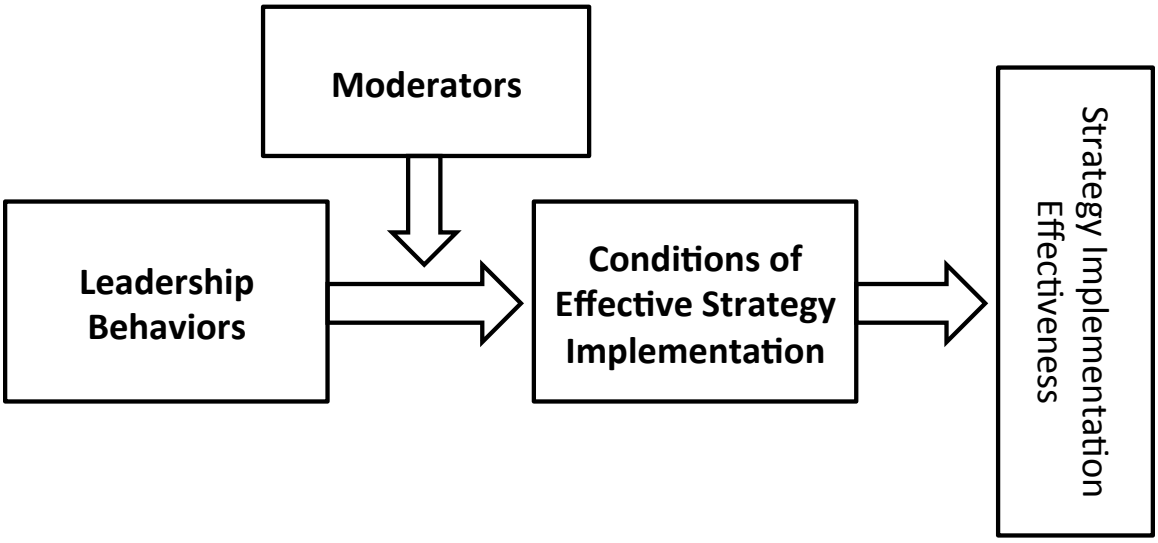
Strategy implementation effectiveness is defined as, "the extent to which an organization's actions correspond to its strategic intentions" (Lee & Puranam, 2015: P.1529) and it has been long understood that without effective implementation, a "strategy is but a fantasy" (Hambrick & Canella, 1989, p.278). But unfortunately, like the

proverb of the blind men and the elephant, SI research has been limited to the investigation of individual parts of the animal and an overall framework of SI has yet to be established (Noble, 1999b). Therefore, before investigating the impact of MM leadership on SI effectiveness, it is necessary to provide greater clarity to the construct of SI effectiveness itself. To do this, I embarked on a journey of abductive reasoning to systematically synthesize existing findings into an integrative framework. The framework consists of three broad dimensions: mechanisms through which managers influence the SI process, three necessary conditions of SI effectiveness, and environmental contingencies that moderate the relationship between the mechanisms and conditions of effective SI. The framework provides clarity to various components of the SI process and supports a more precise investigation about the relationships among factors.

A second characteristic of extant SI research is that it takes a predominantly macro level approach. Although SI is recognized as a multilevel and multiunit process that requires engagement of managers and employees throughout the firm (Greer, Lusch, & Hitt, 2017), the bulk of SI research is focused on the impact of organizational structure (Hitt et al., 2017) and top management characteristics and behaviors (e.g. Gupta & Govindarajan, 1984; Herrmann & Nadkarni, 2014). Although middle managers have been found to have a significant influence over organizational outcomes (Mintzberg, 1996; Yukl, 2008) and MM leadership impacts the performance of individuals, teams, and divisions within which they operate (Palanski & Yammarino, 2009), little research has been done on the impact of MM behaviors on SI. Thus, there exists a gap in our understanding of how middle managers influence SI effectiveness. To address this issue, I combine evidence from the SI literature with leadership theory to develop hypotheses

regarding the relationship between SI effectiveness and three prominent types of MM leadership. Within the framework of SI derived in the first step of this dissertation, leadership behaviors are hypothesized to influence SI effectiveness indirectly through one or more conditions required to achieve SI effectiveness. In addition, three moderating variables are hypothesized to influence the relationship between the MM leadership behaviors and the conditions of SI effectiveness. These moderators relate to the organizational environment within which implementation is taking place and characteristics of teams, which are the level of analysis in this study. A summary of the broad relationships investigated in this dissertation is shown in Figure 1 below.

Figure 1. Summary of Relationships Investigated



The combination of developing a framework of the SI process and investigating the impact of MM leadership on SI effectiveness contributes to our understanding of this important construct in several ways. First, the identification of the conditions of SI effectiveness improves our understanding of how managerial actions (in this case

leadership behaviors) indirectly contribute to SI effectiveness. Second, my investigation of the relationship between MM leadership and SI effectiveness, along with three key moderators, fills a gap in current knowledge and provides improved depth of understanding by bridging the macro-micro divide in management research. Combined, the study will contribute the theoretical development of SI and provide managers with an improved understanding of how leadership impacts SI effectiveness.

1.2 Research Questions

Strategy implementation is broadly defined as the process of translating strategic intentions into strategic actions and outcomes (Noble, 1999b) and business researchers and practitioners have long understood that effective implementation of well-formulated strategies is a critical component of superior organizational performance (e.g. Greer et. al., 2017; Hambrick & Cannella, 1989; Sull et al., 2015). However, a thorough understanding of the SI process has remained elusive and many organizations struggle to achieve their strategic goals (Hrebiniak, 2006; Lane & Clewes, 2000; Sull et al., 2015). Top executives report that they only achieve about 60% of expected returns on strategy and list strategy implementation as one of their most challenging tasks (Mankins & Steele, 2005; Sull et al., 2015).

A review of the broad pool of empirical, theoretical, and case study research in the SI literature reveals a diverse set of approaches to strategy implementation that has resulted in many different conceptualizations of the topic (Lee & Puranam, 2015; Noble, 1999b; Yang et al., 2010). In addition to studies related to the implementation of strategy in general (e.g., Herrmann & Nadkarni, 2014; Ho, Wu & Wu, 2014), SI research spans a wide variety of disciplines such as marketing (e.g., Cadwallader et al., 2010; Noble &

Mokwa, 1999; Walker Jr & Ruekert, 1987) and operations (e.g., Beer, 2003; Douglas & Judge, 2001), and deploys a broad range of theoretical perspectives. For instance, research on SI includes structural approaches primarily drawn from organizational theory (e.g., Skivington & Daft, 1991; Thorpe & Morgan, 2007), relational approaches drawn from organizational behavior theories (e.g., Ahearne et al., 2014; Kim & Mauborgne, 1991) and capability approaches drawn from macro-level strategy theories (e.g., Huber, 2011; Kale & Singh, 2009; Petersen, Prayer & Scannell, 2000). In addition, case studies published in practitioner-oriented journals make up a significant portion of the extant research. This contributes to a breadth of insights and approaches to SI but also illustrates the lack of depth in terms of theoretical models and frameworks. Thus, the diverse landscape of research in this area suggests that SI is a multi-faceted complex phenomenon (Greer et al., 2017) that "lends itself to a multitude of theoretical perspectives that could also be employed in an interdisciplinary manner" (Yang et al., 2010: p.167). This provides opportunity for researchers to develop novel interdisciplinary new theories but has also served as a roadblock for the development of a foundational framework on which to build.

An additional complication in research on strategy implementation is related to the conceptualization of SI effectiveness. Because of the lack of clarity about the concept of SI effectiveness, many empirical studies of SI rely on elements of firm performance to conceptualize effectiveness. However, equating implementation success with high performance plagues theoretical rigor (Miller, Washburn & Glick, 2013) and introduces issues of tautology (Lee & Puranam, 2015). Stated differently, strategy effectiveness, SI effectiveness, and firm performance are theoretically different constructs but are not

frequently treated independently in the extant literature. An additional issue with treating SI effectiveness as a constant, or using firm performance as a proxy measure, is that it compromises researchers' abilities to evaluate strategy as an independent construct or to compare strategies between firms. This is because effective implementation is a requirement for proper evaluation of formulated strategy (Bonoma, 1984; Lee & Puranam, 2015) and effectiveness can vary widely between firms. Like the assessment of a new recipe, unless the dish is prepared to the exact specifications using precisely the correct ingredients, it is impossible to attribute success or failure to the recipe itself or to the execution of the recipe.

In order to provide clarity to the concept of SI effectiveness and contribute to its measurement independent of strategy type and firm performance, the first research question that guides this study is:

- *What are the conditions of strategy implementation effectiveness?*

Another characteristic of SI research is that it is recognized as a multilevel and multiunit process that requires the engagement of managers and employees throughout the firm (Greer et al., 2017). However, there exists little clarity about the detailed roles, responsibilities, and impact of managerial actions at various levels. In many cases, SI research applies an upper echelons lens (e.g., Gupta & Govindarajan, 1984; Herrmann & Nadkarni, 2014), but descriptors such as "managers" or "leaders" are also often applied ubiquitously. There is broad agreement about the importance of middle managers, who bridge the gap between strategy formulation and implementation (Floyd & Wooldridge, 1992a; Guth & MacMillan, 1986), but research on the relationship between middle managers and SI effectiveness is limited. However, MM leadership has important

implications for organizational outcomes (Yukl, 2013) and the impact of MM leadership on the implementation outcomes of the individuals and teams that they lead is an important factor to consider. It is this gap in the extant research that provides the impetus for my second research question:

- *What is the impact of middle manager leadership on SI effectiveness through the conditions of SI effectiveness?*

Finally, the process of SI does not happen in a vacuum, and various contingencies have been found to influence the SI process. For example, organizational culture and group identity (Smith, 2011) as well as power distribution (Fidler & Johnson, 1984; Nutt, 1989) have been found to influence the effects of SI mechanisms on SI effectiveness. In the same vein, contingency factors that involve how employees feel about their organization as well as factors regarding characteristics of teams can be expected to influence the strength of the relationship between MM leadership and SI effectiveness. Thus, a third and final research question guides this study:

- *What factors influence the relationship between middle manager leadership and the conditions of SI effectiveness?*

To answer these questions, this dissertation presents a model that describes the three conditions of SI effectiveness, the impact of three types of MM leadership on the conditions of SI effectiveness, and three moderating variables that impact the relationship between MM leadership and the conditions of SI effectiveness at the team level.

1.3 Research Design

A field study was selected for this research based on criteria for external validity. Since the concept of SI has strong practical application, it is essential to gain real-world

insight. While a laboratory study improves the internal validity and control over extraneous variables, it would difficult, if not impossible to replicate the necessary conditions to adequately test the proposed model in a laboratory environment. Therefore, such an approach would put the generalizability of the study into question.

The study was conducted in one large organization. This is consistent with previous studies that investigate the impact of middle managers and SI effectiveness (e.g. Ahearne et al., 2014; Huy, 2011) and provides the advantage of naturally controlling for some key variables. For example, the type of strategy being implemented has been found to interact with top management team experience and skills in relation to SI effectiveness (Govindarajan, 1988; Govindarajan, 1989; Gupta & Govindarajan, 1984) as well as historical factors like prior firm performance (Elbanna, Thanos, & Colak, 2015) and organizational characteristics such as firm size (Sashittal & Wilemon, 1996) and degree of decentralization (Love, Priem, & Lumpkin, 2002). Conducting the study within many teams in a single organization controls for these types of variables.

The research site for this study is Houston Metropolitan Transit District (METRO), who agreed to allow me to collect internal archival and survey data from their approximately 4,000 employees. METRO also provides a unique and valuable characteristic for this study in that the organization is currently undergoing a major strategic change. In August of 2015, METRO launched a new bus network (NBN) that was coined a "reimagination" of METRO services, and the process of implementation is planned to continue through August of 2020. Such a setting is ideal for this research because middle managers and their teams are dealing with real-life issues of strategic change. In addition, given the additional public scrutiny involved with municipal

organizations (Poister & Streib, 1999), METRO's drive to achieve SI effectiveness is strong.

The level of analysis for this study is work-teams. Since SI is a collective organizational process (Hambrick & Canella, 1989; Hrbiniak, 2006; Jarzabkowski & Spee, 2009; Noble, 1999b), and middle managers are responsible for work-team outcomes, analysis at a group level is appropriate. Work teams are defined as a collection of individuals with interdependent tasks, who share the responsibility for outcomes and are social entities embedded within larger social systems (Guzzo, 1996; Hackman, 1987). Work teams produce goods or services for internal or external customers (Cohen & Bailey, 1997) that contribute to the overall performance of an organization (Guzzo & Dickson, 1996).

1.4 Dissertation Contribution

As previously discussed, although SI effectiveness is broadly recognized as a critical component of organizational performance, prior research has yet to clarify the components of effective SI or to investigate the impact of MM leadership on SI effectiveness. The work in this study is designed to improve our understanding of SI and answer the call to contribute to both "comprehensive frameworks" and "focused models of key relationships" within the SI process (Yang et al., 2010).

This dissertation:

1. Provides a research bridge between macro and micro management disciplines and demonstrates how theories drawn from strategy and organizational behavior contribute to our understanding of SI effectiveness.

2. Contributes to the theoretical underpinnings of SI by identifying *how* managerial actions, or behaviors, impact SI effectiveness.
3. Clarifies the components of SI effectiveness so that it may more effectively be studied and measured - independent of strategy effectiveness and firm performance.
4. Fills a gap in existing knowledge about how MM leadership behaviors impact the various conditions of SI effectiveness.
5. Extends previous work on the impact of three important moderators of team outcomes.

Because SI effectiveness is difficult to understand and achieve, many companies struggle to realize the potential value of their strategies (Mankins & Steele, 2005; Sull et al., 2015). My dissertation work will help managers improve their rate of return in several ways:

1. Highlights various dimensions of an effective strategy implementation process and how each contributes to SI success.
2. Helps managers better identify and understand implementation shortcomings and compare the potential impact of various types of leadership behavior.
3. Evaluate leadership behaviors vis-à-vis SI effectiveness and improve leadership development programs.
4. Understand the impact of several moderators that impact the relationship between leadership behavior and SI effectiveness. This information can be used to improve organizational culture as well as hiring and training practices.

Each of these contributions is discussed in more detail in chapter 7.

1.5 Dissertation Organization

This dissertation is organized into seven chapters:

- Chapter 1 provides an overview and introduction to the phenomenon of interest and the research questions being addressed.
- Chapter 2 provides a review and analysis of the current state of extant research on SI, including SI effectiveness, and how MM leadership impacts SI effectiveness.
- Chapter 3 addresses theory development. A model of SI effectiveness is proposed along with 16 hypotheses regarding the relationship between 3 types of MM leadership, the 3 conditions of SI effectiveness, and the impact of 3 moderating variables.
- Chapter 4 discusses the research design and methodology, including a description of the study, procedure, design, and measures used.
- Chapter 5 provides details on the data analysis process.
- Chapter 6 outlines results of the study and tests of hypotheses.
- Chapter 7 is a discussion of the results including an interpretation of findings and non-findings, implications for research and managerial practice, study limitations, and opportunities for future research.

CHAPTER 2 - LITERATURE REVIEW

2.1 The Definition of Strategy Implementation

In broad terms, strategy implementation is defined as the process of translating strategic intentions into strategic actions or outcomes (Noble, 1999b). However, unlike strategy, which has benefited from a clear and widely accepted definition for decades (Sull et al., 2015), a detailed definition of the process of SI has proved elusive. However, recently Yang et al. (2010, p.165) described SI as a, "dynamic, iterative, and complex process" that is comprised of, "a series of decisions and activities by managers and employees – affected by a number of interrelated internal and external factors – to turn strategic plans into reality in order to achieve strategic objectives." Yang et al. (2010) derived this definition based on a synthesis of prior definitions, and as a result, captured the complexity of actions, results, and contingencies involved in the SI process.

First, the Yang et al. (2010) definition captures the overall goal of SI to effectively execute predetermined strategic plans. This broad interpretation of SI dates back to Mitzberg (1978). Second, the definition suggests that SI is a dynamic process that involves an iterative series of actions. This notion is supported by many prior studies, including Yukl and Lepsinger (2007), Harrington (2006), and Bellhouse and Lyons (2003). Third, it clarifies that the iterative series of actions that comprise SI are under the control of managers and employees. This is also supported by a broad range of studies that includes Hrebiniak and Joyce (1984), Floyd and Wooldridge (1992a), and Hrebiniak (2006). Finally, the SI process is influenced by a number of interrelated environmental contingencies, some of which are discussed by Smith (2011), Nutt (1989), and Fidler and Johnson (1984). These elements – actions taken by managers and employees that are

influenced by environmental contingencies – are critical components that were taken into account during development of the model under investigation.

2.2 The Mechanisms of Strategy Implementation

Extant research on SI is primarily focused on how managers contribute to strategy implementation effectiveness (Greer et al., 2017) through the use of mechanisms, which are actions managers take (or behaviors they perform) to communicate, adopt, and enact a strategy or a strategic initiative (Noble, 1999b; Smith, 2011). Within the SI literature, these actions are often referred to as "levers" (e.g., Hambrick & Cannella, 1989; Noble, 1999a) or "tools" (e.g., Guth & MacMillan, 1986) and involve activities such as the arrangement of organizational structure, the application of policies and controls, various forms of communication and behavior, and the development, deployment, and reconfiguration of resources. These mechanisms generally fall within one of three broad categories: structural, relational, and resource management.

Organizational structure is a key component of SI effectiveness. In its narrowest sense, structure represents the formal lines of authority, responsibility, and communication (Chandler, 1962) or the formal allocation and segmentation of work roles to control and integrate work activity (Child, 1972; Galbraith & Nathanson, 1978). The dimensions of structure in these terms tend to fall into degrees of centralization and the format of reporting relationships that serve as the foundation of contingency theory or "fit" between structure and strategy (Galbraith & Nathanson, 1978). In a broader sense, mechanisms such as policies, procedures, controls, systems, and programs, are also considered to be structural mechanisms that influence the SI process (e.g., Crittenden & Crittenden, 2008; Hambrick & Cannella, 1989; Higgins, 2005). In this vein,

implementation effectiveness is viewed to primarily rely on effective control of people and processes using the right organizational design and reward structure (Bonoma, 1984; Gupta & Govindarajan, 1991). Therefore, the formal lines of authority through which roles are defined, responsibilities are delegated, and outcomes are monitored is considered to highly influence the effectiveness of strategy implementation (Daft & Macintosh, 1984). Policies, procedures, programs, and budgets are other examples of structural components that have been investigated (Bonoma, 1984). The focus on structure and control as the primary components of SI dominated early SI research and has persisted, almost universally, within strategy textbooks (Hitt et al., 2017). This has contributed to the general understanding that SI success is the result of proper structure and effective control.

However, in addition to a supportive structure, effective SI requires a personal touch (Sull et al., 2015), and that can be provided through the use of relational mechanisms. Unlike structural mechanisms, relational mechanisms are informal human interactions (Skivington & Daft, 1991) that influence the feelings and actions of others. Relational mechanisms include behaviors such as "facilitating," "championing," "influencing," "selling," "discussing," "coaching," "team building," and "supporting," all of which are found within the literature on SI. An example of a key relational mechanism is the effective top-down communication of strategy, which influences commitment to the SI process and improves efficiency through coordinated action (e.g. Dooley, Fryxell, & Judge, 2000; Rapert, Velliquette, & Garretson, 2002; Schaap, 2012). In this sense, top management team members act as organizational "integrators" to enhance strategic

clarity and positively influence coordination of effort towards meeting strategic goals (Hrebiniak, 1992).

Finally, the third type of mechanism available to managers to influence SI is resource management, which includes the development, allocation, and deployment of resources required for effective strategy implementation (Mahoney, 1995; Ndofor, Sirmon & He, 2015; Sirmon, Hitt & Ireland, 2007). Although narrower in scope than structural and relational mechanisms, resource management mechanisms include employee training and development and the use of SI support processes, such as budgeting and information technology. Resource management can explain performance differences between firms that have relatively similar resource bases (Greer et al., 2017) and several researchers identify resource management as a key component of effective SI (e.g. Noble, 1999a; Okumus, 2003). In other cases, resource management is treated as a managerial skill to understand when and where resources are required in order to achieve SI effectiveness (e.g., Bonoma & Crittenden, 1988; Crittenden & Crittenden, 2008). Stakeholders other than managers may also utilize resource management mechanisms to improve SI effectiveness. For example, members of the board of directors can leverage relationships outside the boundaries of the firm to acquire financial, physical, and human resources that can help SI (Brauer & Schmidt, 2008).

2.3 Middle Managers and Strategy Implementation

Although the mechanisms of SI are under the control of managers (Yang et al., 2010) and successful SI involves the engagement of managers at all levels of an organization (Greer et al., 2017), SI research provides little clarity regarding the roles, responsibilities, and impact of managerial actions at various levels. As mentioned

previously, SI research often applies an upper echelons lens (e.g., Gupta & Govindarajan, 1984; Herrmann & Nadkarni, 2014), but descriptors such as "managers" or "leaders" are also often applied ubiquitously. However, it is clear that middle managers also play an important role within the SI process because they bridge the gap between strategy formulation and SI (Floyd & Wooldridge, 1992b; Guth & MacMillan, 1986) and have been found to be an important determinant of implementation success (Tabrizi, 2014; Tabrizi; 2013). Middle managers receive directions from senior managers but also give directions to their direct reports (Stoker, 2006) and have a better understanding of day-to-day operations than senior managers (Huy, 2001). In this sense, they serve a sensemaking and sensegiving role as "interpreters and sellers of strategic change" (Rouleau, 2005, p.1413). However, as previously discussed, empirical studies on the relationship between middle manager behaviors and SI effectiveness have been limited to the investigation of MM influence over strategy formulation (e.g. Ahearne et al., 2014; Thomas & Ambrosini, 2015) and various factors that impact MM commitment to strategy (e.g. Guth & MacMillan, 1986; Huy, 2011).

Wooldridge and Floyd (1990) and Floyd and Wooldridge (1992a, 1997, 2000) have investigated the impact of middle managers on the strategy formulation process and propose that middle managers influence strategy through four types of behaviors; championing alternatives, facilitating adaptability, synthesizing information, and implementing deliberate strategy (Floyd & Wooldridge, 1992a). Building on this model, Ahearne et al. (2014) found that the extent to which middle managers become champions of strategic alternatives is related to business unit performance and that this relationship is moderated by middle manager's social capital (position within the management

network). However, the theoretical underpinning of these findings is that performance is enhanced through MM influence and adjustments to strategy itself, and not on the process of SI.

Alternatively, implementation research has focused on MM commitment to SI, which has been found to impact SI effectiveness (Harrington & Kendall, 2006). MM perceptions about SI success have been found to impact MM commitment (Guth & MacMillan, 1986; Judge & Stahl, 1995) and the level of MM effort towards SI is linked to MM ability and the alignment between strategic goals and MM personal goals (Guth & MacMillan, 1986). The strength of MM group identities has also been found to influence MM commitment to strategy (Huy, 2011). While important, this approach treats MM commitment as an outcome variable and takes the view that aligning strategic goals with MM goals is the mechanism through which MM commitment is achieved.

The evidence regarding the importance of middle managers' influence on strategy formulation and MM commitment to SI success highlights the fact that empirical work within the SI domain is primarily limited to macro approaches. Thus, the mechanisms of SI are evaluated in terms of how they impact firm performance or how they impact mid-level constructs such as MM commitment to SI. Only O'Reilly et al. (2010) takes a multi-level approach to manager mechanisms and there is no evidence of empirical studies that investigate the impact of mechanisms applied directly at the MM level. However, evidence suggests that MMs have a significant impact on SI effectiveness beyond their individual level of commitment to SI. In a survey of 103 companies implementing strategic manufacturing initiatives, Minarro-Viseras, Baines, and Sweeney (2005) found that middle managers' (acting as project managers) ability to listen, understand, and

communicate accurately was mentioned most frequently (by 87% of the respondents) as a key success factor of SI effectiveness. In addition, MM enthusiasm, positive attitude, and creative thinking (71% of respondents), goal orientation (69% of respondents), organizing skills (65% of respondents), flexibility, patience, and persistence (60% of respondents), ability to release the energies of team members (53% of respondents), and ability to give group members the opportunity to participate in decision making (53% of respondents), were all identified as key success factors of SI that improved coordinated action and the commitment of implementation teams (Minarro-Viseras et al., 2005). All of these factors are aspects of leadership and therefore further investigation about the impact of MM leadership on SI effectiveness seems warranted.

2.4 Theories of Strategy Implementation

In terms of theoretical development, scholarly investigations of strategy implementation primarily focus on the concept of fit. Following the central argument of the contingency perspective, implementation success is determined by the congruence between a firm's strategy and different dimensions of the organization and its environment (e.g., Beer, Voelpel, Leibold & Tekie, 2005; Chandler, 1962; Galbraith & Nathanson, 1978; Govindarajan, 1988; Miles & Snow, 1978). Therefore, the fit between strategy, environment, structure, people, and processes determines whether or not a strategy can produce high levels of performance (Galbraith & Nathanson, 1978). For example, Strategic Business Unit (SBU) manager characteristics, such as marketing and sales experience, willingness to take risk, and tolerance for ambiguity, were found to impact SI effectiveness differently for SBUs following a build strategy as opposed to a harvest strategy (Gupta & Govindarajan, 1984). Contingency theory also serves as the

theoretical foundation for the importance of "alignment," which is a term frequently used in the SI literature (e.g., Beer, 2003; Brenes, Mena, & Molina, 2008; Micheli, Mura & Agliati, 2011).

However, the broad application of contingency theory contributes to the lack of comprehensive understanding of SI. This is because the concept of fit can be applied in a variety of ways (Drazin & Van de Ven, 1985; Venkatraman, 1989) and the specific nature or source of value derived from fit is rarely, if ever, clearly articulated within SI research. Instead, "fit" or "match" or "alignment" is used in a ubiquitous and generic manner and the rationale applied to fit is often inductive in nature or relies on logic based on practical experience, rather than a clearly articulated theory of why the fit between factors influences SI effectiveness.

In addition to contingency theory, researchers have analyzed the implementation process through theoretical lenses such as agency theory (e.g., Baysinger & Hoskisson, 1990), organizational learning (e.g., Argyris, 1989; Huber, 2011), and strategic leadership (e.g. Beer & Eisenstat, 2000; Dooley et al., 2000). The application of such a wide range of theories drawn from a diverse set of disciplines has been helpful for explaining the influences of different mechanisms, but makes it difficult to draw conclusions about the way a broad range of mechanisms may be combined to support strategy implementation effectiveness.

2.5 Strategy Implementation Effectiveness

As previously noted, SI effectiveness is defined as "the extent to which an organization's actions correspond to its strategic intentions" (Lee & Puranam, 2015: 1529). Strategy materializes through implementation (Raes, Heijltjes, Glunk, & Roe,

2011), thus, even the right strategy cannot guarantee success until it is effectively implemented. However, as previously mentioned, the lack of a clear theoretical foundation contributes to a general lack of understanding about how SI mechanisms influence SI effectiveness (Huber, 2011; Noble 1999b; Yang et al., 2010). In other words, in many cases it isn't clear why or how mechanisms influence SI effectiveness, which handicaps our overall understanding of the SI process. In addition, the lack of clarity about the dimensions of SI effectiveness hampers effective measurement of the construct. As a result, within broader strategy research, SI effectiveness is often treated as a black box (Hutzschenreuter & Kleindienst, 2006). The identification of the dimensions of SI would allow for an empirical alternative to treating SI as a black box or measuring it using elements of firm performance, which, as discussed earlier, introduces issues of tautology (Lee & Puranam, 2015).

2.6 Summary

As described in this chapter, a review of the literature on strategy implementation reveals broad agreement about its importance as a source of performance heterogeneity but also the broad and fragmented nature of research to date. SI lacks a comprehensive model that explains the relationships between mechanisms and outcomes as well as a dominant theoretical lens on which to base future work. Similarly, the concept of SI effectiveness lacks clarity, which makes it difficult to determine the impact of SI on firm performance: something that is critical to the evaluation of strategy itself. Finally, although leadership and the impact of middle managers have been identified as critical components of SI success, the field lacks investigation of the impact of MM leadership on SI effectiveness. This dissertation seeks to contribute to our understanding of the

relationship between MM leadership and SI effectiveness, and on a broader scale, contribute to the development of comprehensive framework of SI by identifying the conditions that comprise SI effectiveness.

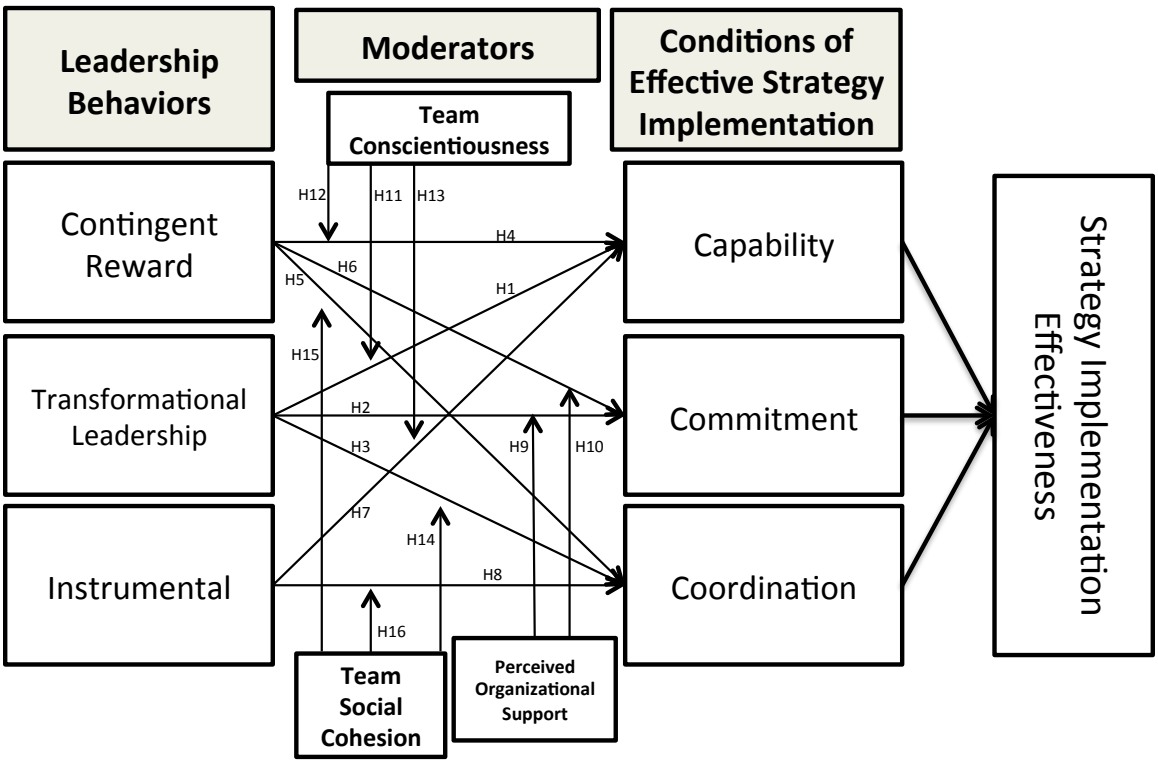
CHAPTER 3 - THEORY DEVELOPMENT AND HYPOTHESES

This chapter describes the conceptual model developed to answer the research questions of this dissertation. The chapter begins with a brief overview of the full model then all the constructs and relationships included in the model are examined in detail. The chapter ends with a summary of the Hypotheses developed for this study.

3.1 Overview

Figure 3.1 presents the conceptual model of the relationship between middle manager leadership and strategy implementation effectiveness.

Figure 3.1 Conceptual Model of the impact of MM leadership on SI effectiveness
Note: All hypothesized relationships are positive



The model in Figure 3.1 proposes a contingent view of the relationship between MM leadership and SI effectiveness. The underlying premise is that SI effectiveness is

influenced by three conditions and those conditions are influenced by various facets of leadership behavior. In addition, the model includes several moderating factors. The level of perceived organizational support is predicted to influence the relationship between leadership and commitment to implement, the level of team cohesion is predicted to influence the relationship between leadership and implementation coordination, and the level of conscientiousness of a team is predicted to influence the relationship between leadership and the capability to implement.

3.2 Conceptualization of Strategy Implementation Effectiveness

As discussed earlier, there is little clarity about what makes up SI effectiveness. Consequently, before the relationships between MM leadership and SI effectiveness can be fully explored, I undertook a journey of abductive reasoning to derive the conditions necessary for SI effectiveness.

Abduction is an approach to scientific reasoning for theory development in organization science (Mantere & Ketokivi, 2013) and refers to the development of logical explanations for the complex patterns that we observe (Van de Ven, 2007). "As a foundation for inquiry, abduction begins with an unmet expectation and works backward to invent a plausible world or a theory that would make the surprise meaningful" (Van Maanen, Sørensen, & Mitchell, 2007: p.1149). Considering the breadth of existing SI literature, the abductive process enabled me to iteratively evaluate, combine, and recombine the findings of SI research into a meaningful theoretical model of SI effectiveness. This process involved first identifying the pool of studies to be included, coding the articles, and iteratively reconciling the coding and identification of the dimensions of SI effectiveness that emerged. A summary of the three-step process that

was followed is shown in Table 3.1 below and a more detailed explanation of the process is described in Appendix A.

Table 3.1 Summary of Abductive Process to Derive Conditions of SI Effectiveness

Step	Process	Outcome
1	Compiled a pool of published work from peer-reviewed journals.	Identification of 208 empirical, theoretical, and case study articles focused on strategy implementation.
2	Both researchers conducted an independent review of the studies to identify a list of factors that influence SI effectiveness. Coding was then reconciled.	The identification of a broad range of mutually agreed upon factors that influence SI effectiveness.
3	The factors identified in Step 2 were organized into meaningful and distinct categories and sub-categories and relationships between categories were abductively developed. Step 3 involved several iterations, and coding was reconciled at the completion of each iteration.	A final integrative model emerged that included three categories of mechanisms managers use to influence SI effectiveness, and three mediating conditions necessary to achieve SI effectiveness.

The portions of the overall model of SI that are relevant to this dissertation are the mechanisms managers use influence SI effectiveness and identification of three conditions of SI effectiveness: capability, commitment, and coordination. In addition, various moderators are evaluated because there is strong evidence to suggest that they have an influence on the relationship between mechanisms and conditions. In terms of mechanisms, which have been previously discussed and identified as the focus of extant SI research, this dissertation focuses on MM leadership behavior, an important type of relational mechanism that has yet to be investigated.

Finally, the derived conditions of SI effectiveness will be tested for the first time. As I discuss in detail below, the three conditions of effective SI represent dimensions of the emergent state that results from manipulation of SI mechanisms and also define three critical components required for SI effectiveness. Identification of these conditions explains how mechanisms indirectly impact SI effectiveness and describes SI effectiveness independently of mechanisms, performance, and strategy. In addition, each condition is supported by a strong theoretical foundation that can be used to explain their respective relationships with implementation success and strengthen the theoretical underpinnings of SI research in general. In the following subsections I provide further detail regarding the conditions of SI effectiveness and include support for the relationship between each one of the conditions and each type of mechanism, as well as why each condition is a critical component of strategy implementation effectiveness.

3.2.1 Capability

Capability, as it pertains to strategy implementation, refers to the knowledge, skills, and abilities required to fulfill strategic objectives. These types of capabilities are akin to the "operational capabilities" described by Helfat and Winter (2011) in that they are not dynamic in nature. Instead, these capabilities lie in the actions of organizational members as they engage in the implementation of strategies. Operational capabilities enable "repeated and reliable performance of an activity" (Helfat & Winter, 2011, p.1244), and in the context of SI, determine the quality of task outcomes. For example, without the capability to negotiate contracts or conduct business in a foreign language, implementation effectiveness of a global sourcing strategy would be seriously compromised (Petersen et al., 2000). As such, capability to carry out tasks (also referred

to with terms such as expertise, competence, and proficiency) required by a strategy, is a basic condition of effective implementation.

The operational capability to implement can be influenced through a variety of implementation mechanisms, including the acquisition and deployment of resources required for SI. This is consistent with the resource-based view, which theorizes that the acquisition and configuration of tangible and intangible resources provides the basis for capabilities that create competitive advantage (e.g. Barney, 2001; Wernerfelt, 1984). The adequate distribution of resources improves capability to implement by providing things like equipment and training, without which, SI will collapse and fail (Beer & Eisenstat, 1996; Egelhoff, 1993; Wernham, 1984).

Capability can also be enhanced through mechanisms that support organizational learning by formalizing channels of communication that allow employees to share information that improves their capability to effectively perform tasks that support strategy (Douglas & Judge, 2001; Kale & Singh, 2009). These mechanisms include the use of control systems and performance measurement tools such as the Balanced Scorecard (Brenes et al., 2008; Lane & Clewes, 2000) as well as management actions that clarify responsibilities and encourage accountability (Bonama, 1984; Cadwallader et al., 2010; Nutt, 1986). In addition, relational mechanisms, such as leadership support for a non-blaming culture, helps create an "honest organization-wide conversation" (Beer & Eisenstat, 2004, p. 84) that improves information flow and feedback, which in turn improves learning and the capability to implement (Beer, 2003; Beer & Eisenstat, 2004).

3.2.2 Commitment

A second condition of effective SI is commitment to implement strategy, which includes the extent to which organizational members are determined to execute their individual implementation responsibilities and support strategic goals (Noble & Mokwa, 1999). This is consistent with the conceptualization of commitment in organizational psychology literature as "a force that binds an individual to a course of action of relevance to a target" (Meyer & Herscovitch, 2001: p.299). In the case of SI, strategic goals serve as the target and commitment serves as the motivational force behind actions to support strategic goals. Commitment determines the level of required motivation and effort to perform tasks that help meet strategic goals. Commitment is important because, "implementation occurs within a context of imperfect control where discretionary behaviors are critical" (Greer et al., 2017: p.8). Although commitment research within the domain of SI is most often focused on top management team and MM commitment to strategy, there is also evidence to suggest that it applies to members at all levels of an organization. For example, Riehl, (1988) found that a lack of team commitment negatively impacted successful implementation of Total Quality Management programs.

In terms of managerial mechanisms, or behaviors, evidence suggests that relational mechanisms have the biggest impact on the condition of commitment. For example, the clear and broad communication of strategy has been found to positively influence commitment and SI effectiveness (e.g. Gilley, Gilley, & McMillan, 2009; Lane & Clewes, 2000; Wernham, 1984). Relational mechanisms are also highlighted within the framework presented by Hambrick and Canella (1989), who emphasize the need to "sell, sell, sell" strategy throughout the organization and to outside stakeholders. The process of

frequent and clear communication of strategy can persuade employees about the benefits of reaching strategic goals and overcome misconceptions about the ways new strategy might be misaligned with individual interests. High quality bilateral communication also improves trust and perceptions of procedural justice, which lead to greater commitment to SI (Raes et al., 2011).

Other mechanisms found to improve commitment include policies, which can be implemented to overcome perceived conflicts of interest between SI goals and employee's personal goals, and reduce the impact of "counter effort" (Guth & MacMillan, 1986). In addition, research has shown that organizational structures that clarify responsibilities will improve the commitment of employees to fulfill their roles (Noble & Mokwa, 1999). Finally, resource management mechanisms improve commitment by improving the perception that employees have regarding feasibility and attainability of strategic goals. Having the necessary resources and training is known to instill confidence in the SI process, which increases commitment (Hickson, Miller, & Wilson, 2003; Lane & Clewes, 2000).

3.2.3 Coordination

Successful SI depends on intra-organizational cooperation and coordination among entities involved in the implementation of strategy (Bohling et al., 2006). Thus, the third condition of effective implementation is coordination, which is defined as the "process of interaction that integrates a collective set of interdependent tasks" (Okhuysen & Bechky, 2009: p.463). As a central purpose in organizations, coordination is at the core of organizational design theory and is a key source of organizational productivity and efficiency (Andres & Zmud, 2002; Sirmon et al., 2007). While commitment addresses the

problem of motivational alignment to reach common strategic goals (an agency problem), coordination is focused on the alignment of actions (Heath & Staudenmayer, 2000).

Similar to other factors discussed within SI research, coordination is often disguised by the use of a wide variety of terminology such as, "interdependence," "collective action," or as previously discussed, "alignment" or "fit." To help identify the relationship between various mechanisms and coordination, I also looked for outcomes related to "accountability," "predictability," and "common understanding," the three integrative elements of coordination identified by Okhuysen and Bechky (2009). Accountability clarifies responsibility for carrying out specific tasks, predictability determines the ease of anticipating subsequent tasks, and common understanding represents the shared conception of tasks (Okhuysen & Bechky, 2009). Combined, the integrating elements of coordination "are the means by which people collectively accomplish their interdependent tasks in the workplace" (Okhuysen & Bechky, 2009: p.483).

Structural mechanisms have been found to be an effective method of coordinating (Thorpe & Morgan, 2007). Reporting structure and the assignment of roles and responsibilities are the structural mechanisms that provide accountability for decisions and actions related to SI and improve coordination (Hrebiniak, 2006; Pryor, Anderson, Toombs, & Humphreys, 2007). At the same time, these mechanisms ensure predictability about actions that will be taken in the future (Grant, 1996). Performance control systems also support coordination by clarifying accountability and creating common understanding of responsibilities throughout the organization (Inamdar, Kaplan, & Reynolds, 2002). Monitoring also provides valuable information that can be shared to

improve the efficiency of interdependent work and to develop common understanding about strategic goals (Bonoma & Crittenden, 1988; Lorange, 1998; Miller, 1997).

Relational mechanisms improve coordination primarily through interpersonal communication within and across levels (Greer et al., 2017). In fact, there seems to be significant evidence that communication is the most effective relational mechanism to influence coordination because it can be used to generate accountability, predictability, and common understanding. This can come in the form of vertical communication, through which strategic goals and implementation plans are clarified (e.g., Miller, 1997; Rapert et al., 2002) or horizontal communication, which has been found to significantly improve effective strategy implementation (Chimhanzi, 2004). A consistent message coming from supervisors not only reinforces commitment but also helps develop common understanding so that work across the organization will be better aligned to support SI (Roth, Schweiger, & Morrison, 1991). Kets de Vries (2014) found that such a process improved coordination through a variety of mechanisms, including vicarious learning and team building.

3.2.4 Summary of Conditions

In one form or another, the three conditions of effective SI are prevalent throughout the SI literature, either as outcomes impacted by a mechanism, or as factors directly influencing SI effectiveness. To draw on the metaphor of a football team, the three conditions describe the capability of the players, their commitment to the game plan, and the level of coordination between players on the field. All three conditions are required in sufficient measure to effectively execute the plays, as a shortfall in any one of them will result in some form of execution failure. Additionally, only if all three

conditions are at levels sufficient enough to realize strategic intentions, can strategy itself be effectively evaluated or compared between firms. At the same time, capability, commitment, and coordination are not mechanisms because they cannot be directly manipulated by managers. For example, a coach can only improve commitment through the use of a mechanism (which includes actions or behaviors), such as an adjustment to the compensation structure or by giving a motivational speech. The commitment derived is a *result* of the mechanism(s) deployed.

3.3 Middle Manager Leadership and Strategy Implementation Effectiveness

As previously described, SI effectiveness is impacted through the use of mechanisms that impact one or more of the three conditions that comprise SI effectiveness. Mechanisms are under the control of managers, who are largely responsible for the success or failure of implementation efforts (e.g., Greer et al., 2017; Hrebiniak, 2006; Hambrick & Cannella, 1989; Nadler & Tushman, 1990; Nutt, 1986). Of particular importance are the actions of middle managers, who bridge the gap between strategy formulation and implementation (Guth & MacMillan, 1986; Rouleau, 2005) and have a significant influence over the performance of individuals, teams, divisions, and firms within which they operate (Palanski & Yammarino, 2009; Tabrizi, 2013; Yukl, 2008). While it is well established that leadership has a significant impact on a wide variety of organizational outcomes, including group and organizational performance (Judge & Piccolo, 2004), beyond a very limited number of practitioner based case studies (e.g. Tabrizi, 2014), the impact of middle manager leadership on SI effectiveness has yet to be explored. This is despite the fact that leadership behavior, including MM leadership behavior, can encompass a variety of mechanisms that have been found to influence SI

effectiveness. Below, I investigate the theoretical relationships between three important types of leadership behavior - transformational, contingent reward, and instrumental – and the conditions of SI effectiveness.

3.3.1 Transformational Leadership

Based on the initial conceptualization of transformational leadership (TFL) by Burns (1978), Bass (1985) described TFL as a type of leadership that "offers a purpose that transcends short-term goals and focuses on higher order intrinsic needs" (Judge & Piccolo, 2004: p.755). This allows leaders to achieve "performance beyond expectations" from their followers (Bass & Avolio, 1994) and is achieved through a variety of leadership behaviors. Bass (1997, 1990) organizes TFL behavior into four dimensions. First, *charisma*, or *idealized influence*, is the degree to which a leader acts as a role model, behaves admirably, and shows conviction, which causes followers to identify with the leader. Second, *inspirational motivation* describes the degree to which a leader provides an inspirational vision of the future that is appealing to followers. Third, *intellectual stimulation* is the degree to which leaders challenge assumptions, traditions, and beliefs, take risks, and solicit followers' ideas. Finally, *individualized consideration* is the degree to which a leader considers the needs, abilities, and aspirations of their followers and acts as a coach or mentor to further their development.

Some leadership scholars organize the dimensions of TFL differently. Based on a review of the extant literature, Podsakoff, MacKenzie, Moorman, and Fetter (1990) identified six key TFL behaviors. They were: identifying and articulating a vision, providing an appropriate model (setting an example), fostering acceptance of group goals, setting high performance expectations, and two types of behavior that correspond

to Bass' (1990) typology, providing individualized support and intellectual stimulation. An examination of the various theoretical dimensions of TFL as well as a review of empirical studies on the impact of TFL, suggest that TFL will positively influence all three of the conditions of SI effectiveness.

In terms of capability, TFL has been found to positively and significantly impact individual and team level performance (Wang, Oh, Courtright, & Colbert, 2011) and several elements of TFL behavior suggest that improved capability may be one of the ways that TFL positively impacts performance. First, TFL includes behaviors that "promote intelligence, rationality, and careful problem solving" (Bass, 1990: p.22). This involves challenging old assumptions and beliefs and providing encouragement to others to seek out better ways of doing things (Bass, 1997; Podsakoff et al., 1990). Second, individual coaching, advising, and teaching, as well as a focused effort on personal development are key components of TFL (Bass, 1997, 1990; Podsakoff et al., 1990). These types of behaviors promote learning, which, as noted earlier, has been found to improve the capability to implement strategy (e.g. Douglas & Judge, 2001; Kale & Singh, 2009). In addition, TFL includes leadership behaviors that demonstrate "expectations for excellence, quality, and/or high performance on the part of followers" (Podsakoff et al., 1990: p.112). Such behavior should encourage followers to improve their capabilities and achieve one of the goals of TFL, which is for followers to perform above expectations (Bass & Avolio, 1994). Thus, TFL encompasses a range of behaviors that support and encourage followers to find solutions to problems, perform tasks in better ways, and improve their knowledge and skills; three concepts that address follower capability. This leads to my first Hypothesis:

H1: There is an indirect positive effect of transformational leadership on strategy implementation effectiveness through the capability to implement strategy.

There is also theoretical support for a positive relationship between TFL and commitment to implement strategy. First, TFL is characterized by charismatic behavior, which involves the display of conviction, providing a sense of mission, and instilling pride in followers by earning their respect and gaining their trust through role modeling (Bass, 1997, 1990). Charisma also instills a sense of confidence among followers and alignment around a shared purpose in order to gain commitment to that purpose (Bass, 1997). Second, TFL behavior inspires and motivates followers by articulating an appealing vision of the future, providing encouragement and meaning, and talking about achieving future goals with enthusiasm (Bass, 1997, 1990). Similarly, these concepts are captured within the TFL dimension of *providing an appropriate model* and *identifying and articulating a vision* described by Podsakoff et al. (1990). Together, these dimensions of TFL behavior improve commitment to achieving a vision by clearly articulating the vision, acting as a role model, and appealing to people's emotions by recognizing contributions and celebrating accomplishments along the way (Posner & Kouzes, 1990). In addition, there is strong empirical support that TFL improves follower motivation (Judge & Piccolo, 2004), which is strongly correlated with the concept of commitment (Steers, 1977). Thus, my second Hypothesis is as follows:

H2: There is an indirect positive effect of transformational leadership on strategy implementation effectiveness through commitment to strategy.

Finally, evaluation of the components of TFL behavior suggests that it also enhances the coordination of work among followers. Podsakoff et al. (1990) identify a

dimension of TFL behavior that helps foster the acceptance of group goals. This includes leadership actions, "aimed at promoting cooperation among employees and getting them to work together towards a common goal" (Podsakoff et al., 1990: p.112). Additionally, TFL includes leadership behaviors that foster collaboration among followers and encourage followers to enlist the support of others (Posner & Kouzes, 1990). Given the paucity of studies on coordination within management research (Heath & Staudenmayer, 2000), it is not surprising that there are no empirical studies that investigate the relationship between TFL and coordination, however, several dimensions of TFL point to leadership behavior that supports common understanding, an essential component of coordination (Okhuysen & Betchky, 2009). Thus, my third Hypothesis is:

H3: There is an indirect positive effect of transformational leadership on strategy implementation effectiveness through coordination.

3.3.2 Contingent Reward Leadership

Contingent reward is a form of transactional leadership that involves recognizing accomplishments and providing rewards for good performance (Bass, 1990). Unlike TFL, which relies on leader charisma, contingent reward leadership (CRL) relies on path-goal transactions. Contingent reward behaviors clarify expectations and provide resources and promises of reward in exchange for follower support and effort (Bass, 1997). CRL is considered to be transactional in the sense that leaders and followers arrange "mutually satisfactory agreements, negotiate for resources, exchange assistance for effort, and provide commendations for successful follower performance" (Bass, 1997: p.134). Although there are other forms of transactional leadership, CRL is the principal transactional behavior identified by Bass (1985).

Similar to TFL, a meta-analysis of CRL found that it is significantly linked to group and organizational performance (Judge & Piccolo, 2004). In addition, CRL has been found to predict individual-level and team-level task performance (Wang et al., 2011). This suggests that CRL has an impact on both capability and coordination. Although not explicitly linked to performance through capability, there is theoretical evidence that suggests a connection. This is founded on the concept of performance feedback, which is a component of the transactional nature of contingent reward (Bass, 1997; Podsakoff et al., 1990). Performance feedback, especially when it is focused on task performance, is significantly linked to improved task performance (Kluger & DeNisi, 1996). Feedback is also a key component of high performance work systems, where it has been found to increase employee's knowledge, skills, and abilities (Combs, Liu, Hall, and Ketchen, 2006; Noe, Hollenbeck, Gerhart, and Wright, 2006). Therefore, it is logical to assume that through feedback, contingent reward leadership has a positive impact on the capability to execute tasks in support of strategy, which leads to my fourth Hypothesis:

H4: There is an indirect positive effect of contingent reward leadership on strategy implementation effectiveness through the capability to implement strategy.

Since it has also been found to improve team-level task outcomes (Wang et al., 2011), CRL should encourage coordination among team members. That is because coordination is a key component of team performance (e.g. Faraj & Sproull, 2000; Rico et al., 2008) and CRL is based on the premise that followers benefit in a quid-pro-quo fashion from performing at a high level. Therefore, in addition to improved capability

through feedback, one of the key mechanisms that positively links CRL to group performance (Judge & Piccolo, 2004), should be improved coordination of team members seeking to receive reward and recognition from their leader. This leads to my fifth Hypothesis:

H5: There is an indirect positive effect of contingent reward leadership on strategy implementation effectiveness through coordination.

In addition to impacting capability and coordination, there are elements of CRL that suggest it positively influences the commitment to implement strategy. CRL behavior has been found to significantly and positively impact follower motivation (Judge & Piccolo, 2004), which, as mentioned earlier, is strongly correlated with the concept of commitment (Steers, 1977). As opposed to TFL, which primarily motivates followers through intrinsic reward, contingent reward leadership motivates through the use of extrinsic rewards (Wang et al., 2011), which can be highly motivating (Meyer, Becker, and Vandenberghe, 2004). In addition, theoretical elements of CRL speak to elements of commitment and motivation since they include recognition and compliments for work well done (Podsakoff et al., 1990). Recognition is a type of feedback that impacts individual's psychological state in such a way that they become more motivated to perform their work at a high level (Hackman & Oldham, 1976). This leads to my sixth Hypothesis:

H6: There is an indirect positive effect of contingent reward leadership on strategy implementation effectiveness through commitment to strategy.

3.3.3 Instrumental Leadership

Instrumental leadership (IL) includes leadership functions that "go beyond the motivational and quid-pro quo leader behaviors" of other leadership types such as TFL and contingent reward (Antonakis & House, 2014: p.746). The IL typology was developed in response to the limitations of charismatic leadership theories, including TFL, to include elements of leadership that build competent teams and better support organizations when they are experiencing various types of organizational change (Nadler & Tushman, 1990). Unlike TFL, IL is rooted in functional and pragmatic leadership theory (Morgeson, DeRue, & Karam, 2010; Mumford, 2006), which is focused on the facilitation of group interaction and the accomplishment of task objectives (Fleishman et al, 1991). Thus, IL has a strong implementation focus, which includes a functional point of view and "organizationally-based problem solving" (Fleishman et al., 1991: p. 258) and also includes initiating structure, allocating resources, and sensing what needs to be changed in order to achieve strategic goals (Antonakis & House, 2014).

As part of the development of a valid IL scale, Antonakis and House (2014) validated a four-factor model of IL that included the following dimensions: *Environmental monitoring, strategy formulation and implementation, path-goal facilitation,* and *outcome monitoring*. Combined, these elements form the definition of IL, which is, "the application of leader expert knowledge on monitoring of the environment and of performance, and the implementation of strategic and tactical solutions" (Antonakis & House, 2014: p.749). Given the functional nature of IL, its underlying elements suggest that leaders exhibiting IL behavior would positively influence follower capability and coordination. One of the components of IL is follower

work facilitation, which is based on House's (1971) path-goal theory, which encompasses leader behaviors that provide direction, resources, and support, and remove obstacles to goal attainment. Unlike contingent reward, this type of leadership does not involve reward or recognition (Antonakis & House, 2014). Similar to the relationship between resource management mechanisms and capability, IL improves follower capability to implement by ensuring that the necessary resources and training are provided (Beer & Eisenstat, 1996; Egelhoff, 1993; Wernham, 1984). In addition, IL is theoretically related to initiating structure, which includes the assignment of roles and responsibilities that improves coordination by reinforcing accountability for decisions and actions related to SI (Hrebiniak, 2006; Pryor et al., 2007). Also in support of the relationship between IL and improved coordination is the facilitation of group interaction (Fleishman et al., 1991), which is part of the functional leadership view that serves as the foundation for IL. This leads to Hypotheses 7 and 8:

H7: There is an indirect positive effect of instrumental leadership on strategy implementation effectiveness through the capability to implement strategy.

H8: There is an indirect positive effect of instrumental leadership on strategy implementation effectiveness through coordination.

A hypothesis regarding an indirect relationship between IL and SI effectiveness through commitment to strategy was not included because, unlike TFL and CRL, there does not appear to be much theoretical support for such a relationship. Characteristics of IL are rooted in pragmatic leadership theory that specifically address issues beyond motivation-centric behavior of TFL and quid-pro-quo driven behavior of CRL.

3.4 Moderating Variables

The extant literature on SI suggests that the process of SI does not happen in a vacuum. There are internal and external contextual factors that influence the relationship between the mechanisms of SI and the conditions of SI effectiveness. For example, organizational culture has been found to influence the SI process (Smith, 2011) so managers must adjust their behavior in order to most effectively overcome potential culture-related barriers to SI effectiveness or try to mold culture to better fit with strategy implementation goals (Bates et al., 1995; Lane & Clewes, 2000). Additionally, like SI, leadership interactions take place in a dynamic, emerging context, so it is important to incorporate context into predictions of leadership effectiveness (Avolio & Gardner, 2005). Since MM leadership impacts outcomes at the team level (Palanski & Yammarino, 2009), contingency factors that influence the manager-team relationships should be taken into account. Therefore, based on previous research, I identified three factors to include in the model: perceived organizational support, team conscientiousness, and team social cohesiveness. The rationale for the selection of each variable and the theoretical relationship between each moderating variable and condition of SI effectiveness is covered in more detail below.

3.4.1 Perceived Organizational Support

Organizational support theory (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Eisenberger & Stinglhamber, 2011) proposes that, "employees develop perceptions concerning the extent to which an organization values their contributions and cares about their well-being (perceived organizational support, or POS)" (Kurtessis et al., 2015, p.2). In two meta-analyses of the construct, POS has been found to be significantly and

positively related to a wide variety of outcomes, including organizational commitment and task performance (Rhoades & Eisenberger, 2002; Kurtessis et al., 2015). The relationship between POS and organizational commitment is supported by the reciprocity norm (Settoon, Bennett, & Liden, 1996), which suggests that, "POS should create a felt obligation to care about the organization's welfare" (Roades & Eisenberger, 2002: p.701). The relationship between POS and general organizational commitment extends more specifically to affective organizational commitment, which is viewed as an important determinant of employee's commitment to supporting organizational goals (Klein, Becker and Meyer, 2009; Meyer & Allen, 1997).

Although there is not a great deal of empirical support for the relationship between POS and team performance (Howes, Cropanzano, Grandey, & Mohler, 2000), there is evidence to suggest that POS does influence team-level outcomes (Bashshur, Hernandez, & Gonzalez-Roma, 2011; Guzzo & Dickson, 1996). Based on social exchange theory, Howes et al. (2000) hypothesized and found that POS was a significant predictor of quality team performance. This suggests that, when people "believe that their team is supported by their employer, they should respond in a way that improves team outcomes to the benefit of the organization" (Howes et al., 2000: p.210).

The SI literature also provides evidence for the positive relationship between perceived support and SI effectiveness. For example, middle managers' perceptions of top management team support have been found to be a critical component of SI effectiveness (Guth & MacMillan, 1986; Qi, 2005). In addition, Huy (2011) found that middle managers' emotions, and how they feel about the organization and the support that they receive, impacts the focus of their commitment, and as a result, SI effectiveness.

This finding can be reconciled with the POS research, which includes employee versus organization relationship quality as an important antecedent of POS (Kurtessis et al., 2015). Consequently, the evidence from studies on POS combined with evidence found within the SI literature suggests that perceived organizational support would significantly impact the relationship between MM leadership behavior and their followers' level of commitment to organizational goals. Thus, the following Hypotheses are presented:

H9: The indirect effect of transformational leadership on strategy implementation effectiveness through commitment to strategy is moderated by POS, such that the indirect effect is stronger when POS increases.

H10: The indirect effect of contingent reward leadership on strategy implementation effectiveness through commitment to strategy is moderated by POS, such that the indirect effect is stronger when POS increases.

3.4.2 Team Conscientiousness

Based on work over the preceding decades, conscientiousness emerged as one of the "big five" dimensions of personality (Barrick & Mount, 1991). Although there is some disagreement over the essence of conscientiousness, a preponderance of evidence suggests that it is comprised of elements that reflect dependability as well as volitional elements such as perseverance (e.g. Barrick & Mount, 1991; Digman, 1990). Unlike other dimensions of personality, two meta-analyses found conscientiousness to be consistently and significantly related to a variety of performance measures across a wide range of occupations (Barrick, Mount, & Judge, 2001; Barrick & Mount, 1991). This conclusion is supported by two studies conducted as part of the U.S. Army Selection and Classification Study (Hough, Hanser, & Eaton, 1988; McHenry et al., 1990). Although

conscientiousness was not measured directly, Hough et al.'s (1990) measures of *achievement orientation* and *dependability* were valid predictors of a variety of performance outcomes. Both achievement orientation and dependability assess traits that are common to the conscientiousness construct (Barrick & Mount, 1991).

Following Barrick and Mount's (1991) call for further investigation into the direct or indirect nature of the relationship between conscientiousness and performance, additional insight has been gained. Goal setting (Barrick, Mount, & Strauss, 1993), striving for accomplishments (Barrick, Stewart, & Piotrowski, 2002), performance expectancy (Gellatly, 1996), and self-efficacy (Chen, Casper, & Cortina, 2001) have all been found to be indirect links between conscientiousness and various types of performance. However, the link between conscientiousness and training performance, which was found to be stronger than the link between conscientiousness and objective performance (Barrick et al., 2001), suggests that conscientiousness plays a role in the development of capabilities to execute work roles. This is supported by the finding that job-knowledge also mediates the relationship between conscientiousness and job performance (Hunter, 1983).

It is this path to job performance that relates to the relationship between leadership behavior and capability. For example, since TFL is hypothesized to improve capability through coaching, assistance with problem solving, and the setting of high expectations, it seems reasonable that the dimensions of conscientiousness – dependability, carefulness, responsibility, organization, and perseverance (Barrick & Mount, 1991) – would positively impact employees' ability to improve their capability as a result of these types of leadership behaviors. Such an argument would also apply to

feedback and resource support mechanisms provided through contingent reward leadership behavior and path-goal facilitation provided by instrumental leadership. The argument is that traits such as dependability and perseverance would allow employees to better take advantage of leadership behaviors that relate to improved capability to carry out tasks that support the strategy. The relationship between conscientiousness and performance via job knowledge, and the relationship between conscientiousness and training performance, suggests that there is a link between conscientiousness and capability.

Although the construct of conscientiousness is most frequently applied at an individual level, *team* conscientiousness has been found to influence work-team outcomes. For example, teams with higher mean levels of conscientiousness are more productive and receive significantly higher supervisor ratings of performance (Barrick, Stewart, Neubert, & Mount, 1998). The theoretical argument behind the validity of team-level conscientiousness is that, "because the relationship between conscientiousness and performance has been found to generalize across tasks, greater conscientiousness should help each team member to contribute more to the overall team outcome regardless of team member's specific role, tasks, or relationships with other team members" (Barrick et al., 1998: p.380). In other words, because team outcomes are dependent on individual contributions, greater levels of conscientiousness among team members should contribute to higher team performance. In addition, teams with a higher mean level of achievement motivation, which is a component of conscientiousness, have been found to show greater concern for the success of the team (Zander & Forward, 1968), and a greater ability to

solve complex problems more efficiently (Schneider & Delaney, 1972). Combined, these arguments lead to the following moderating Hypotheses:

H11: The indirect effect of transformational leadership on strategy implementation effectiveness through capability is moderated by team conscientiousness such that the indirect effect is stronger when conscientiousness increases.

H12: The indirect effect of contingent reward leadership on strategy implementation effectiveness through capability is moderated by team conscientiousness such that the indirect effect is stronger when conscientiousness increases.

H13: The indirect effect of instrumental leadership on strategy implementation effectiveness through capability is moderated by team conscientiousness such that the indirect effect is stronger when conscientiousness increases.

3.4.3 Team Social Cohesion

Social cohesion has been defined as, "the resultant of all forces acting on members to remain in a group (Festinger, 1950: p.274) and reflects, "synergistic interactions between team members, including positive communication, conflict resolution, and effective workload sharing" (Barrick et al., 1998: p.382). Social cohesion, or the level of team integration, reflects the attraction of members to a group, the level of social interaction among the members (O'Reilly, Caldwell, & Barnett, 1989; Katz & Kahn, 1978) as well as the "nature and quality of the emotional bonds of friendship such as liking, caring, and closeness among group members" (Van den Bossche, Segers, & Kirschner, 2006: p.499).

To date, two significant meta-analyses have been performed that shed light on the relationship between social cohesion and team performance outcomes. The first, performed by Mullen and Copper (1994), found that overall cohesiveness had a relatively small but significant effect on team performance and the relationship was stronger for smaller groups. In a more recent meta-analysis, Beal et al. (2003) take a more nuanced look at the impact of social cohesion on various types of performance outcomes. They discovered that social cohesion has a stronger correlation with performance when performance is defined as a behavior and when performance was measured in terms of efficiency (as opposed to effectiveness) (Beal et al., 2003). In other studies, social integration was found to be related to greater efficiency in the execution of tasks (O'Reilly et al., 1989), and also linked to the quality of teamwork (Seashore, 1977). The underlying qualities of social cohesion as a reflection of "synergistic interactions" (Barrick et al., 1998) and the evidence that links social cohesion to teamwork and team efficiency, suggests that it serves as a team dynamic that would influence the relationship between leadership behavior and coordination. As mentioned previously, coordination is dependent on employee interaction (e.g. Okhuysen & Bechky, 2009) and is a source of organizational efficiency (e.g. Sirmon et al., 2007). A team that includes members that have a higher attraction to their team seem also more likely to come together to accept and support group goals and the facilitation of group interaction, the former an element of transformational leadership (Podsakoff et al., 1990) and the later an element of instrumental leadership (Fleishman et al., 1991). Thus, I propose the following final three

Hypotheses:

H14: The indirect effect of transformational leadership on strategy implementation effectiveness through coordination is moderated by team social cohesion such that the indirect effect is stronger when team social cohesion increases.

H15: The indirect effect of contingent reward leadership on strategy implementation effectiveness through coordination is moderated by team social cohesion such that the indirect effect is stronger when team social cohesion increases.

H16: The indirect effect of instrumental leadership on strategy implementation effectiveness through coordination is moderated by team social cohesion such that the indirect effect is stronger when team social cohesion increases.

In chapter 4, I discuss the research design and methodology behind testing of the hypotheses before describing the data analysis process in Chapter 5, results in Chapter 6, and discussion of findings in Chapter 7.

Table 3.2 Summary of Hypotheses

Indirect Effects	***What are the conditions of strategy implementation effectiveness? What is the impact of middle manager leadership on strategy implementation effectiveness through the conditions of strategy implementation effectiveness?***
MM Leadership – Strategy Implementation Effectiveness Link	• H1: There is an indirect positive effect of transformational leadership on strategy implementation effectiveness through the capability to strategy.
	• H2: There is an indirect positive effect of transformational leadership on strategy implementation effectiveness through the commitment to implement strategy.
	• H3: There is an indirect positive effect of transformational leadership on strategy implementation effectiveness through coordination.
	• H4: There is an indirect positive effect of contingent reward leadership on strategy implementation effectiveness through the capability to implement strategy.
	• H5: There is an indirect positive effect of contingent reward leadership on strategy implementation effectiveness through coordination.
	• H6: There is an indirect positive effect of contingent reward leadership on strategy implementation effectiveness through the commitment to strategy.
	• H7: There is an indirect positive effect of instrumental leadership on strategy implementation effectiveness through the capability to implement strategy.
	• H8: There is an indirect positive effect of instrumental leadership on strategy implementation effectiveness through coordination.

Table 3.2 Continued: Summary of Hypotheses

Moderating Effects	***What factors influence the relationship between MM leadership and the conditions of SI effectiveness?***
Perceived Organizational Support	• H9: The indirect effect of transformational leadership on strategy implementation effectiveness through commitment to strategy is moderated by POS, such that the indirect effect is stronger when POS increases.
	• H10: The indirect effect of contingent reward leadership on strategy implementation effectiveness through commitment to strategy is moderated by POS, such that the indirect effect is stronger when POS increases.
Team Conscientiousness	• H11: The indirect effect of transformational leadership on strategy implementation effectiveness through capability is moderated by team conscientiousness such that the indirect effect is stronger when conscientiousness increases.
	• H12: The indirect effect of contingent reward leadership on strategy implementation effectiveness through capability is moderated by team conscientiousness such that the indirect effect is stronger when conscientiousness increases.
	• H13: The indirect effect of instrumental leadership on strategy implementation effectiveness through capability is moderated by team conscientiousness such that the indirect effect is stronger when conscientiousness increases.
Team Social Cohesion	• H14: The indirect effect of transformational leadership on strategy implementation effectiveness through coordination is moderated by team social cohesion such that the indirect effect is stronger when team social cohesion increases.
	• H15: The indirect effect of contingent reward leadership on strategy implementation effectiveness through coordination is moderated by team social cohesion such that the indirect effect is stronger when team social cohesion increases.
	• H16: The indirect effect of instrumental leadership on strategy implementation effectiveness through coordination is moderated by team social cohesion such that the indirect effect is stronger when team social cohesion increases.

CHAPTER 4 - RESEARCH DESIGN AND METHODOLOGY

The research model developed in the previous chapter proposes several relationships between MM leadership behaviors and strategy implementation effectiveness under the conditions of various moderating variables. A field study is used to test this model. Data were gathered through interviews and structured survey instruments. In the following discussion, details on the sample, procedure, design, and measures are presented.

4.1 Sample

The research site for this study is the Houston METRO Transit District (METRO). METRO has approximately 4,000 full time employees working within twenty departments. Titles and roles are not standard across the organization and each department is managed by a Director, Vice President, or Executive Officer; except for the Police department, which is lead by the Chief of Police, and the Legal department, which is lead by the General Counsel. Similarly, managers that report to department heads also have a variety of titles, including Vice President, Senior Director, Director, Senior Manager, Manager, Superintendent, or, in the Police department, Lieutenant or Sergeant. All department heads report to an executive leadership team comprised of the President and CEO, the Deputy CEO, and 12 other senior executives.

The decision to use a field sample was based on external validity criteria and a unique aspect about this particular research site. In August 2015 METRO implemented the largest bus network redesign ever attempted in the U.S. in an effort to better serve Houston's growing population and geographically expanding landscape. The change was viewed as a major strategic "reimagining," and continued adjustments to the new network

have been planned over the course of 5 years. This setting allowed me to gather data during a real world strategy implementation initiative and improve the external validity and generalizability of the study findings.

The METRO Board of Directors and CEO agreed to allow me to gather survey and interview data from top-level managers, middle managers, and work-teams within the organization. With the assistance of Kurt Luhrsen, the Vice President of Service Planning and Transit System Reimagining, I selected 21 top managers, 73 middle managers, and 352 team members to invite to participate in the study. Middle managers were the focus of the selection process and are defined as, "organizational members who link the activities of vertically related groups and who are responsible for at least sub-functional work flow, but not the work flow of the organization as a whole," (Floyd and Wooldridge, 1992a). Therefore, in order to maintain validity with theoretical arguments regarding the responsibilities of MMs and their roles as both interpreters of strategy and facilitators of strategy implementation, MMs were selected based on their position within each department and the size of the teams for which they are responsible. The MMs selected hold a central position within their department, with one or two layers of management above them and another layer of assistant managers or supervisors below them. In order to satisfy the validity of team level constructs, I only selected middle managers responsible for teams that had at least two members. However, with the exception of three teams, all of the teams that were selected have at least 3 members. The top-level managers selected were the person to whom each middle manager reported. In most cases this person is the head of a department but since some departments had more layers of management than others, in a few cases this person was an intermediary upper-

level manager that reported to the head of a department. Correspondingly, work teams were selected and defined as the teams of subordinates who report directly to the middle manager.

The study includes middle managers from eighteen of the twenty departments. The Records Management and Marketing and Corporate Affairs departments were excluded because the department structure is such that they do not include middle managers with teams that have more than a single member. Teams from different departments were selected because it was important to get variance in the variables in order to test the model. By including teams from a wide spectrum of departments, the study could take advantage of the diversity within the organization in terms of team characteristics, tasks, and perceptions about organizational climate and culture. Large organizations can be viewed as "multicultural," in that they include subcultures within various departments and social groups as well as occupational cultures (Schneider, Ehrhart, & Macey, 2013; Gregory, 1983). The existence of such cultures should provide variance in terms of team dynamics and perceptions regarding organizational support.

4.2 Procedure

Table 4.1 presents the four-step research procedure I followed. Details of each step are discussed below:

Step 1: Prior to finalizing the survey instrument and distributing it to study participants, I met with Kurt Luhrsen, METRO's designated coordinator of this study. Mr. Luhrsen provided background information to me about the organizational structure of METRO and the functions and responsibilities of each department. Kurt also introduced

me to and helped me schedule interviews with the executives (N=13) and top-level managers (N-21) selected for interviews.

Step 2: I interviewed METRO executives (N=13) and the top-level managers included in the study (N=21). The purpose of the executive interviews was to gather qualitative data about NBN implementation that would be used as part of the report-out following completion of the study. The purpose of the top-level manager interview was threefold. First, I gathered each manager's impression of the SI implementation process by asking several open-ended questions about how they think the implementation has impacted the organization. This data will be summarized and included in my report to METRO following completion of the study. Second, top-level managers were asked to evaluate the effectiveness of the teams included in the study over which they are responsible. This data was gathered through the completion of the team effectiveness survey instrument, which was given to each top manager to complete by hand during the interview. Third, each top manager was asked to identify peers for the teams under their responsibility. Peer teams are teams that are responsible for similar, parallel tasks or tasks that are highly interdependent and thus require significant interaction. This information was used to finalize the survey instrument for middle managers, who (in Step 3) were asked to evaluate the team effectiveness of peer teams. This helped to allay the possible negative impact of single-source bias and halo effects that may occur if only top-manager ratings of team effectiveness are used (e.g. Feldman & Lynch, 1988). The average results from top manager and MM evaluations of team effectiveness were used to evaluate the construct. Finally, I asked the top managers to identify a list of tasks that were key to implementation of the NBN within their department or group. This information was

incorporated into the middle manager survey instrument in order for them to focus on tasks related to NBN implementation when evaluating their teams and peers. Step two took approximately six weeks to complete.

Step 3: In step three, surveys were distributed to middle manager team leaders and team members. Surveys were conducted online using Qualtrics and distributed to study participants via email. Email addresses for all participants were provided by Mr. Luhrsen. The survey instrument given to middle managers (N=73) included two components. First, respondents were asked to evaluate the implementation effectiveness of peer teams. Second, middle managers were asked to evaluate the three conditions of SI effectiveness for their own team. Thus, middle managers provided data regarding the conditions of effectiveness for their team and the overall implementation effectiveness of other teams, but not the implementation effectiveness of their own team.

Team members (N=352) were asked to complete survey items that covered three dimensions. First, like their team leader, each team member was asked to complete scales that measured the three conditions of SI effectiveness; capability, commitment, and coordination. Second, each was asked to complete survey items related to the three moderators; perceived organizational support, team conscientiousness, and team cohesion. Finally, team members were asked to evaluate their team leader's behavior regarding transformational leadership, contingent reward leadership, and instrumental leadership. Since, theoretically, leader behavior applies to all followers (Wang et al., 2005), leadership behaviors were measured using the averaged subordinate ratings, which is consistent with how leadership is typically viewed and measured (House & Aditya, 1997; Yukl, 2013). Team moderating variables were evaluated the same way. In addition,

averaged measures of team capability, commitment, and coordination included data from the middle manager and team members. This is because the impressions of both team managers and members are important in the evaluation of team level constructs (Bashshur et al, 2011). Additionally, data regarding any significant differences between middle manager evaluations and team member evaluations can be used for post-hoc analysis. Step three took approximately two months to complete, which included time to send follow up requests to study participants.

Step 4: Step four was the final step in the process and included data cleanup, analysis of the data and study report completion. The data were analyzed using Hayes (2015) Process Model templates number 4 and number 7 within SPSS. Model 4 was used to test the indirect effects of leadership behaviors on SI effectiveness and Model 7 was used to test the impact of the three moderators on the model. Data analysis and study report completion took approximately 4 months.

Table 4.1 Research Procedure

Time	Procedure
Step 1	• With the assistance of Kurt Luhrsen, I set up interviews with METRO executives and top-level managers.
Step 2	• Interviewed top level managers (N=21) to: o Gather qualitative data regarding top-level manager perceptions of the strategy implementation process (data for METRO only). o Gather survey data regarding SI effectiveness of the teams over which they are responsible. o Identify team to peer relationships.
Step 3	• Distributed survey instrument to middle managers (N=73) to evaluate: o SI effectiveness of peer teams. o Conditions of SI effectiveness for the team for which they are responsible. • Distributed survey instrument to team members (N=352) to evaluate: o Conditions of SI effectiveness for their team. o Leadership behavior of their middle manager / team leader o Moderating variables.
Step 4	• Data cleanup and analysis. • Study completion and reporting.

4.3 Summary of Study Design

Table 4.2 shows a summary of the participant groups involved in the study and the variables that they reported on. Before surveys were distributed, I interviewed each top-level manager to gain qualitative information regarding their perceptions of strategic change, gathered data on key tasks related to NBN implementation, and clarified the relationship between peer teams that fall within their responsibility. This allowed me to structure the middle manager surveys in such a way that they could evaluate the SI effectiveness of peer teams. Surveys for top managers were given in person, at the time

of the interview, and surveys for middle managers and team members were disseminated via email.

Table 4.2 Summary of Study Design

Participant Group	Group Size	Interview	SI Effectiveness	Conditions of SIE	Leadership Behaviors	Moderators
Top Managers	21	X	X			
Middle Managers	73		X (of peer teams only)	X		
Team Members	352			X	X	X

4.4 Measures

A survey instrument was designed to measure the dependent variable (SI effectiveness), mediating variables (capability, commitment, and coordination), independent variables (transformational leadership, contingent reward leadership, and instrumental leadership), and moderating variables (perceived organizational support, team conscientiousness, and team cohesion). Team members, middle managers, and top managers completed questionnaires that covered various constructs within the model. The items making up each construct in the questionnaire are based on existing scales found within the literature. As discussed in this section, some items were modified slightly to fit the context of the study.

4.4.1 Strategy Implementation Effectiveness

In order to test the relationship between the conditions of SI effectiveness and SI effectiveness, a separate measure of SI effectiveness was necessary. And, since the study was performed at a team level, a measure of team level SI effectiveness was required. Therefore, an 8-item scale of team effectiveness developed by Barrick et al. (1998) was selected for this study. The examples identified through discussions with top managers

(see Step 1 and Step 2 of study procedures above) were provided along with instructions to (1) think about the key tasks (2) consider how the team performed these tasks across the eight dimensions of effectiveness, and (3) respond to the survey items. This process was done to reinforce the importance of focusing on tasks specifically related to the implementation of NBN and confirm consistency between respondents evaluating the same team.

The individual items from the Barrick et al. (1998) scale are shown in Table 4.3 below. The coefficient alpha for the scale was .94 and each measure was evaluated using a 5-point scale with anchors of "somewhat below requirements," to "consistently exceeds requirements." Overall performance was calculated as the average sum of the ratings across all items and raters.

Table 4.3 Scale for Team Effectiveness

Scale:	**Strategy Implementation Effectiveness: Team Effectiveness**
Reference:	Barrick et al., 1998
Cronbach's Alpha:	.94
Referent:	Work Teams
Rating Source:	Top Manager and Peer Middle Managers
Instructions:	Keeping in mind the list of tasks that are required for successful implementation of the NBN, please consider how this team performed on each of the following dimensions:
Scale Type:	**5-point: *Somewhat below requirements* to *consistently exceeds requirements***
Item From Original Scale	**Scale Used For This Study**
Knowledge of tasks	Item not modified.
Quality of Work	Item not modified.
Quantity of Work	Item not modified.
Initiative	Item not modified.
Interpersonal Skills	Item not modified.
Planning and allocation	Item not modified.
Commitment to the team	Commitment of members to the team
Overall evaluation of team performance	Overall team performance

4.4.2 Capability

The capability to implement strategy was measured using a scale developed by Mayer and Davis (1999). Following the review of a variety of scales, this scale was selected because it most accurately reflects the broad nature of capabilities required to fulfill task requirements. The 6-item 5-point Likert scale has a coefficient alpha of .84, and, because it was developed based on the measurement of top management team ability, the items were modified in order to measure work-team capability. Table 4.4 below includes the original items from the scale as well as the modified version of each item used for this study. Team capability was calculated as the averaged sum of the ratings across all items.

Table 4.4 Scale for Team Capability

Scale:	**Capability**
Reference:	Mayer and Davis, 1999
Cronbach's Alpha:	**.84**
Referent:	Work Team
Rating Source:	Work Team & Middle Manager Supervisor
Instructions:	Please indicate how much you agree or disagree with the following statements about your team in relation to NBN implementation.
Scale Type:	5 point: strongly disagree and strongly agree anchors.
Item From Original Scale	**Modified Scale Used for Study**
Top management is very capable of performing its job.	My team is very capable of performing its job.
Top management is known to be successful at the things it tries to do.	My team is known to be successful at the things it tries to do.
Top management has much knowledge about the work that needs done.	My team has much knowledge about the work that needs to be done.
I feel very confident about top management's skills.	I feel very confident about my team's skills.
Top management has specialized capabilities that can increase our performance.	My team has specialized capabilities that can increase our performance.
Top management is well qualified.	My team is not very well qualified. (R)

4.4.3 Commitment to Strategy

The scale selected for the measurement of commitment to strategy was developed by Noble and Mokwa (1999). It is called *role commitment to strategy*, and is defined as, "the extent to which a manager is determined to perform his or her individual implementation responsibilities well" (Noble & Mokwa, 1999, p. 62). The measure was found to have a significant impact on role performance, which in turn, significantly impacted implementation success. The scale was modified to measure team commitment, which was calculated as the averaged sum of the ratings across all items. The scale is comprised of six items and had an alpha coefficient of .91. Table 4.5 describes the original items as well as the adapted items used in this study.

Table 4.5 Scale for Team Role Commitment to Strategy

Scale:	**Role Commitment to Strategy**
Reference:	Noble and Mokwa, 1999
Cronbach's Alpha:	.91
Referent:	Work Team
Rating Source:	Work Team & Middle Manager Supervisor
Instructions:	Please indicate how much you agree or disagree with the following statements about your team in relation to NBN implementation.
Scale Type:	5 point: strongly disagree to strongly agree
Item From Original Scale	**Item Modified for Study Context**
I took tremendous pride in my responsibilities in this strategy.	My team takes tremendous pride in the responsibilities required by this strategy.
I was committed to my role in implementing this strategy.	My team is committed to our role in implementing this strategy.
I was determined to meet my personal objectives in this strategy.	My team is determined to meet the objectives of this strategy.
In implementing this strategy, I tried to work as hard as possible.	In implementing this strategy, my team tries to work as hard as possible.
I intentionally expended a great deal of effort in carrying out my responsibilities in this strategy.	My team intentionally expends a great deal of effort in carrying out the responsibilities required by this strategy.
I gave a tremendous effort in implementing the strategy.	My team gives as little effort as possible to implement this strategy. (R)

4.4.4 Coordination

Finding a valid scale of team coordination proved to be a difficult task, but after investigating the literature on *transactive memory systems* (TMS), I selected a scale developed by Lewis (2003). TMS is defined as, "the way that groups process and structure information and as the shared division of cognitive labor regarding group members' encoding, storing, and retrieving of information" (Zhang, Hempel, Han, & Tjosvold, 2007: p.1722). Lewis (2003) developed a three-dimension scale of TMS, of which coordination among team members was one of the dimensions. The coordination scale is comprised of five items, and the scale had a coefficient alpha of .87. The scale was adapted from its original 7-point Likert scale to a 5-point Likert scale and team coordination was calculated as the averaged sum of the ratings across all items. Since the original scale was developed with a particular task in mind, the scale was modified to reflect the general coordination of work within the team. Table 4.6 describes the original items as well as the adapted items used in this study.

Table 4.6 Scale for Team Coordination

Scale:	**Coordination**
Reference:	Lewis, 2003
Cronbach's Alpha:	.87
Referent:	Work Team
Rating Source:	Work Team & Middle Manager Supervisor
Instructions:	Please indicate how much you agree or disagree with the following statements about your team in relation to NBN implementation.
Scale Type:	5 point: Strongly disagree to strongly agree
Item From Original Scale	**Item Modified for Study Context**
Our team worked together in a well-coordinated fashion.	My team works together in a well-coordinated fashion.
Our team had very few misunderstandings about what to do.	My team has very few misunderstandings about what to do.
Our team needed to backtrack and start over a lot. (R)	My team needs to backtrack and start over a lot. (R)
We accomplished the task smoothly and efficiently.	My team accomplishes tasks smoothly and efficiently.
There was much confusion about how we would accomplish the task. (R)	There is much confusion within my team about how we accomplish tasks. (R)

4.4.5 Transformational Leadership

To measure transformational leadership, I selected a 12-item scale developed by Podsakoff, MacKenzie, Moorman, and Fetter (1990). The scale is multidimensional in nature and was developed based on a review of extant literature on the topic. I selected the three dimensions of TFL identified and validated by Podsacoff et al. (1990) to represent the "core" TFL construct. These dimensions were articulating a vision (5 items), providing an appropriate mode (3 items), and fostering the acceptance of group goals (4 items). The alpha coefficients for each dimension and the overall construct exceeded .90. The items were measured using a 5-point scale that ranges from "rarely or never" to "frequently if not always." Middle manager TFL was calculated as the average of ratings across all items and raters within each team. A summary of the measures is shown in Table 4.7.

Table 4.7 Scale for Transformational Leadership

Scale:	**Transformational Leadership**
Reference:	Podsacoff et al. (1990)
Cronbach's Alpha:	.98
Referent:	Team (Middle) Manager
Rating Source:	Work Team
Instructions:	Please indicate the extent to which your team's manager exhibits the following behaviors.
Scale Type:	5 Point: *Rarely or never* to *Frequently, if not always*
Item From Original Scale	**Item Modified for Study Context**
Has a clear understanding of where we are going.	Item not modified.
Paints an interesting picture of the future for our group.	Paints an interesting picture of the future for our team.
Is always seeking new opportunities for the organization.	Is always seeking new opportunities for the team.
Inspires other with his/her plans for the future.	Item not modified.
Is able to get other committed to his/her dream.	Is able to get other committed to their dream.
Leads by "doing," rather than simply by "telling."	Item not modified.
Provides a good model for me to follow.	Item not modified.
Leads by example.	Item not modified.
Fosters collaboration among work groups.	Item not modified.
Encourages employees to be "team players."	Item not modified.
Gets the group to work together for the same goal.	Gets the team to work together for the same goal.
Develops a team attitude and spirit among employees.	Item not modified.

4.4.6 Contingent Reward Leadership

To measure contingent reward leadership behavior, I selected a five-item scale that was adapted from a longer 10-item scale developed by Podsakoff, Todor, Grover, and Huber (1984). The five-item scale was utilized by Podsakoff, MacKenzie, Moorman, and Fetter (1990) and had a coefficient alpha of .96. Items were measured using a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." Middle manager contingent reward behavior was calculated as the average of ratings across all items and raters within each team. A summary of scale items is included in Table 4.8 below.

Table 4.8 Scale for Contingent Reward Leadership

Scale:	**Contingent Reward Leadership**
Reference:	Podsakoff et al., 1990
Cronbach's Alpha:	.96
Referent:	Team (Middle) Manager
Rating Source:	Work Team
Instructions:	Please indicate the extent to which you agree or disagree with the following statements about your team's manager.
Scale Type:	5 Point: Strongly disagree to strongly agree
Item From Original Scale	**Item Modified for Study Context**
Always give me positive feedback when I perform well.	**Items not modified from original scale.**
Gives me special recognition when my work is very good.	
Commends me when I do a better than average job.	
Personally compliments me when I do outstanding work.	
Frequently does not acknowledge my good performance. (R)	

4.4.7 Instrumental Leadership

To measure instrumental leadership, I selected the eight-item scale developed by Antonakis and House (2014). The scale had a coefficient alpha of .95 and utilizes a 5-point scale ranging from "not at all" to "frequently, if not always," to measure each item. Middle manager instrumental behavior was calculated as the average of ratings across all items and raters within each team. A summary of items for instrumental leadership is included in Table 4.9 below:

Table 4.9 Scale for Instrumental Leadership

Scale:	**Instrumental Leadership**
Reference:	Antonakis and House, 2014
Cronbach's Alpha:	.95
Referent:	Team (Middle) Manager
Rating Source:	Work Team
Instructions:	Please indicate the extent to which your team's manager exhibits the following behaviors.
Scale Type:	5 Point: Not at all to frequently, if not always
Item From Original Scale	**Item Modified for Study Context**
Understands the constraints of our organization.	**Items not modified from original scale.**
Senses what needs to be changed in our organization.	
Ensures that his/her vision is understood in specific terms.	
Translates the mission into specific goals.	
Removes obstacles to my goal attainment.	
Ensures that I have sufficient resources to reach my goals.	
Assists me to learn from my mistakes.	
Provides me with constructive feedback about my mistakes.	

4.4.8 Moderators

Three moderating variables that might influence the relationship between leadership behavior and team strategy implementation effectiveness were identified. The first, perceived organizational support (POS), is hypothesized to influence the commitment of a team to execute strategy-supporting tasks. To measure POS, I adopted a six-item scale developed by Eisenberger et al. (2001), which is a shorter but reliable and valid version of the POS scale originally developed by Eisenberger et al. (1986). As was done in Howes et al. (2000), the referent of "organization" was maintained, but the target of support was changed from "me" to "team." The scale uses a seven-point Likert scale ranging from "strongly disagree" to "strongly agree" and had a coefficient alpha of .96.

The second moderator, team conscientiousness, is hypothesized to influence the relationship between leadership behavior and team capability to implement strategy. To measure team conscientiousness, I selected a scale developed by Hoffman and Jones (2003). The scale provides instructions for respondents to evaluate 10 team characteristics on a scale from 1(to a very small extent) to 5 (to a great extent). The coefficient alpha for the scale is .92 and instructions were modified to match the context within which METRO employees operate.

Finally, team social cohesion was hypothesized to influence the relationship between leadership behaviors and team coordination. To measure team social cohesion, I adopted a scale developed by Sargant and Sue-Chan (1991) made up of four items measured on a five-point Likert scale from "strongly disagree" to "strongly agree." The coefficient alpha for the scale was .78. Team POS, conscientiousness, and social cohesion were calculated as the average of ratings for each scale across all raters within each team. A summary of all three scales is provided in Tables 4.10, 4.11, and 4.12 below along with modifications of instructions or items.

Table 4.10 Scale for Perceived Organizational Support

Scale:	**Team Perceived Organizational Support**
Reference:	Eisenberger et al., 2001
Cronbach's Alpha:	.96
Referent:	Organization
Rating Source:	Team Member
Instructions:	Please indicate the extent to which you agree or disagree with the following statements.
Scale Type:	7 point: Strongly disagree to strongly agree
Item From Original Scale	**Item Modified for Study Context**
The organization takes pride in my accomplishments.	The organization takes pride in my team's accomplishments.
The organization really cares about my well-being.	The organization really cares about my team's well-being.
The organization values my contributions to its well-being.	The organization values my team's contributions to its well-being.
The organization strongly considers my goals and values.	The organization strongly considers my team's goals and values.
The organization shows little concern for me. (R)	The organization shows little concern for my team. (R)
The organization is willing to help me if I need a special favor.	The organization is willing to help my team if we need a special favor.

Table 4.11 Scale for Group Conscientiousness

Scale:	**Team Conscientiousness**
Reference:	Hoffman and Jones, 2003
Cronbach's Alpha:	.92
Referent:	Team
Rating Source:	Team Member
Original Instructions: Please rate the accuracy with which each of the following words describes the atmosphere or character of your store. In other words, think about the extent to which each of the following words describes the behavior of the employees working within the store (Members of your team).	**Modified instructions:** Please rate the accuracy with which each of the following words describes the atmosphere or character of your team. In other words, think about the extent to which each of the following words describes the behavior of members of your team.
Scale Type:	1=To a very small extent. 5=To a great extent
Item From Original Scale	**Items were not modified from original scale.**
Careless	
Efficient	
Sloppy	
Systematic	
Organized	
Not Dependable	
Not Organized	
Inefficient	
Steady	
Conscientious	

Table 4.12 Scale for Social Cohesion

Scale:	**Team Social Cohesion**
Reference:	Sargent and Sue-Chan, 2001
Cronbach's Alpha:	.77
Referent:	Team
Rating Source:	Team Member
Instructions:	Please indicate the extent to which you agree or disagree with the following statements.
Scale Type:	5 Point: Strongly disagree to strongly agree
Item From Original Scale	**Item Modified for Study Context**
I am friends with the members of my group.	I am friends with the members of my team.
I feel a sense of belongingness to my group.	I feel a sense of belongingness to my team.
I get along with members of my group.	I get along with members of my team.
I like my group.	I like my team.

4.4.9 Controls

As previously noted, the study setting provided the advantage of naturally controlling for some key variables. For example, the type of strategy being implemented has been found to interact with top management team experience and skills in relation to SI effectiveness (Govindarajan, 1988; Govindarajan, 1989; Gupta & Govindarajan, 1984) as well as historical factors like prior firm performance (Elbanna et al., 2015) and organizational characteristics such as firm size (Sashittal & Wilemon, 1996) and degree of decentralization (Love et al., 2002). Conducting the study within a single organization controls for these types of variables.

However, to isolate the impact of leadership behavior on team SI effectiveness, team size was included as a control measure. Team size has been found to impact various aspects of team performance, including social loafing (e.g. Alnuaimi, Robert, & Marupaing, 2010). Large groups are also more diverse, which may negatively impact team social cohesion. On the other hand, small groups are more volatile because one

member may have a stronger influence over team outcomes than they would in a larger group. Team size was obtained from company records.

In addition, I controlled for department type. Some teams came from administrative departments like Marketing and Corporate Communications, while others fell within operational departments such as Transportation or Bus Maintenance. This was done in order to rule out significant differences in perceptions about the conditions of SI effectiveness between internally focused departments, that primarily serve a support function, and departments that are more externally focused and deal directly with customer needs and demands. To do this, I enlisted the advice of Mr. Luhrsen to dichotomously code each team as either "administrative" or "operational."

Finally, I controlled for team task interdependence, which measures the interconnections between tasks such that the performance of one definite piece of work depends on the completion of other definite pieces of work (van der Vegt, Emans, and van de Vliert, 1998). The degree of task interdependence within each team may impact the level of coordination required to effectively execute strategy as well as the level of cohesion between team members. To measure task interdependence with each team, I modified a scale developed by van der Vegt et al. (1998). The scale had a coefficient alpha of .60 and utilizes a 5-point scale ranging from "strongly disagree" to "strongly agree," to measure each item. Team interdependence was rated by the middle manager only.

CHAPTER 5 – DATA ANALYSIS

Chapter 5 initiates the description of the data analysis process. Results of the test of Hypotheses are reported in Chapter 6.

The steps of the data analysis process were as follows:

1. Data were organized by team to determine whether or not it qualified for inclusion in the analysis. Only teams with responses from the middle manager and at least two team members were included.
2. Every response was individually screened for entry errors, missing data points, or response patterns that suggested the participant did not take the survey seriously.
3. The data set was finalized and organized for analysis.
4. The study hypotheses were tested using the Hayes Process regression macro in SPSS.

5.1 Data Collected and Data Screening

Table 5.1 shows the response rates of the study by department. Surveys were sent to 73 middle managers and 352 team members. The response rate was 82% for middle managers (60 responses) and 52% for team members (184 responses). After the screening process was complete, the final data set included 44 teams comprised of 44 middle managers (60% of total eligible MM participants) and 141 team members (40% of total eligible team member participants). Of the 18 departments included in the study, 17 (94%) had at least one team represented in the final study sample. The largest departmental representation was the bus maintenance department with 8 teams. Two departments had only one team represented in the final sample, Public Affairs and Transportation Operations.

Table 5.1 Response Rates

Department	MM Sent	MM Response	%	MM Final	%	Team Sent	Team Response	%	Team Final	%
Budget	3	3	100%	2	67%	15	11	73%	10	67%
Accounting	4	3	75%	2	50%	27	12	44%	10	37%
Procurement	4	2	50%	2	50%	10	6	60%	6	60%
Info Technology	7	6	86%	5	71%	33	19	58%	14	42%
Human Resources	7	5	71%	2	29%	24	12	50%	5	21%
Marketing	3	3	100%	3	100%	15	8	53%	8	53%
Public Affairs	1	1	100%	1	100%	7	6	86%	5	71%
Operations Budget	1	1	100%	0	0%	5	3	60%	0	0%
Paratransit	4	4	100%	3	75%	16	9	56%	8	50%
Rail Ops	2	2	100%	2	100%	8	6	75%	7	88%
Transportation Ops	6	4	67%	1	17%	17	7	41%	4	24%
Bus Maintenance	8	8	100%	8	100%	77	30	39%	27	35%
Police	8	5	63%	2	25%	30	15	50%	4	13%
Safety	3	3	100%	2	67%	11	9	82%	7	64%
Ridership Services	2	2	100%	2	100%	8	6	75%	4	50%
Evaluation	2	2	100%	2	100%	9	6	67%	6	67%
System Planning	2	2	100%	2	100%	8	7	88%	7	88%
Public Facilities	6	4	67%	3	50%	32	12	38%	9	28%
TOTALS:	**73**	**60**	**82%**	**44**	**60%**	**352**	**184**	**52%**	**141**	**40%**

MM = Middle Manager. Team = team member. Response = initial response rate. Final = number included in final sample.

The final sample was determined as follows:

1. Based on the overall response rate of middle managers (N=60) and team members (N=184), there was at least two member responses from 55 teams (5 MM responses and 5 team members were removed).
2. Three additional teams were removed because one of two members who responded had missing data.
3. One team was removed because one of two respondents appeared to not recognize reverse coded survey items (responses were diametrically opposed to other responses on the scale).
4. One team was removed because one of two respondents had missing data and appeared not to recognize reverse coded survey items.
5. One team was removed because one of three respondents had missing data and one of three respondents failed to recognize reverse coded survey items.

6. One team was removed because one of three respondents failed to recognize reverse coded items and one of three respondents demonstrated a pattern of responses that demonstrated a lack of conscientiousness when taking the survey (All 5's for all items on all scales).
7. One team was removed because two of three respondents failed to recognize reverse coded items.
8. Finally, three additional teams were removed because of a lack of data on Strategy Implementation Effectiveness, the key dependent variable measure.

The result was the elimination of 11 teams from the initial 55 that had at least two team members responding. The elimination of these teams resulted in the exclusion of the 11 middle managers that led the teams and 33 team members. Data from an additional 10 team members were removed from the sample due to missing data or failure to recognize reverse coded survey items, but these removals did not result in the removal of a team from the sample. The final sample included 44 middle managers (44 teams) with data from 141 team members.

CHAPTER 6 - RESULTS

This chapter reports the results of the empirical tests of the study's Hypotheses. First, the characteristics of the sample used to test the theory are described. Then, the results obtained using the Hayes' Process moderated mediation regression analysis are outlined. The discussion and interpretation of the findings is presented in Chapter 7.

6.1 Descriptive Statistics

Table 6.1 shows descriptive statistics of the data gathered from the 44 middle managers and teams included in the study as well as the control variables. The independent variables in the study, the three types of middle manager leadership behavior, have means that are not significantly different (the 95% confidence intervals from one-sample T-tests overlap). In terms of the mediating variables, there is no statistically significant difference in means between team coordination and team commitment (the 95% confidence intervals from a one-sample T-test overlap), however, the mean score for team capability is significantly higher than that of team coordination and team commitment (the 95% confidence intervals from one-sample T-tests do not overlap). The moderating variables of team conscientiousness and team cohesion have means that are not significantly different (the 95% confidence intervals from a one-sample T-test overlap), however, the mean score for perceived organizational support is significantly lower than that of team cohesion and team conscientiousness (the 95% confidence intervals from a one-sample T-test do not overlap).

When taken as a whole, it is evident that team members evaluated attributes of the team itself, the three mediating variables as well as moderating variables of conscientiousness and cohesion, significantly higher than their evaluation of their team

manager (the three leadership measures) and their organization (perceived organizational support). In terms of control variables, the average team size was 5.80 (minimum 2 and maximum 12) and the mean measure of team interdependence was 4.07 with a standard deviation of .601. This indicates that most teams in the sample require a relatively high level of intra-team interdependence.

Table 6.1. Descriptive Statistics of Key Variables

Constructs (N=44 teams)	# of items	Mean	Std. Dev.	Min	Max
Dependent Variable					
Team Strategy Implementation Effectiveness	8	4.11	.475	2.63	5.00
Independent Variables					
MM Transformational Leadership	12	3.71	.628	2.22	4.96
MM Contingent Reward Leadership	5	3.75	.669	2.40	5.00
MM Instrumental Leadership	8	3.87	.533	2.50	4.83
Mediating Variables					
Team Capability	6	4.50	.369	3.70	5.00
Team Commitment	6	4.18	.410	3.33	4.94
Team Coordination	5	4.26	.348	3.20	5.00
Moderating Variables					
Team Conscientiousness	10	4.24	.425	3.15	5.00
Team Perceived Organizational Support	5	3.66	.708	2.27	5.00
Team Social Cohesion	4	4.34	.356	3.63	4.88
Control Variables					
Team Size	1	5.80	2.750	2.00	12.00
Team Interdependence	5	4.07	.601	1.00	5.00
Team Type	Dichotomous: 19 admin teams & 25 operations teams				

Table 6.2 shows correlations among constructs. The three control variables, team size, department type, and team interdependence, show very little correlation with the other variables except for a highly significant and positive correlation between team size and team commitment (.394). However, all three independent variables, the three mediating variables, the three moderating variables, and the dependent variable, team SI effectiveness, are positively correlated with each other at a (1-tailed) significance level of less than .01 (37 of the 45 pairs of correlations) or .05 (8 of the 45 pairs of correlations). All three types of leadership behavior are correlated at .750 or above, with the highest

correlation being between instrumental leadership and transformational leadership (.887). When placed into a model together, TFL, CRL, and IL had variance inflation factors (VIFs) of 5.21, 2.539, and 5.012 respectively. Based on guidelines provided by Hair et al. (1998), these VIFs do not reach the threshold of 10 for multicollinearity. However, based on the general rule of thumb, it does indicate that the three leadership variables have at least a moderate level of multicollinearity. This does not impact this dissertation as the leadership types are not included in any model together, but it is an important finding to note for future research. The dependent variable, team SI effectiveness, is most strongly correlated with team conscientiousness (.707) and the lowest (but still significant at less than .05 level) with team capability (.271). The highest correlation associated with the mediating variables is between team coordination and team conscientiousness (.830 at significance level of .01).

Figures 6.1, 6.2, and 6.3 show the regression plots of the dependent variable, SI effectiveness, against the three independent variables, transformational leadership, contingent reward leadership, and instrumental leadership, respectively. Figures 6.4, 6.5, and 6.6 show the regression plots of the dependent variable, SI effectiveness, against the three mediating variables, team capability, team commitment, and team coordination, respectively. Figure 6.7 shows the regression plot of team coordination against instrumental leadership, which has the strongest correlation between mediating variables and middle manager leadership types.

Table 6.2. Correlations

Variable	#	2	3	4	5	6	7	8	9	10	11	12	13
Team Size	1	.053	-.05	.168	.002	.394**	.148	.175	.146	.174	.222	.018	.203
Department Type	2		-.079	.144	-.041	.293*	.215	.239	-.089	.065	.191	.173	.265*
Team Int.	3			.085	-.136	.038	-.236	-.117	-.085	-.210	-.164	-.226	-.225
Team SI Effectiveness	4				.271*	.285*	.521**	.341*	.663**	.707**	.481**	.311*	.459**
Team CAP	5					.252*	.572**	.410**	.663**	.707**	.481**	.311**	.459**
Team COM	6						.344*	.426**	.270*	.376**	.426**	.301*	.375**
Team CRD	7							.520**	.652**	.830**	.663**	.529**	.547**
Team POS	8								.392**	.524**	.577**	.608**	.663**
Team COH	9									.727**	.606**	.368**	.532**
Team CONS	10										.694**	.519**	.618**
IL	11											.750**	.887**
CRL	12												.761**
TFL	13												1

N = 44. Int.. = Interdependence. SI = Strategy Implementation. CAP = Capability. COM = Commitment. CRD = Coordination. POS = Perceived Organizational Support. COH = Social Cohesion. Cons = Conscientiousness. IL = Instrumental Leadership. CRL = Contingent Reward Leadership. TFL = Transformational Leadership.

** Correlation is significant at the 0.01 level (1-tailed)

* Correlation is significant at the 0.05 level (1-tailed)

Figure 6.1. Plot of TFL and SI Effectiveness (r = .459)

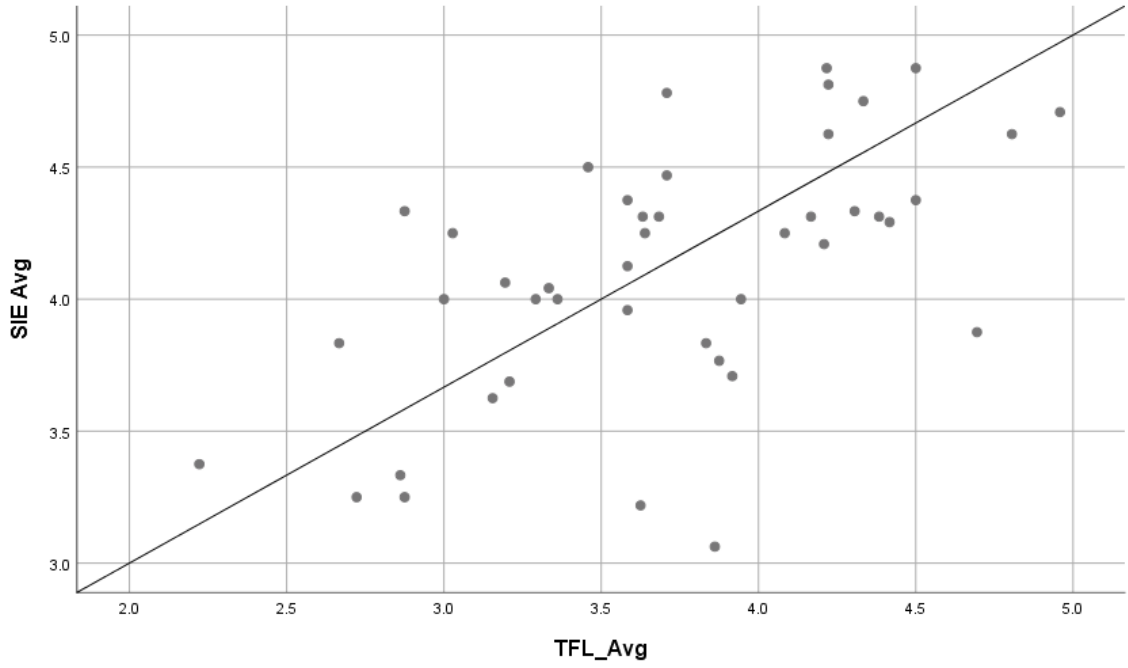


Figure 6.2. Plot of CRL and SI Effectiveness (r = .311)

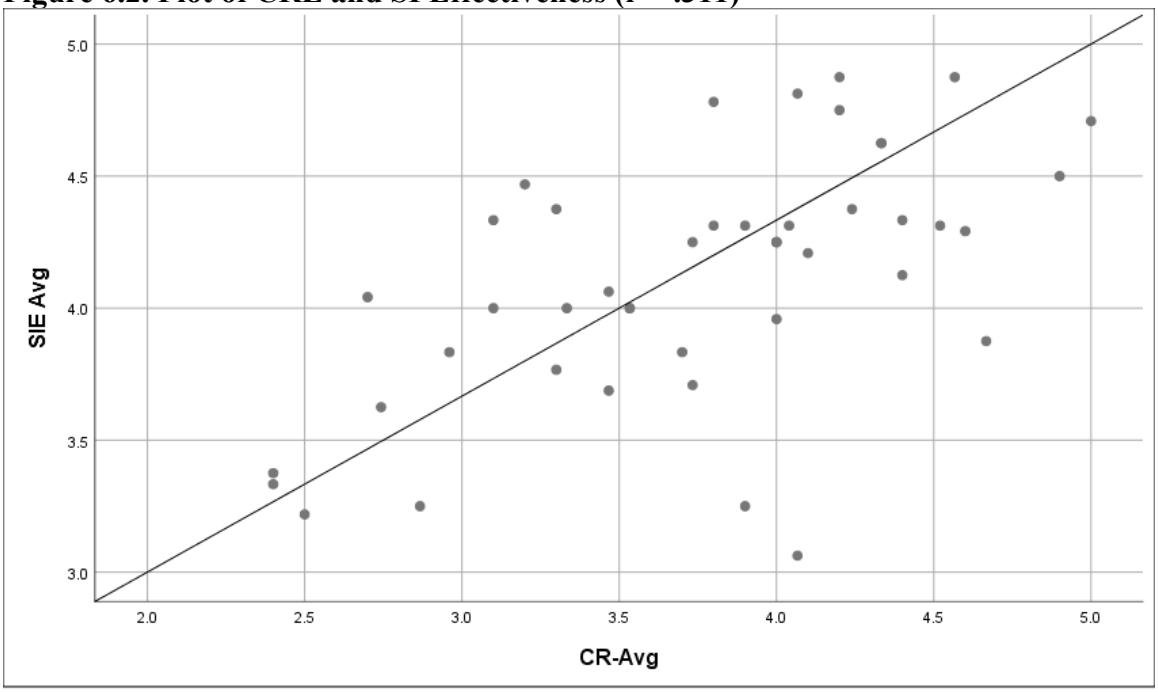


Figure 6.3. Plot of IL and SI Effectiveness (r = .481)

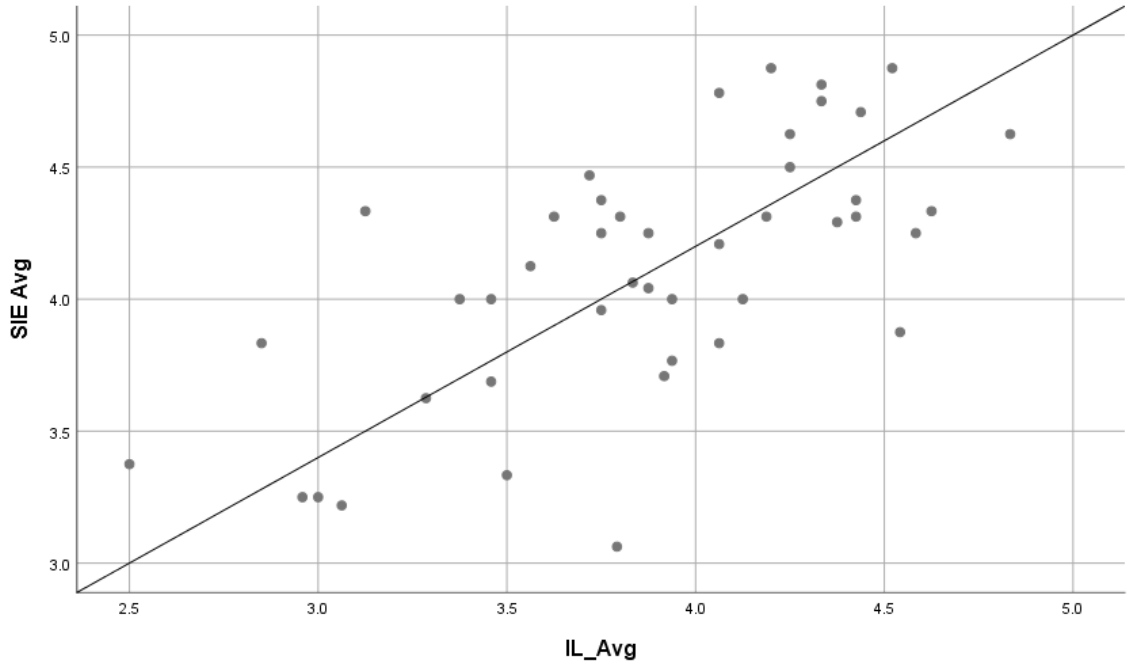


Figure 6.4 Plot of Team Capability and SI Effectiveness (r = .271)

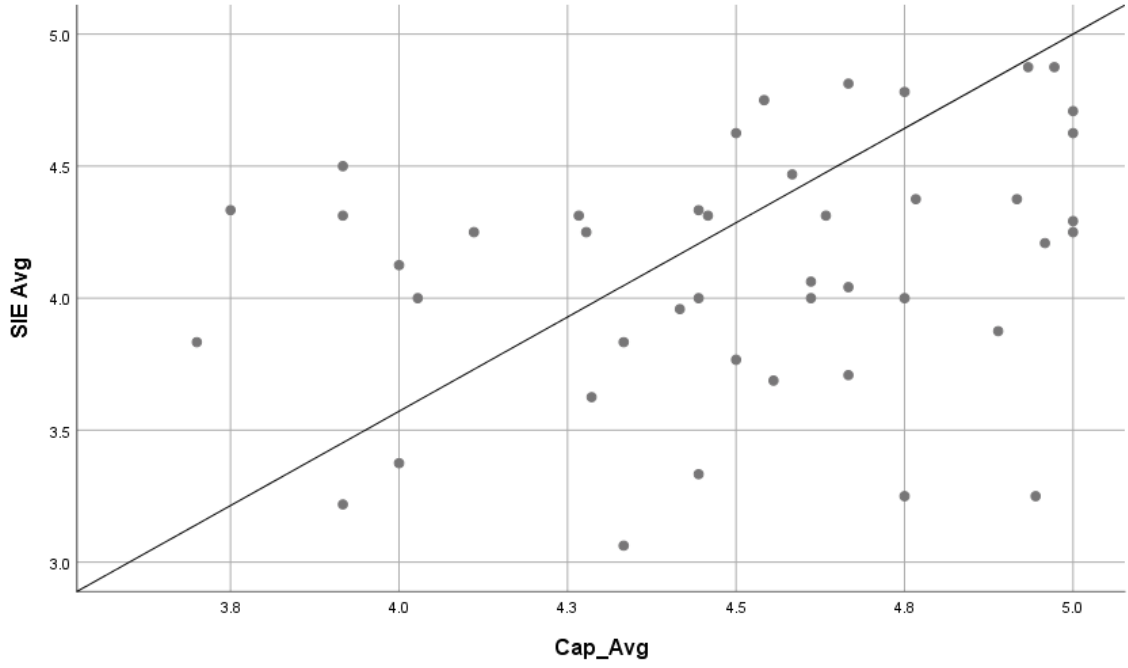


Figure 6.5 Plot of Team Commitment and SI Effectiveness (r = .285)

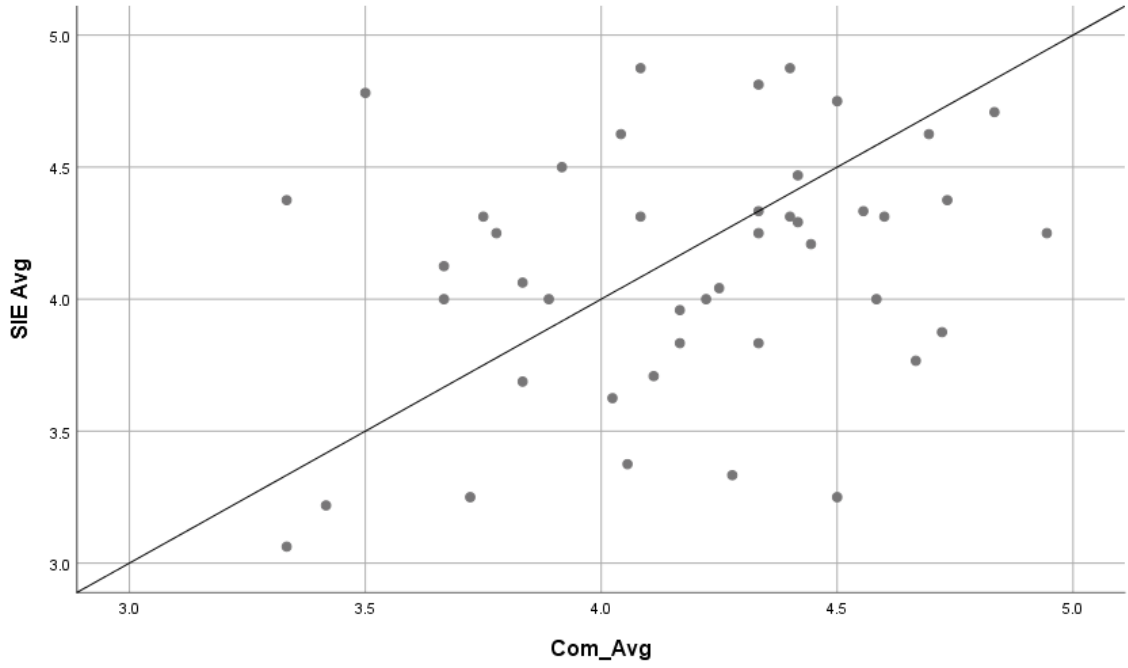


Figure 6.6 Plot of Team Coordination and SI Effectiveness (r = .521)

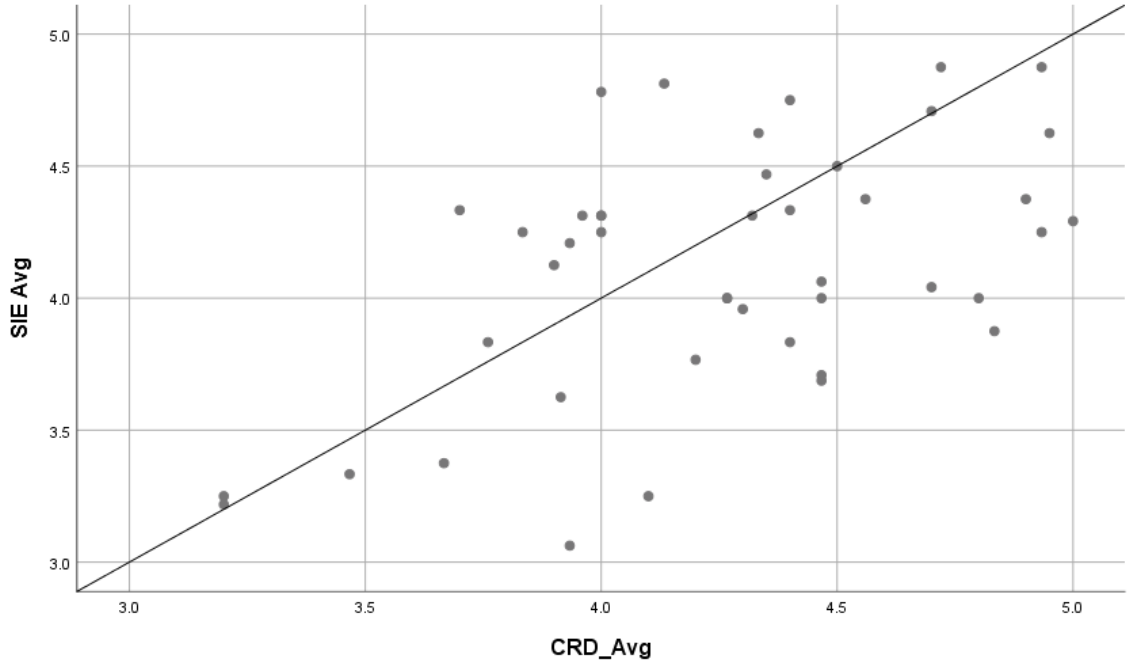
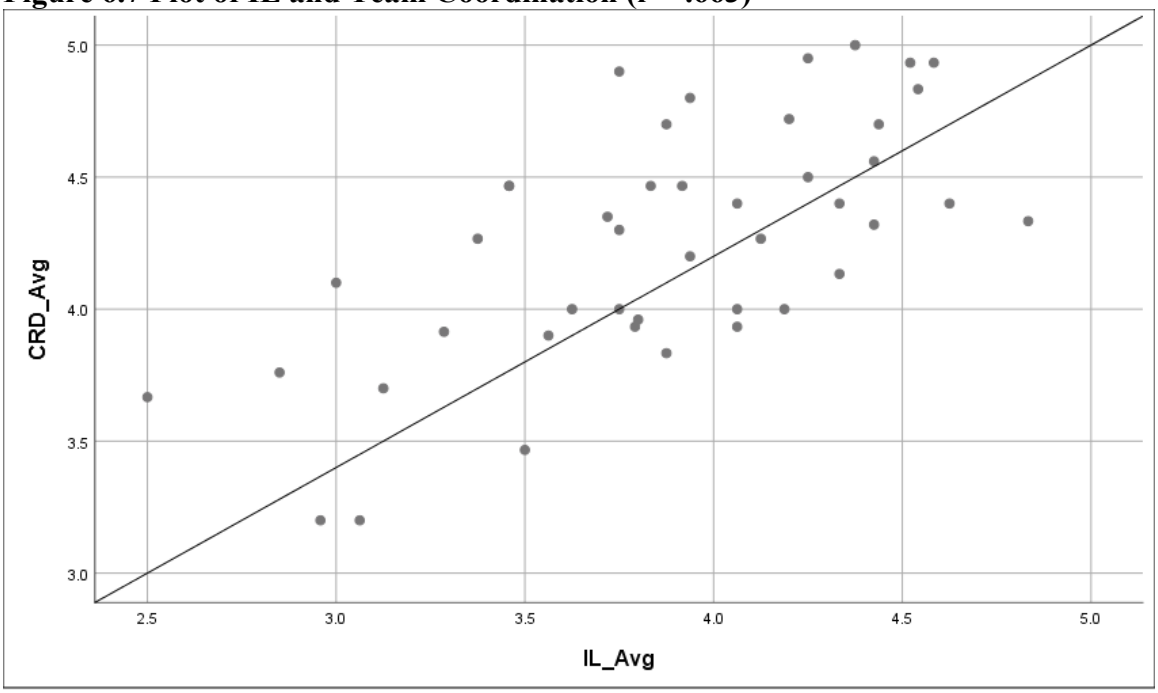


Figure 6.7 Plot of IL and Team Coordination (r = .663)



6.2 Test of Hypotheses

Hypothesis 1 posited that there is an indirect positive effect of transformational leadership (TFL) on strategy implementation effectiveness (SIE) through the capability of teams to implement strategy. Model 4 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided on Table 6.3 and visualized in Figure 6.8.

The relationship between middle manager TFL behavior and team capability is positive and significant (coefficient = .30, p=.001). None of the three control variables had a significant relationship with team capability. In terms of the direct effects on the dependent variable, team SIE, TFL has a significant and positive relationship (coefficient of .47, p <.001), however, the coefficient between team capability and SIE is not significant. In addition, the indirect effect of TFL on SIE through team capability is not

significant as the 95% confidence interval includes zero. The R^2 for the mediation model is significant ($p<.01$, $R^2=.39$), however, the data in table 6.3 does not support the hypothesized indirect effect and thus does not support Hypothesis 1.

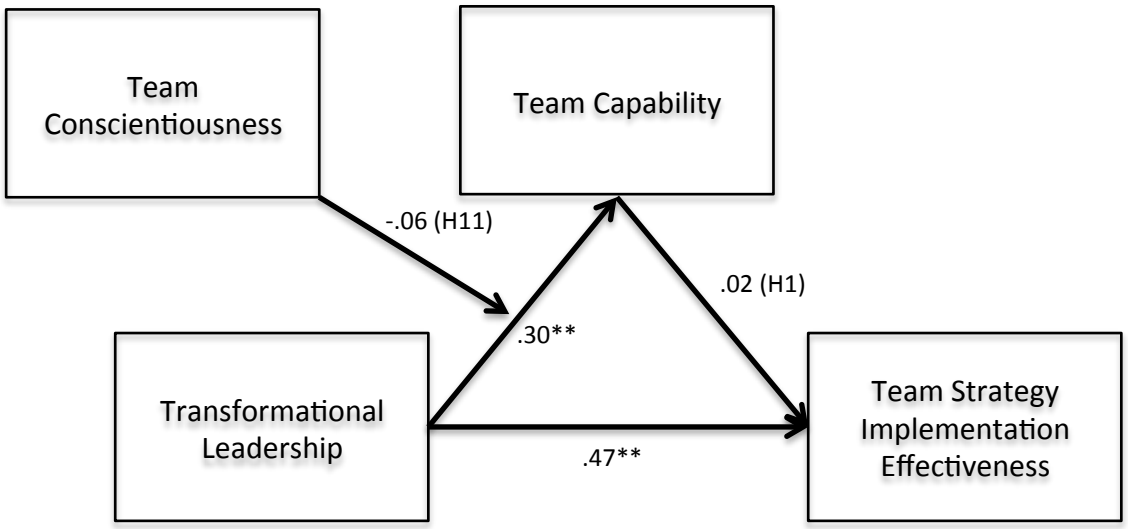
Table 6.3. Test of Hypotheses 1 and 11.
Mediation and Moderated Mediation Estimates for TFL, Capability (CAP), and Conscientiousness (CONS).

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
CAP as DV					
Constant	3.75	.54	7.00	.000	
TFL	.30	.09	3.44	**.001**	
Team size	-.02	.02	-.67	.505	
Department Type	-.13	.11	-1.22	.229	
Team Interdependence	-.02	.09	-.27	.791	**.25***
Strategy Implementation Effectiveness (SIE) as DV					
Constant	1.49	.94	1.58	.123	
TFL	.47	.12	3.95	**.000**	
CAP	.02	.19	.13	.897	
Team size	.01	.02	.42	.676	
Department Type	-.00	.13	-.03	.978	
Team Interdependence	.18	.10	1.76	.086	**.39****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
TFL on SIE	.007	.077	-.123	.187	
Moderated mediation model					
CAP as DV					
Constant	4.70	.34	13.79	.000	
TFL	.06	.09	.63	.533	
CONS	.59	.13	4.67	**.000**	
*TFL * CONS*	-.06	.16	-.39	.701	
Team size	-.02	.02	-1.17	.250	
Department Type	-.07	.09	-.85	.401	
Team Interdependence	.01	.07	.13	.895	**.53****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low CONS	.002	.043	-.077	0110	
Medium CONS	.001	.030	-.056	.075	
High CONS	.001	.028	-.060	.058	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
CONS	-.002	0048	-.119	.082	**.39****

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression

coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.
* P < .05 ** p < .01

Figure 6.8. Results of Testing: Hypotheses 1 and 11.



** p<.05 * p<.10 (2-tailed)

Hypothesis 2 posited that there is an indirect positive effect of transformational leadership (TFL) on strategy implementation effectiveness (SIE) through a team's commitment to implement strategy. Model 4 of the Hayes Process regression macro within SPSS was used to test this hypothesis. Results are provided within Table 6.4 and visualized in Figure 6.9.

The relationship between middle manager TFL behavior and team commitment is positive, with a coefficient of .18, and is marginally significant (p=.059, 2-tailed). All three of the control variables have a positive relationship with team commitment but none are statistically significant. In terms of the direct effects on the dependent variable, team SIE, TFL has a significant and positive effect (coefficient of .47, p <.001), however, the coefficient between team commitment and implementation effectiveness is not significant. In addition, the indirect effect of TFL on SIE through team commitment is not statistically significant. The R^2 for the mediation model is significant (p<.01, R^2

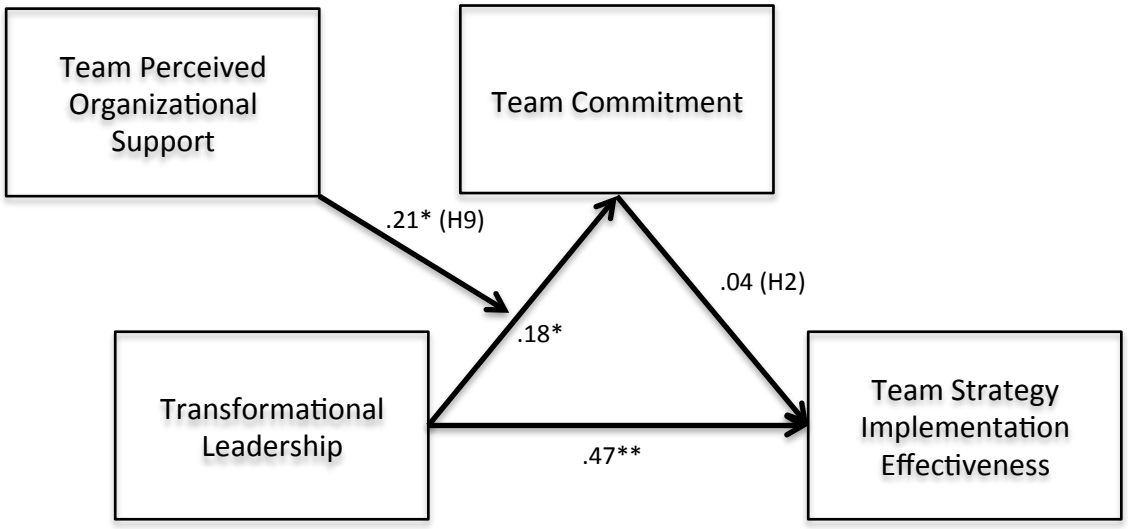
=.39), however, the data in table 6.4 does not support the hypothesized indirect effect and thus does not support Hypothesis 2. Overall, the model shows that TFL has a significant and positive relationship with both team commitment and team SIE but there is no support for a mediating effect of TFL on SIE through team commitment.

Table 6.4. Test of Hypotheses 2 and 9.
Mediation and Moderated Mediation Estimates for TFL, Team Commitment (COM) and Team Perceived Organizational Support (POS).

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
COM as DV					
Constant	2.56	.57	4.48	.006	
TFL	.18	.09	1.95	**.059**	
Team size	.05	.02	2.44	**.019**	
Department Type	.17	.11	1.52	.136	
Team Interdependence	.09	.09	.98	.332	**.30****
Strategy Implementation Effectiveness (SIE) as DV					
Constant	1.15	.77	1.92	.063	
TFL	.47	.11	4.31	**.000**	
COM	.04	.18	.22	.829	
Team size	.01	.02	.30	.764	
Department Type	-.01	.13	-.14	.918	
Team Interdependence	.18	.10	1.07	.096	**.39****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
TFL on SIE	.007	.049	-.095	.116	
Moderated mediation model					
COM as DV					
Constant	3.19	.43	7.43	.000	
TFL	.10	.12	.85	.402	
POS	.12	.10	1.19	.243	
*TFL * POS*	.21	.12	1.86	**.071**	
Team size	.05	.02	2.41	**.021**	
Department Type	.17	.11	1.60	.118	
Team Interdependence	.09	.09	1.05	.302	**.40****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low POS	-.003	.043	-.099	.086	
Medium POS	.003	.038	-.059	.104	
High POS	.010	.077	-.112	.207	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
POS	.008	.060	-.092	.152	**.39****

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.
* P < .05 ** p < .01

Figure 6.9. Results of Testing: Hypotheses 2 and 9.



** p<.05 * p<.10 (2-tailed)

Hypothesis 3 posited that there is an indirect positive effect of transformational leadership (TFL) on strategy implementation effectiveness (SIE) through team coordination. The Model 4 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.5 and visualized in Figure 6.10.

The relationship between middle manager TFL behavior and team coordination is positive and significant (coefficient = .36, p=.001). None of the three control variables have a significant relationship with team coordination. In terms of the direct effects on the dependent variable, SIE, TFL has a significant and positive effect (coefficient of .35, $p < .01$) and the coefficient between team coordination and implementation effectiveness is positive and significant (coefficient of .35, $p = .026$). In addition, the indirect effect of TFL on SIE through team coordination is positive and significant with an effect size of .12 and a 95% confidence interval that does not include zero. The R^2 for the mediation model is .47 and significant ($p < .01$). Thus, the data in Table 6.5 supports Hypothesis 3.

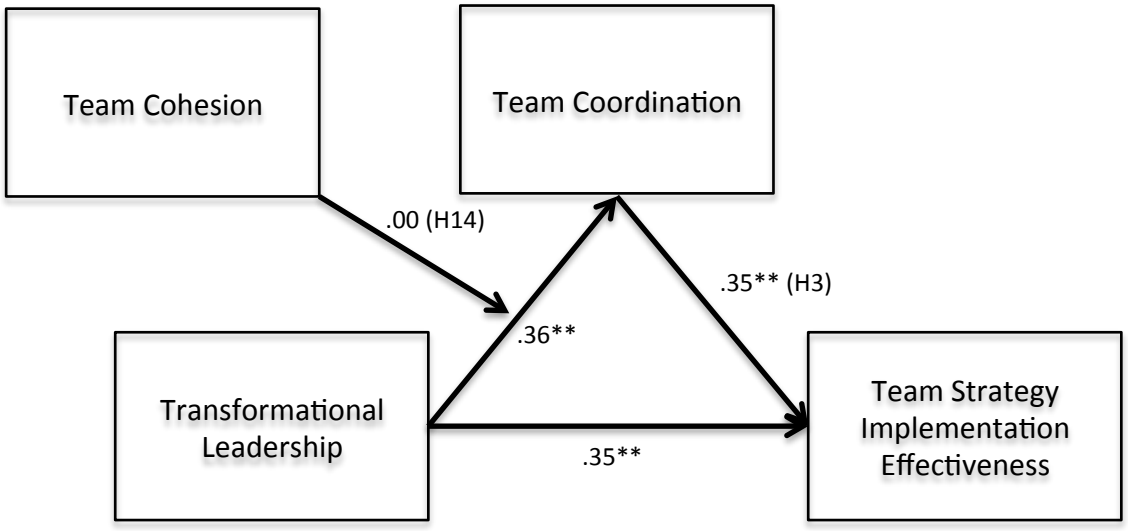
Table 6.5. Test of Hypotheses 3 and 14.
Mediation and Moderated Mediation Estimates for TFL, Team Coordination (CRD), and Team Cohesion (COH).

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
CRD as DV					
Constant	3.16	.63	5.05	.001	
TFL	.36	.10	3.46	**.001**	
Team size	.01	.02	.28	.782	
Department Type	.07	.12	.54	.594	
Team Interdependence	-.09	.10	-.86	.394	**.32****
Strategy Implementation Effectiveness (SIE) as DV					
Constant	.48	.76	.63	.531	
TFL	.35	.11	3.16	**.003**	
CRD	.35	.15	2.32	**.026**	
Team size	.01	.02	.33	.740	
Department Type	-.03	.12	-.26	.799	
Team Interdependence	.21	.10	2.18	**.036**	**.47****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
TFL on SIE	.12	.07	.001	.271	
Moderated mediation model					
CRD as DV					
Constant	4.35	.41	10.61	**.000**	
TFL	.11	.11	1.02	.313	
COH	.74	.18	4.13	**.000**	
*TFL * COH*	.00	.22	.02	.982	
Team size	.00	.02	.13	.896	
Department Type	.19	.11	1.78	.084	
Team Interdependence	-.10	.09	-1.18	.247	**.54****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low COH	.04	.06	-.079	.151	
Medium COH	.04	.04	-.037	.143	
High COH	.04	.05	-.043	.168	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
COH	.00	.07	-.120	.185	**.47****

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.

* P < .05 ** p < .01

Figure 6.10. Results of Testing Hypotheses 3 and 14.



** p<.05 * p<.10 (2-tailed)

Hypothesis 4 posited that there is an indirect positive effect of contingent reward leadership (CRL) on strategy implementation effectiveness (SIE) through a team's capability to implement strategy. Model 4 of the Hayes Process regression macro within SPSS was used to test this hypothesis. Results are provided within Table 6.6 and visualized in Figure 6.11.

The relationship between middle manager CRL behavior and team capability is positive, with a coefficient of .17, and marginally significant with a p-value of .054 (2-tailed). None of the three control variables have a statistically significant relationship to team capability. In terms of the direct effects on the dependent variable, team SIE, CRL has a significant and positive relationship (coefficient of .43, $p < .001$) and one of the control variables, team interdependence, has a marginally significant relationship (coefficient of .20, $p = .052$, 2-tailed). The coefficient between team capability and SIE is not significant ($p = .352$) and the indirect effect of CRL on SIE through team capability is

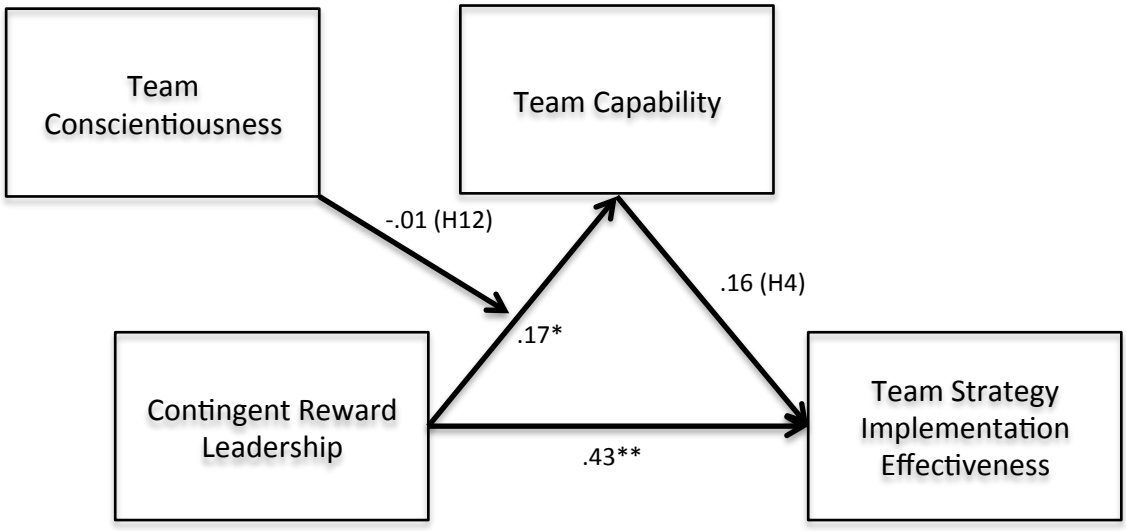
not significant. The R^2 for the mediation model is significant ($p<.01$, $R^2=.45$) but the data in table 6.6 does not support Hypothesis 4.

Table 6.6. Test of Hypotheses 4 and 12.
Mediation and Moderated Mediation Estimates for CRL, CAP, and Team Conscientiousness (CONS).

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
CAP as DV					
Constant	4.16	.59	7.04	.000	
CRL	.17	.09	1.98	**.054**	
Team size	-.00	.02	-.01	.999	
Department Type	-.07	.11	-.66	.516	
Team Interdependence	-.04	.10	-.47	.640	.11
Strategy Implementation Effectiveness (SIE) as DV					
Constant	.76	.92	.83	.410	
CRL	.43	.09	4.55	**.000**	
CAP	.16	.16	.94	.352	
Team size	.03	.02	1.38	.176	
Department Type	.05	.12	.45	.654	
Team Interdependence	.20	.10	2.01	.052	**.45****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
CRL on SIE	.027	.042	-.026	.137	
Moderated mediation model					
CAP as DV					
Constant	4.70	.35	13.61	.000	
CRL	-.04	.08	-.57	.573	
CONS	.67	.12	.00	**.000**	
*CRL * CONS*	-.01	.14	.96	.964	
Team size	-.02	.02	.28	.279	
Department Type	-.05	.09	.54	.539	
Team Interdependence	-.00	.07	.98	.976	**.53****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low CONS	-.006	.030	-.047	.042	
Medium CONS	-.007	.022	-.039	.027	
High CONS	-.007	.021	-.042	.021	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
CONS	-.001	.031	-.053	.037	**.45****

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.
* P < .05 ** p < .01

Figure 6.11. Results of Testing: Hypotheses 4 and 12.



** p<.05 * p<.10 (2-tailed)

Hypothesis 5 posited that there is an indirect positive effect of contingent reward leadership (CRL) on strategy implementation effectiveness (SIE) through team coordination. Model 4 of the Hayes Process regression macro within SPSS was used to test this hypothesis. Results are provided within Table 6.7 and visualized in Figure 6.12.

The relationship between middle manager CRL behavior and team coordination is positive and significant (coefficient = .33, p = .001). None of the control variables have a statistically significant relationship with coordination. In terms of the direct effects on the dependent variable, team SIE, CRL has a significant and positive relationship (coefficient = .35, p <.001) and coordination has a positive and significant relationship (coefficient =.32, p = .035). In addition, the indirect effect of CRL on SIE through team coordination is positive and significant with an effect size of .105. Thus the data in table 6.7 supports Hypothesis 5. In addition, the R^2 for the mediation model is significant (p<.01, R^2 =.50).

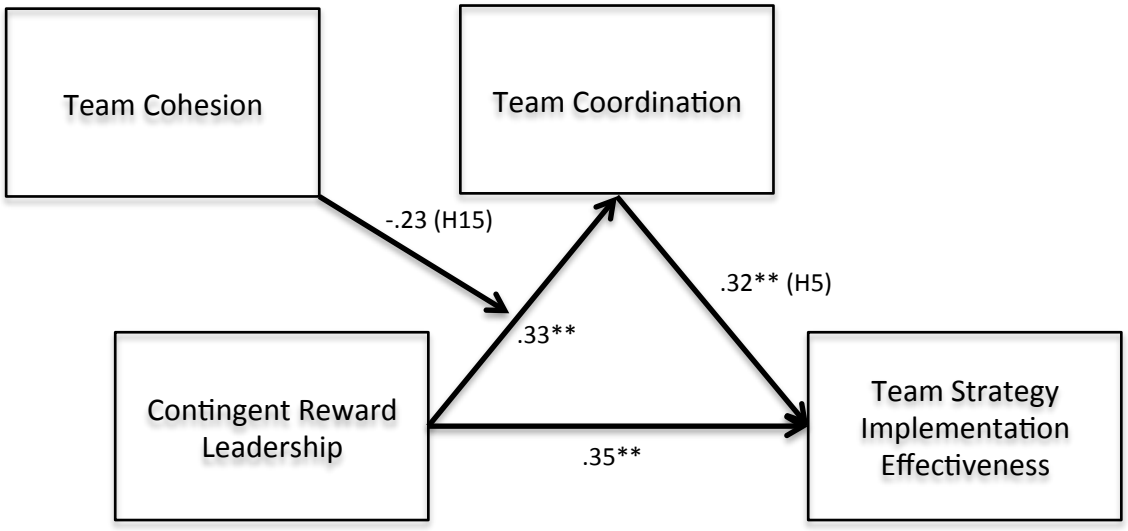
Table 6.7. Test of Hypotheses 5 and 15.
Mediation and Moderated Mediation Estimates for CRL, Team Coordination (CRD), and Team Cohesion (COH).

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
CRD as DV					
Constant	3.09	.63	4.90	.000	
CRL	.33	.09	3.52	**.001**	
Team size	.02	.02	.97	.340	
Department Type	.11	.12	.87	.388	
Team Interdependence	-.08	.10	-.82	.416	**.33****
Strategy Implementation Effectiveness (SIE) as DV					
Constant	.41	.74	.56	.578	
CRL	.35	.10	3.56	**.001**	
CRD	.32	.15	2.19	**.035**	
Team size	.02	.02	1.09	.281	
Department Type	.01	.11	.07	.948	
Team Interdependence	.22	.09	2.30	**.027**	**.50****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
CRL on SIE	.105	.055	.005	.222	
Moderated mediation model					
CRD as DV					
Constant	4.25	.39	11.03	.000	
CRL	.16	.08	1.95	**.059**	
COH	.71	.15	4.83	**.000**	
*CRL * COH*	-.23	.18	-1.27	.212	
Team size	.00	.02	.24	.809	
Department Type	.21	.10	2.12	.041	
Team Interdependence	-.08	.08	-.99	.330	**.60****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low COH	.083	.051	-.016	.184	
Medium COH	.048	.037	-.026	.120	
High COH	.020	.046	-.083	.109	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
COH	-.074	.076	-.251	.048	**.50****

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.

* P < .05 ** p < .01

Figure 6.12. Results of Testing: Hypotheses 5 and 15.



** p<.05 * p<.10 (2-tailed)

Hypothesis 6 posited that there is an indirect positive effect of contingent reward leadership (CRL) on strategy implementation effectiveness (SIE) through a team's commitment to implement strategy. Model 4 of the Hayes Process regression macro within SPSS was used to test this hypothesis. Results are provided within Table 6.8 and visualized in Figure 6.13.

The relationship between middle manager CRL behavior and team commitment is positive and statistically significant (coefficient = .18, p = .046). In addition, department type has a marginally significant relationship to commitment with a coefficient of .19 and a p-value of .091 (2-tailed). In terms of direct effects on the dependent variable, team SIE, CRL has a significant and positive relationship (coefficient of .45, p <.001) and the control variable, team interdependence, has a marginally significant relationship (coefficient of .19, p = .067, 2-tailed). The coefficient between team commitment and SIE is not significant (p = .957) and the indirect effect of CRL on SIE through team

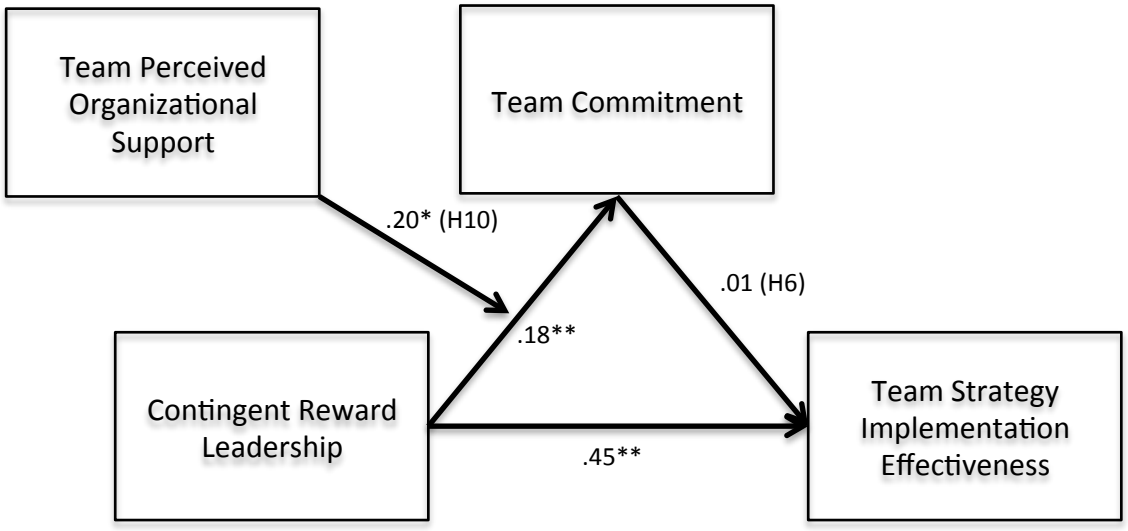
commitment is not significant. The R^2 for the mediation model is significant ($p<.01$, R^2 =.43), however, the data in table 6.8 does not support Hypothesis 6.

Table 6.8. Test of Hypotheses 6 and 10.
Mediation and Moderated Mediation Estimates for CRL, COM, and Team Perceived Organizational Support (POS).

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
COM as DV					
Constant	2.50	.58	4.33	.000	
CRL	.18	.08	2.07	**.046**	
Team size	.06	.12	2.88	**.006**	
Department Type	.19	.11	1.73	.091	
Team Interdependence	.10	.09	1.03	.311	**.31****
Strategy Implementation Effectiveness (SIE) as DV					
Constant	1.38	.75	1.85	.072	
CRL	.45	.10	4.74	**.000**	
COM	.01	.17	.05	.957	
Team size	.03	.02	1.21	.233	
Department Type	.04	.12	.32	.748	
Team Interdependence	.19	.10	1.88	.067	**.43****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
CRL on SIE	.002	.045	-.102	.087	
Moderated mediation model					
COM as DV					
Constant	3.13	.44	7.11	.000	
CRL	.14	.11	1.30	.201	
POS	.09	.10	.86	.395	
*CRL * POS*	.20	.12	1.69	**.100**	
Team size	.05	.02	2.74	.009	
Department Type	.17	.11	1.60	.118	
Team Interdependence	.10	.09	1.13	.2677	**.39****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low POS	-.000	.031	-.069	.058	
Medium POS	.001	.042	-.083	.097	
High POS	.003	.079	-.145	.186	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
POS	.002	.051	-.086	.125	**.43****

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.
* P < .05 ** p < .01

Figure 6.13. Results of Testing Hypotheses 6 and 10.



** p<.05 * p<.10 (2-tailed)

Hypothesis 7 posited that there is an indirect positive effect of instrumental leadership (IL) on strategy implementation effectiveness (SIE) through a team's capability to implement strategy. Model 4 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.9 and visualized in Figure 6.14.

The relationship between middle manager IL behavior and team capability is positive and significant (coefficient = .36, p-value of .001). None of the three control variables have a statistically significant relationship to team capability. In terms of the direct effects on the dependent variable, team SIE, IL has a significant and positive relationship (coefficient of .63, p <.001). The coefficient between team capability and SIE is not significant (p = .752) and the indirect effect of IL on SIE through team capability is non-significant. The R^2 for the mediation model is significant (p<.01, R^2 =.49) but the data in table 6.9 does not support Hypothesis 7.

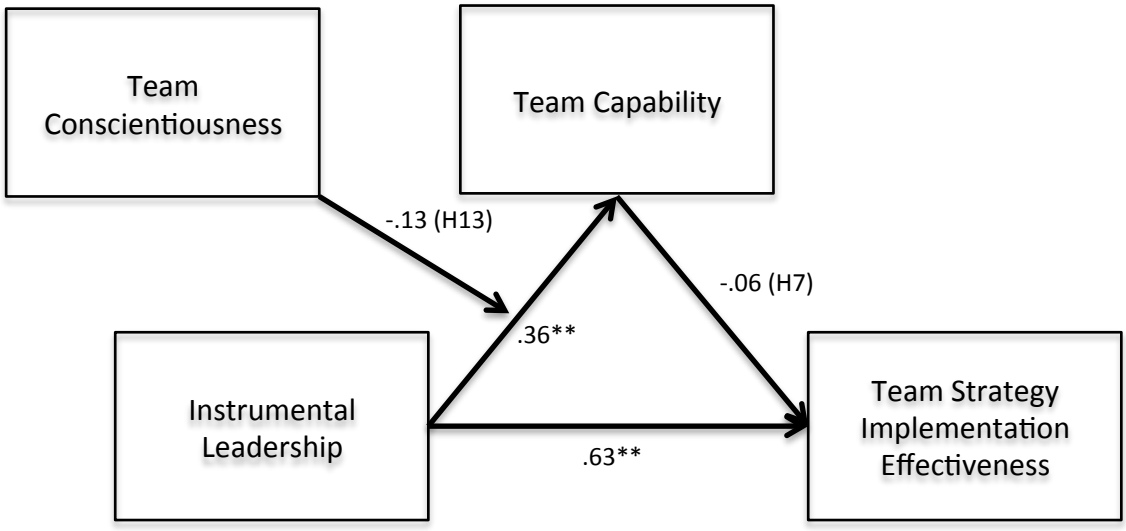
Table 6.9. Test of Hypotheses 7 and 13.
Mediation and Moderated Mediation Estimates for IL, Team Capability (CAP), and Team Conscientiousness (CONS).

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
CAP as DV					
Constant	3.52	.56	6.24	.000	
IL	.36	.10	3.60	**.001**	
Team size	-.01	.02	-.78	.441	
Department Type	-.10	.10	-1.00	.322	
Team Interdependence	-.04	.09	-.48	.634	**.26***
Strategy Implementation Effectiveness (SIE) as DV					
Constant	1.22	.87	1.40	.169	
IL	.63	.13	5.02	**.000**	
CAP	-.06	.17	-.32	.752	
Team size	.00	.02	.16	.874	
Department Type	.02	.11	.17	.867	
Team Interdependence	.16	.09	1.67	.103	**.49****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
IL on SIE	-.020	.072	-.134	.164	
Moderated mediation model					
CAP as DV					
Constant	4.71	.34	13.72	.000	
IL	.01	.11	.06	.953	
CONS	.63	.14	4.50	**.000**	
*IL * CONS*	-.13	.20	-.68	.503	
Team size	-.02	.02	-1.12	.270	
Department Type	-.06	.09	-.75	.460	
Team Interdependence	.00	.07	.06	.950	**.53****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low CONS	-.004	.038	-.067	.093	
Medium CONS	-.001	.026	-.044	.067	
High CONS	-.003	.031	-.058	.073	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
CONS	.007	.048	-.104	.097	**.49****

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.

* P < .05 ** p < .01

Figure 6.14. Results of Testing: Hypotheses 7 and 13.



** p<.05 * p<.10 (2-tailed)

Hypothesis 8 posited that there is an indirect positive effect of instrumental leadership (IL) on strategy implementation effectiveness (SIE) through team coordination. Model 4 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.10 and visualized in Figure 6.15.

The relationship between middle manager IL behavior and team coordination is positive and significant (coefficient = .53, $p < .001$). None of the three control variables have a statistically significant relationship to team coordination. In terms of the direct effects on the dependent variable, team SIE, IL has a significant and positive relationship (coefficient of .51, $p = .001$). The coefficient between team coordination and SIE is not significant ($p = .226$) and the indirect effect of IL on SIE through team coordination is also non-significant. There is a positive and marginally significant relationship between team interdependence and SIE (coefficient = .18, $p = .061$, 2-tailed). The R^2 for the

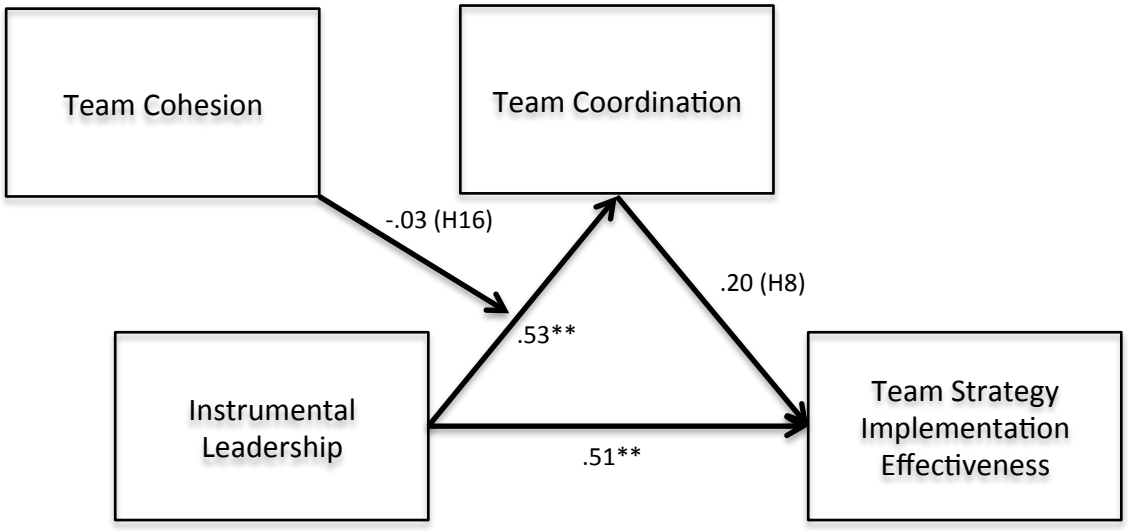
mediation model is significant ($p<.01$, $R^2=.50$) but the data in table 6.10 does not support Hypothesis 8.

Table 6.10. Test of Hypotheses 8 and 16.
Mediation and Moderated Mediation Estimates for IL, Team Coordination (CRD), and Team Cohesion (COH).

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
CRD as DV					
Constant	2.47	.59	4.18	.000	
IL	.53	.11	5.06	**.000**	
Team size	-.00	.02	-.02	.986	
Department Type	.08	.11	.72	.472	
Team Interdependence	-.10	.09	-1.06	.294	**.46****
Strategy Implementation Effectiveness (SIE) as DV					
Constant	.53	.73	.73	.472	
IL	.51	.14	3.67	**.001**	
CRD	.20	.16	1.23	.226	
Team size	.00	.02	.21	.836	
Department Type	.01	.11	.08	.934	
Team Interdependence	.18	.09	1.92	.063	**.50****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
IL on SIE	.107	.093	-.064	.304	
Moderated mediation model					
CRD as DV					
Constant	4.40	.39	11.30	.000	
IL	.28	.13	2.21	**.034**	
COH	.58	.18	3.31	**.002**	
*IL * COH*	-.03	.26	-.11	.911	
Team size	-.00	.02	-.09	.932	
Department Type	.17	.10	1.64	.110	
Team Interdependence	-.10	.08	-1.19	.243	**.59****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low COH	.059	.061	-.036	.200	
Medium COH	.056	.057	-.034	.190	
High COH	.055	.064	-.047	.210	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
COH	-.006	.065	-.148	.124	**.50****

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.
* P < .05 ** p < .01

Figure 6.15. Results of Testing Hypotheses 8 and 16.

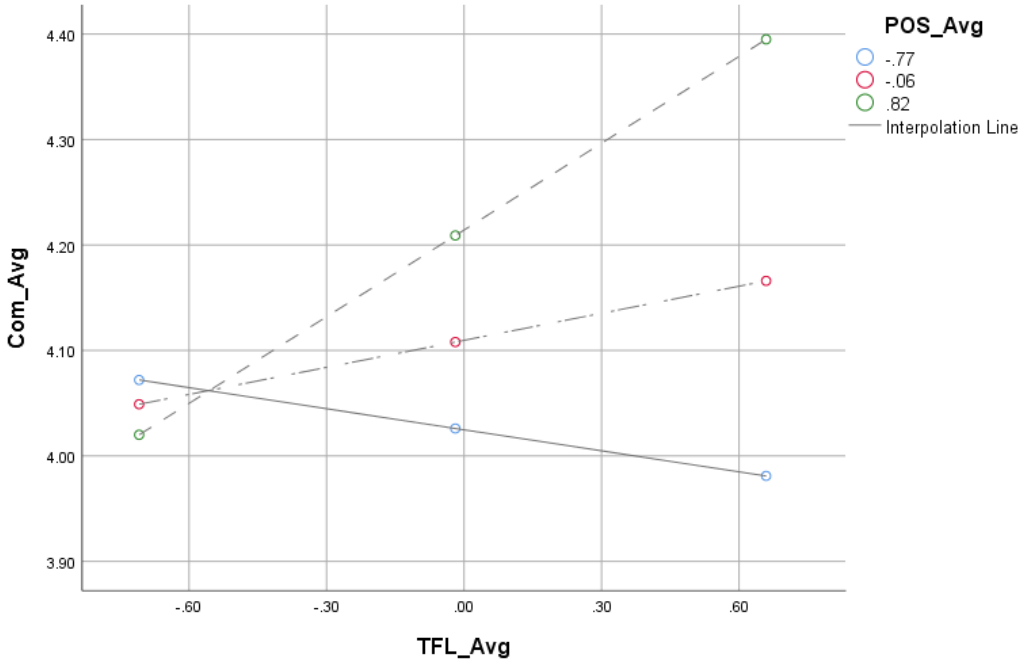


Hypothesis 9 posited that the relationship between middle manager TFL behavior and team commitment will be stronger when perceived organizational support (POS) of the team is high. Model 7 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.4 and visualized in Figure 6.9.

There is limited support for Hypothesis 9, as the test of a moderation effect of team perceived organizational support on the relationship between TFL and team commitment is positive and marginally significant (coefficient = .21, p = .071, 2-tailed test). The effect is negative at low levels of perceived organizational support and grows larger and positive across medium and high levels. The R^2 for the moderated mediation model increases to .40 over the mediated model (increase of .01), however, the upper and lower level 95% confidence intervals include zero under all three conditions of the conditional indirect effect. Under the moderated mediation model the control variable,

team size, has a significant relationship to team commitment (coefficient = .21, p = .021). Based on a two-tailed test of significance, there is marginal support for a moderating impact of team perceived organizational support on the relationship between TFL and team commitment to implement strategy. Figure 6.16 shows a spotlight of the interaction effect at low (16th percentile), medium (50th percentile) and high (84th percentile) levels of POS.

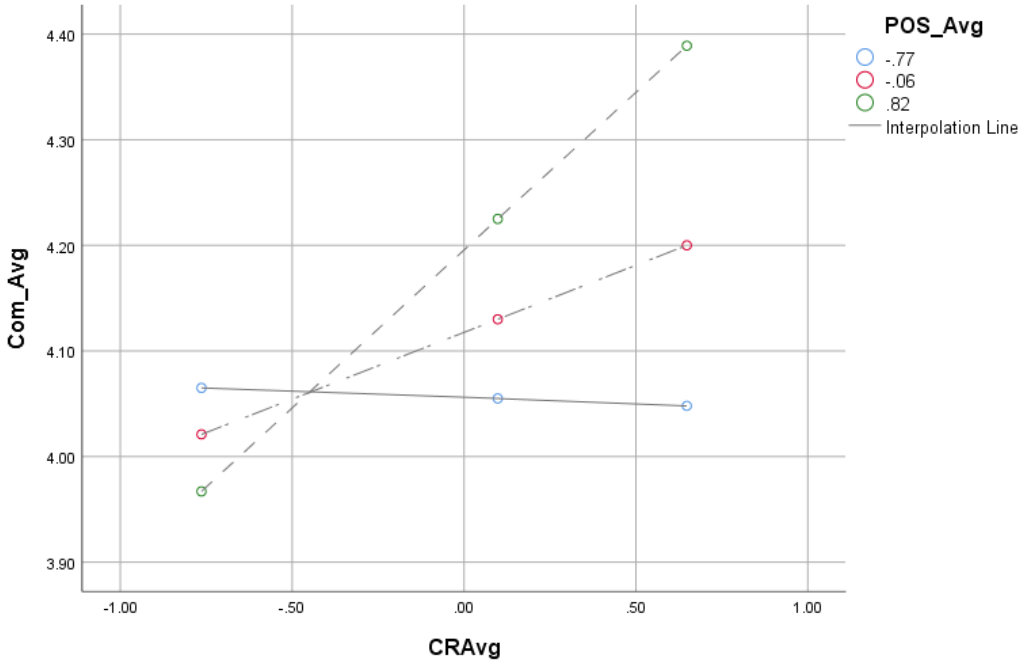
Figure 6.16. Interaction Effect of TFL and POS on Team Commitment



Hypothesis 10 posited that the relationship between middle manager CRL behavior and team commitment will be stronger when the perceived organizational support of the team is high. Model 7 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.8 and visualized in Figure 6.13.

The statistical evidence provides marginal support for Hypothesis 10, as the test of a moderation effect of team perceived organizational support on the relationship between CRL and team commitment is positive and marginally significant (coefficient = .20, p = .10, 2-tailed). The R^2 for the moderated mediation model decreases by .04 over the mediated model to .39 (p < .01) and the upper and lower level 95% confidence intervals for the conditional indirect effect of low, medium, and high levels of perceived organizational support include zero. Overall, the model suggests that CRL behavior has a significant and positive relationship with team commitment and a positive and significant relationship with team SIE. However, the statistical evidence marginally supports a moderated mediation effect of team perceived organizational support. Figure 6.17 shows spotlight of the interaction effect at low (16th percentile), medium (50th percentile) and high (84th percentile) levels of POS.

Figure 6.17. Interaction Effect of CRL and POS on Team Commitment



Hypothesis 11 posited that the relationship between TFL and team conscientiousness will be stronger when the conscientiousness of the team is high. Model 7 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided on Table 6.3 and visualized in Figure 6.8.

There is not enough evidence to support Hypothesis 11, as the test of a moderation effect of team conscientiousness on the relationship between TFL and team capability is non-significant. Even though R^2 in the overall model of moderated mediation is significant ($p<.01$) and increases to .53 (increase of .14 over the mediated model) the upper and lower level 95% confidence intervals across low, medium, and high levels of the conditional indirect effect of conscientiousness include zero. In addition, the data show that conscientiousness is positively and significantly related to team capability (coefficient = .59, $p < .001$). Overall, the model shows that TFL has a significant and positive relationship with both team capability and team SIE but there is not enough statistical evidence to support a mediating effect of TFL through team capability or a moderating impact of team conscientiousness.

Hypothesis 12 posited that the relationship between middle manager CRL and team capability will be stronger when the conscientiousness of the team is high. Model 7 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.6 and visualized in Figure 6.11.

There is not enough evidence to support Hypothesis 12, as the test of a moderation effect of team conscientiousness on the relationship between CRL and team capability is non-significant. There is, however, a positive and significant relationship between team conscientiousness and team capability (coefficient = .67, $p < .001$).

Although the R^2 for the moderated mediation model increases by .08 over the mediated model to .53 ($p < .01$), the conditional indirect effect is negative across low, medium, and high levels of team conscientiousness and the upper and lower level 95% confidence intervals include zero. Overall, the model suggests that CRL behavior has a marginally significant and positive relationship with team capability and a positive and significant relationship with team SIE. The mediating effect of CRL on SIE through team capability is not significant and there is not enough statistical evidence to support a moderating impact of team conscientiousness.

Hypothesis 13 posited that the relationship between middle manager IL behavior and team capability will be stronger when team conscientiousness is high. Model 7 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.9 and visualized in Figure 6.14.

There is not enough statistical evidence to support Hypothesis 13, as the test of a moderation effect of team conscientiousness on the relationship between IL and team capability is non-significant. However, the data found that there is a positive and significant relationship between team conscientiousness and team capability (coefficient = .63, $p < .001$). Although the R^2 for the moderated mediation model increases by .04 over the mediated model to .53 ($p < .01$), the conditional indirect effect is negative across low, medium, and high levels of team conscientiousness and the upper and lower level 95% confidence intervals include zero. Overall, the model suggests that IL behavior has a significant and positive relationship with team capability and a positive and significant relationship with team SIE. However, the mediating effect of IL on SIE through team

capability is non-significant and there is no statistical evidence to support a moderating impact of team conscientiousness.

Hypothesis 14 posited that the relationship between middle manager TFL behavior and team coordination will be stronger when team cohesion is high. Model 7 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.5 and visualized in Figure 6.10.

There is not enough evidence to support Hypothesis 14, as the test of a moderation effect of team cohesion on the relationship between TFL and team coordination is zero and non-significant. However, there is a positive and significant relationship between team cohesion and coordination (coefficient = .74, $p < .001$). Although the R^2 for the moderated mediation model increases by .07 over the mediated model to .54 ($p < .01$) and the conditional indirect effect is positive across low, medium, and high levels of team cohesion, the upper and lower level 95% confidence intervals include zero. Overall, the model shows that TFL has a significant and positive relationship with both team coordination and team SIE and there is a statistically significant mediating effect of TFL on SIE through team coordination. However, there is not enough evidence to support a moderating impact of team cohesion.

Hypothesis 15 posited that the relationship between CRL and team coordination will be stronger when the cohesion of the team is high. Model 7 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.7 and visualized in Figure 6.12.

There is not enough evidence to support Hypothesis 15, as the test of a moderation effect of team cohesion on the relationship between CRL and team capability

is non-significant. Although the R^2 for the moderated mediation model increases by .10 over the mediated model to .60 ($p < .01$), the upper and lower level 95% confidence intervals of the conditional indirect effects across low, medium, and high levels of team cohesion include zero. Overall, the model suggests that CRL behavior has a significant and positive relationship with team coordination and team SIE. In addition, the mediating effect of CRL on SIE through team coordination is positive and significant. However, there is not enough evidence to support a moderating impact of team cohesion.

Hypothesis 16 posited that the relationship between middle manager IL behavior and team coordination will be stronger when team cohesion is high. Model 7 of the Hayes Process regression macro within SPSS was used to test this Hypothesis. Results are provided within Table 6.10 and visualized in Figure 6.15.

There is not enough statistical evidence to support Hypothesis 13, as the test of a moderation effect of team cohesion on the relationship between IL and team coordination is non-significant. Although the R^2 for the moderated mediation model increases by .09 over the mediated model to .59 ($p < .01$), the conditional indirect effect of team cohesion is not significant as the upper and lower level 95% confidence intervals include zero. Overall, the model suggests that IL behavior has a significant and positive relationship with team coordination and a positive and significant relationship with team SIE. However, the mediating effect of IL on SIE through team coordination is non-significant. In addition, there is not enough evidence to support a moderating impact of team cohesion.

6.3 Post Hoc Analysis

As part of this dissertation, a post-hoc analysis was performed to investigate additional relationships that may exist between the variables. First, I investigated the possibility that IL impacted SI effectiveness indirectly through team commitment. This was not originally hypothesized as there is little theoretical evidence to suggest that IL behavior would impact team commitment. However, since it was the only relationship of the nine possible relationships between the three independent variables and three mediating variables included in this study, it seemed prudent to perform the analysis.

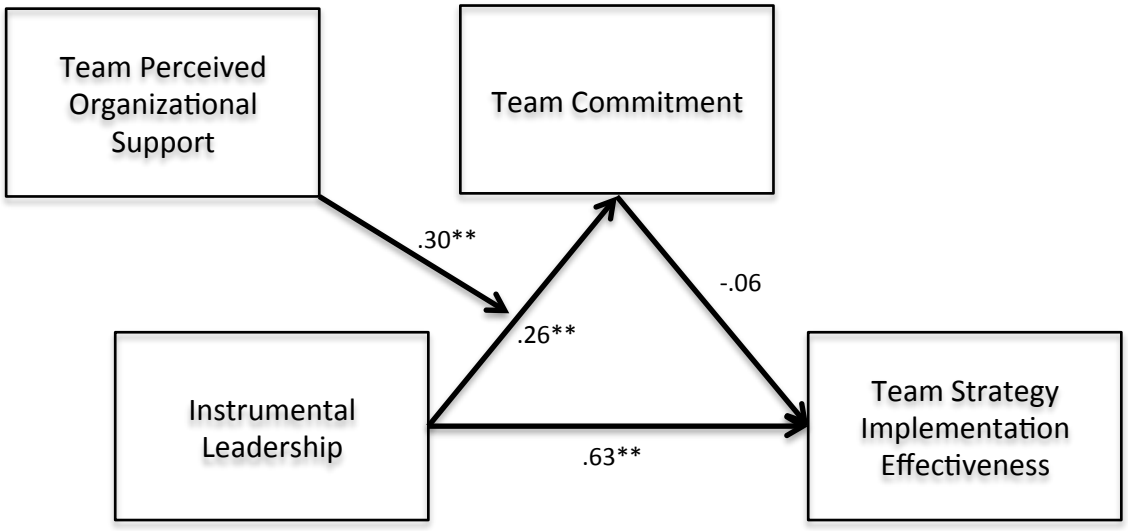
Results of the analysis are shown in Table 6.11. The indirect effect of IL on SIE through team commitment were not significant as the 95% confidence interval of IL on SIE through commitment included zero. In addition, I investigated the moderating impact of POS on the relationship between IL and COM and results are also shown in Table 6.11. In this case, the results were significant, as the interaction between IL and POS was positive and significant ($p = .048$). The additional test of moderated mediation is visualized in Figure 6.18 and a spotlight of the interaction effect at low (16^{th} percentile), medium (50^{th} percentile) and high (84^{th} percentile) levels of POS is shown in Figure 6.19.

Table 6.11. Post Hoc Analysis 1
Mediation and Moderated Mediation Estimates for Instrumental Leadership (IL), Team Commitment (COM), and Perceived Organizational Support (POS)

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
COM as DV					
Constant	2.27	.60	3.82	.000	
IL	.26	.11	2.43	**.020**	
Team size	.05	.02	2.35	**.024**	
Department Type	.18	.11	1.67	.103	
Team Interdependence	.09	.09	.95	.347	**.34****
Strategy Implementation Effectiveness (SIE) as DV					
Constant	1.16	.72	1.60	.117	
IL	.63	.12	5.36	**.000**	
COM	-.06	.17	-.36	.725	
Team size	.01	.02	.31	.756	
Department Type	.04	.12	.31	.761	
Team Interdependence	.16	.09	1.74	.090	**.49****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
IL on SIE	-.015	.060	-.111	.083	
Moderated mediation model					
COM as DV					
Constant	3.17	.42	7.59	**.000**	
IL	.25	.13	2.01	**.052**	
POS	.07	.09	.79	.437	
*IL * POS*	.30	.15	2.04	**.048**	
Team size	.04	.02	2.21	.033	
Department Type	.18	.11	1.67	.104	
Team Interdependence	.11	.09	1.21	.233	**.48****
Conditional indirect effects	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
Low POS	.026	.138	-.207	.259	
Medium POS	.235	.124	.027	.444	
High POS	.495	.200	.158	.832	
Index of moderated mediation	**Index**	**Boot SE**	***Boot LLCI***	***Boot ULCI***	
POS	-.017	.077	-.126	.118	**.49****

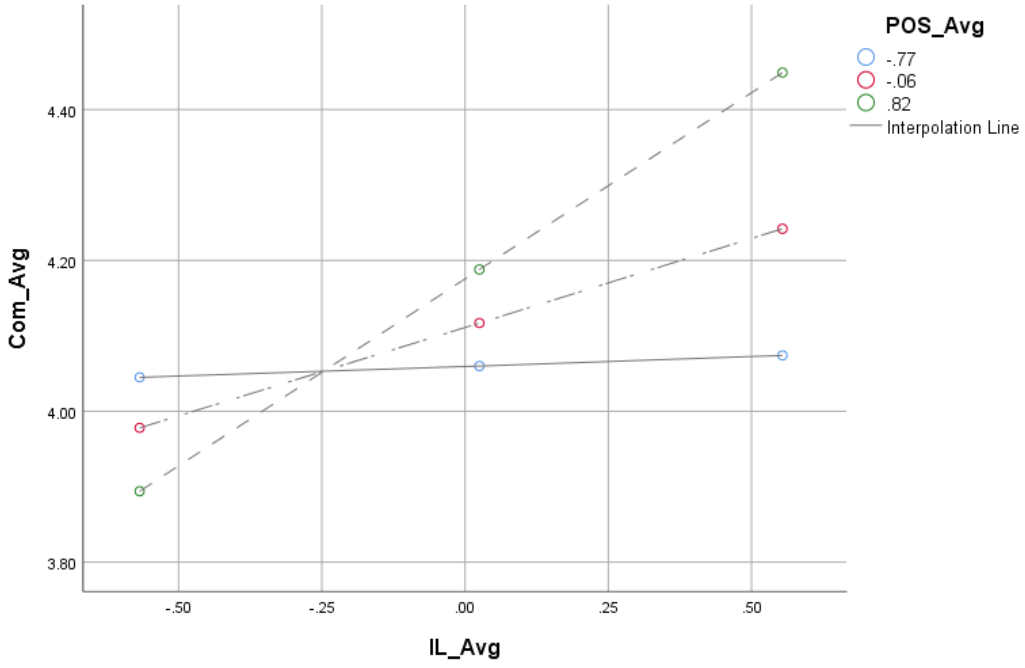
N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients. Moderator values of low, medium, and high are 16th, 50th, and 84th percentiles. Mean centering used for products.
* $p < .05$ ** $p < .01$

Figure 6.18. Visualization of Results from Post Hoc Analysis 1



** p<.05 * p<.10 (2-tailed)

Figure 6.19. Interaction Effect of IL and POS on Team Commitment



In addition, I investigated the indirect effect of middle manager TFL behavior on SIE through all three mediation variables (CAP, COM, and CRD) operating in parallel.

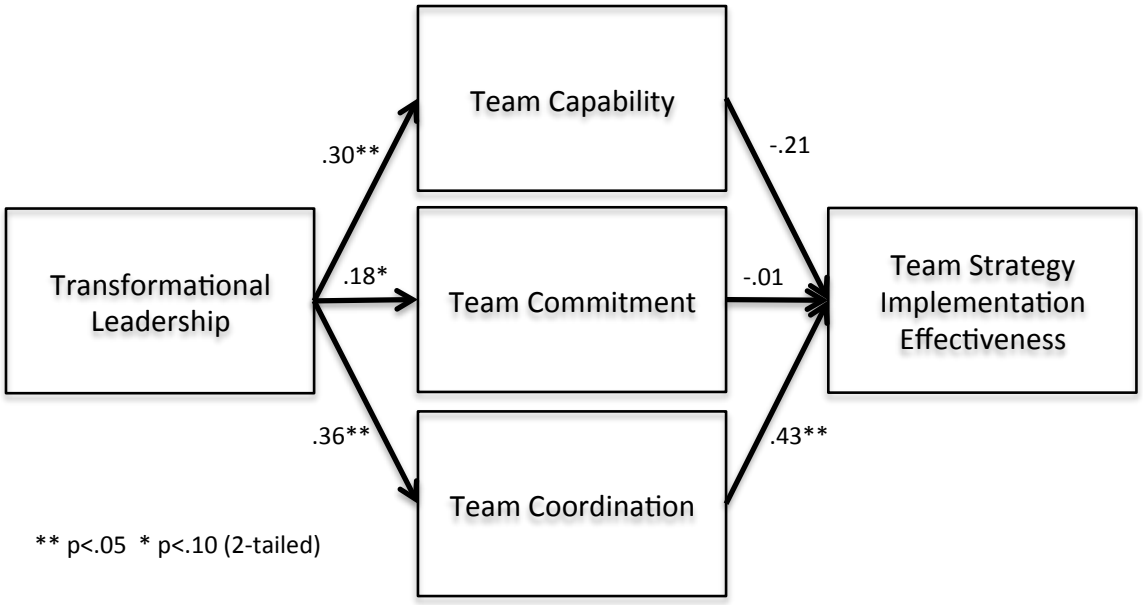
Results from the analysis are shown in Table 6.12 below and visualized in Figure 6.20. The results are in alignment with previous findings (H1 through H8) in that team capability and commitment were not found to have a significant mediation effect (the 95% confidence intervals include zero), but coordination was found to be a positive and significant mediator (p = .017 with the 95% confidence interval above zero). The R^2 of the model is significant (.48), however, the model as a whole is not significant as the 95% confidence interval of the total indirect effect includes zero.

Table 6.12. Post Hoc Analysis 2
Mediation Estimates for Indirect Effect of TFL on SIE through CAP, COM, and CRD Operating in Parallel.

Direct Effects	***Coefficient***	***SE***	***t***	***P***	***Model R^2***
Mediation Model					
Strategy Implementation Effectiveness (SIE) as DV					
Constant	1.02	.95	1.06	.295	
TFL	.38	.12	3.27	**.002**	
CAP	-.21	.20	-1.03	.310	
COM	-.01	.17	-.05	.960	
CRD	.43	.17	2.51	**.017**	
Team Size	.00	.02	.18	.857	
Department	-.06	.13	-.48	.632	
Team Interdependence	.21	.10	2.15	**.038**	**.48****
Indirect Effect	***Effect***	***Boot SE***	***Boot LLCI***	***Boot ULCI***	
TFL on SIE through CAP	-.063	.071	-.150	.073	
TFL on SIE through COM	-.002	.045	-.079	.071	
TFL on SIE through CRD	.154	.078	**.021**	**.274**	
Total	.089	.097	-.081	.246	

N = 44. DV = dependent variable. SE = standard error. Boot = 10,000 bootstrap samples. LLCI = bias corrected lower limit confidence interval (95%). ULCI = bias corrected upper limit confidence interval (95%). All path coefficients are reported as unstandardized OLS regression coefficients.
* p < .05 ** p < .01

Figure 6.20. Visualization of Results from Post Hoc Analysis 2



CHAPTER 7 - DISCUSSION

The objective of this dissertation was to extend management theory and practical understanding regarding the conditions of strategy implementation effectiveness, the impact of middle manager leadership on strategy implementation effectiveness through those conditions, and how various factors influence the relationship between leadership behaviors and the conditions. Sixteen hypotheses were developed around these research questions and data were gathered from Houston METRO transit District (METRO) in order to test the hypotheses. Results from the study are presented in Chapter 6. A summary of the findings regarding Hypothesis testing is presented in Table 7.1, followed by a discussion regarding the interpretation, contributions, and limitations of the research.

Table 7.1 Summary of Hypotheses Testing

Number	IV	Mediator	Moderator	Summary of Results
H1	TFL	CAP	-	Not supported: Indirect effect of TFL on SIE through CAP not significant but TFL found to have a significant and positive direct effect on CAP and SIE.
H2	TFL	COM	-	Not supported: Indirect effect of TFL on SIE through COM not significant but TFL found to have a significant and positive direct effect on COM and SIE. Team size found to have a significant and positive effect on COM.
H3	TFL	CRD	-	**Supported:** Indirect effect of TFL on SIE through CRD found to be significant. TFL found to have a significant and positive direct effect on CRD and SIE.
H4	CRL	CAP	-	Not supported: Indirect effect of CRL on SIE through CAP not significant but CRL found to have a significant and positive direct effect on CAP and SIE.
H5	CRL	CRD	-	**Supported:** Indirect effect of CRL on SIE through CRD found to be significant. CRL found to have a significant and positive direct effect on CRD and SIE.
H6	CRL	COM	-	Not supported: Indirect effect of CRL on SIE through COM not significant but CRL found to have a significant and positive direct effect on COM and SIE. Team size found to have a significant and positive effect on COM.
H7	IL	CAP	-	Not supported: Indirect effect of IL on SIE through CAP not significant but IL found to have a significant and positive direct effect on CAP and SIE.
H8	IL	CRD	-	Not supported: Indirect effect of IL on SIE through CRD not significant but IL found to have a significant and positive direct effect on CRD and SIE.
H9	TFL	COM	POS	**Marginally supported:** POS found to have a marginally significant moderating effect of TFL on COM.
H10	CRL	COM	POS	**Marginally supported:** POS found to have a marginally significant moderating effect of CRL on COM.
H11	TFL	CAP	CONS	Not supported: Moderation effect of CONS on TFL-CAP relationship not significant but CONS found to have a significant and positive direct effect on CAP.
H12	CRL	CAP	CONS	Not supported: Moderation effect of CONS on CRL-CAP relationship not significant but CONS found to have a significant and positive direct effect on CAP.
H13	IL	CAP	CONS	Not supported: Moderation effect of CONS on IL-CAP relationship not significant but CONS found to have a significant and positive direct effect on CAP.
H14	TFL	CRD	COH	Not supported: Moderation effect of COH on TFL-CRD relationship not significant but COH found to have a significant and positive direct effect on CRD.
H15	CRL	CRD	COH	Not supported: Moderation effect of COH on CRL-CRD relationship not significant but COH found to have a significant and positive direct effect on CRD.
H16	IL	CRD	COH	Not supported: Moderation effect of COH on IL-CRD relationship not significant but COH found to have a significant and positive direct effect on CRD.

IV = Independent Variable. Dependent variable for all hypotheses is team strategy implementation effectiveness (SIE). All hypotheses were positive in direction.

7.1 Interpretation of Findings

My first two research questions were, "What are the conditions of strategy implementation effectiveness?" and "What is the impact of middle manager leadership on SI effectiveness through the conditions of SI effectiveness?" An exhaustive review of the research literature on SI suggested that there were three conditions of SI effectiveness: the capability to implement strategy, the commitment to implement strategy, and coordination of work required to implement strategy effectively. In an effort to investigate their relationship to managerial actions and SI effectiveness, the three conditions were positioned as mediators within a model through which leadership behaviors influenced the SI effectiveness of teams during the process of implementation. Results of testing this portion of the model found that coordination of work within teams served as a positive and significant mediator between transformational and contingent reward middle manager leadership behaviors and SI effectiveness of teams.

Hypothesis 3 test results found that there was a positive, significant, and indirect effect of TFL on SI effectiveness through coordination and Hypothesis 5 test results found that there was a positive, significant, and indirect effect of CRL on SI effectiveness through coordination. In addition, team coordination was found to be significantly correlated with SI effectiveness ($r = .521$) as well as all three types of middle manager leadership behavior, TFL (.547), CRL (.529), and IL (.663). These findings suggest that the coordination of work within teams is a critical component of strategy implementation success and a key mechanism through which middle manager behavior influences implementation outcomes.

Although not hypothesized, the results also support the contention that middle manager leadership has a significant and direct influence on strategy implementation outcomes and the three conditions of SI effectiveness. Results from testing of Hypotheses 1, 2, and 3 found that TFL behavior has a positive and significant direct effect on SI effectiveness and a positive and significant effect on all three of the hypothesized conditions of SI effectiveness, capability, commitment, and coordination. Testing of Hypotheses 4, 5, and 6 found the same positive and significant relationships between CRL, SI effectiveness, and the three hypothesized conditions of SI effectiveness. Similarly, testing of Hypotheses 7 and 8, as well as post hoc testing of the indirect effect of IL on SIE through team commitment, found the same positive and significant relationships between IL, SI effectiveness, and the three hypothesized conditions of SI effectiveness. When analyzed as a whole, there is strong evidence to suggest that middle manager leadership matters a great deal in terms of team level implementation outcomes as attributes of all three types of TFL, CRL, and IL behavior having a significantly positive influence in a variety of ways.

This finding is reinforced by the fact that the source of data on SI effectiveness (gathered from top managers and peer team managers) was independent of the source data on leadership behaviors (gathered from team members). This rules out the possibility of single source bias involved in the results. However, the correlations between leadership types (all above .75), suggests that there may be a halo effect in terms of team member responses to leadership behavior. Either that, or, there is at least the impression that good leaders tend to embody elements of all three types of the leadership behaviors measured.

My third research question asked, "What factors influence the relationship between MM leadership and the conditions of SI effectiveness?" As part of this study, I tested three factors, positioned as moderators of the relationship between the three types of MM leadership behaviors tested and the three conditions of SI effectiveness tested. The results from testing of H9 and H10 found that one moderator, POS, had a marginally significant and positive impact ($p = .071$, 2-tailed) on the relationship between TFL and team commitment and a marginally significant and positive impact ($p = .100$, 2-tailed) on the relationship between CRL and team commitment. In addition, post hoc testing found that POS had a significant and positive impact ($p = .048$) on the relationship between IL and team commitment. These findings suggest that MM behavior and POS (team perceptions regarding "the extent to which the organization values their contributions and cares about their well-being" - Kurtessis et al., 2015, p.2), interact in a significant way to influence team commitment. Interaction effects show that when high TFL, CRL, and IL MM behaviors occur, commitment to strategy implementation is significantly stronger when POS is high than when it is low.

Another element that was found to significantly influence team commitment was team size, which was applied as a control variable in the study. Team size was included in the study to control for its possible negative impact on performance through potential issues such as social loafing (e.g. Alnuaimi et al., 2010) and social cohesion, but there is little regarding the direct relationship between team size and commitment. Thus it is an interesting finding that is difficult to explain. One possible reason is that larger teams may develop a stronger sense of camaraderie that translates into a stronger sense of commitment to executing team tasks. This potential phenomenon could also have a

curvilinear relationship; since this dissertation primarily involved teams of small to medium size, it did not capture the reduced commitment that might be associated with large teams.

7.2 Interpretation of Non-Findings.

In terms of research question one, the indirect effects of MM leadership behavior on SI effectiveness through two hypothesized conditions of SI effectiveness, team capability (CAP) and team commitment (COM), were found not to be significant. This is despite the findings that both CAP and COM were found to be significantly and positively correlated with SI effectiveness (r = .271 and .285 respectively) and all three types of leadership behavior tested, TFL, CRL, and IL, had a positive and significant effect on both CAP and COM. Thus, these results suggest that CAP and COM play an important role in SI effectiveness and have a significant relationship to MM TFL, CRL, and IL behaviors, but they do not represent mechanisms through which TFL, CRL, and IL impact SI effectiveness.

In terms of team capability, one possibility is that this particular case did not require a great deal of change in capability to execute. Unlike many SI efforts, that require employee training, additional equipment, new processes, etc., the new strategy at METRO was focused on service changes to the customer. Other than the bus drivers, who needed learn a new route, the work teams in METRO were primarily involved in support activities such as communicating the change to stakeholders, educating the public, preparing new signage and schedules, creating a phone application to help customers adjust to the new schedule, changing and updating bus stops, and managing the immense work of changing all the bus routes overnight, on one single day. Thus, leadership

behaviors that influence the coordination of such an effort might play a more important role than the actual capability of work teams to execute tasks that are largely unchanged from the prior strategy.

The particular type of strategy being implemented may also impact the level of commitment required. SI research suggests that employees at all levels need to be committed to the effort as well as top managers and MM in particular (e.g. Guth & MacMillan, 1986; Huy, 2011). Perhaps commitment at the team level is not as big a factor in terms of determining effectiveness, in particular in cases such as this, where managers are the primary participants in the SI decision making and planning processes and team members are responsible primarily for execution alone. Although MM leadership has a significant impact on team commitment, perhaps it is not as much of a driving force for SI effectiveness as coordination is, at least in this case.

In addition, the indirect effect of MM IL behavior on SI effectiveness through team coordination (CRD) was also found to be non-significant (H8). This is surprising given the significant results found for TFL and CRL (H3 and H5 respectively). However, a closer look at the statistics suggests that direct effects and correlations between IL and SI effectiveness might be impacting the result. Of the three types of MM leadership behavior analyzed, models that included IL had stronger direct regression coefficients with SI effectiveness than TFL or CRL. In addition, IL has a stronger direct correlation with SI effectiveness ($r = .481$) than TFL ($r = .459$) or CRL ($r = .311$). Given the strong direct link between IL and SI effectiveness perhaps there is not enough statistical power to find significance through an indirect effect of CRD. However, IL is more strongly correlated with coordination ($r = .663$) than capability ($r = .481$) or commitment ($r =$

.426) and results from model testing found a stronger regression coefficient between IL and coordination (.53) than between TFL and coordination (.36) and CRL and coordination (.33). These findings provide support regarding the importance of IL and CRD to SI effectiveness despite the non-significant result in regards to the indirect effect hypothesized in H8.

Additional non-significant results were found in relation to research question 3 regarding factors that influence the relationship between MM leadership behaviors and SI effectiveness. Specifically, team conscientiousness (CONS) was found not to significantly influence the relationship between TFL and CAP (H11), CRL and CAP (H12), and IL and CAP (H13). In addition, team social cohesion (COH) was found not to significantly influence the relationship between TFL and CRD (H11), CRL and CRD (H12), and IL and CRD (H13). However, in all of these cases, CONS was found to have a positive and significant direct effect on CAP and COH was found to have a positive and significant direct effect on CRD. In addition CONS and COH are significantly and positively correlated with all three types of leadership as well as SI effectiveness. This indicates that CONS and COH are an important part of the SI effectiveness puzzle but do not fit into the model as contingency factors that act as moderators between TFL, CRL, and IL leadership behaviors and hypothesized conditions of SI effectiveness, team CAP and team COM.

7.3 Implications for Research

This dissertation improves our understanding of SI and is the start of answering the call to contribute to both "comprehensive frameworks" and "focused models of key relationships" within the SI process (Yang et al., 2010). More specifically, I focus on five

key research implications. First, the research provides a bridge between macro and micro management disciplines and demonstrates how theories drawn from strategy, organizational theory, and organizational behavior contribute to our understanding of SI effectiveness. Leadership styles, as well as the moderating variables, team conscientiousness, perceived organizational support, and cohesion are all significantly related through correlation or regression analysis to more macro constructs such as team capability, commitment to strategy, coordination, and SI effectiveness. Such a bridge is important because it contributes to our macro understanding of the microfoundations of organizational level performance and shows that the impact of various types of leadership extends beyond the traditional dependent variables focused on individual motivations and satisfaction.

Second, this study contributes to the theoretical underpinnings of SI by identifying a key condition or mechanism of SI effectiveness, coordination. Defined as the "process of interaction that integrates a collective set of interdependent tasks" (Okhuysen & Bechky, 2009: p.463), coordination is a central purpose of organizations that often gets neglected because of lay theories that focus more on the division of labor than on integration (Heath & Staudenmayer, 2000). In addition to its strong correlation to a number of other constructs found to positively influence organizational performance, results show that coordination plays a positive and significant role in the indirect link between three prominent types of middle manager leadership behaviors and SI effectiveness. Thus, additional attention should be paid to how various leadership styles and paradigms impact the coordination of work by followers.

Third, although the study did not confirm all three hypothesized conditions of SI effectiveness, it provides evidence that begins to outline important elements of successful SI. In addition to the direct and indirect effects found to be significant through regression analysis, all of the following constructs are positively and significantly correlated with SI effectiveness: TFL, CRL, IL, CAP, COM, CRD, CONS, POS, and COH. Thus, the study results help outline key elements of successful SI that help clarify how it can be more effectively studied and measured independently of strategy and organizational performance. This is critical in terms of our understanding of how strategy and strategy implementation play vitally important but different roles in overall organizational performance.

Fourth, this dissertation expands our knowledge about the impact and importance of MM leadership in regards to SI effectiveness. As previously discussed, MM research to date has largely been limited to the investigation of MM influence over strategy formulation (e.g. Ahearne et al., 2014) and various factors that impact MM commitment to strategy (e.g. Huy, 2011). This dissertation expands the scope of MM influence by investigating and finding significant relationships between MM leadership behaviors and SI effectiveness. Although it has already been established that middle managers play an important role within the SI process by bridging the gap between strategy formulation and implementation (Floyd & Wooldridge, 1992b), this study provides some clarity as to how managerial actions translate into SI effectiveness, in particular by influencing the coordination of tasks required for implementation success.

Finally, the dissertation extends previous work on the concept of perceived organizational support (POS) in two ways. First, previous studies have primarily focused

on the relationship between POS and individual performance. This work provides evidence that the construct also plays an important role in terms of team level commitment. Second, results show that team motivation is significantly related to how POS interacts with MM leadership behavior. Thus, when investigating issues related to organizational commitment, both individual leadership factors and employee impressions of organizational support should be taken into account.

7.4 Implications for Managerial Practice

Strategy implementation is a complex process and many companies struggle to realize the potential value of the strategies they develop (Sull et al., 2015). My dissertation will help managers increase their rate of return through improved implementation effectiveness in several ways. First, results reinforce the importance of coordination within work teams. Applying the integrating elements of coordination identified by Okhuysen and Bechky (2009), managers should take actions to improve accountability, predictability, and common understanding within and between teams and departments in order to align tasks that support organizational strategy. Too often managers (and researchers) focus is on motivational alignment and commitment, and neglect the coordination of processes and tasks (Heath & Staudenmayer, 2000). As the data show, coordination is a critical component of SI effectiveness that should be given adequate time and attention.

Second, the results highlight the importance of MM leadership to SI effectiveness as an increase in behaviors consistent with transformational, contingent reward, and instrumental types of leadership styles all had a significant direct effect. This also shows that different styles of leadership can have a similar impact on implementation outcomes

and there are multiple leadership styles that can be effective in terms of getting SI results. That said, IL had the highest correlation with SI effectiveness and the highest regression coefficients with SI effectiveness within all of the models that were tested. This is logical given the pragmatic nature of the IL construct that is focused on the facilitation of group interaction and the accomplishment of task objectives (Fleishman et al., 1991). So, perhaps when it comes to actually getting things done, a greater focus should be put on leadership development that is less about intrinsic and extrinsic motivation, and more about characteristics of IL; initiating structure, allocating resources, and sensing what needs to be changed in order to achieve strategic goals (Antonakis & House, 2014).

A third implication for managers is that, when it comes to motivating employees to implement strategy, perceptions regarding organizational support is as important as supervisor leadership. This highlights the fact that effective SI requires a total organizational effort and the support, or lack thereof, provided by the organization and direct supervisors makes a difference in terms of motivation to carry out tasks that support organizational goals. Thus, sources of POS need to be developed in addition to individual leadership skills. This includes things like developing an overall climate of fairness, good job conditions, and organizational rewards for high performance (Rhoades & Eisenberger, 2002).

7.5 Limitations of the study

The first limitation of this study is that it was performed in only one organization, which impacts the external validity of the results. However, the advantage of research performed in a field setting is that conclusions are more generalizable than those drawn from laboratory studies or those performed using a sample of students. In addition, the

study was conducted in a public sector organization, which may have different performance expectations than private-sector organizations. However, the focus of this study was strategy implementation effectiveness, which, in this case involved improving customer service and increasing ridership. Goals such as these are comparable to private-sector organizational goals and results should be useful to private-sector firms.

A second limitation of the sample is that it included teams with varying levels of task interdependence. Although most teams indicated levels of interdependence above 4 on the 5-point scale, 8 of the 44 teams (18%) had task interdependence below 4, with one team having no interdependence of tasks. Since task interdependence is a key element of team dynamics and relevant to several of the measures included in this study (e.g. team cohesion), it is possible that some effects may be stronger if the study was limited to teams with only high levels of interdependence. Regardless, given the different level of task interdependence in this sample, this study could be considered a conservative test of the relationships under investigation.

The final limitation of the study is sample size. Given the number of variables tested (10), the sample size of 44 presents the possibility of low statistical power. A lack of power increases the probability of making Type II errors: reaching the wrong conclusion by accepting the null hypothesis when it should be rejected. Although every effort was made to recruit the maximum number of possible teams for this study, the sample was limited by the focus on middle managers (of which only 73 were identified to be eligible) and a required response rate of at least two team members from each team. Once again, the results could be considered to be conservative, as additional relationships may be found to be significant if tested upon a larger pool of participants.

7.6 Directions for Future Research

It could be argued that the process of strategy implementation is one of the most important aspects of organizational performance but also one of the least understood. Practitioners continue to rank it as one of the top issues they face and researchers struggle to describe it because its boundaries are so wide and there is no overarching theoretical framework to serve as a guide. This study was designed to begin to improve our understanding and will hopefully serve as a step in the right direction. However, there is much work left to do.

First, additional work needs to be done in terms of defining the theoretical conditions through which managerial actions influence SI effectiveness. This study found that coordination was a significant condition but found that capability and commitment were not significant conditions. As previously discussed, this may be because of the particular setting for this study. Perhaps the three conditions identified during the synthesis of the SI literature apply differently depending on the situation and the particular requirements of the SI effort. Additional empirical testing in a variety of settings may better explain the results.

Second, although not hypothesized in this study, additional factors such as team cohesion (COH) and conscientiousness (CONS) should be further investigated. The high correlations between these constructs and SI effectiveness (e.g. team conscientiousness and SI effectiveness were significantly correlated at .707) as well as between TFL, CRL, and IL as well as other factors like coordination, suggests that CONS and COH may play an important role in SI effectiveness. Additional theoretical models that include CONS

and COH need to be developed and tested in order to provide improved guidance to managers struggling to realize the benefits of their formulated strategies.

Third, this study provides a foundation for additional research to be done on the relationship between middle manager leadership and SI effectiveness. Results suggest an important connection that heretofore has not been explored. As part of that research it would be interesting to explore IL more deeply as its theoretical underpinnings speak most closely to the pragmatic, action oriented goals of SI and it was found to have a strong direct effect on SI effectiveness. As opposed to TFL and CRL, which have been studied extensively, there is a limited body of research around IL. Further work may help practicing managers improve SI effectiveness and have a far-reaching impact in terms of leadership training and development.

Finally, I encourage additional work that refines our definition and improves our understanding of organizational alignment. Within organizational strategy research, alignment is most frequently used to define the alignment of organizational strategy with environmental factors outside of the organization such as the level of competition or the rate of technological change (e.g. Miles and Snow, 1978; Powell, 1992). In terms of SI research, contingency theory based on the concept of "fit" is frequently applied and the word "alignment" is often used ubiquitously without clarity as to what exactly needs to be aligned and why. In general terms, it is applied as the fit between strategy, environment, structure, people, and processes (Galbraith & Nathanson, 1978), but details are lacking in terms of specific constructs. One possible avenue to improving our understanding of SI effectiveness is to derive and test key organizational processes or "conditions" that align the organization to effectively implement strategy. My hope is

that many of the elements included in this study can serve as a starting point for the development and improvement on how contingency theory is applied to SI, where the multidimensional and inter-disciplinary essence of the SI process is more precisely captured.

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Appendix A – The Abductive Process for the Development of Conditions of SI Effectiveness

As mentioned in the body of the dissertation, abduction is an approach to scientific reasoning for theory development in organization science (Mantere & Ketokivi, 2013) and refers to the development of logical explanations for the complex patterns that we observe (Van de Ven, 2007). "As a foundation for inquiry, abduction begins with an unmet expectation and works backward to invent a plausible world or a theory that would make the surprise meaningful" (Van Maanen, Sørensen & Mitchell, 2007: 1149). The abductive process for the generation of a framework of SI was performed with the assistance of a colleague who helped to independently identify and confirm the dimensions of SI effectiveness that emerged. Considering the breadth of existing SI literature, the abductive process enabled me to iteratively evaluate, combine, and recombine the findings into a meaningful theoretical model of relationships between different components of the strategy implementation process. This was done through three phases elaborated below.

Phase 1: Paper Selection

Given the broad and interdisciplinary nature of SI research, and to capture the contributions from the relevant disciplines, I adopted a systematic approach to identify a full range of academic and practitioner studies across a variety of disciplines beyond strategic management (Jones and Gatrell 2014). While I chose to include six books and book chapters authored by well-known SI researchers (Galbraith and Kazanjian 1986; Galbraith and Nathanson 1978; Hitt *et al.* 2017; Hrebiniak and Joyce 1984; Huber 2011;

Yang *et al.* 2010), my search focused on a comprehensive yet focused pool of peer-reviewed published work, as they provide the most credible source of validated knowledge (Podsakoff *et al.* 2005).

I searched for relevant papers using the databases ABI/INFORM Collection and EBSCOhost (including Business Source Complete and PsychINFO) to retrieve articles that included the phrases "strategy implementation" or "strategy execution" in their titles, abstracts, subjects, or keywords. The initial pool of studies was comprised of 1106 articles, from which 331 were identified to be directly relevant to strategy implementation. After comparing my resulting sample of articles with those identified in previous reviews of the strategy implementation literature (e.g., Noble 1999b; Yang *et al.* 2010), I identified authors with at least two articles and searched all the works by each of these authors to find additional sources related to SI. Finally, following accepted practice to ensure quality (e.g., Ott and Michailova 2016), I limited the final selection to the 208 articles published in journals that are ranked as A*, A, B, or C on Australian Business Deans Council (ABDC) journal quality list.

Phase 2: Descriptive Codification

The purpose of codification was to identify discrete factors that contribute to strategy implementation effectiveness. In this step, I enlisted the support of a colleague to independently review the content of the studies and book chapters in the final pool and code each of them based on research type, methodology, research findings, and conceptualization of SI. Based on the reviewed information, each author created an extensive list of factors found to contribute to SI effectiveness. Then, through discussion and reconciliation of discrepancies, the authors created a single master list of 128 factors

that served as the foundation for phase three.

Phase 3: Classification of Findings and Abduction

Phase 3 included two steps that were performed alternately and iteratively with two goals in mind: (1) To organize the factors identified in phase two into meaningful categories and sub-categories, and (2) to provide a meaningful explanation for relationships among the identified categories and sub-categories.

Categorization of the factors identified in phase two followed an iterative process of comparison and contrast (Glaser and Strauss 1967). At the end of each iteration, I reevaluated the derived categories to narrow down the number of distinct categories and sub-categories. Ultimately, this process revealed three broad categories (hereafter referred to as dimensions) as well as several subcategories (hereafter referred to as components) that captured and organized all of the factors identified in phase two.

The categorization was performed in conjunction with an abductive process that provided meaningful explanation for relationships among the dimensions and components as they were being developed. The final model that emerged is comprised of three dimensions: mechanisms, conditions, and dynamic managerial capabilities. Mechanisms capture the actions, behaviors, arrangements, and tools through which managers can influence the process of strategy implementation. The two subcategories of mechanisms are structural and relational. The second dimension of the model, conditions, are emergent states required for SI to be effective. The three subcategories of conditions are capability, commitment, and coordination. Finally, the third dimension of the model captures the underlying managerial capabilities required for SI effectiveness. This dimension relates to overall organizational capability to implement and is outside the

boundary conditions of this dissertation.

In a working paper entitled, "Strategy Implementation: An Integrative Framework," (Tawse and Tabesh, 2017), my co-author and I elaborate on the details of each dimension and provide theoretical support for the relationships among components within the three dimensions. Of significance to the boundaries of this dissertation, the three conditions of effective SI are positioned as mediators between the mechanisms of SI (which includes leadership behaviors) and SI effectiveness. Although explicit identification of environmental contingencies was outside the scope of the research, we acknowledge and provide support for the existence of many types of contingencies that influence the relationship between mechanisms and conditions. Given the level of analysis in this dissertation, three contingencies that might influence the relationship between leadership mechanisms and team level conditions are taken into account.