

© 2013

Hao-hsuan Chiu

ALL RIGHTS RESERVED

MANAGERS' INFLUENCE TACTICS AND INNOVATION IMPLEMENTATION
EFFECTIVENESS: EFFECTS OF USERS' CHARACTERISTICS AND
INNOVAITON ATTRIBUTES

By

HAO-HSUAN CHIU

A Dissertation submitted to the
Graduate School-Newark
Rutgers, The State University of New Jersey
in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

Graduate Program in Management

written under the direction of

Dr. Fariborz Damanpour

and approved by

Newark, New Jersey

May, 2013

ABSTRACT OF THE DISSERTATION

MANAGERS' INFLUENCE TACTICS AND INNOVATION IMPLEMENTATION

EFFECTIVENESS: EFFECTS OF USERS' CHARACTERISTICS AND

INNOVAITON ATTRIBUTES

By HAO-HSUAN CHIU

Dissertation Director:

Dr. Fariborz Damanpour

Innovations are expected to bring many benefits to organizations. However, unless an innovation is implemented successfully, its intended benefits will not be realized. Successful implementation requires users' acceptance and use of the innovation adopted by the organization. Managers have been proven to be a critical factor affecting innovation implementation success; however, how managers could influence innovation implementation effectiveness has not been probed adequately in the innovation literature.

This study examined the effect of influence strategies used by managers on innovation implementation effectiveness and further explored the role of innovation attributes and users' characteristics in the influence process. Therefore, this study tried to investigate three research questions: (1) how do different influence strategies used by managers impact innovation implementation effectiveness; (2) how do users' perceived innovation attributes affect the effectiveness of managers' influence strategies; and (3) what is the impact of users' characteristics on the effectiveness of influence strategies? Three hundred and one employees from two Taiwanese companies that adopted knowledge management systems (KMS) participated in this study. The results showed

that the managers' persuasive strategy was positively related to both users' attitude toward using KMS and their actual usage, while the relationship-based strategy was negatively related to both users' attitude and their usage. Managers' use of the assertive strategy only resulted in users' negative attitude toward using KMS, but had no effect on the actual usage. Both relative advantage and complexity mediated the relationship between influence strategies and innovation implementation effectiveness. Users' intrinsic motivation resulted in users' positive attitude, but had an effect on users' usage. Users' extrinsic motivation had no effects in prediction either users' attitude or usage. Users' power distance orientation had no effect on either users' attitude or users' usage, but positively moderated the relationship between influence strategies and users' usage.

Preface

Acknowledgements

It has been a challenging yet rewarding journey. There are countless people who supported me throughout the doctorate program and I want to thank them all.

In particular, I want to thank my family members for their unconditional love and support. They were always there for me, no matter what happened. Even though I do not have the privilege to see them often, the physical distance does not change how much they care about me. Thank you, daddy, mommy, Hao-yu, Ching-guo, Chuang-wei, Abby, and Andrea.

I thank my committee members who guided me in the dissertation process. I started working with Dr. Fariborz Damanpour the first year I was at Rutgers Business School. He provided assistance in everyway he could throughout the doctorate program and played a vital role in my dissertation. I cannot thank him any more for his kindness, patience and tolerance. Dr. Chao Chen was always there to clarify my thoughts and provided insight to me whenever I was lost and confused. Dr. Gary Yukl challenged my theorization and helped me to examine issues from various perspectives. Dr. Terri Kurtzberg reminded me that it is important to look at the bigger picture in telling a good story.

Needless to say, there are many other people who assisted me in the dissertation process. Technology Management Research Center generously provided funding to my dissertation; Dr. P. P. Fu and Dr. Melody Chong shared their insights in conducting research in China and Taiwan; Simon Shen, Donald Weng, Sam Huang, H. C. Lin, Vincent Ni, Debbie Chung, P. L. Sun, and Sharon Lin helped me to distribute the

questionnaire; numerous friends who helped me translate and back-translate the questionnaire as well as gave me valuable feedback. I sincerely thank them.

Lastly, I would like to express my gratitude to those who gave me emotional support over the years: Eva Liao, Michelle Tu, Marina Pai, Snow Wang, Ken Chung, Justin Kraemer, Jun Li, Jasmine Pu, Jeannie Lin, Shengsheng Huang, Ranfeng Qiu, Grace Dewi, Dawn Gist, and many others. I feel fortunate to have all of you in my life.

TABLE OF CONTENT

Abstract	ii
Acknowledgement	iv
List of figures	viii
List of tables	ix
 1. Introduction	 1
2. Innovation Implementation Effectiveness	7
2.1 Phases of Innovation Adoption	7
2.2 Implementation Effectiveness	10
3. Antecedents of Implementation Effectiveness	13
3.1 Middle Manager	13
3.2 Influence Strategies	14
3.2.1 Antecedents of influence tactics	18
3.2.2 Persuasive Strategy	20
3.2.3 Assertive Strategy	23
3.2.4 Relationship-based Strategy	24
4. Innovation Attributes	27
4.1 Relative advantage	29
4.2 Complexity	30
5. Individual Characteristics	32
5.1 Intrinsic Motivation	34
5.2 Extrinsic Motivation	35
5.3 Power Distance Orientation	36
6. Methods	38
6.1 Knowledge Management Systems	38
6.2 Sample	40
6.3 Measures	42
6.3.1 Implementation Effectiveness	42
6.3.2 Influence Strategies	45
6.3.3 Innovation Attributes	47
6.3.4 Individual Characteristics	48
6.3.5 Control Variables	49
6.4 Detecting Common Method Biases	50
7. Results	51
7.1 All samples	52
7.2 EleCom only	56
7.3 TeleCom only	58

8. Discussion	58
8.1 Practical Implication	63
8.2 Limitation and Future Research	65
Reference	68
Vita	114

LIST OF FIGURES

FIGURE 1: Theoretical model	77
FIGURE 2: Operational model	78
FIGURE 3: Relative advantage as a mediator between influence strategies and users' attitude (all samples)	79
FIGURE 4: Complexity as a mediator between influence strategies and users' attitude (all samples)	80
FIGURE 5: Complexity as a mediator between influence strategies and users' usage (all samples)	81
FIGURE 6: Relative advantage as a mediator between influence strategies and users' attitude (EleCom only)	82
FIGURE 7: Complexity as a mediator between influence strategies and users' attitude (EleCom only)	83
FIGURE 8: Relative advantage as a mediator between influence strategies and users' attitude (TeleCom only)	84

LIST OF TABLES

TABLE 1: Definition of influence strategies	85
TABLE 2: Results of the factor analysis of employees' attitude	86
TABLE 3: Results of factor analysis of all items measuring influence tactics	87
TABLE 4: Results of Factor Analysis after deleting item 11	88
TABLE 5: Results of Factor Analysis after deleting item 11 and 12	89
TABLE 6: Results of factor analysis after deleting item 11, 12, 15 and 16	90
TABLE 7: Results of the factor analysis of innovation attributes	92
TABLE 8: Final results of the factor analysis of innovation attributes	93
TABLE 9: Original results of the factor analysis of all individual variables	94
TABLE 10: Final results of the factor analysis of all individual variables	95
TABLE 11: Descriptive statistics and correlation matrix using all samples	96
TABLE 12: Descriptive statistics and correlation matrix using EleCom	97
TABLE 13: Descriptive statistics and correlation matrix using TeleCom	98
TABLE 14: Regression results of influence strategies and individual characteristics (all samples)	99
TABLE 15: Regression results of influence strategies and individual characteristics (EleCom only)	100
TABLE 16: Regression results of influence strategies and individual characteristics (TeleCom only)	101
TABLE 17: Mediation model Summary, relative advantage as the mediator between influence strategies and users' attitude (all samples)	102
TABLE 18: Report of indirect effect through relative advantage (all samples)	103
TABLE 19: Mediation model summary, complexity as the mediator between influence strategies and users' attitude (all samples)	104
TABLE 20: Report of indirect effect through complexity (all samples)	105
TABLE 21: Mediation model summary, complexity as the mediator between influence strategies and users' usage (all samples)	106
TABLE 22: Report of indirect effect through complexity (all samples)	107
TABLE 23: Mediation model summary, relative advantage as the mediator between influence strategies and users' attitude (EleCom only)	108
TABLE 24: Report of indirect effect through relative advantage (EleCom only)	109
TABLE 25: Mediation model summary, complexity as the mediator between influence strategies and users' attitude (EleCom only)	110
TABLE 26: Report of indirect effect through complexity (EleCom only)	111
TABLE 27: Mediation model summary, relative advantage as the mediator between influence strategies and users' attitude (TeleCom only)	112
TABLE 28: Report of indirect effect through relative advantage (TeleCom only)	113

1. INTRODUCTION

Innovations are expected to bring many benefits to organizations. However, unless an innovation is implemented successfully, its intended benefits will not be realized. Following an organization's decision to adopt an innovation, the implementation phase starts. Implementing an innovation effectively requires an organization's members or users of the innovation to accept and use the innovation accordingly. This means that, even though the adoption decision has been made at a higher level, individuals lower down in the organizational hierarchy will also make their own decisions in adopting the innovation (Leonard-Barton, 1988). In other words, users' attitudes toward the innovation will have an impact on the implementation outcome. It follows that factors affecting users' attitudes and behaviors will be critical to the effectiveness of innovation implementation.

In an organizational setting, factors such as organizational structure, available resources, organizational culture and/or climate, support systems, and implementation tactics are believed to influence the effectiveness of innovation implementation (Choi, 2004; Choi & Chang, 2009; Holahan, Aronson, Jurkat, & Schoorman, 2004; Jung, Chow, & Wu, 2003; Ke & Wei, 2008; Klein & Sorra, 1996; Miller, 1997; Nemanich & Keller, 2007). Even though not explicitly mentioned in most studies, managers play a critical role in this process because they are the ones who set up organizational structure, allocate resources, create organizational culture and/or climate, and decide how to implement innovations. Therefore, managerial influence has been identified as one of the critical factors in the implementation of innovation (Angle & Van de Ven, 1989; Klein, Conn, & Sorra, 2001; Leonard-Barton, 1988; Leonard-Barton & Deschamps, 1988; Nutt, 1986).

However, the way in which managers influence users' attitudes and behaviors has not been given the attention it deserves in the innovation literature. Especially, the influence of middle managers who actually carry out implementation and are structurally closer to the innovation's end users has not been researched. It seems logical to assume that their actions will have a larger impact on end users' perceptions of the innovation than that of top managers, who have been studied more. This study, therefore, will focus on middle managers and examine their influence on end users in the implementation of innovation.

The study of the influence tactics used by managers provides a plausible perspective from which to examine how managers influence their subordinates in innovation implementation. Types of managerial behaviors used to exert influence on employees are called *influence tactics*. Building on the exploratory study by Kipnis, Schmidt, and Wilkinson (1980) and drawing on the leadership literature, Yukl and colleagues developed a taxonomy comprised of eleven influence tactics: rational persuasion, consultation, inspirational appeal, collaboration, apprising, ingratiation, exchange, personal appeal, legitimating, pressure, and coalition (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl, Chavez, & Seicert, 2005; Yukl, Guinan, & Sottolano, 1995; Yukl, Kim, & Falbe, 1996; Yukl, Seifert, & Chavez, 2008; Yukl & Tracey, 1992). Both Kipnis et al. (1980) and Yukl and Falbe (1990) analyzed the influence incidents provided by respondents in order to come up with their taxonomies, and they further developed questionnaires to measure the influence tactics used.

Nonetheless, most studies identifying influence tactics were conducted in western countries, mainly the United States. In order to further explore influence tactics used in

other countries/cultures, Fu and colleagues (Fu et al., 2004a; Fu, Peng, Kennedy, & Yukl, 2004b; Fu & Yukl, 2000) conducted a series of studies in Chinese society and identified some tactics that used more often than the western society, including socializing, gift giving, informal engagement, use of written documentation, and persistence. As the list of influence tactics grew, scholars developed a metacategory of influence tactics, or influence strategies, by conducting a factor analysis (Berson & Sonsik, 2007; Fu et al., 2004a; Fu et al., 2004b; Fu & Yukl, 2000; Furst & Cable, 2008; Kipnis & Schmidt, 1985; Van Knippenberg, Van Eijbergen, & Wilke, 1999; Van Knippenberg, Van Knippenberg, Blaauw, & Vermunt, 1999; Van Knippenberg & Steensma, 2003).

In addition to identifying the influence tactics that managers use, it is important to evaluate the consequence of influence tactics. However, there are limited studies to meet this research need. Among exceptions, Yukl and colleagues (Falbe & Yukl, 1992; Yukl et al., 2005; Yukl et al., 2008) examined the relative effectiveness of the influence tactics by asking respondents to provide the reactions of the “targets,” i.e., those on whom the influence tactics were used. However, research on the results of influence tactics has primarily measured the effectiveness of influence tactics in general and has not explored that effectiveness in specific contexts or for specific tasks.

This study intends to fill this research need by examining the effectiveness of the influence tactics used by middle managers in the context of the implementation of innovation. The effectiveness of influence tactics will measure the users’ reactions to the request to use the innovation. In this study, the term “manager” will be used to represent both middle managers and team leaders, who try to influence their subordinates in using

the innovation. The term “user” will be used to represent subordinates who are the targets of managers’ influence tactics.

Nonetheless, the effectiveness of managers’ influence behaviors does not depend on influence tactics alone. There are other factors that will have an impact on the effectiveness of influence tactics, such as the characteristics and skills of the agent, the person who is exerting influence (Castro, Douglas, Hochwarter, Ferris, & Frink, 2003; Kolodinsky, Treadway, & Ferris, 2007) or the relationship between the agent and the target, the recipient of the influence, (Furst & Cable, 2008; Sparrowe, Soetjito, & Kraimer, 2006; Treadway, Ferris, Duke, Adams, & Thatcher, 2007), or the organizational culture (Robbins & Judge, 2010). However, little emphasis has been given to characteristics of targets and how individual differences in targets will affect the results of the influence attempts.

What is even rarer in the study of influence tactics is the nature of the request the agent makes. It is essential to explore the effect of the request because the targets are expected not only to respond to the agents’ influence behaviors, but also to respond to the request itself. The content of the request, such as the objective of the request (Kipnis et al, 1980; Yukl & Tracey 1992) and the importance of the task (Yukl, Kim, & Chavez, 1999), has been confirmed to have an impact on the agents’ choice of influence tactics. However, such impact has not been explored from the targets’ perspective. In the current study, the agent refers to managers, while the target refers to users, and the request that managers make is asking users to adopt or use the innovation implemented within the organization.

In the innovation implementation context, managers try to influence users to adopt and use the innovation. Therefore, users are expected to evaluate the content of such request by evaluating innovation attributes. This study examines the role of two attributes: relative advantage, and complexity. The selected attributes are not only the most studied attributes, but also represent some common questions any user might ask when he/she encounters something new: Is it better ? Is it difficult? Answers to these questions will have an impact on how users perceive the innovation itself. In this regard, it is reasonable to assume that innovation attributes will influence the effectiveness of a manager's influence tactics.

Furthermore, individuals are influenced by their environment, that is, the context matters. Managerial behaviors may set the context, but different individuals may react differently to it. The same tactic may have different results on different subordinates. Yet, only a few studies have tried to examine the interaction of the context and individual differences in the innovation literature. Leonard-Barton and Deschamps (1988) investigated the interaction between perceived managerial behavior and employee characteristics in promoting the use of innovations. Specifically, they proposed a model in which users' individual characteristics mediated the relationship between perceived managerial behavior about the innovation and users' adoption decision after controlling for environmental factors.

Choi and colleagues (2004, 2009) found both mediation and moderation effects between institutional factors and individual factors. That is, in some cases, individual differences mediated the relationship between contextual factors and the innovation-use behavior. In other cases, however, the contextual factors moderated the relationship

between individual factors and the innovation-use behavior. These results not only demonstrate the complexity of the interaction between the contextual variables and individual variables, but also indicate the necessity that future implementation research should take account of characteristics of both the individual and the context. This study will explore the role of the characteristics of individual users as a moderator of the effect of managers' influence tactics on innovation implementation effectiveness.

This study will make contributions to both innovation literature and leadership literature by examining the complex process of effective implementation of innovation in organizations. The theoretical model is displayed in Figure 1, and the operational model is depicted in Figure 2. Three research questions will be investigated. First, how do different influence strategies used by managers impact upon innovation implementation effectiveness? Second, how do users' perceived innovation attributes affect the effectiveness of managers' influence strategies? And third, how do users' characteristics affect the effectiveness of each influence strategy?

The rest of this study is structured as follows. I define innovation, describe the phases of the innovation process, and articulate the innovation implementation effectiveness. A set of hypotheses about the impact of the influence strategies used by managers on implementation effectiveness will then be proposed. This will be followed by sections on the role of innovation attributes as well as users' individual characteristics in the innovation implementation phase. Results of the study will then be presented and the discussion of the results and the limitations of the study will be the last section of this study.

2. INNOVATION IMPLEMENTATION EFFECTIVENESS

2.1 Phases of Innovation Adoption

Innovation has been recognized as a major strategy for organizational renewal, growth, and effectiveness, and as the solution to many organizational problems (Danneels, 2002; Roberts & Amit, 2003; Real & Poole, 2005). Innovation is a complex construct, which has been studied from multiple perspectives at different levels of analysis by scholars from a variety of academic disciplines. Rogers (2003) defined innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (p. 12). Organizations adopt innovations because they hope to see dramatic improvement in performance or efficiency by doing something new or different. However, fewer than half the organizations that adopt innovations ever enjoy the expected benefits (Klein & Knight, 2005; Klein & Sorra, 1996; Real & Poole, 2005). The main reason is that it is not sufficient for an organization to adopt an innovation; successful implementation is the key to the innovation’s effectiveness. Therefore, scholars cite the ineffectiveness of the implementation process, rather than the ineffectiveness of innovation per se, as the cause of the high failure rate (Klein & Knight, 2005; Klein & Sorra, 1996; Real & Poole, 2005).

The process of adopting innovations in organizations has been divided into different stages by different scholars (Damanpour & Schneider, 2006; Gopalakrishnan & Damanpour, 1994; Wolfe, 1994). For example, Hage and Aiken (1970) divide the process into evaluation, initiation, implementation, and routinization stages; Klein and Sorra (1996) into awareness, selection, adoption, implementation, and routinization stages; Zaltman, Duncan, and Holbek (1973) into knowledge awareness, attitudes formation,

decision, initial implementation, and sustained implementation stages; Rogers (2003) into agenda setting, matching, redefining/restructuring, clarifying, and routinizing stages; Angle and Van de Ven (2000) into initiation, development, implementation, and routinization stages; and Cooper and Zmud (1990) into initiation, adoption, adaptation, acceptance, routinization, and infusion stages.

Tornatzky and Fleischer (1990) argued that innovation stages are different for their development and use in organizations. In this regard, while the development-based stage model includes basic research, applied research, development, testing or evaluating, manufacturing or packaging, and marketing or dissemination; the use-based stage model is divided into awareness-problems, matching-selection, adoption-commitment, implementation, and routinization stages. Kanter (1988) proposed a way to divide the innovation process into tasks rather than stages; given the fact that the innovation process is uncertain and dynamic, sometimes these tasks are accomplished in sequence—in stages—but sometimes they overlap. The tasks that Kanter proposed are idea generation and innovation activation, coalition building, idea realization and innovation production, and transfer and diffusion.

Although there are different ways of classifying the innovation process, since this study focuses on the implementation of innovation, I rely on the use-based perspective and I group the innovation process into three distinct phases—initiation, adoption, and implementation. Initiation is the phase in which an organization's members recognize new opportunities or needs (Kanter, 1988; Angle & Van de Ven, 2000). For the product or process innovation, the innovation process might be initiated when some organization members start to become aware and appreciate changing needs and/or demands from

their customers (Kanter, 1988). In other instances, innovation is triggered by “shocks,” either from internal or external sources. This occurs when individuals have become so dissatisfied with the status quo that they try something new (Angle & Van de Ven, 2000).

Adoption refers to an organization’s decision to select and/or acquire an innovation. In this stage, organizations research and evaluate all possible solutions to the needs and opportunities and select the proper solution to the problems they are facing. The organization then decides which action to take and allocates the necessary resources to taking that action. Even though the innovation might be evaluated from multiple sources within an organization, and various roles have been identified in the process (Howell & Higgins, 1990; Meyer & Goes, 1988), it is usually the top-level management that makes the final adoption decision.

After the organization decides to adopt an innovation, the implementation phase begins. In implementation, organizations put ideas, processes, and visions to work and begin using the innovation. “Users” are those who respond to the organization’s adoption decision, and the aggregate of users’ responses will determine the fate of the innovation (Leonard-Barton, 1988). Activities, such as feedback and adjustments, are expected to emerge in this stage in order to allow the innovation to be integrated into business activities (Zhu, Kraemer, & Xu, 2006). In order to benefit from innovation, organizational members have to become skillful, committed, and continuous in using the innovation. Implementation, ultimately, determines the success of innovation (Real & Poole, 2005). Given the fact already mentioned, that implementation failure, rather than innovation failure prevents organizations from benefiting from the innovations they have

adopted, innovation scholars have sought to understand the factors that contribute to the success and the failure of implementation.

For example, Klein and Ralls (1995) identified nine factors that were repeatedly identified as influencing the success of technology implementation. These nine factors include training, user support, time to experiment with the new technology, top management support, user involvement, rewards, job security, intergroup cooperation, and technology quality and availability. Factors such as training, user support, and time to experiment with new technology are important for users to acquire related knowledge. These factors give users the opportunity to learn the technology and therefore contribute to the success of implementation. On the other hand, top management support, user involvement, rewards, and job security are critical to user acceptance of the new technology because they influence users' motivation to use it. Miller (1997) examined eleven decisions, made by six organizations, and found that four factors appeared to be critical for the successful management of implementation: backing (favorable influence patterns for implementation), accessibility (precision of the evaluation criteria for implementation success), specificity (precision of implementation tasks and activities decided beforehand), and conducive climate (an organizational culture supporting the process of implementation).

2.2 Implementation Effectiveness

Innovation scholars have used various criteria to measure implementation effectiveness at both the individual and the organizational levels (Klein & Ralls, 1995; Real & Poole, 2005). At the organizational level, the first criterion used to measure the success of the innovation is organizational performance. Since the main reason for any

organization to adopt an innovation is to increase its efficiency and effectiveness, it makes sense that the way an organization performs after adopting an innovation should be a criterion for measuring that innovation's success.

Some scholars have used the extent to which an innovation is used as the criterion for its success (Real & Poole, 2005). The more an innovation's features and modules are used, or the more often end users use the innovation in their jobs, indicates a more successful implementation. Other scholars find the criterion for success in whether an organization's practices change due to the adoption of an innovation—that is, implementation success is the degree of an innovation's integration into an organization's procedures and practices. The more highly integrated into existing organizational practices an innovation becomes, the more an organization's implementation process is deemed successful.

At the individual level, implementation effectiveness may be examined via two aspects: the user's attitudes and beliefs (acceptance) and the user's use of innovation (usage). Users are expected to form either positive or negative attitudes toward the innovation being implemented—that is, they either accept (use) or reject (do not use) the focal innovation. After managers make the decision to adopt an innovation, end users also make their own adoption decision—that is, they regard the organization's adoption decision as either voluntary or mandatory.

The Technology Acceptance Model (TAM) is used extensively to examine user acceptance of computerized technology. Although the computerized technology modeled is not necessarily an innovation (since it need not be new to the adopting organization), the findings of the TAM still can help in understanding the factors that make e-users or

innovation recipients accept an innovation. The TAM, which was adapted from the Theory of Reasoned Action (TRA), posits that the innovation's perceived usefulness and ease of use are the two factors that most heavily influence the user's intention to use the focal technology. The users' intention shapes their behavior (Davis, 1989; Davis et al., 1989). Factors that influence users' perceptions of technology include contextual factors such as management commitment, social norms, and facilitating conditions, and personal factors such as intrinsic motivation, gender, age, and experience (Lewis, Agarwal, & Sambamurthy, 2003; Sabherwal, Jeyaraj, & Chowa, 2006; Venkatesh, 1999; Venkatesh & Davis, 2000; Venkatesh, Morris, Davis, & Davis, 2003). In addition, users' satisfaction, emotional response to innovation, and commitment affect users' attitudes toward innovation, which in turn, influence implementation effectiveness. For example, user satisfaction has been employed in several studies as a measure of implementation success (Sabherwal et al., 2006; Sharma & Yetton, 2003). Moreover, Klein et al. (2001) examined plant members' enthusiasm about the manufacturing resource planning system (MRP II) as one of the indicators of implementation effectiveness.

Implementation effectiveness can also be examined in terms of users' behavior, and the most common measure for such behavior is usage. Usage can be measured in different ways, including decision to use (binary measure, yes or no), extent of use (number of features used), duration of use (time-related measurement), frequency of use, and the extent of use (discovery of ways to use the features beyond the uses prescribed by the organization) (Burton-Jones & Straub, 2006.; Davis et al., 1989; Holahan et al., 2004; Igbaria, Zintelli, Cragg, & Cavaye, 1997; Jasperson et al., 2005; Klein et al., 2001; Sabherwal et al., 2006; Sharma & Yetton, 2003; Venkatesh et al., 2003). Usually, the

more features used, and the longer and more frequently the innovation is used, the more successful the innovation implementation process will be. In this study, innovation implementation effectiveness will be measured based on both attitude (what users feel and think about the innovation) and behavior (what users actually do).

3. ANTECEDENTS OF IMPLEMENTATION EFFECTIVENESS

3.1 Middle Managers

According to Huy (2001, 2002), middle managers are managers two levels below the CEO and one level above line workers and professionals. Compared with top managers, middle managers have to face a more complex environment because they have to remain aware of both upward and downward pressures, and most of the time they have pressure from their peers as well. In other words, middle managers play multiple roles within an organization as subordinates, equals, and supervisors (Uyterhoeven, 1989). Because of their multiple roles, the tasks they carry out are diverse. They might serve as a think tank for top managers by synthesizing information or championing alternatives. They might also help top managers facilitate the implementation of deliberate strategies (Floyd & Wooldridge, 1992). One of the most important abilities they need in order to meet such role expectations is the ability to translate goals to action and action to measurement (Uyterhoeven, 1989). In other words, both their interpretation and operationalization of strategic goals are critical to the success of their actions.

Even though managerial influence has been identified as a critical factor in the implementation of innovation (Angle & Van de Ven, 1989; Klein et al., 2001; Leonard-Barton, 1988; Leonard-Barton & Deschamps, 1988; Nutt, 1986), the role of middle

managers is usually overlooked. With few exceptions (Kanter, 1984, 2004; Leonard-Barton and Deschamps, 1988), it is always top managers that get the attention of innovation scholars. Top managers are believed to influence the decision of individual organization members whether or not to adopt innovations by creating different implementation policies and practices that further shape the organization's implementation climate (Klein & Sorra, 1996; Klein et al., 2001). Nonetheless, the people who carry out these implementation policies and practices, and the way in which they are carried out within an organization, are seldom mentioned in this line of research. Because of their role as strategy implementers, middle managers are usually the ones who are responsible for the successful implementation of an innovation within an organization. As such, middle managers, rather than top managers, will be the focus of this study.

3.2 Influence Strategies

Leadership has long been an exciting subject in the management research. Scholars have examined leadership from various perspectives. Early theorists focused on the trait theories that try to make connections between the characteristics of a leader and organizational outcomes. In other words, researchers who believed in the trait theories tried to examine whether leaders with certain traits would be more effective than those who do not possess such traits. However, findings from early research were not consistent in that a long list of traits has been generated but only a few of them are similar across studies. In addition, results showed that traits are better predictors of leader emergence than of leader effectiveness (Robbins & Judge, 2010).

The unsatisfying results of the trait theories research made later theorists turn to another approach—behavioral theories. They looked at what leaders actually do on the job by examining what activities leaders are engaged in, how they spend time in those activities, and what their responsibilities as well as constraints are. Effective leaders are those who are able to resolve role conflicts, seize opportunities, and will not become overpowered by constraints (Robbins & Judge, 2010; Yukl, 2010).

Both trait theories and behavioral theories provide some insights in leadership. However, it is not uncommon that a leader who has the “right” traits and/or “right” behaviors still fails. The main reason is neither trait theorists nor behavior theorists take context into consideration. For this reason, theorists have turned to the contingency approach. The relationship between the leader and the follower, the nature of the task, the degree of power a leader has, the characteristics of the follower, and so on are factors that influence the effectiveness of a leader (Robbins & Judge, 2010). In other words, in order to be effective, a leader has to be aware of the opportunities and constraints of these contingencies.

No matter what perspective a scholar uses or what typology is adopted, the underlying assumption is that an effective leader is someone who is able to influence others to attain a desired goal, should they be subordinates, peers, or even their bosses (Yukl, 2010). That is the power and influence approach of leadership and is also the approach adopted in this study. In any group or organization, power and political behaviors are natural processes (Robbins & Judge, 2010). Power is a person’s ability to make another person behave in the way he or she wants, and managers are expected to

have such ability to be effective (Cable & Judge, 2003; Yukl & Falbe, 1990; Yukl et al., 1993; Yukl & Tracey, 1992).

Types of influence behaviors used to exercise power are called influence tactics. Over the years, several researchers have tried to identify influence tactics used by individuals within an organization. The exploratory study by Kipnis et al. (1980) was the first attempt to identify influence tactics. After analyzing successful influence incidents provided by respondents, Kipnis et al. (1980) identified eight influence tactics used in the workplace: assertiveness, ingratiation, rationality, sanctions, exchange, upward appeal, blocking, and coalitions. Yukl and Falbe (1990) replicated and extended research by Kipnis et al. (1980) and developed a slightly different taxonomy, also comprised of eight influence tactics: pressure, upward appeals, exchange, coalition, ingratiating, rational persuasion, inspirational appeals, and consultation.

Yukl and his colleagues continued to refine and expand the taxonomy to include eleven influence tactics: rational persuasion, consultation, inspirational appeals, collaboration, apprising, ingratiation, exchange, personal appeals, legitimating, pressure, and coalition (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 2005; Yukl et al., 1995; Yukl et al., 1996; Yukl et al., 2008; Yukl & Tracey, 1992). However, most studies mentioned above were conducted in Western countries, primarily in the United States. The results might change if the research were conducted in other nations because societal culture could influence the selection of tactics deemed appropriate and effective in a certain cultural context (Fu et al., 2004a). Fu and colleagues (Fu et al., 2004b; Fu & Yukl, 2000) conducted a series of studies in Chinese society and found that some tactics are

particularly prominent in that society, which include socializing, gift giving, informal engagement, use of written documentation, and persistence.

Kipnis and Schmidt (1985) argued that the influence tactics that people use to persuade others could fall into one of three categories: hard, soft, or rational. Hard tactics involve being demanding and assertiveness. People who use soft tactics usually act nice and use flattery. A tactic is rational when logical arguments are used (Kipnis & Schmidt, 1985). This metacategorization has been adopted widely (Berson & Sonsik, 2007; Furst & Cable, 2008; Van Knippenberg, Van Eijbergen, & Wilke, 1999; Van Knippenberg, Van Knippenberg, Blaauw, & Vermunt, 1999; Van Knippenberg & Steensma, 2003), even though different scholars operationalized the metacategories in different ways. For example, Van Knippenberg and colleagues (Van Knippenberg et al, 1999; Van Knippenberg et al., 1999) asked respondents to rate the “strength” of each tactic on a 7-point scale. Respondents’ perceptions of the extent of the strength (or hardness) of influence attempts were grouped into two categories, of hard and soft tactics.

In a cross-cultural study by Fu et al. (2004a), the term “influence strategy” was used to indicate the metacategories of influence tactics. These authors factor analyzed all sixteen influence tactics mentioned earlier and identified three influence strategies: persuasive, assertive, and relationship-based. Leong, Bond, and Fu (2006, 2007) proposed a similar categorization of influence strategies but termed them differently, as Gentle Persuasion (equivalent to the rational strategy) and Contingent Control (equivalent to other two strategies combined). Because the present study was conducted in Taiwan, one of the Chinese societies, and also because Fu and colleagues’ studies included more countries, I adopted the influence strategies developed by Fu et al. (2004a) to reflect the

context of the current study. The definitions of the influence tactics and their associated influence strategies are shown in Table 1.

3.2.1 Antecedents of influence tactics. In addition to identifying influence tactics used, previous research also examined both contextual and dispositional factors affecting the choice of influence tactics. For example, some tactics are used more often in the upward direction (e.g., rational persuasion) while others are more often used in either lateral (e.g. personal appeals) or downward direction (e.g. inspirational appeals, legitimating, and pressure). As well, some tactics are used more often for both lateral and downward direction, e.g. consultation, ingratiation, and exchange, whereas coalition is used more in both lateral and upward direction (Kipnis, et al., 1980; Yukl, 2010; Yukl & Falbe, 1990; Yukl & Tracey, 1992; Yukl, et al., 1993).

The characteristics of the influence attempt also affect what influence tactics to use (Kipnis, et al., 1980; Yukl, et al., 1995; Yukl, et al., 1999). For example, if the agent wants to assign work, he or she will probably be more likely to use rational persuasion, inspirational appeals, ingratiation, exchange, and pressure. On the other hand, an agent whose objective is to get support from the target is more likely to use rational persuasion and coalition (Yukl et al., 1995). Other contextual factors examined in previous research are related to the relationship between the agent and the target, such as fairness, liking, and dependency between the agent and the target (van Knippenberg et al., 1999), the expectation of future interaction between the agent and the (van Knippenberg & Steensma, 2003), the expected influence outcomes (Steensma, 2007) or perceived effectiveness (Fu et al., 2004a), the characteristics of the targets (Cable & Judge, 2003), and culture (Schermerhorn & Bond, 1991).

The choice of influence tactics can also result from individual differences. For example, an extraverted person is more likely to use inspirational appeals and ingratiation, while an emotionally stable person is more likely to use rational persuasion and less likely to use inspirational appeals (Cable & Judge, 2003), a person who is high in Machiavellianism is more likely to use the blocking tactic, and females are more likely to use coalition than males (Vecchio & Sussmann, 1991). Other dispositional variables found to be related to the choice of influence tactics used are work values (Blickle, 2000), impression management, motivation, self-monitoring, locus of control, social identity (Barbuto & Marx, 2002; Barbuto & Moss, 2006), competence (van Knippenberg et al., 1999), and individual social beliefs (Fu et al., 2004a).

Even though previous research has contributed to identifying conditions in which a particular influence tactic would be preferred, fewer attempts have been made in terms of the consequence of the influence tactics. For example, Falbe and Yukl (1992) compared the relative effectiveness of influence tactics by analyzing incidents provided and then distinguished the influence outcomes as resistance, compliance, and commitment. For some studies, respondents were asked to rate the effectiveness of each influence tactic if it were used in the hypothetical scenarios provided (Brennan, Miller, & Seltzer, 2001; Fu & Yukl, 2000; Fu et al., 2004; Leong et al., 2006, 2007; Yukl, Fu, & McDonald, 2003; Yukl & Tracey, 1992). Other researchers have examined the effect of influence tactics on human resource practices, such as work outcomes (Higgins, Judge, & Ferris, 2003), and recruiters' perception of applicants' fit and further hiring recommendation (Higgins & Judge, 2004), on the classroom setting (Standifird, Pons, & Moshavi, 2008), and users' safety participation (Clarke & Ward, 2006). The current study

is intended to examine the effect of influence tactics (influence strategies) in the innovation implementation phase and shed light on how different influence behaviors affect the results of the innovation within an organization.

3.2.2 Persuasive strategy. The persuasive strategy is used when managers focus on the benefits of the request and provide logical arguments when an innovation is implemented. There are several approaches managers can take if the persuasive strategy is adopted. Managers might use facts and logical argument to make users use the innovation (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). This is a widely discussed approach in the organizational change literature (Chin & Benne, 1985; Kotter & Schlesinger, 1979; Nutt, 1986, 1998) and it is one of the most effective approaches used (Yukl & Tracey, 1992) because it can secure at least users' compliance (Falbe & Yukl, 1992). This approach is effective because using facts to persuade users can help them see the rationale for adopting the innovation (Kotter & Schlesinger, 1979) and thus justifies the need to comply with it (Nutt, 1986, 1998). This tactic assumes that users will accept an innovation if they are given adequate information about it (Chin & Benne, 1985).

Managers might explain to users how he or she will benefit personally by using the innovation (Yukl et al., 2005; Yukl et al., 2008). If a manager wants to successfully persuade users by addressing a user's individual interest, he or she needs to know exactly what the user wants. On the other hand, if the manager *does not* know exactly what the user wants, the best response expected from the user will be compliance. For example, if a manager knows that the user values the chance of advancement in the company, he or she can claim that using the innovation will lead to better performance and thus increase

the chance of promotion within the company. A user is more likely to be committed to use the innovation if a manager says so. Once again, this approach is likely to generate at least compliance among users, whether or not advancing in the company is their concern.

Sometimes, managers will seek users' participation in planning or implementing a strategy, activity, or change for which users' support is desired (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). Users will be encouraged to express his or her opinions, concerns, or suggestions regarding implementing an innovation. This participative approach is expected to increase a user's commitment to the use of the innovation because it creates a sense of ownership on the part of the user. It is widely believed that people will be less likely to reject a project if they feel themselves to be part of it (Falbe & Yukl, 1992; Nutt, 1986, 1998). Participation is one of the most widely discussed implementation approaches, and has been long considered a crucial factor for success in implementing information systems, strategies, and change (Barki & Hartwick, 1994a; Barki & Hartwick, 1994b; Hartwick & Barki, 1994; Ives & Olson, 1984; Klein & Ralls, 1995; Kotter & Schlesinger, 1979; Lines, 2007; Nutt, 1986, 1998).

When it is time to implement an innovation, a manager might promise to provide the necessary resources and assistance to users in order to persuade them to use the innovation (Yukl et al., 2005; Yukl et al., 2008). If the manager adopts this collaborative approach, users may be more willing to try the innovation because he or she thinks there will be fewer obstacles ahead; thus, they are more likely to commit to the request of using the innovation (Yukl et al., 2005). In the context of innovation implementation, the resources the collaborative manager promises to provide may be either technological or

emotional support (Kotter & Schlesinger, 1979). One example of technological support is training sessions. If there is technology related to an innovation, users will be able to learn new skills and how to use new technologies from training sessions. Thus, trainings have proven to be a factor in the success of technology implementation (Grohowski & Vogel, 1990; Sharma & Yetton, 2007). An example of emotional support is the manager's being a good listener. Listening to people who are affected by the innovation can be helpful especially if those people are fearful and anxious about the innovation. It thus stands to reason that the use of collaboration is likely to create commitment among the users.

One important characteristic of both charismatic and transformational leaders is their ability to excite, arouse, and inspire their followers to put extra effort into achieving ambitious goals. Thus, a manager might also try to arouse the enthusiasm of the target by appealing to his or her values, ideals, and aspirations when persuading them to use the innovation (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). The results of previous research implied that users are more likely to commit to the request of using the innovation when the manager adopts this approach (Falbe & Yukl, 1992) and thus it is one of the most effective tactics (Yukl & Tracey, 1992). In the context of innovation implementation, this implies that users will be more likely to commit to the use of an innovation if their manager can inspire them and help them to believe that the use of the innovation is aligned with their values and visions toward future.

Even though the effectiveness of each possible approach in the persuasive strategy differs, overall the use of the majority of the tactics is likely to lead users to commit to the request, that is, to use the innovation. Thus, my first hypothesis is:

H1: Persuasive strategy is positively related to innovation implementation effectiveness.

3.2.3 Assertive strategy. Managers use the assertive strategy when they use coercion as a form of persuasion. A manager might demand, threaten, and continuously check up on users to persuade him or her to comply with the request of using the innovation (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). Previous research has shown that this kind of pressure tactic is least effective in creating users' commitment to a request (Falbe & Yukl, 1992). However, it is the approach frequently adopted by managers in the organizational change literature, despite the fact that the result is generally unsuccessful (Kotter & Schlesinger, 1979; Nutt, 1986, 1998). Typically, managers issue directives and simply expect users' compliance (Nutt, 1986, 1998). Yet, when a manager relies on the pressure tactic to implement an innovation, users are less likely to commit to its use and even resist the request of using the innovation.

Sometimes, a manager might want to legitimize the request to use the innovation by referring it to an authority or by verifying that it is consistent with existing organizational policies or rules (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). In doing so, the manager tries to convince users that he or she has the right to ask them to comply. It is possible for a manager to claim that the adoption and use of the innovation is consistent with the organization's

policy. In the organizational hierarchy, managers usually are regarded as more powerful than users, thus, it is more likely that users will comply with, rather than commit to, the request managers make (Falbe & Yukl, 1992). Sometimes, it might even have a negative effect on the users' commitment to the request (Yukl & Tracey, 1992).

Another possible approach a manager might take is to repeat the request of using the innovation over and over again (Fu et al, 2004a; Fu et al., 2004b). It is, however, one of the least effective tactics rated by managers (Fu et al., 2001; Fu et al, 2004b). Asking users to use the innovation repeatedly would be likely to be ineffective and might result in users' resistance.

Overall, a manager's reliance on any of the influence behaviors including in the assertive strategy results in the users' resistance to, or merely compliance with, the manager's request. My second hypothesis, therefore, is the following:

H2: Assertive strategy is negatively related to innovation implementation effectiveness.

3.2.4 Relationship-based strategy. The relationship-based strategy involves tactics intended to use or create a positive social relationship when influencing others. A manager can try to persuade users to use the innovation by using other people's endorsement (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). Thus, a manager can try to change a user's attitude or behavior concerning the innovation by telling him or her who else is using the innovation, or asking other users to persuade the focal person. However, this tactic should be used cautiously because it can easily make the target feel manipulated (Yukl &

Tracey, 1992). The result of using coalition is more likely to result in the target's resistance or compliance than in his or her commitment (Falbe & Yukl, 1992).

Furthermore, a manager can try to persuade the user by appealing to the user's feelings of loyalty or friendship (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). If this approach is adopted in persuasion, reciprocity is expected: The user will know what the manager wants and the manager will owe the user a favor (Yukl et al., 1995). This approach might not be used often in an organizational setting because if a manager tries to influence a user based on their personal relationship, the request is less likely to be part of the user's regular job responsibilities. However, if a manager does refer to personal relationship to influence the user, resistance from the user's side is less likely because of the reciprocity.

Sometimes, a manager might want to choose an indirect approach when he or she intends to persuade users. In other words, a manager might start the conversation with irrelevant topics that the user might be interested in, such as the weather, family, sports, etc., before asking them to do anything (Fu et al., 2004a; Fu et al., 2004b). It is, however, one of the least effective tactics rated by managers across different countries or cultures (Fu et al., 2001; Fu et al., 2004b). Therefore, it is likely that the use of this indirect approach in the innovation implementation might not be effective.

It is not uncommon that a manager wants to offer explicit or implicit rewards as incentives for users to carry out tasks (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). This behavior is similar to what Bass (1985) called "contingent reward transactional leadership." A transactional leader will recognize both what followers need and what followers must do to attain designated

outcomes. The leader then explains how the follower's needs will be fulfilled if the desired outcome is obtained. In the context of innovation implementation, Klein and Ralls (1995) confirmed that offering people rewards for using new technology affects successful implementation because rewards provide the incentive for innovation users to use the new technology. However, research also has shown that the use of rewards only create subordinates' compliance but not their commitment to the task (Lee, 2008). Therefore, it is reasonable to assume that the exchange tactic is likely to secure at least the user's compliance to the use of the innovation.

A manager might try to put the user into a good mood or to make the user to think favorably of him or her before asking the user to do anything (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl et al., 1995; Yukl et al., 1996; Yukl & Tracey, 1992). In the context of innovation implementation, a manager might tell a user that his or her expertise or experience is vital to use the innovation, or that the user should have no trouble using the innovation because of his or her ability. Users are expected to be delighted about the comment from the manager and show at least compliance with or even commitment to a manager's request that they use the innovation. Previous research has shown that using ingratiation can make the target at least comply with (if not actually commit to) the request the agent makes.

Even though the consequence of using the influence tactics associated with the relationship-based strategy might range from resistance to commitment to innovation, users are expected to at least comply with their managers' request for using the innovation. My third hypothesis, therefore, is:

H3: Relationship-based strategy is positively related to innovation implementation effectiveness.

4. INNOVATION ATTRIBUTES

Previous research has examined the relative effectiveness of influence tactics (Falbe & Yukl, 1992) in terms of the consequence of each tactic. However, the effectiveness of any single influence tactic does not depend solely on influence behaviors. Researchers have examined factors that might alter the effectiveness of influence tactics, such as the agent's political skill, which is one's ability to know which influence tactic to use in any particular situation as well as the ability to exhibit situationally appropriate behaviors to exert the influence behavior (Kolodinsky et al., 2007; Treadway et al, 2007); leader-member exchange, which examines the relationship between the leader and the follower (Furst & Cable, 2008); and organizational cultures, which affects how appropriate an influence tactic is perceived within an organization (Robbins & Judge, 2010).

Those factors are related either to individuals exerting or receiving influences, such as the agent or the relationship between the agent and the target, or the context they are in, such as the organizational culture. Nonetheless, little research has been done regarding the nature of the request. It is important to explore the effect of the request because the target might respond differently to the same influence tactic the agent uses just because each perceives requests differently. For example, the targets might perceive the request of improving their performance as less favorable than the request for their assistance by the agent, because the former might imply that they need more

improvement in their job, while the latter might imply that they are capable of providing the support needed by the agent. Thus, even though the agent might engage in the same influence behaviors, the result of such behavior might not be the same. In the same vein, in the context of innovation implementation, how users perceive an innovation will increase or decrease the favorableness of that innovation, which affects the result of the managers' influence behaviors.

In the innovation literature, innovation attributes have proven to be critical factors in determining the rate of adoption, either at the organizational or individual level (Moore & Benbasat, 1991; Rogers, 2003; Tornatzky & Klein, 1982). At the individual level, people usually form either a favorable or unfavorable attitude toward an innovation before they decide to adopt it. While developing this attitude, individuals will try to apply the innovation to their present or projected future situation. Innovation attributes are therefore used as criteria in such evaluations (Rogers, 2003). That is, a potential user of an innovation will use innovation attributes as points of reference for how to treat the innovation. After forming a favorable or unfavorable attitude toward the innovation, he or she decides how to react to the request of using the innovation made by managers.

Previous research has identified a number of attributes that significantly predict adoption. Rogers (2003) identified five such attributes: relative advantage, compatibility, complexity, trialability, and observability, and he argued that they are able to explain most of the variance in the rate of adoption of the innovation. While developing measures of innovation attributes, Moore and Benbasat (1991) refined and expanded the list to seven attributes: relative advantage, compatibility, image, ease of use, result demonstrability, visibility, and trialability. Two innovation attributes—relative advantage

and complexity—will be examined in this study. They are chosen not only because they are among the most studied innovation attributes (Tornatzky & Klein, 1982) but also because they might be the first few characteristics that innovation users would consider in accepting and using an innovation. The two attributes can be phrased this way: Is it better than what I am currently using (relative advantage)? Is it difficult to use (complexity)?

Except for Yukl and colleagues (Yukl et al., 1996; Yukl et al., 1999), there has been limited empirical evidence regarding how the content of the request affects the influence behavior or consequences of the influence behavior. Their findings indicated that, if the targets deemed the request to be important and enjoyable, the targets would be more likely to be committed to the request (Yukl et al., 1996). Thus, the agents could influence the targets by changing their perception of the request so as to obtain a favorable outcome (Yukl et al., 1999). Similarly, in the innovation implementation phase, a manager is expected to be able to change a user's perception of the innovation attributes, if a successful implementation is desired.

4.1 Relative Advantage

Relative advantage is “the degree to which an innovation is perceived as being better than the idea it supersedes” (Rogers, 2003, p. 229). It is usually measured by economic profitability, but it could also include some other aspects, such as low initial cost, a decrease in discomfort, social prestige, a saving of time and effort, and immediacy of reward (Rogers, 2003). Although the concept of relative advantage has been criticized as too general (Tornatzky & Klein, 1982), it is one of the most frequently studied characteristics and has been consistently found to be positively related to the rate of innovation adoption.

In the innovation implementation phase, a manager is expected to persuade users to either form a positive attitude or increase usage of the innovation. If a manager uses the persuasive strategy, users are expected to be well informed regarding the benefits of the innovation. Thus, users will be more likely to perceive the innovation useful and advantageous. If the assertive strategy is used, users might feel pressured or obliged to use the innovation, which will lead to negative feelings about using the innovation. Therefore, they are less likely to think the innovation advantageous. If users are persuaded using the relationship-based strategy, managers will be referring to friendship or asking them in an indirect way. Under this scenario, users' are expected to react positively to the managers' request, because they would feel valued by the manager. As a result, they would perceive the innovation more advantageous than what they are currently using. As a consequence, I hypothesize:

H4: Relative advantage is positively related to innovation implementation effectiveness.

H5: Relative advantage mediates the relationship between influence strategies and innovation implementation effectiveness.

4.2 Complexity

Complexity is defined as “the degree to which an innovation is perceived as relatively difficult to understand and use” (Rogers, 2003, p. 230; Tornatzky & Klein, 1982). Some innovations are perceived as clearer and simpler to use than others.

Complexity is shown to be negatively related to either innovation adoption or implementation. When an innovation is perceived as complex, potential users are more likely to form an unfavorable attitude toward it. Because it takes more effort to learn and

use a complex innovation, users are expected to manifest a higher level of resistance to its use.

In an organizational setting where users are expected to have many routine job responsibilities, a less complex innovation will be more welcomed than a complex one. When the innovation is perceived as complex, users are less willing to spend time figuring the innovation out. Thus, a manager who uses the persuasive strategy would try to convince users that it is not so difficult to use the innovation. He or she might try to assure users that they will be given assistance along the way. In some instances, users will also be invited to be part of the implementation efforts. On the other hand, a manager might also use the assertive strategy in the persuasion. If that is the case, more resistance from users is expected. Thus, using the assertive strategy under such scenario will lead to limited success.

If a manager decides to adopt the relationship-based strategy to persuade users, he or she might encourage users by stressing their ability to tackle the innovation, or mention the possible rewards after using the innovation, or using other users as examples to persuade them to use the innovation. Such approach might help users to gain confidence in the face of a complex innovation, or increase users' interests in using the innovation. In light of the arguments mentioned above, I propose the following hypotheses:

H6: Complexity is negatively related to innovation implementation effectiveness.

H7: Complexity mediates the relationship between influence strategies and innovation implementation effectiveness.

5. INDIVIDUAL CHARACTERISTICS

Previous studies of influence tactics have considered the individual differences of both agents and targets. However, most studies focus on how these individual differences affect the agent's choice of influence tactics; less attention has been paid to the targets' personal attributes. Scholars of leadership, as well as those who have written about the Technology Acceptance Model, have pointed out the importance of individual differences in accepting change. Every individual is unique in terms of cognitive style, personality, demographics, socioeconomic characteristics, and communication behavior (Alavi & Joachimsthaler, 1992; Rogers, 2003). Such differences not only result in different individuals' making different adoption decisions about the same innovation, they may also lead those individuals to interpret the same behavior differently. That is, different subordinates are capable of viewing the same behavior of their manager in different ways. Thus, a manager's influence may be perceived as stronger or weaker, depending on the subordinate (Ehrhart & Klein, 2001).

Motivation is one of the most important differences between one individual and another. Motivation is a set of factors that causes a person to behave in one way rather than another (Moorhead & Griffin, 2001, p. 115) and is the result of the interaction between an individual and his or her environment (Latham & Pinder, 2005; Robbins & Judge, 2010). Work motivation theories suggest that an individual's motivation is determined by individual characteristics, such as needs, traits, and values (Latham & Pinder, 2005; Steers, Mowday, & Shapiro, 2004), context, such as culture and job design characteristics (Latham & Pinder, 2005; Steers, et al., 2004), and an individual's

cognitive evaluation, such as person–context fit, expectation of the result, and self-efficacy (Latham & Pinder, 2005; Steers et al., 2004). Those theories intend to explore factors that will motivate individuals, which is not important theoretically but practically. That said, managers need to understand how to motivate subordinates in order to encourage better performance.

For individuals, motivations may refer to a person's work priorities regarding what to pursue from work (Loscocco, 1989). Some individuals work simply for fun and enjoy what they do, while others work for the rewards or recognition associated with what they do. Because of such a difference, scholars commonly distinguish between intrinsic motivation and extrinsic motivation. Such distinction has proven to be useful in predicting individual's behaviors in a social context (Pierro et al., 2008). People who are high in intrinsic motivation seek intrinsic rewards, such as a sense of achievement; people who are high in extrinsic motivation seek extrinsic rewards, such as promotion. Some individuals value both intrinsic and extrinsic rewards; others value one over another. Therefore, intrinsic motivation and extrinsic motivation are not mutually exclusive and they should be treated as two independent constructs rather than as a single construct (Gagne & Deci, 2005; Loscocco, 1989). In the literature on technology implementation, scholars have examined individuals' intrinsic and extrinsic motivations as antecedents of the intention to use a technology (Davis, Bagozzi, & Warshaw, 1992; Venkatesh, 1999; Venkatesh et al., 2003).

In addition to an individual's motivation, another individual characteristic studied here is power distance. Power distance refers to the extent to which a person accepts the power disparity among individuals (Hofstede, Hofstede, & Minkov, 2010; Robins &

Judge, 2011). Power distance is a term usually used at the societal or cultural level, and “power distance orientation” is used at the individual level (Kirkman, Chen, Farh, Chen, & Lowe, 2009). Individuals who are scored high in power distance orientation are expected to be more obedient and more likely to take orders from managers. In the innovation implementation context, it is usually the manager’s job to persuade users to accept and use the innovation, not the other way around. Since power distance orientation is related to an individual’s perceptions of status, power, and legitimacy in the organization (Kirkman et al., 2009), it is logical to assume that the variation of the power distance orientation of users will have an impact on the effectiveness of managers’ use of influence strategies and the result of the implementation.

In this study, I will examine the way that followers’ intrinsic and extrinsic motivations and their power distance orientation can shape the effectiveness of managers’ influence tactics.

5.1 Intrinsic Motivation

Intrinsic motivation is defined as an individual’s intention to perform a task for its own sake, rather than other apparent reinforcement (Davis et al., 1992; Venkatesh et al., 2003). That is, an individual might want to perform a certain task because it is interesting and satisfying (Amabile et al., 1994; Gagne & Deci, 2005; Pierro et al., 2008). Previous research has shown that intrinsic motivation includes “challenge, enjoyment, personal enrichment and development, and self-determination” (Pierro et al., 2008). Furthermore, cognitive evaluation theory posits that feelings of competence and feelings of autonomy are important for intrinsic motivation. It implies that factors facilitating both feelings of

competence and autonomy are expected to increase intrinsic motivation (Gagne & Deci, 2005).

However, results from a meta-analysis showed that the use of reward actually decreased an individual's intrinsic motivation (Deci, Koestner, & Ryan, 1999). Individuals who are high in intrinsic motivation are more creative, take more risks, and have better task performance (Amabile, 1985; Arnold, 1985; Shalley, Oldham, & Porac, 1987; Zhang & Bartol, 2010). Adopting the innovation might be regarded as something challenging and exciting for an intrinsically motivated user and thus increase the possibility of viewing the innovation positively and then using it. Based on the arguments above, I propose the following hypothesis:

H8: A user's level of intrinsic motivation is positively related to innovation implementation effectiveness.

5.2 Extrinsic Motivation

Extrinsic motivation is an individual's intention to perform a task triggered by an external outcome distinct from the outcome of the task, for example, improved job performance, higher pay, or a promotion (Davis et al. 1992; Venkatesh et al., 2003). That is, an individual might want to perform a certain task for reasons apart from undertaking the task itself, such as rewards and recognition (Amabile et al., 1994; Gagne & Deci, 2005; Pierro et al., 2008). Previous research has shown that extrinsic motivation includes "orientation toward money, recognition, competition, and the dictates of other people" (Pierro et al., 2008). Thus, an individual high in extrinsic motivation might work for a stable life, a good salary, or good benefits (Loscocco, 1989). Generally speaking, when a task is not interesting, extrinsic motivation will be required to accomplish the task (Gagne

& Deci, 2005). When implementing an innovation, if an extrinsically motivated user is able to see the consequences of whether or not to use an innovation, such as rewards of using the innovation or the punishment of not using the innovation, he or she will be more likely to use it.

Based on the arguments above, I propose the following hypothesis:

H9: A user's level of extrinsic motivation is positively related to innovation implementation effectiveness.

5.3 Power distance orientation

Power distance is a measure of how less powerful individuals perceive and handle unequal power distribution within the society (Hofstede et al., 2010). It is one of the dimensions of national cultures suggested by Hofstede et al. (2010) and has appeared in most cross-cultural studies (Kirkman et al., 2009). Differences in individual behaviors could be identified between high power distance societies and low power distance societies. A high score in the power distance dimension implies that power disparity is acceptable in that society, and less powerful individuals, such as children, students, and subordinates are expected to be obedient to the more powerful individuals, such as parents, teachers, and supervisors. People learn to respect parents and elder siblings in their family, which is considered a basic virtue (Hofstede et al., 2010). Such respect is extended to teachers when students go to school. A strict order in the classroom is expected and students speak up only when invited (Hofstede et al., 2010). In the workplace, both supervisors and subordinates accept the inequality between them. Subordinates rely on supervisors telling them what to do. The relationship between supervisors and subordinates is full of emotions as well. The polarization of subordinates'

dependence or counter-dependence upon supervisors is common in the high power distance societies (Hofstede et al., 2010).

On the contrary, equality is valued in low power distance societies, and less powerful individuals are encouraged to express their opinions. Kids are given equal treatment by parents and are allowed to have different opinions from their parents (Hofstede et al., 2010). At schools, teachers and students are expected to treat each other equally. Students are allowed to argue with teachers when there is disagreement and are expected to speak up in the classroom if they have questions (Hofstede et al., 2010). In the workplace, supervisors and subordinates alike consider the other party as equal. Subordinates expect supervisors to consult with them before any work-related decisions are made (Hofstede et al., 2010)

“Power distance” is a societal construct, and at the individual level researchers use the term “power distance orientation” (Kirkman et al., 2009). Power distance orientation deals with how individuals perceive status and power. An individual with high power distance orientation tends to accept the power disparity. For example, in organizations, subordinates with a high power distance orientation tend to obey and respect supervisors and not to argue with them. They accept supervisors’ decisions and follow the instructions after a decision is made. On the contrary, individuals with a low power distance orientation tend to be treated equally. They prefer to be consulted before supervisors make a decision or expect to be involved in the decision-making process. They tend to express disagreement when necessary.

In the innovation implementation context, if managers use a persuasive strategy, subordinates with low power distance orientation might be more responsive because they

will be able to participate in the decision-making process. If managers use an assertive strategy, subordinates with high power distance are more likely to comply because they tend to follow instructions from their supervisors. If a relationship-based strategy is adopted, subordinates with low power distance orientation might have a more positive attitude toward accepting the request because they tend to see managers as equals, and managers reference to friendship implies that they are equal. Therefore, my next set of hypotheses is:

H10: The level of a user's power distance orientation is positively related to innovation implementation effectiveness.

H11a: The level of a user's power distance orientation negatively moderates the relationship between both persuasive strategy and relationship-based strategy and innovation implementation effectiveness.

H11b: The level of a user's power distance orientation positively moderates the relationship between assertive strategy and innovation implementation effectiveness.

6. METHODS

6.1 Knowledge Management Systems

Knowledge management systems (KMS) are the target innovations in this study. KMS are information systems designed to facilitate the knowledge process within an organization (Alavi & Leidner, 1997; Alavi & Leidner, 2001; Davenport & Prusak, 1998; Kankanhalli et al., 2005; Thierauf, 1999). KMS is a general term for technologies that are intended to capture features such as identifying, collecting, filtering, storing, and

retrieving knowledge within an organization (Alavi & Leidner, 1997; Alavi & Leidner, 2001; Kankanhalli et al., 2005). In other words, KMS is not a single system; rather, it consists of many technologies. This study views each technology independently. That is, as long as a KMS-related technology has been adopted by the organization and it is new to the members of that organization, it is considered an innovation. Therefore, KMS are regarded as a technological innovation in this study, and the successful implementation of KMS will make it possible for adopting organizations to transform internal knowledge into something valuable and enhance the competitive advantage of those organizations.

A company's knowledge is its know-what, know-how, and know-why (Thierauf, 1999); knowledge is therefore a highly valued corporate asset (Alavi & Leidner, 1997; Davenport & Prusak, 1998; Schultze & Leidner, 2002). Organizations implement knowledge management practices in order to increase their effectiveness, efficiency, and competitiveness (Alavi & Leidner, 1997; Kankanhalli et al., 2005; Schultze & Leidner, 2002; Wiig, 1997). Although knowledge management is much more than technology management, technology plays an important role in knowledge management. Previous research has shown that technical infrastructure is one of the factors contributing to successful knowledge management (Davenport et al., 1998), and technology-based initiatives are often emphasized as part of the practice of knowledge management (Grover & Davenport, 2001).

Similar to the process of innovation, the knowledge process can be divided into three subprocesses: knowledge generation, knowledge codification, and knowledge transfer/realization (Dalkir, 2005; Davenport & Prusak, 1998; Grover & Davenport, 2001). "Knowledge generation" refers to the specific activities and initiatives that an

organization undertakes to increase its knowledge stock. “Knowledge codification” is the process of putting knowledge into accessible and applicable formats. “Knowledge transfer/ realization” is the movement of knowledge from the point of generation or codification to the point of use (Davenport & Prusak, 1998; Grover & Davenport, 2001). Several other technologies, such as communication and networking technologies, though not directly related to these three subprocesses, still play an important role in the management of an organization’s knowledge.

6.2 Sample

Data were collected from two companies in Taiwan that implemented KMS. TeleCom is a small company in the telecommunication industry which has five sales offices and a total of 130 employees throughout Taiwan. TeleCom provides integrated phone and internet services to help companies operating in multiple locations to reduce communication costs among various sites. The general manager at TeleCom was concerned about tracking and recording resolutions of all internal meetings. Whenever issues were brought up, whether internally or externally, it was common for managers or subordinates to call meetings in order to solve those problems. However, he found it difficult either to trace the progress of the issues or to find the person accountable for unresolved issues because of poor documentation of those meetings. As a result, TeleCom bought and implemented a meeting management system.

The meeting management system was implemented a year prior to the questionnaire being administered. It is meant to help managers at TeleCom track all activities related to internal meetings, including attendance, meeting minutes, and the follow-up on meeting resolutions. In addition to initiating a meeting, managers are able to

assign jobs to subordinates. Managers can monitor the progress of the job assigned through this system. As long as all those activities are initiated through the system instead of simply sending out e-mails, every action will be recorded so that it can be referenced for future use.

EleCom is in the electronics manufacturing industry and has more than 12,000 employees worldwide. It is headquartered in Taiwan and operates throughout Asia, Europe, and the United States. EleCom is comprised of six business units and each business unit manufactures distinct products with its own profit-and-cost responsibility. The KMS adapted at EleCom is an e-learning system that is developed internally. The purposes of adopting the e-learning system are to cut the training expenses, to reduce repetitive design errors, and to help employees learn from various projects.

Because KMS at EleCom is learning focused, all courses are designed internally and prepared by either senior employees or experts within the functional department. All employees are recommended to take courses based on the job functions and job ranks. For example, all employees in the procurement department are supposed to have certain knowledge regarding components as well as price negotiation skills. Managers in the procurement department not only have to have such knowledge, they might need to know about inventory management as well.

The system was initially on-line in the end of 2007 and all business units were involved at the beginning. When I first contacted EleCom in 2010, only one business unit still used the original e-learning system, but it participated in this study later on. Other business units either stopped developing new courses gradually or adopted other systems. For the business unit that participated in this study, 269 courses were available in 2008, 9

courses were added in 2010 (which made 278 courses available in 2010), and 310 courses were expected to be available by the end of 2011.

All employees both at TeleCom and in one business unit at EleCom were invited to participate in this study. All survey questions were translated into Chinese and back-translated by two bilinguals to minimize translation error (Brislin, 1980). All questions were tailored for each company, especially in the case of KMS, to make it clear to respondents which system was in question. An on-line questionnaire was used for data collection. Five hundred and three invitations to participate were sent out in the beginning of 2011, of which 87 were sent to TeleCom and 416 were sent to EleCom. The general manager at each company agreed to send out a personal e-mail explaining the purpose of the study and asking employees to participate in this study. The invitations to employees were sent out the next day after the general's manager's personal e-mail. The first reminder was sent out two weeks after the invitations were sent, followed by a second reminder another two weeks later.

As a result, 301 valid responses were collected, giving an overall response rate of 59.8%. Of the 301 valid responses, 53 were from TeleCom (response rate of 50.9%), and 248 were from EleCom (response rate of 59.6%). Most respondents had been with their companies for less than 10 years (30% for 1–5 years, 30% for 6–10 years, and 21% for 11–15 years). Furthermore, 60% of the respondents had a college degree, and 70% were male.

6.3 Measures

6.3.1 Implementation effectiveness. The implementation effectiveness of KMS was measured by two aspects: users' attitude and users' actual behavior. Two variables

were intended to measure users' attitude: their attitude toward using KMS and their immediate commitment in response to the manager's request for using KMS. Items measuring attitudes toward using KMS technologies were adopted from Bhattacharjee and Sanford (2006) and items measuring immediate commitment toward the manager's request for using KMS were adopted from the organizational commitment literature (Benkhoff, 1997). Each variable was measured by four items on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The result of the factor analysis of these eight items showed only one factor, implying that these two variables were identical. Table 2 shows the results of the factor analysis.

Because items of these two variables came from different literature, I decided to create two variables, as it is in the literature. The first four items in Table 2 became Attitude toward Using KMS, and the Cronbach's alpha for this variable was 0.91. The next four items became the Immediate Commitment to the Manager's Request for using KMS, and the Cronbach's alpha for this variable was 0.87. These two variables will be used as the dependent variable in the study. However, because of the similarity among these two variables, only one at a time will be used. Attitude toward Using KMS was used in the following analysis.

Users' actual usage of KMS was obtained from both TeleCom and EleCom. For TeleCom, the number of internal meetings initiated by users is treated as the actual use of the meeting management system, because unless a user initiates a meeting via the system, other attendees will not be able to respond in the system. In other words, the initiator is an active user compared to people who receive notification from the system. The meeting management system was implemented a year prior to this study and the number of

individuals using the system during the one year period was obtained from the system log. The average usage of the meeting management system at TeleCom is 9.66 times (s.d. = 15.1; minimum = 0; maximum = 69).

At EleCom, when a user logs into the e-learning system, activities such as courses he or she takes, and the time and the date each course was taken. Therefore, two measures related to the use of the e-learning system were available for the years 2008 to 2010: the number of courses that users took and the number of times that users logged in to the system. Those two numbers were chosen because users were suggested to take certain courses by their managers or supervisors; however, at their discretion, they could also take other courses not suggested by managers or supervisors. Thus, the number of courses taken could be an indicator of how extensive they used the e-learning system. On the other hand, due to the web-based nature of the e-learning system, users could choose when and where to complete those courses. Some users might take the same course repeatedly, while others might take a course only once. Those differences could be known from the number of times that users logged into the system.

The e-learning system was available to all users by the end of 2007, about 3 years before the study was conducted. I aggregated both the number of courses a user took (mean = 22.41; s.d. = 24.28; minimum = 0; maximum = 141) and the number of times a user logged in to the system (mean = 35.2; s.d. = 46.36; minimum = 0; maximum = 367) over three years instead of any single year for the following reasons. The courses offered were close to the users' job requirement; thus it was expected that the number of courses and the name of courses that users took would be similar within the same functional department over time. In addition, new employees hired after the e-learning system was

implemented were encouraged to take the same courses as their colleagues in the same functional department. Therefore, the sum of courses taken over time, rather than in a single year, would be a better indicator of the use that users made of the system.

Furthermore, new courses continued to be added to the system annually, which enabled users to take more courses over time.

The actual usage at EleCom was calculated by taking users' number of times logging on-line divided by the number of courses the same user took (mean = 1.42; s.d. = 0.51; minimum = 1; maximum = 3.46). This variable can capture how users used the e-learning system at EleCom better than either the number of courses taken or the number of times logged in, because either number would be influenced by the job requirement. In other words, for some functional departments, more knowledge might be needed in order to perform the work compared to other functional departments. Therefore, using either number alone might be misleading.

Two companies are included in the sample; thus the actual usage for the whole sample was created by standardizing usage at each company. This approach was adopted primarily because the way in which usage was calculated at each company was totally different. A standardized coefficient makes the comparison between these two companies possible. The mean score for usage is 0 (s.d. = 1; minimum = -.81; maximum = 3.98).

6.3.2 Influence strategies. Sixteen influence tactics were identified in the previous studies. However, three tactics were not included because they either were not relevant to the study, such as gift giving, or were more likely to be channels of exerting influence behaviors, such as informal engagement and written documentation. As a result, the questionnaire included thirteen influence tactics. Each influence tactic was

measured by two items that were adopted from both Influence Behavior Questionnaire (IBQ) (Yukl et al., 2005; Yukl et al., 1992; Yukl et al., 2008) and cross-cultural studies by Fu et al. (2004a, 2004b). Users were asked to indicate the extent to which their managers used each tactic during implementation on a 5-point Likert scale (1 = definitely would not, 2 = probably would not, 3 = neutral, 4 = probably would, 5 = definitely would).

A principle component factor analysis with varimax rotation method on all items measuring influence strategies was conducted. Five factors emerged as the result of the factor analysis (Table 3). Factor one was comprised of items from 1 to 10, factor two was comprised of items from 19 to 26, factor three was comprised of items 13, 14, 17, and 18, factor four was comprised of items 15 and 15, and factor five was comprised of items 11 and 12. However, item 11 was cross loaded on both factor one and factor five. Thus, item 11 was deleted and another factor analysis was conducted (Table 4).

The results still showed five factors with similar loading except for factor five. There was only one item, item 12, in factor five, which was also cross loaded on both factor three and factor five. Thus, item 12 was deleted and factor analysis was administered again (Table 5). Four factors clearly emerged from the factor analysis. Because only two items were loaded on factor four, factor four was not retained.

The final results of factor analysis were presented in Table 6. In line with Fu et al. (2004a, 2004b), I named these factors persuasive strategy, assertive strategy, and relationship-based strategy. The persuasive strategy is used when the agent tries to influence the target by logical arguments or provides assistance. The agent will use the

assertive strategy if the power or authority is emphasized. Interpersonal relationship becomes the means of influence if the agent uses the relationship-based strategy.

The persuasive strategy was composed of items from 1 to 10, which were intended to measure tactics such as rational persuasion, apprising, consultation, collaboration, and inspirational appeals, and the Cronbach's alpha equals 0.94. The assertive strategy includes items 13, 14, 17, and 18, which were measuring tactics such as pressure and legitimating, with the Cronbach's alpha equaling 0.76. The relationship-based strategy is comprised of items from 19 to 28 which originally measured tactics such as coalition, personal appeals, socializing, exchange, and ingratiation, and the Cronbach's alpha is 0.92.

6.3.3 Innovation attributes. Users were asked to rate their perceptions of four attributes of KMS: compatibility, relative advantage, complexity, and trialability. Each attribute was measured by two items adopted either from either Rogers' (2003) definition or from the scales developed by Moore and Benbasat (1991). Each item was rated on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The factor analysis was conducted for all items measuring innovation attributes and the factor loading is reported in Table 7.

Three rather than four factors emerged from the factor analysis. The first factor was composed of three items, two of which measured relative advantage (items 1 and 2) and one item measured compatibility (item 3). The second factor was composed of two items measuring complexity (items 5 and 6), while the third factor included items measuring trialability (items 7 and 8). One item measuring compatibility (item 4) was

reverse coded but the factor loading of the reverse-coded item was negative throughout all factors and therefore did not load in any factor.

The Cronbach's alpha was calculated for each attribute using original items, even though the factor loading is mixed between relative advantage and compatibility. The Cronbach's alpha for relative advantage, compatibility, complexity, and trialability is 0.93, -0.53, 0.83, and 0.65 respectively. Based on the result of the factor analysis and the Cronbach's alpha, compatibility was not a well-established variable and therefore was dropped from this study. As a result, only three attributes were used in the analysis and the final result of the factor analysis after deleting items measuring compatibility is reported in Table 8.

6.3.4 Individual characteristics. Four different variables measured individual differences in this study (see Table 6). They are intrinsic motivation (items 1 through 3), extrinsic motivation (items 4 through 6), power distance orientation (items 7 through 14), and individual innovativeness (items 15 through 17). Items for both intrinsic and extrinsic motivations were adopted from previous studies (Ehrhart, & Klein, 2001; Loscocco, 1989). Items measuring power distance orientation were adopted from Kirkman et al. (2009). Items *measuring* individual innovativeness were adopted from existing literature (Agarwal & Prasad, 1998; Lewis et al, 2003; Yi et al., 2006). All items measuring individual characteristics were evaluated on a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

The results of the factor analysis are presented in Table 9, indicating the existence of four factors. The first factor is composed of items 1, 2, 3, 15, and 16. However, this factor is composed of items measuring both intrinsic motivation and individual

innovativeness. The Cronbach's alpha for both variables was further calculated as a criterion for which items to keep. The Cronbach's alpha for intrinsic motivation (items 1 through 3) is 0.88 while the Cronbach's alpha for individual innovativeness (items 15 through 17) is 0.21. If the reverse-coded item is removed, the Cronbach's alpha for individual innovativeness (items 15 and 16) is 0.57, which is still below the 0.7 cut-off point. Therefore, I decided to drop items 15 through 17 from the list. That said, individual innovativeness was not used in this study. The second factor that emerged is composed of items 4 through 6. These three items are supposed to measure respondents' extrinsic motivation, which was suggested in the previous studies and the Cronbach's alpha for this variable is 0.91.

The third and the fourth factor actually came from items that are supposed to measure power distance orientation. Even if only items measuring power distance orientation were entered, two factors still emerged. Therefore, I looked at the Cronbach's alpha in order to examine the reliability of these factors. The Cronbach's alpha for the first factor composed of items 7 and items 10–14 is 0.72, while the Cronbach's alpha for the second factor, items 8 and 9, is 0.37. The result of the Cronbach's alpha actually suggests only one factor existing out of these six items. Therefore, I decided to form the variable power distance orientation from items 7, 10, 11, 12, 13, and 14. I conducted a factor analysis with all the remaining items, which showed three distinct factors of intrinsic motivation, extrinsic motivation, and power distance orientation (see Table 10).

6.3.5 Control variables. Several control variables were used in this study.

Because the data was collected from two companies, which are not only different in size but also adopted different knowledge management systems, I controlled for the company

with analysis. For each functional department, the requirement for knowledge use will be different; therefore, I controlled for the functional department. The effect of middle managers' influence strategy may vary depending on the number of subordinates he or she has. In a smaller team, more personal interaction is expected compared to a large team, which might increase the effectiveness of influence strategy used by managers. Thus, the team size is controlled. There are three variables measuring employees' tenure: tenure in the company, tenure in this position, and overall all years of work experience. These three variables were highly correlated here, and I used the tenure in the company as a control. Other individual characteristics controlled were respondents' education level, age, and gender (0 = male, 1 = female). The initial correlation showed that only company, team size, tenure, and age are significantly correlated with either users' attitudes or usage, only those variables were examined in the subsequent regression analyses.

6.4 Detecting Common Method Biases

Even though there are two variables measuring innovation implementation effectiveness, all major variables measuring users' attitude were obtained from the same questionnaire, which raises the concern of common method variance (CMV). The existence of CMV might inflate or deflate the relationship between the independent variables and dependent variables, and thus the results are likely to be misleading (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Several methods can be used to detect CMV, and I adopted the widely used Harman's single-factor test. The problem of CMV is said to exist if either one of the following conditions appears from the unrotated factor analysis of all variables used in the study: 1) a single factor emerges; 2) a general factor

explains the majority of the variance. The results of the unrotated principle component factor analysis of all variables used in this study revealed seven distinct factors with an Eigen value greater than 1.0. Those seven factors accounted for 68.3% of the total variance and the first factor accounted for 23.6% of variance. Thus, neither only one factor nor a general factor explains the majority of the variance. The results indicate that CMV is not an issue in this study.

7. RESULTS

The sample is comprised of two companies, and EleCom forms the majority of the whole sample. The preliminary results showed a significant difference between these two companies in terms of the attitude toward using the innovation. Thus, all analyses were conducted for the whole sample and for each company separately.

The mediation effect was tested using bootstrapping technique. Unlike the widely used causal step approach proposed by Barron and Kenny (1986) which stresses the significance test of the relationship between the independent variable and the dependent variable with the existence of the mediator, bootstrapping is intended to examine the confident interval of the indirect effect of the mediator (Shrout & Bolger, 2002). Bootstrapping generates the sampling distribution of the indirect effect by resampling the original sample. The resampling process is a means of replacement, that means a sample of size N is created by sampling cases from the original sample but any case once drawn is allowed to be thrown back to the sample to be redrawn. The indirect effect was estimated and recorded for this resampled data set. This process is repeated for a total of k times.

Upon completion, there will be k estimates of indirect effect, and the distribution of the indirect effect is the empirical representation of the sampling distribution of the indirect effect while taking sample size N from the original population. Those k estimates of indirect effect were ranked from the smallest to the largest. The lower bound of a CI% confidence interval of the distribution is $k(0.5 - CI/200)$ and the upper bound of a CI% confidence interval of the distribution is $k(0.5 + CI/200)$. In this study, k is set to be 5,000 and the confidence interval is 95%. Therefore, the lower bound is at the 125th position, and the upper bound is at the 4,875th position of the distribution. As long as 0 is not in between the lower and upper bound, then we have the 95% confidence to conclude that the indirect effect is different from 0 (Hayes, 2009; Preacher & Hayes, 2004, 2008).

Direct effects and moderation effects were tested using the stepwise linear regression models. All control variables were entered the regression model first, followed by influence strategies. Individual characteristics then were added to the regression model and the interaction terms were the last. Because there were two indicators of innovation implementation effectiveness, models in odd numbers were the results for users' attitude toward using the innovation, while models in even numbers were the results for users' usage.

In this section, I will present the results of influence strategies on all samples first, followed by influence strategies on EleCom only, and influence strategies on TeleCom only respectively.

7.1 All samples

Table 11 shows the correlation of all variables. Table 14 was the results of influence strategies regressed on both users' attitude and users' actual usage, with the

additional effect of individual characteristics. The results of the mediation effect through innovation attributes were presented from Figure 3 to Figure 4, and Table 17 through Table 22. The results showed that users' attitude toward using the innovation differ between companies; however, there is no significant difference in terms of how users use the innovation between the two companies. The difference in attitude toward using the innovation might be associated with the types of KMS adopted in each company. For instance, the KMS implemented at TeleCom was purchased from a vendor while the KMS at EleCom was developed internally. Such differences might make users at different companies view KMS differently, thus resulting in variations of users' attitude between the two companies. Nonetheless, such differences in attitude did not translate into differences in behavior.

Furthermore, the results showed no significant relationship between other control variables and users' attitude, which implies that there is no difference among users with the size of the team, tenure within the company, and age of how they perceive the innovation. On the other hand, the team size is related to users' behavior in a significantly positive way. The results showed that users in a larger team are more likely to use the innovation more.

Hypothesis 1, proposing a positive relationship between the persuasive strategy and the innovation implementation effectiveness, was supported for both users' attitude and actual usage. It implies that when managers use a persuasive strategy, users are more likely to have a positive attitude toward using the innovation, and users are more likely to use the innovation. The effect is stronger for users' attitude than users' actual behavior.

Hypothesis 2, which proposed a negative relationship between the assertive strategy and the innovation implementation effectiveness, was partially supported. A negative significant relationship between the assertive strategy and users' attitude means that if managers use the assertive strategy, users are more likely to have a negative attitude toward using the innovation. Nonetheless, managers' use of the assertive strategy has no significant impact on users' actual use of the innovation.

Hypothesis 3, which proposed a positive relationship between the relationship-based strategy and the innovation implementation effectiveness, was not supported. On the contrary, the regression results actually showed a statically significant negative relationship between the relationship-based strategy and both users' attitude and users' actual usage. The possible explanation for the negative effect of the relationship-based strategy on either users' attitude or users' usage might have something to do with the relationship between the user and his or her manager. In other words, without a close relationship with his or her manager, a user might feel suspicious about why the manager would be referring to relationship in a workplace.

Hypothesis 4 posited a positive effect of relative advantage that was supported if users' attitude was measured. However, relative advantage showed no effect on increasing users' actual usage of the innovation. The results implied that users' perception of relative advantage would have an impact on their attitude toward the innovation, but such a perception might not have an effect on their behavior.

Relative advantage was hypothesized to mediate the relationship between influence strategies and the innovation implementation effectiveness in Hypothesis 5. The results showed that relative advantage mediated the relationship between the persuasive

strategy and users' attitude. It implies that a manager's use of the persuasive strategy is likely to promote users' perceived relative advantage of the innovation, which leads to users' positive attitude.

Complexity had a negative effect on users' attitude but a positive effect on users' usage, which partially supported Hypothesis 6. The results might suggest that the perception of complexity would make users think negatively about the innovation, but such perception actually encourages them to use the innovation more.

Hypothesis 7 proposed a mediating effect of complexity on the relationship between influence strategies and innovation implementation effectiveness. Complexity was shown to mediate the relationship between two influence strategies, the persuasive strategy and the relationship-based strategy, on both users' attitude and users' usage. It implied that the manager's use of the persuasive strategy helped users to think the innovation less complex and thus promoted positive attitude and increased usage. On the contrary, the use of the relationship-based strategy did make users to think the innovation more complex, which harms users' attitude and usage.

Hypothesis 8 proposed a positive relationship between a user's intrinsic motivation and innovation implementation effectiveness. The results showed that a user's intrinsic motivation had a positive impact on his or her attitude toward using the innovation, but had no effect on his or her actual use of the innovation. A positive relationship between a user's extrinsic motivation and innovation implementation effectiveness was proposed in Hypothesis 9 but was not supported. Those results might imply that users have to be intrinsic rather than extrinsic motivated if the manager wants to implement innovation successfully.

A positive relation between a user's level of power distance orientation and innovation implementation effectiveness was proposed in Hypothesis 10 and it was not supported. The results might indicate that a user's level of power distance orientation does not predict how he or she sees or uses the innovation. Hypothesis 11a suggested a negative moderation effect of power distance orientation on the relationship between both persuasive strategy and relationship-based strategy and innovation implementation effectiveness, while hypothesis 11b suggested a positive moderation effect of power distance orientation on the relationship between assertive strategy and innovation implementation effectiveness. The results did not support hypothesis 15a, rather, it showed that power distance orientation positively moderated the relationship between the persuasive strategy and users' usage. Hypothesis 15b was partially supported only when users' usage was measured. They suggested that if a user's level of power distance orientation is high, then he or she is more likely to use the innovation if his or her manager uses either the persuasive or the assertive strategy, and the effect is stronger for the persuasive strategy.

7.2 EleCom only

Table 12 is the correlation table of all variables using only EleCom. Table 15 is the results of influence strategies regressed on either users' attitude or users' usage, with the presence of individual characteristics. Figure 6 and 7, and Table 23 through 26 are the results of the mediation test for innovation attributes. The results showed no significant effect of control variables on users' attitude, but team size is positively related to users' usage. It implies that when it comes to the attitude toward using the innovation, there is no difference in terms of team size, or other demographic characteristics. If the actual

behavior is in question, then users tend to use more innovation if they are in a larger team.

The persuasive strategy is positively related to users' attitude as well as users' usage of the innovation. The assertive strategy was negatively related to users' attitude but positively related to users' usage; while the relationship-based strategy was negatively related to both users' attitude and users' usage. These results imply that the use of the persuasive strategy is able to create a user's positive attitude toward using the innovation and at the same time increase a user's usage of the innovation. The other two strategies, on the other hand, would make a user think of the innovation negatively and even decrease a user's use of the innovation.

The perceived relative advantage of the innovation was positively, and the perceived complexity was negatively, related to users' attitude. In addition, relative advantage is shown to mediate the relationship between the persuasive strategy and users' attitude, while complexity mediates the relationship between both the persuasive and the relationship-based strategies and users' attitude. It might indicate that the effects of innovation attributes are stronger to form users' attitude than users' usage.

Out of the three individual characteristics examined in this study, only a user's level of intrinsic motivation is significantly related to his or her attitude toward using the innovation. Extrinsic motivation showed no moderation effect at all. Intrinsic motivation was shown to have a partially significant negative moderation effect on the relationship between the relationship-based strategy and users' usage. A user's level of power distance orientation positively moderated the relationship between two influence strategies, the persuasive strategy and the assertive strategy, and users' usage. The results

indicated that a high intrinsic motivated user would decrease his or her use of the innovation if the relationship-based strategy is used. In addition, the results also showed that the higher a user's level of power distance orientation is, the more likely it is that he or she will use the innovation if either the persuasive strategy or the assertive strategy is used.

7.3 TeleCom only

Table 13 is the correlation table for all variables used, but only for TeleCom. Table 16 is the results of regression models using TeleCom only, while Figure 8 and Table 27 and 28 are the results of mediation test. The results showed that the persuasive strategy was the only strategy significantly influencing users' attitude. However, it had no effect on users' usage. Among three innovation attributes, relative advantage has a positive effect on users' attitude, and mediates the relationship between the persuasive strategy and users' attitude. No effects of individual characteristics were found in the TeleCom sample.

8. DISCUSSION

Innovation is regarded as a solution to many organizational problems. However, innovation has to be implemented successfully for organizations to benefit from it. For innovation to be implemented successfully, organization members or users of the innovation must have a positive attitude toward it and eventually use it. Even though managers play a critical role in the implementation phase, how they influence users in forming a positive attitude toward use of the innovation and then using the innovation is unclear.

Thus, three questions were asked in this study: (1) How do different influence strategies used by managers impact innovation implementation effectiveness; (2) How do users' perceived innovation attributes affect the effectiveness of managers' influence strategies; and (3) How do users' characteristics affect the effectiveness of influence strategies used by managers? In order to answer these questions, two companies in Taiwan that had recently implemented Knowledge Management Systems (KMS) participated in the study. Both users' attitude toward using KMS and their actual usage of KMS were examined. Analyses on both companies combined as well as each individual company were conducted.

Consistent with previous studies, managers' use of the persuasive strategy had a positive effect on the innovation implementation effectiveness. To be more specific, the use of the persuasive strategy positively related to users' attitude toward using the innovation as well as users' actual usage. The positive impact of the persuasive strategy on the innovation implementation effectiveness is significant for the whole sample as well as EleCom only. It only has a positive impact on users' attitude but not users' usage at TeleCom. The results indicate that, as long as users are given information regarding the benefits of the innovation, receive necessary assistance in the implementation stage, and sometimes are empowered, they are more likely to follow managers' instructions.

Results of the assertive strategy showed a negative impact on users' attitude toward using the innovation for both all samples and EleCom, but no effect on TeleCom. The effect of the assertive strategy on users' actual usage actually varies depending on which sample to use. It showed no impact on users' usage for the whole sample and TeleCom, but a partial positive effect on EleCom. That is, when a manager threatens or

constantly checks users in terms of how they react to the innovation, users tend to think negatively about using the innovation. However, managers' assertive behaviors seem to increase the usage of the innovation at EleCom, despite of the negative user attitude.

The negative relation between the relationship-based strategy and innovation implementation effectiveness, both in terms of attitude and actual usage, was not expected, largely because Taiwan is one of the Chinese societies in which "guanxi" [personal relationship] is valued. One explanation for this result might be that users do not like managers to refer to a sense of relationship in a workplace. Moreover, Taiwan is high in collectivism (Hofstede et al., 2010), and people in a collectivistic society tend to differentiate between their in-group and out-group. If managers are not deemed as in-group by subordinates, the relationship-based strategy might not work, thus providing another plausible explanation for the negative relationship between the relationship-based strategy and the innovation implementation effectiveness.

In addition, scholars delineated three different outcomes as the result of the influence attempts previously. They were 1) commitment; 2) compliance; and 3) resistance (Falbe & Yukl, 1992; Yukl, 2010). The influence targets, the users of the innovation in this study, are said to be committed if both their attitude and behaviors positively support the agent's request, the manager in this study. Compliance is assumed if the manager's influence strategies have a negative impact or no effect on users' attitude, but have a positive impact on users' behaviors. Resistance is observed if users make excuses or delay their behaviors (Falbe & Yukl, 1992; Yukl, 2010). Because both users' attitudes and behaviors were measured in this study, it is possible to evaluate the effectiveness of influence strategies by comparing users' attitude and behaviors.

It may be assumed that if a user has a positive attitude toward using the innovation and, at the same time, his or her usage increases as the result of the managers' influence strategies, he or she can be said to show commitment. On the contrary, if a user has both a negative attitude and decreases the usage, then he or she is said to be resistant to the managers' attempt at influence. If a user has a neutral to negative attitude toward using the innovation, but his or her usage increases after the manager's influence attempt, then this person is showing compliance. The results of influence strategies showed that the use of the persuasive strategy is the most effective because it actually generated users' commitment, whereas the relationship-based strategy is the least effective because it actually created users' resistance. The use of the assertive strategy actually leads to the compliance especially at EleCom, because users' usage increased despite of the negative attitude.

Furthermore, the role of both innovation attributes and individual characteristics were also examined in this study. Consistent with previous studies, innovation attributes did have a significant impact on the innovation implementation effectiveness. It showed that the effect of innovation attributes is stronger in terms of users' attitude than users' usage. It implied that users' perception of innovation only impacted their decision whether or not to use the innovation, but was less a determining factor when it was time for them to take action.

The effect of users' perceived complexity actually showed a counter-intuitive positive effect on users' usage. Previous research has suggested that the more complex an innovation is perceived, the lower adoption rate it would have, which was confirmed only when users' attitude was measured. One explanation might be users simply complied

with the request of using the innovation even though they deemed the innovation as complex. In other words, if users regarded using the innovation was mandatory, they would increase the usage regardless of what they think of the innovation.

Further test confirmed that innovation attributes served as mediators between the influence strategies and innovation implementation effectiveness, and the results were pretty much constant across samples. The results showed that a manager's use of the persuasive strategy was able to induce users to see the innovation more advantageous, which leads to a positive attitude toward using the innovation. The use of the persuasive strategy also reduces users' perception of complexity of the innovation, which also helps users to form a positive attitude and even increase the usage of the innovation.

On the other hand, the use of the relationship-based strategy might backfire when the innovation is perceived complex. The results showed a negative relationship between the relationship-based strategy and the perceived complexity which means that if a manager refers to relationship, users would actually perceive the innovation more complex. The explanation might be users are not comfortable when a manager refers to relationship, especially in a high power distance culture. If that does happen, users might speculate that the use of the innovation might not be an easy task.

The positive relation between a subordinate's level of intrinsic motivation and the innovation implementation effectiveness indicates that, if a subordinate is interested in the internal rewards, the innovation is more likely to be successful. However, no effect was found either in terms of the users' level of extrinsic motivation or users' level of power distance orientation. The reason might be possibly because employees did not see how implementing an innovation would result in something they wanted externally, such

as a higher income. The insignificant results of users' power distance orientation on either users' attitude or users' usage might indicate that whether or not they are obedient does not affect how they think or use of the innovation.

Despite the significant relation between individual characteristics and the innovation implementation effectiveness, there are no signs of moderating effects for individual characteristics, except for power distance orientation. The results showed that power distance orientation positively moderated the relationship between two strategies, the persuasive strategy and the assertive strategy, and user's usage. This implies that when a user is high in power distance orientation, he or she will be likely to use more of the innovation if the manager either uses logic and facts to persuade them or simply threatens them. People who are high in power distance orientation are usually obedient and thus they tend to take what the manager says or does seriously and behave accordingly.

8.1 Practical implication

This study contributes to the innovation literature by clarifying managers' influential behaviors in the implementation stage and further examining the relative effectiveness of different influence strategies. The current study also contributes to the leadership literature by exploring the role of the characteristics of the request, that is, innovation attributes, and the role of individual characteristics, in the influence process. Moreover, this study was conducted in a real organizational setting regarding a specific context rather than in a hypothetical situation regarding a general request. Thus, the results of this study have more practical implications for managers.

The results showed that how users perceive the innovation is the underlying mechanism of why some influence strategies are effective and some are not. For example, the persuasive strategy is effective in generating users' favorable attitude because users are given information regarding the advantages of the innovation, both to themselves and to the organization, assistance or training to learn to use the innovation, etc. Such approach will help users to recognize the importance of the innovation and reduce the perceived difficulty in using the innovation. Thus, when it is time to implement an innovation, managers are suggested to have information sessions and training sessions throughout the implementation phase.

On the contrary, referring to relationship might not be a good idea in the implementation phase because it does not help users understand the advantages of the innovation; rather, it makes users perceive the innovation more complex. Ironically, managers, especially middle managers, who have the pressure of carrying out the innovation implementation from top managers, might use the relationship-based strategy more often when the innovation is complex, because they want users to be more comfortable and maybe more confident in using the innovation. However, the results actually showed that managers have to be cautious in using the relationship-based strategy because it would create resistance from the users.

In addition, who those users are plays an important role in the result of the innovation implementation. The findings of this study showed that only those who are intrinsic motivated tend to think favorably about the innovation. Thus, the challenge for managers is how to make users intrinsic motivated. Based on cognitive evaluation theory, feelings of competence and feelings of autonomy are important for intrinsic motivation

(Gagne & Deci, 2005). In the organizational context, a manager's behavior might affect a subordinate's feelings of competence and autonomy, thus affecting their motivation level. Following this logic, managers might want to provide enough assistance for users but not to put pressure on them.

8.2 Limitation and future research

There are inevitable limitations in this study. One limitation is that organization members were asked to recall what their managers actually had done at least one year prior to the study. They might not have been able to remember exactly what happened when the implementation took place. In addition, the ultimate goal of implementation is routinization, which means that organization members do not regard the innovation as something new. In one organization, the implementation had actually happened three years prior to the study, so it is likely that organizational members did not think of the innovation as an innovation at all, a fact that might have had an impact on the results. Thus, a stronger method should be used in the future, such as asking users to keep a diary in the implementation process describing what their manager has said and done, and what their reactions to their manager's behavior were.

A central point of the Technology Acceptance Model (TAM) is that individuals' intention to use the technology could predict the future usage (Bhattacharjee & Premkumar, 2004). However, this attitude-behavior link was significant but not strong in this study. This might be due to the timing at which the study was conducted. In other words, if users' attitude is used to predict users' behavior, then attitude has to be measured before the behavior. Given the fact that innovation implementation is not a one-time event, it might take a long time for an organization to implement an innovation.

Thus, a stronger and more ideal design would assess users' perception of innovation attributes and their attitude toward using the innovation soon after it is announced (time 1). Several months later after the managers have had a chance to influence users, the same variables should be measured again and actual usage should be obtained as well (time 2). In this way, the effect of influence strategies on both users' attitude and usage will be clearer.

This study examines the effect of innovation attributes on a manager's influence strategies. In the innovation literature, innovation attributes can be measured at either the innovation level or the individual level. For example, one innovation might be regarded as more complex than another one by the general public, while different individuals might perceive the same innovation differently. In this study, there are only two innovations examined, and innovation attributes are obtained at the individual level. A stronger design is to have several innovations to ensure enough variations in terms of innovation attributes. It will also be better if innovation attributes are evaluated from an independent source in the companies instead of users.

Moreover, a few contextual and personal variables were introduced and their effects on the innovation implementation effectiveness were examined. However, there might be situations that inhibited or promoted users' behaviors. In other words, users' attitudes as well as their behaviors are expected to be influenced not only by their managers but also by their coworkers. For example, it is possible that users used the innovation largely because everyone else in the team did. In that situation, the role of managers is less important.

In addition, team members are encouraged to be cooperative in order to reach a common goal; however, it is inevitable that team members might be competitive. Team members become competitive when their personal goals become more important than the team goal (Levi, 2011). Thus, it is possible that team members might compete for rewards, if rewards of using the innovation are based on the individual performance. On the other hand, if rewards are based on the team performance, then the overall usage as well as individual usage might increase accordingly because team members might help each other. Some other characteristics associated with a team, such as the team culture, the team cohesiveness, the communication pattern within the team, etc., are said to impact team members' behaviors and performance (Thompson, 2011). However, this study did not measure that aspect, so the influence of such contextual factors could be a topic for future research.

REFERENCE

- Agarwal, R., & Prasad, J. 1997. The role of innovaiton characteristics and perceived voluntarines in the acceptance of information technologies. *Decision Sciences*, 28: 557-582.
- Agarwal, R., & Prasad, J. 1998. A conceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research*, 9: 204-215.
- Alavi, M., & Joachimsthaler, E. A. 1992. Revisiting DSS implementation research: A meta-analysis of the literature and suggestions for researchers. *MIS Quarterly*, March: 95-116.
- Alavi, M., & Leidner, D. E. 1999. Knowledge management systems: Issues, challenges, and benefits. *Communications of the Association for Information Systems*, 1: 1-37.
- Amabile, T. 1985. Motivation and creativity: Effects of motivational orientation on creative writers. *Journal of Personality and Social Psychology*, 48: 393-399.
- Amabile, T., Hill, K., Hennessey, B., & Tighe, E. 1994. The Work Preference Inventory: Assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology*, 66: 950-967.
- Angle, H. L., & Van de Ven, A. H. 2000. Suggestions for managing the innovation journey. In A. H. Van de Ven, H. L. Angle, & M. S. Poole (Eds.), *Research on the management of innovation: The Minnesota studies*: 663-697. New York: Oxford University Press.
- Arnold, H. 1985. Task performance, perceived competence, and attributed causes of performance as determinants of intrinsic motivation. *Academy of Management Journal*, 28: 876-888.
- Avolio, B. J. 1999. *Full leadership development*. Thousand Oaks, CA: Sage.
- Avolio, B. J., & Bass, B. M. 1991. *The full range of leadership development: Basic and advanced manuals*. Binghamton, NY: Bass, Avolio, & Associates.
- Avolio, B. J., Bass, B. M., & Jung, D. I. 1999. Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *Journal of Occupational and Organizational Psychology*, 72: 441-462.
- Balogun, J. 2003. From blaming the middle to harnessing its potential: Creating change intermediaries. *British Journal of Management*, 14: 69-83.
- Barki, H., & Hartwick, J. 1994a. Measuring user participation, user involvement, and user attitude. *MIS Quarterly*, March: 59-82.
- Barki, H., & Hartwick, J. 1994b. User participation, conflict, and conflict resolution: The mediating roles of influence. *Information Systems Research*, 5: 422-438.
- Barbuto, J. Jr., & Marx, D. 2002. A field examination of two measures of work motivation as predictors of leaders' influence tactics. *The Journal of Social Psychology*, 142: 601-616.
- Barbuto, J. Jr., & Moss, J. 2006. Dispositional effects in intra-organizational influence tactics: A meta-analytic review. *Journal of Leadership and Organizational Studies*, 12: 30-52.

- Baron, R. M., & Kenny, D. 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51: 1173-1182.
- Bass, B. M. 1985. *Leadership and performance beyond expectations*. New York: Free Press.
- Bass, B. M. 1998. *Transformational leadership: Industry, military, and educational impact*. Mahwah, NJ: Erlbaum.
- Bass, B. M. 1999. Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8 (1): 9-32.
- Bass, B. M., & Avolio, B., J. 1997. *Full-range of leadership development: Manual for the Multifactor Leadership Questionnaire*. Palo Alto, CA: Mind Garden.
- Beaudry, A., Pinsonneault, A. 2005 Understanding user responses to information technology: A coping model of user adaptation. *MIS Quarterly*, 29: 493-524.
- Berson, Y., & Sosik, J. J. 2007. The relationship between self other rating agreement and influence tactics and organizational processes. *Group & Organization Management*, 32: 675-698.
- Bhattacharjee, A., & Sanford, C. 2006. Influence processes for information technology acceptance: An elaboration likelihood model. *MIS Quarterly*, 30: 805-825.
- Bhattacharjee, A., & Premkumar, G. 2004. Understanding changes in belief and attitude toward information technology usage: A theoretical model and longitudinal test. *MIS Quarterly*, 28: 229-254.
- Blickle, G. 2000. Do work values predict the use of intraorganizational influence strategies? *Journal of Applied Social Psychology*, 30: 196-205.
- Brennan, J., Miller, L., & Seltzer, J. 2001. Influence tactics and effectiveness. *The Journal of Social Psychology*, 133: 747-748.
- Burns, J. M. 1978. *Leadership*. New York, NY: Harper & Row.
- Burke, W. W. 2008. *Organization change: Theory and practice*. 2nd Ed. Thousand Oaks, CA: Sage Publications.
- Burton-Jones, A., & Straub, Jr., D. W. 2006. Reconceptualizing system usage: An approach and empirical test. *Information Systems Research*, 17: 228-246.
- Cable, D. M., & Judge, T. A. 2003. Managers' upward influence tactic strategies: The role of manager personality and supervisor leadership style. *Journal of Organizational Behavior*, 24: 197-214.
- Castro, S., Douglas, C. Hochwarter, W., Ferris, G., & Frink, D. 2003. The effects of positive affect and gender on the influence tactics-job performance relationship. *Journal of Leadership and Organizational Studies*, 10: 1-18.
- Chin, R., & Benne, K. D. 1985. General strategies for effecting changes in human systems. In W. G. Bennis, K. D. Benne, & R. Chin (Eds.), *The Planning of Change*: 32-59. New York, NY: Holt, Rinehart and Winston, Inc.
- Choi, J. N. 2004. Individual and contextual dynamics of innovation-use behavior in organizations. *Human Performance*, 17: 397-414.
- Choi, J. N., & Chang, J. Y. 2009. Innovation implementation in the public sector: An integration of institutional and collective dynamics. *Journal of Applied Psychology*, 94: 245-253.
- Clarke, S., & Ward, K. 2006. The role of leader influence tactics and safety climate in engaging employees' safety participation. *Risk Analysis*, 26: 1175-1185.

- Cooper, R. B., & Zmud, R. T. 1990. Information technology implementation research: A technological diffusion approach. *Management Science*, 36: 123-139.
- Dalkir, K. 2005. *Knowledge management in theory and practice*. Burlington, MA: Elsevier Inc.
- Damanpour, F. 1991. Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34: 555-590.
- Damanpour, F., & Schneider, M. 2006. Phases of the adoption of innovation in organizations: Effects of environment, organization, and top managers. *British Journal of Management*, 17: 215-236.
- Danneels, E. 2002. The dynamics of product innovation and firm competences. *Strategic Management Journal*, 23: 1095-1121.
- Davenport, T. H., De Long, D. W., & Beers, M. C. 1998. Successful knowledge management projects. *Sloan Management Review*, Winter: 43-57.
- Davenport, T. H., & Prusak, L. 1998. *Working knowledge: How organizations manage what they know*. Boston, MA: Harvard Business School Press.
- Davis, F. D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, September: 319-340.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. 1992. Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Psychology*, July: 618-634.
- Deci, E., Koestner, R., & Ryan, R. 1999. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125: 627-668.
- Dienesch, R. M., & Liden, R. C. 1986. Leader-member exchange model of leadership: A critique and further development. *Academy of Management Review*, 34: 555-590.
- Downs, G. W., Mohr, L. B. 1976. Conceptual issues in the study of innovation. *Administrative Science Quarterly*, 21: 700-714.
- Ehrhart, M. G., & Klein, K. J. 2001. Predicting followers' preferences for charismatic leadership: The influence of follower values and personality. *The Leadership Quarterly*, 12: 153-179.
- Falbe, C. M., Yukl, G. 1992. Consequences for managers of using single influence tactics and combinations of tactics. *Academic of Management Journal*, 35: 638-652.
- Floyd, S., & Wooldridge, B. 1992. Middle management involvement in strategy and its association with strategic type: A research note. *Strategic Management Journal*, 13: 153-167.
- Fu, P. P., Kennedy, J., Tata, J., Yukl, G., Bond, M. H., Peng, T. K., Srinivas, E. S., Howell, J. P., Prieto, L., Koopman, P., Boonstra, J. J., Pasa, S., Lacassagne, M., Higashide, H., & Cheosakul, A. 2004a. The impact of societal cultural values and individual social beliefs on the perceived effectiveness of managerial influence strategies: A meso approach. *Journal of International Business Studies*, 35: 284-305.
- Fu, P. P., Peng, T. K., Kennedy, J. C., & Yukl, G. 2004b. Examining the preferences of influence tactics in Chinese societies: A comparison of Chinese managers in Hong Kong, Taiwan and Mainland China. *Organizational Dynamics*, 33: 32-46.
- Fu, P. P., & Yukl, G. 2000. Perceived effectiveness of influence tactics in the United States and China. *Leadership Quarterly*, 11: 251-266.

- Fu, P. P., Yukl, G., Kennedy, J., Srinivas, E.S., Cheosakul, A., Peng, T.K., & Tata, J. 2001. Cross-cultural comparison of influence behavior: A preliminary report. *Academy of Management Proceedings & Membership Directory*, 2001: D1-D6.
- Furst, S. A., & Cable, D. M. 2008. Employee resistance to organizational change: Managerial influence tactics and leader-member exchange. *Journal of Applied Psychology*, 93: 453-462.
- Gagne, M. & Deci, E. 2005. Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26: 331-362.
- Gopalakrishnan, S., & Damanpour, F. 1994. Patterns of generation and adoption of innovation in organizations: Contingency models of innovation attributes. *Journal of Engineering and Technology Management*, 11: 95-116.
- Grohowski, R., & Vogel, D. 1990. Implementing electronic meeting systems at IBM: Lessons learned and success factors. *MIS Quarterly*, December: 369-383.
- Grover, V. & Davenport, T. H. 2001. General perspectives on knowledge management: Fostering a research agenda. *Journal of Management Information Systems*, 18: 5-21.
- Hage, J., & Aiken, M. 1970. *Social change in complex organizations*. New York: Random House.
- Hartwick, J., & Barki, H. 1994. Explaining the role of user participation in information system use. *Management Science*, 40: 440-465.
- Herold, D. M., Fedor, D. B., Caldwell, S., & Liu, Y. 2008. The effects of transformational and change leadership on employees' commitment to a change: A Multilevel study. *Journal of Applied Psychology*, 93: 346-357.
- Higgins, C., & Judge, T. 2004. The effect of applicant influence tactics on recruiter perceptions of fit and hiring recommendations: A field study. *Journal of Applied Psychology*, 89: 622-632.
- Higgins, C., Judge, T., & Ferris, G. 2003. Influence tactics and work outcomes: A meta-analysis. *Journal of Organizational Behavior*, 24: 89-106.
- Hofstede, G., Hofstede, G., & Minkov, M. 2010. *Cultures and organizations: Software of the mind*. London: McGraw-Hill.
- Holahan, P. J., Aronson, Z. H., Jurkat, M. P., & Schoorman, F. D. 2004. Implementing computer technology: A multiorganizational test of Klein and Sorra's model. *Journal of Engineering and Technology Management*, 21: 31-50.
- Howell, J. M., & Avolio, B. J. 1993. Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. *Journal of Applied Psychology*, 78: 891-902.
- Howell, J. M., & Higgins, C. A. 1990. Champions of technological innovations. *Administrative Science Quarterly*, 35: 317-341.
- Huy, Q. 2001. In praise of middle managers. *Harvard Business Review*, 79: 72-79.
- Huy, Q. 2002. Emotional balancing of organizational continuity and radical change: The contribution of middle managers. *Administrative Science Quarterly*, 47: 31-69.
- Igarria, M., Zinzelli, N., Cragg, P., & Cavaye, A. 1997. Personal computing acceptance factors in small firms: A structural equation model. *MIS Quarterly*, September, 279-305.

- Ives, B., & Olson, M. 1984. User involvement and MIS success: A review of research. *Management Science*, 30: 586-603.
- Jasperson, J., Carter, P. M., & Zmud, R. W. 2005. A Comprehensive conceptualization of post-adoptive behaviors associated with information technology enabled work systems. *MIS Quarterly*, 29 (3): 525-557.
- Judge, T. A., & Piccolo, R. F. 2004. Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89: 755-768.
- Jung, D. I., Chow, C., & Wu, A. 2003. The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *Leadership Quarterly*, 14: 525-544.
- Kankanhalli, A. Tan, B. C. Y., & Wei, K. 2005. Contributing knowledge to electronic knowledge repositories: An empirical investigation. *MIS Quarterly*, 29: 113-143.
- Kanter, R. M. 1984. *The Change Masters*. New York: Simon & Schuster, Inc.
- Kanter, R. M. 1988. When a thousand flowers bloom: Structural, collective, and social conditions for innovation in organization. *Research in Organizational Behavior*, 10: 169-211.
- Kanter, R. M. 2004. The middle manager as innovator. *Harvard Business Review*, 82: 150-161.
- Ke, W., & Wei, K. K. 2008. Organizational culture and leadership in ERP implementation. *Decision Support Systems*, 45: 208-218.
- Keller, R. T. 1992. Transformational leadership and the performance of research and development project groups. *Journal of Management*, 18: 489-501.
- King, W. R., Marks, Jr. P. V., & McCoy, S. 2002. The most important issues in knowledge management. *Communications of the ACM*, 45: 93-97.
- Kipnis D., & Schmidt, S. M. 1985. The language of persuasion. *Psychology Today*, April: 40-46.
- Kipnis, D., Schmidt, S., & Wilkinson, I. 1980. Intra-organizational influence tactics: Explorations in getting one's way. *Journal of Applied Psychology*, 65: 440-452.
- Kirkman, B.; Chen, G.; Farh, J.; Chen, Z.; Lowe, K. 2009. Individual power distance orientation and follower reactions to transformational leaders: A cross-level, cross-cultural examination. *Academy of Management Journal*, 52: 744-764.
- Klein, K. J., Conn, A. B., & Sorra, J. S. 2001. Implementing computerized technology: An organizational analysis. *Journal of Applied Psychology*, 86 (5): 811-824.
- Klein, K. J., & Knight, A. P. 2005. Innovation implementation: Overcoming the challenge. *American Psychological Society*, 14 (5): 243-246.
- Klein, K. J., & Sorra, J. S. 1996. The challenge of innovation implementation. *Academy of Management Review*, 21 (4): 1055-1080.
- Kolodinsky R. W., Treadway, D. C., & Ferris, G. R. 2007. Political skill and influence effectiveness: Testing portions of an expanded Ferris and Judge (1991) model. *Human Relations*, 60: 1747-1777.
- Kotter, J. P., & Schlesinger, L. A. 1979. Choosing strategies for change. *Harvard Business Review*, 57: 106-114.
- Latham, G., & Pinder, C. 2005. Work motivation theory and research at the dawn of the twenty-first century. *Annual Review of Psychology*, 56: 485-516.

- Lee, J. 2008. Effects of leadership and leader-member exchange on innovativeness. *Journal of Managerial Psychology*, 23: 670-687.
- Leonard-Barton, D. 1988. Implementation characteristics of organizational innovations: Limits and opportunities for management strategies. *Communication Research*, 15 (5): 603-631.
- Leonard-Barton, D., & Deschamps, I. 1988. Managerial influence in the implementation of new technology. *Management Science*, 34: 1252-1265.
- Leong, J, Bond, M. H., & Fu, P. P. 2006. Perceived effectiveness of influence strategies in the United States and three Chinese societies. *International Journal of Cross Cultural Management*, 6: 101-120.
- Leong, J, Bond, M. H., & Fu, P. P. 2007. Perceived effectiveness of influence strategies among Hong Kong managers. *Asia Pacific Journal of Management*, 24: 75-96.
- Levi, D. 2011. *Group dynamics for teams*. Thousand Oaks, CA: Sage Publications.
- Lewis, W., Agarwal, R., & Sambamurthy, V. 2003. Sources of influence on beliefs about information technology use: An empirical study of knowledge workers. *MIS Quarterly*, 27: 657-678.
- Lines, R. 2007. Using power to install strategy: The relationships between expert power, position power, influence tactics and implementation success. *Journal of Change Management*, 7: 143-170.
- Loscocco, K. A. 1989. The instrumentally oriented factory worker. *Work and Occupations*, 16: 3-25.
- McAfee, A. P. 2006. Enterprise 2.0: The dawn of emergent collaboration. *MIT Sloan Management Review*, Spring: 21-28.
- Meyer, A., & Goes, J. 1988. Organizational assimilation of innovation: A multilevel contextual analysis. *Academy of Management Journal*, 31: 897-923.
- Miller, S. 1997. Implementing strategic decisions: Four key success factors. *Organization Studies*, 18: 577-602.
- Moore, G. C., & Benbasat, I. 1991. Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research*, 2: 192-222.
- Nemanich, L. A., & Keller, E. T. 2007. Transformational leadership in an acquisition: A field study of employees. *The Leadership Quarterly*, 18: 49-68.
- Nutt, P. C. 1986. Tactics of implementation. *Academy of Management Journal*, 29 (2): 230-261.
- Nutt, P. C. 1998. Leverage, resistance, and the success of implementation approaches. *Journal of Management Studies*, 35: 213-240.
- Pierro, A., Cicero, L, & Raven. B. 2008. Motivated compliance with bases of social power. *Journal of Applied Social Psychology*, 38: 1921-1944.
- Podsakoff, P., MacKenzie, S., Lee, J. Y., & Podsakoff, N. 2003. Common method biases in behavioral research: A critical review of the literature ad recommended remedies. *Journal of Applied Psychology*, 88: 879-903.
- Preacher, K., & Hayes, A. 2004. SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36: 717-731.

- Preacher, K., & Hayes, A. 2008. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40: 879-891.
- Real, K., & Poole, M.S. 2005. Innovation implementation: Conceptualization and measurement in organizational research. In R. W. Woodman & W. A. Pasmore (Eds.), *Research in Organizational Change and Development*, 15: 63-134. Greenwich, CT: Elsevier.
- Robbins, S. P., & Judge, T. A. 2010. *Organizational Behavior*. 14th Edition, Upper Saddle River, NJ: Pearson Education Inc.
- Roberts, P. W., & Amit, R. 2003. The dynamics of innovative activity and competitive advantage: The case of Australian retail banking, 1981 to 1995. *Organization Science*, 14: 107-122.
- Rogers, E. M. 2003. *Diffusion of innovations*. New York: Free Press.
- Schermerhorn, J., & Bond, M. 1991. Upward and downward influence tactics in managerial networks: A comparative study of Hong Kong Chinese and Americans. *Asia Pacific Journal of Management*, 8: 147-158.
- Schultze, U., & Leidner, D. E. 2002. Studying knowledge management in information systems research: Discourses and theoretical assumptions. *MIS Quarterly*, 26: 213-242.
- Shalley, C., Oldham, G., & Porac, J. 1987. Effects of goal difficulty, goal-setting method, and expected external evaluation on intrinsic motivation. *Academy of Management Journal*, 30: 553-563
- Sharma, R., & Yetton, P. 2007. The contingent effects of training, technical complexity, and task interdependence on successful information systems implementation. *MIS Quarterly*, 31: 219-238.
- Shrout, P. E., & Bolger, N. 2002. Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7: 422-445.
- Sparrowe, R., Soetjianto, B., & Kraimer, M. 2006. Do leaders influence tactics relate to members' helping behavior? It depends on the quality of the relationship. *Academy of Management Journal*, 49: 1194-1208.
- Standiford, S., Pons, F., & Moshavi, D. 2008. Influence tactics in the classroom and their relationship to student satisfaction. *Decision Sciences Journal of Innovative Education*, 6: 135-152.
- Steensma, H. 2007. Why managers prefer some influence tactics to other tactics: A net utility explanation. *Journal of Occupational and Organizational Psychology*, 80: 355-362.
- Steers, R., Mowday, R., & Shapiro, D. 2004. The future of work motivation theory. *Academy of Management Review*, 29: 379-387.
- Thierauf, R. J. 1999. *Knowledge management systems for business*. Westport, CT: Quorum Books.
- Thompson, L. 2011. *Making the team: A guide for managers*. 4th Edition, Upper Saddle River, NJ: Pearson Education Inc.
- Thompson, R. L., Higgins, C. A., & Howell, J. M. 1991. Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, 15: 124-143.
- Tornatzky, L.G., & Fleisher, M. 1990. *The Process of Technological Innovation*. Lexington, MA: Lexington Books.

- Tornatzky, L.G., & Klein, K. 1982. Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on Engineering Management*, 29: 28-43.
- Treadway, D. C., Ferris, G. R., Duke, A. B., Adams, G. L., & Thatcher, J. B. 2007. The moderating role of subordinate political skill on supervisors' impressions of subordinate ingratiation and ratings of subordinate interpersonal facilitation. *Journal of Applied Psychology*, 92: 848-855.
- Uyterhoeven, H. 1989. General managers in the middle. *Harvard Business Review*, 67: 136-145.
- Van Knippenberg, B., & Steensma, H. 2003. Future interaction expectation and the use of soft and hard influence tactics. *Applied Psychology: An International Review*, 52: 55-67.
- Van Knippenberg, B., Van Eijbergen, R., & Wilke, H. 1999. The use of hard and soft influence tactics in cooperative task groups. *Group Processes & Intergroup Relations*, 2: 231-244.
- Van Knippenberg, B., Van Knippenberg, D., Blaauw, E., & Vermunt, R. 1999. Relational considerations in the use of influence tactics. *Journal of Applied Social Psychology*, 29: 806-819.
- Vecchio, R., & Sussmann, M. 1991. Choice of influence tactics: Individual and organizational determinants. *Journal of Organizational Behavior*, 12: 73-80.
- Venkatesh, V. 1999. Creation of favorable user perceptions: Exploring the role of intrinsic motivation. *MIS Quarterly*, 23 (2): 239-260.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. 2003. User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 3: 425-478.
- Venkatesh, V., Brown, S. A., Maruping, L. M., & Bala, H. 2008. Predicting different conceptualizations of system use: The competing roles of behavioral intention, facilitating conditions, and behavioral expectation. *MIS Quarterly*, 32 (3): 483-502.
- Wiig, K. M. 1997. Integrating intellectual capital and knowledge management. *Long Range Planning*, 30: 399-405.
- Wolfe, R. 1994. Organizational innovation: Review, critique, and suggested research directions. *Journal of Management Studies*, 31: 405-431.
- Wu, J., & Lederer, A. 2009. A meta-analysis of the role of environment-based voluntariness in information technology acceptance. *MIS Quarterly*, 33: 419-432.
- Yi, M. Y., Fiedler, K. D., & Park, J. S. 2006. Understanding the role of individual innovativeness in the acceptance of IT-based innovations: Comparative analyses of models and measures. *Decision Sciences*, 37: 393-426.
- Yukl, G. 2010. *Leadership in Organizations*. 7th Edition, Upper Saddle River, NJ: Pearson Education Inc.
- Yukl, G., Chavez, C., & Seifert, C. F. 2005. Assessing the construct validity and utility of two new influence tactics. *Journal of Organizational Behavior*, 26: 705-725.
- Yukl, G., & Falbe, C. M. 1990. Influence tactics and objectives in upward, downward, and lateral influence attempts. *Journal of Applied Psychology*, 75: 132-140.
- Yukl, G., Falbe, C. M., & Yoon, J. Y. 1993. Patterns of influence behavior for managers. *Group & Organization Management*, 18: 5-28.

- Yukl, G., Fu, P. P., & McDonald, R., 2003. Cross-cultural differences in perceived effectiveness of influence tactics for initiating or resisting change. *Applied Psychology: An International Review*, 52: 68-82.
- Yukl, G., Guinan, P. J., & Sottolano, D. 1995. Influence tactics used for different objectives with subordinates, peers, and superiors. *Group & Organization Management*, 20: 272-296.
- Yukl, G., Kim, H., & Chavez, C. 1999. Task importance, feasibility, and agent influence behavior as determinants of target commitment. *Journal of Applied Psychology*, 84: 137-143.
- Yukl, G., Lepsinger, R., & Lucia, T. 1992. Preliminary report on development and validation of the Influence Behavior Questionnaire. In K. Clark, M. Clark, & D. Campbell (Eds), *The Impact of Leadership*: 417-427. Greensboro, NC: Center for Creative Leadership.
- Yukl, G., Seifert, C. F., Chavez, C. 2008. Validation of the extended influence Behavior Questionnaire. *The Leadership Quarterly*, 19: 609-621.
- Yukl, G., & Tracey, J. B. 1992. Consequences of influence tactics used with subordinates, peers, and the boss. *Journal of Applied Psychology*, 77: 525-535.
- Yukl, G., & Van Fleet, D. 1982. Cross-situational, multimethod research on military leader effectiveness. *Organizational Behavior and Human Performance*, 30: 87-108.
- Zaltman, G., Duncan, R., & Holbek, J. 1973. *Innovations and organizations*. New York: Wiley.
- Zhang, X. & Bartol, K. 2010. Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal*, 53: 107-128.
- Zhu, K., Kraemer, K., & Xu, S. 2006. The process of innovation assimilation by firms in different countries: A technology diffusion perspective on e-business. *Management Science*, 52, 1557-1576.

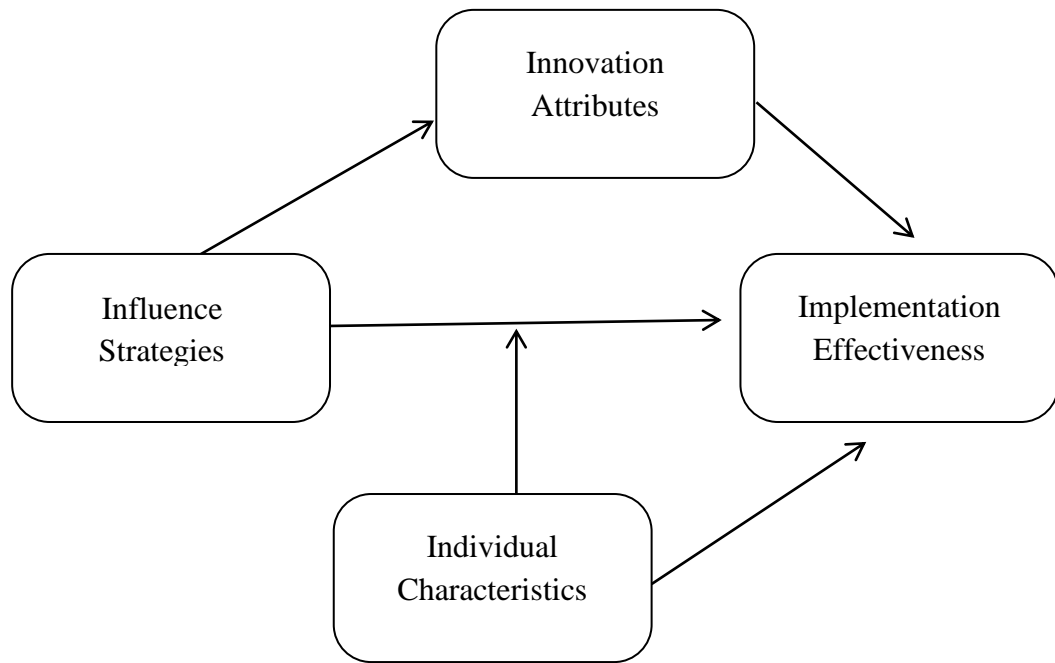
FIGURE 1: Theoretical model

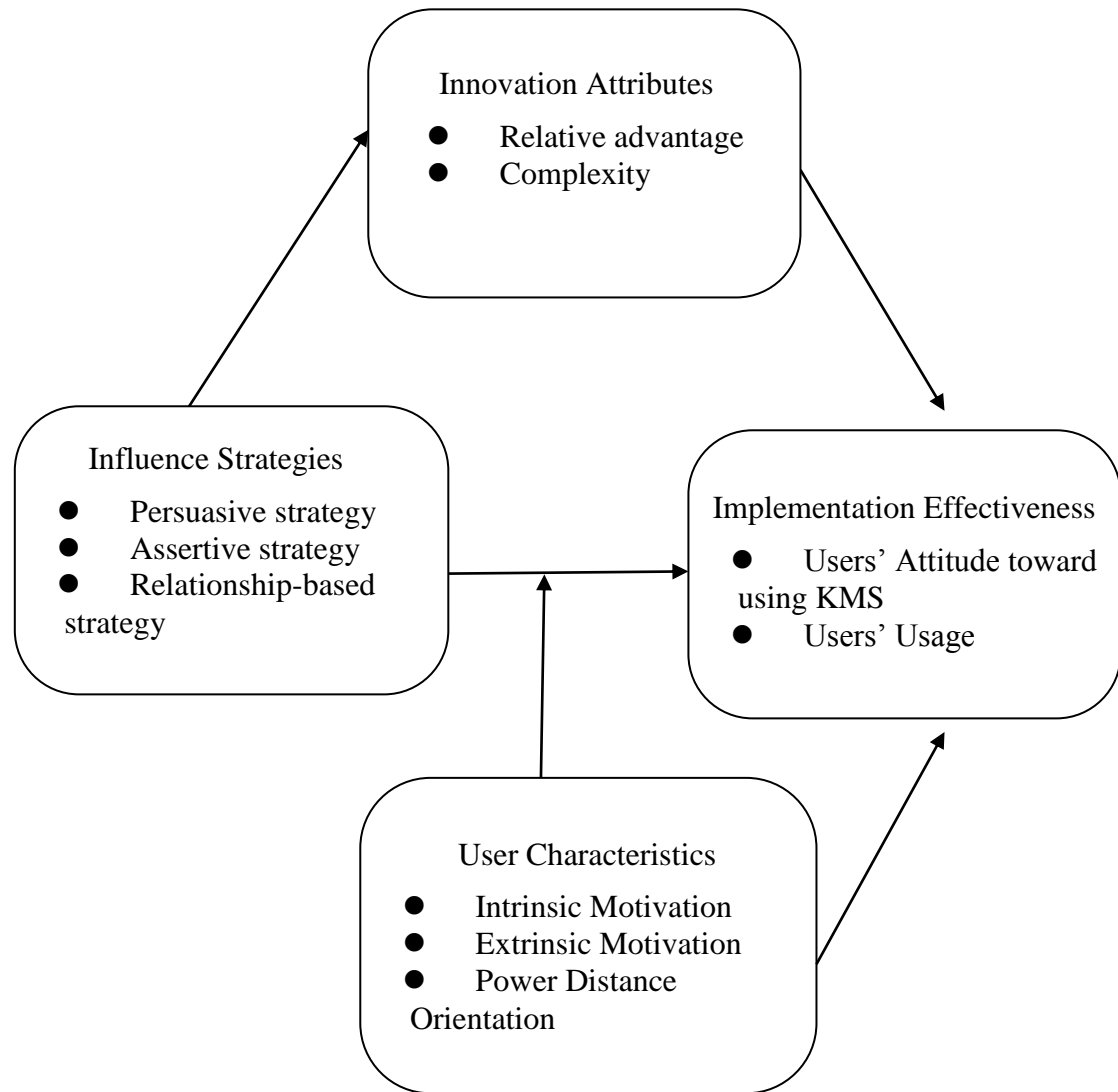
FIGURE 2: Operational model

FIGURE 3: Relative advantage as a mediator between influence strategies and users' attitude (all samples)

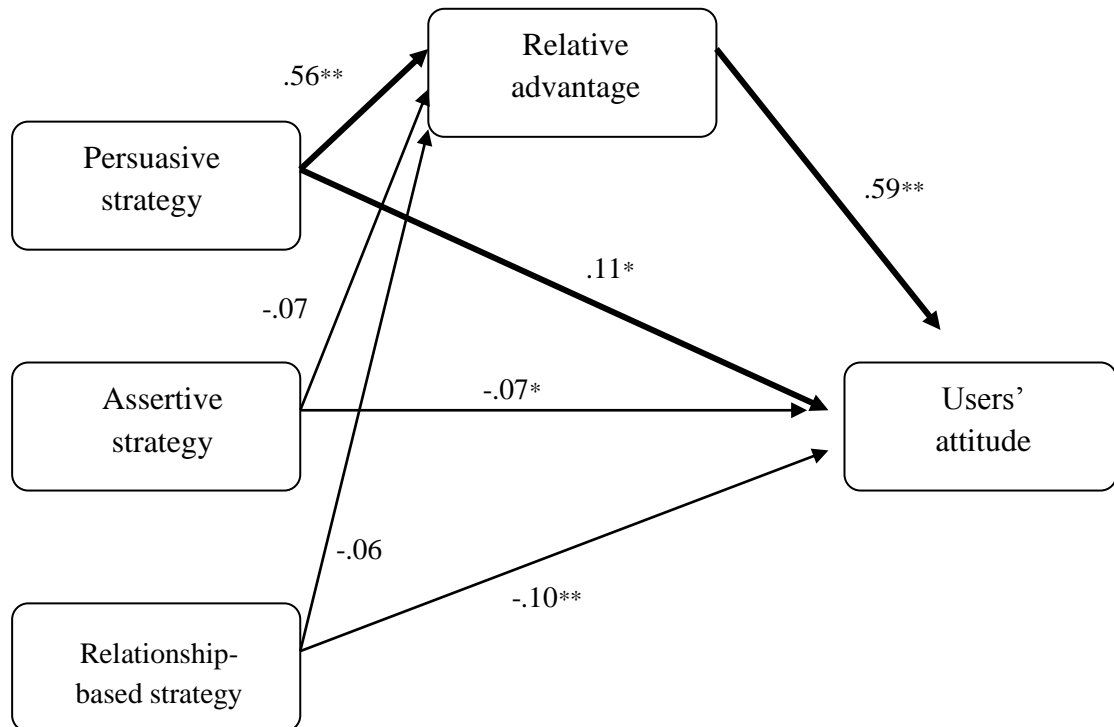


FIGURE 4: Complexity as a mediator between influence strategies and users' attitude (all samples)

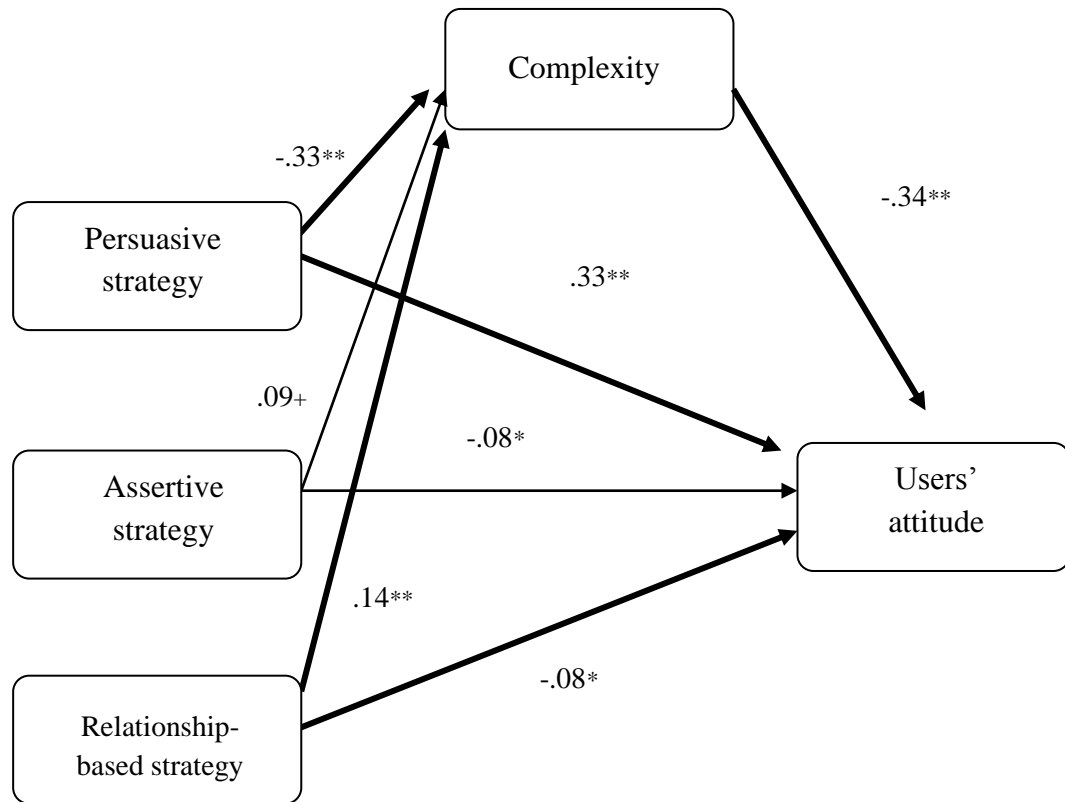


FIGURE 5: Complexity as a mediator between influence strategies and users' usage (all samples)

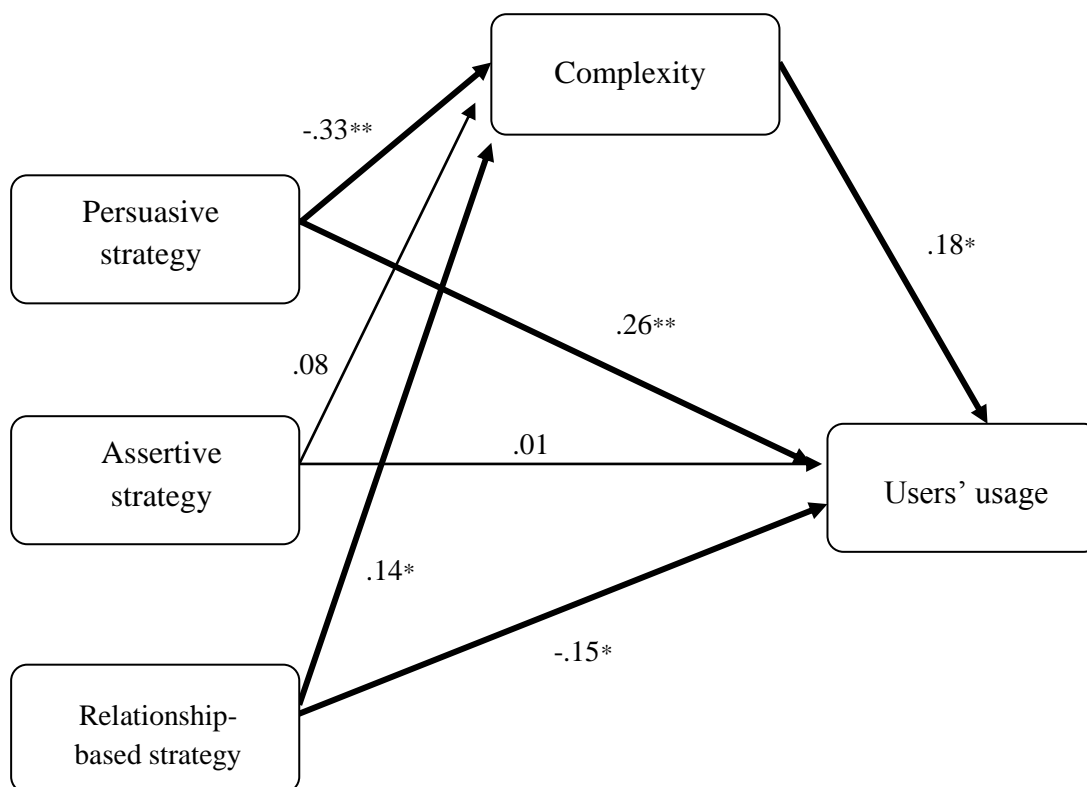


FIGURE 6: Relative advantage as a mediator between influence strategies and users' attitude (EleCom only)

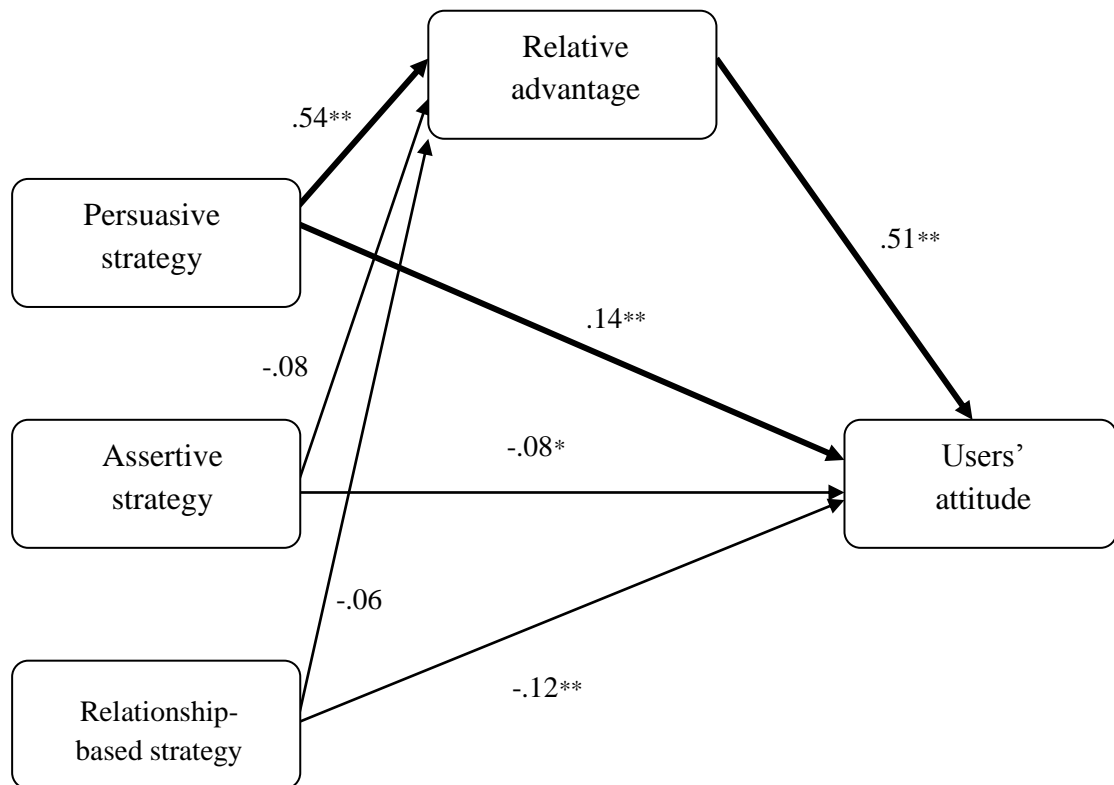


FIGURE 7: Complexity as a mediator between influence strategies and users' attitude (EleCom only)

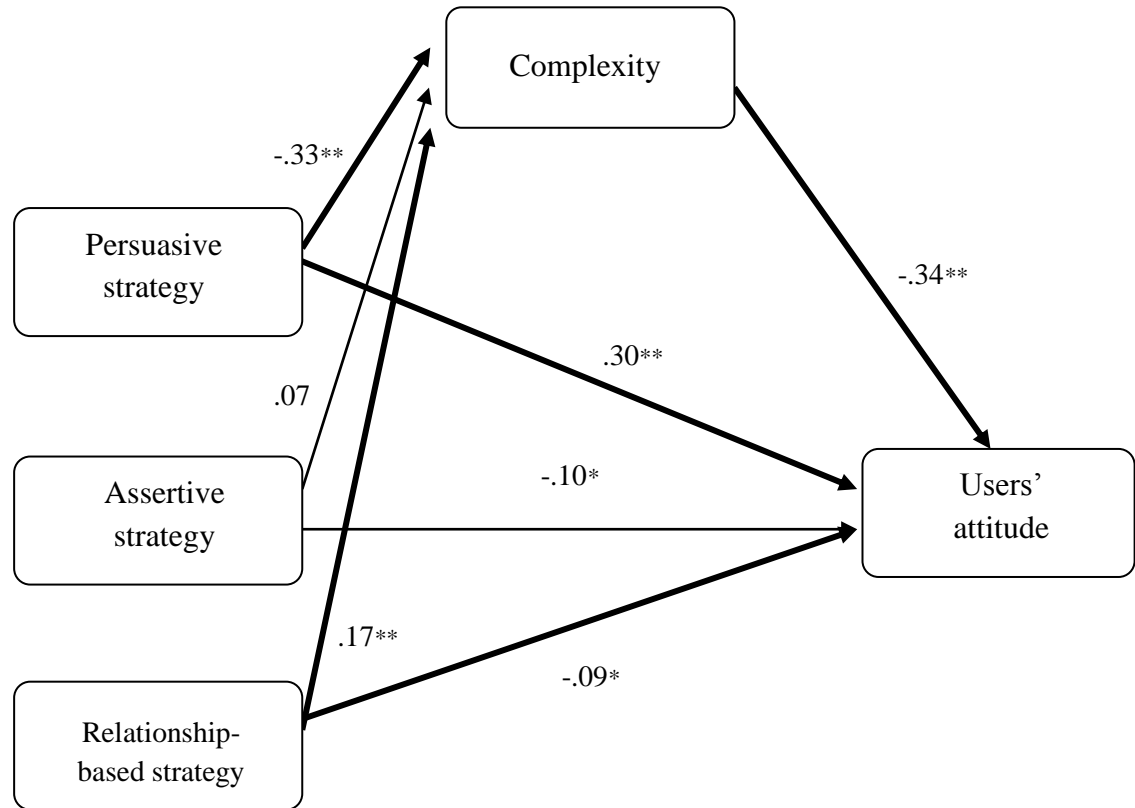


FIGURE 8: Relative advantage as a mediator between influence strategies and users' attitude (TeleCom only)

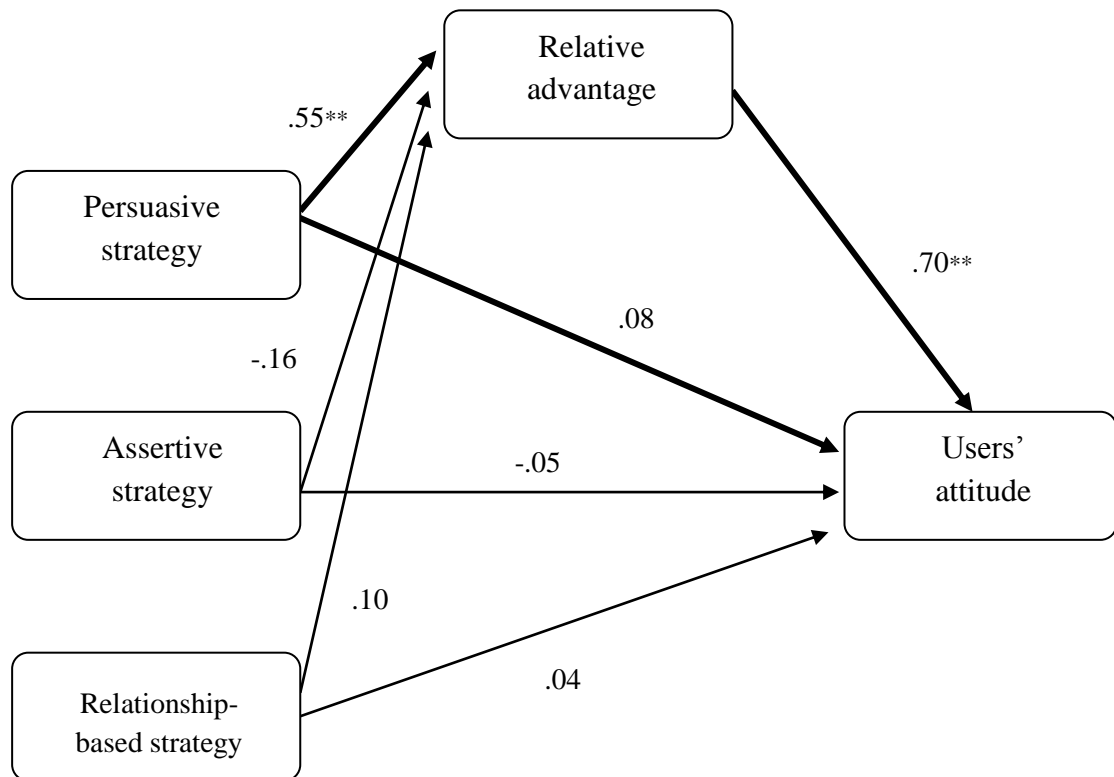


TABLE 1: Definition of influence strategies

Influence Strategies	Influence tactics	Definition
Persuasive Strategy	Rational persuasion	The agent uses logical arguments and factual evidence to show that a proposal or request is feasible and relevant for important task objectives.
	Apprising	The agent explains how carrying out a request or supporting a proposal will benefit the target personally or help to advance the target's career.
	Consultation	The agent seeks the target person to suggest improvements or help plan a proposed activity or change for which the target person's support is desired.
	Collaboration	The agent offers to provide assistance or necessary resources if the target will carry out a request or approve a proposed change.
	Inspirational appeals	The agent appeals to the target's values and ideals, or seeks to arouse the target person's emotions to gain commitment for a request or proposal.
Assertive Strategy	Pressure	The agent uses demands, threats, frequent checking, or persistent reminders to influence the target to do something.
	Legitimizing	The agent seeks to establish the legitimacy of a request or to verify that he/she has the authority to make it.
	Persistence	Plead with or beg the target to carry out a request or support a proposal repeatedly.
Relationship-based Strategy	Coalition	The agent enlists the aid of others or uses the support of others, as a way to influence the target to do something.
	Personal appeals	The agent asks the target to carry out a request or support a proposal out of friendship, or asks for a personal favor before saying what it is.
	Socializing	The agent talks about a subject irrelevant to the request but of interest to the target person, such as family, children, or sports, before making the request.
	Exchange	The agent offers something that the target person wants, or offers to reciprocate at a later time, if the target will do what the agent requests.
	Ingratiation	The agent uses praise and flattery before or during an attempt to influence the target person to carry out a request or support a proposal.

TABLE 2: Results of the factor analysis of employees' attitude

Original Variable	items	Factor loading 1
Attitude toward using KMS	1. Using this system in my job is a good idea.	.830
	2. Using this system in my job is a foolish move. (reverse coded)	.835
	3. Using this system in my job will be unpleasant. (reverse coded)	.817
	4. Overall, I like the idea of using this system in my job.	.849
Immediate commit toward the manager's request of using KMS	5. I am willing to put in a great deal of effort beyond that normally expected in order to learn to use this system.	.656
	6. I am proud to tell others that the organization I am working for has implemented an advanced system.	.799
	7. This new system really inspires the very best in me in the way of job performance.	.811
	8. I am glad my company has this system.	.848

Extraction Method: Principal Component Analysis.

TABLE 3: Results of factor analysis of abbreviated items¹ measuring influence tactics

Items	1	2	3	4	5
1. Uses facts and logic to make a persuasive case for using the technology.	.80	.00	.05	.17	-.16
2. Explains clearly how the new technology will benefit the company.	.81	.10	.05	.03	-.03
3. Explains how the new technology could help your career.	.80	-.03	.00	-.05	-.10
4. Explains how you can benefit from using the technology.	.84	.06	.03	.00	-.08
5. Asks for your ideas about using the new technology.	.78	.13	-.12	.09	.24
6. Encourages you to express any concerns about the new technology.	.78	-.02	-.05	.13	.28
7. Offers to provide resources you would need to use the technology.	.69	-.07	.00	.15	.24
8. Tells you that he will assist you in using the technology.	.74	.03	-.14	.17	.30
9. Describes how the technology supports your values.	.75	.10	-.09	.08	.25
10. Makes an inspiring presentation to arouse enthusiasm to use the technology.	.76	.13	-.11	.13	.22
11. Keeps telling you how important and urgent it is to use the technology.	.46	.24	.25	.12	.56
12. Repeats the request to use the technology.	.32	.02	.40	.04	.63
13. Uses threats or warnings when trying to get you to use the technology.	-.20	.18	.83	-.09	.13
14. Tries to pressure you to use the technology.	-.14	.17	.88	-.06	.06
15. Gets others to explain why you need to use the technology.	.22	.19	.08	.82	.11
16. Asks someone you respect to help influence you to use the technology.	.20	.38	.07	.77	.07
17. Says he has the right to ask you to use the technology.	-.10	.32	.64	.35	-.01
18. Says using the technology is consistent with company rules and policies.	.20	-.10	.47	.31	.04
19. Asks you to use the technology as a personal favor.	.06	.81	.19	.17	-.10
20. Appeals to your friendship when asking you to use the technology.	.03	.84	.17	.13	-.06
21. Talks about family before asking you to use the technology.	.08	.80	.04	.10	.16
22. Discusses non-work topics before asking you to use the technology.	.01	.78	.00	.02	.18
23. Offers to provide rewards if you use the technology.	-.01	.80	.14	.02	-.04
24. Offers compensation for the time you spend learning using the technology.	-.02	.85	.10	.04	-.04
25. Says your ability and experience will make it easy for you to use the technology.	.18	.62	-.06	.20	.51
26. Praises your past achievements when asking you to use the technology.	.19	.70	-.07	.19	.40

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

¹ Please consult the author prior to adopting these items.

TABLE 4: Results of Factor Analysis after deleting item 11

Items	1	2	3	4	5
1. Uses facts and logic to make a persuasive case for using the technology.	.79	-.01	.03	.17	-.19
2. Explains clearly how the new technology will benefit the company.	.81	.10	.04	.03	-.08
3. Explains how the new technology could help your career.	.79	-.03	-.02	-.05	-.16
4. Explains how you can benefit from using the technology.	.83	.06	.02	.00	-.14
5. Asks for your ideas about using the new technology.	.80	.13	-.10	.08	.21
6. Encourages you to express any concerns about the new technology.	.80	-.02	-.02	.11	.27
7. Offers to provide resources you would need to use the technology.	.70	-.07	.03	.14	.24
8. Tells you that he will assist you in using the technology.	.76	.03	-.10	.17	.28
9. Describes how the technology supports your values.	.77	.10	-.06	.08	.20
10. Makes an inspiring presentation to arouse enthusiasm to use the technology.	.78	.13	-.09	.13	.17
12. Repeats the request to use the technology.	.36	.03	.46	.03	.53
13. Uses threats or warnings when trying to get you to use the technology.	-.19	.19	.84	-.09	.05
14. Tries to pressure you to use the technology.	-.14	.18	.89	-.06	-.02
15. Gets others to explain why you need to use the technology.	.23	.19	.09	.83	.09
16. Asks someone you respect to help influence you to use the technology.	.21	.38	.06	.78	.04
17. Says he has the right to ask you to use the technology.	-.10	.33	.64	.35	-.05
18. Says using the technology is consistent with company rules and policies.	.19	-.11	.47	.29	.06
19. Asks you to use the technology as a personal favor.	.05	.82	.17	.19	-.16
20. Appeals to your friendship when asking you to use the technology.	.02	.85	.15	.14	-.11
21. Talks about family before asking you to use the technology	.09	.80	.05	.10	.15
22. Discusses non-work topics before asking you to use the technology.	.02	.78	.01	.02	.20
23. Offers to provide rewards if you use the technology.	-.02	.80	.13	.02	-.04
24. Offers compensation for the time you spend learning using the technology.	-.03	.85	.08	.04	-.03
25. Says your ability and experience will make it easy for you to use the technology.	.21	.62	.00	.19	.55
26. Praises your past achievements when asking you to use the technology.	.21	.69	-.02	.17	.45

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

TABLE 5: Results of factor analysis after deleting item 11 and 12

Items	1	2	3	4
1. Uses facts and logic to make a persuasive case for using the technology.	.78	-.02	.06	.12
2. Explains clearly how the new technology will benefit the company.	.80	.10	.04	.00
3. Explains how the new technology could help your career.	.77	-.04	-.03	-.09
4. Explains how you can benefit from using the technology.	.81	.05	.02	-.04
5. Asks for your ideas about using the new technology.	.81	.16	-.12	.10
6. Encourages you to express any concerns about the new technology.	.82	.02	-.04	.15
7. Offers to provide resources you would need to use the technology.	.73	-.04	.02	.17
8. Tells you that he will assist you in using the technology.	.79	.06	-.12	.20
9. Describes how the technology supports your values.	.78	.12	-.08	.11
10. Makes an inspiring presentation to arouse enthusiasm to use the technology.	.78	.15	-.11	.15
13. Uses threats or warnings when trying to get you to use the technology.	-.17	.19	.85	-.08
14. Tries to pressure you to use the technology.	-.12	.16	.91	-.06
15. Gets others to explain why you need to use the technology.	.23	.21	.09	.82
16. Asks someone you respect to help influence you to use the technology.	.20	.39	.08	.76
17. Says he has the right to ask you to use the technology.	-.10	.32	.65	.32
18. Says using the technology is consistent with company rules and policies.	.21	-.10	.47	.30
19. Asks you to use the technology as a personal favor.	.02	.80	.19	.12
20. Appeals to your friendship when asking you to use the technology.	.00	.83	.17	.09
21. Talks about family before asking you to use the technology.	.09	.82	.04	.10
22. Discusses non-work topics before asking you to use the technology.	.02	.80	.00	.03
23. Offers to provide rewards if you use the technology.	-.03	.79	.16	-.02
24. Offers compensation for the time you spend learning using the technology.	-.04	.84	.11	.00
25. Says your ability and experience will make it easy for you to use the technology.	.25	.68	-.03	.27
26. Praises your past achievements when asking you to use the technology.	.25	.74	-.04	.23

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

TABLE 6: Results of factor analysis after deleting item 11, 12, 15 and 16

Items	Factor loadings		
	Persuasive	Relationship -based	Assertive
1. Uses facts and logic to make a persuasive case for using the technology.	.78	-.02	.08
2. Explains clearly how the new technology will benefit the company.	.78	.09	.04
3. Explains how the new technology could help your career.	.74	-.06	-.04
4. Explains how you can benefit from using the technology.	.79	.03	.01
5. Asks for your ideas about using the new technology.	.82	.16	-.10
6. Encourages you to express any concerns about the new technology.	.84	.03	-.02
7. Offers to provide resources you would need to use the technology.	.75	-.02	.05
8. Tells you that he will assist you in using the technology.	.81	.09	-.09
9. Describes how the technology supports your values.	.79	.13	-.07
10. Makes an inspiring presentation to arouse enthusiasm to use the technology.	.80	.17	-.09
13. Uses threats or warnings when trying to get you to use the technology.	-.20	.16	.83
14. Tries to pressure you to use the technology.	-.15	.14	.89
17. Says he has the right to ask you to use the technology.	-.06	.35	.69
18. Says using the technology is consistent with company rules and policies.	.25	-.06	.51
19. Asks you to use the technology as a personal favor.	.03	.80	.20
20. Appeals to your friendship when asking you to use the technology.	-.01	.83	.17
21. Talks about family before asking you to use the technology	.09	.82	.05
22. Discusses non-work topics before asking you to use the technology.	.01	.80	.00
23. Offers to provide rewards if you use the technology.	-.04	.78	.15
24. Offers compensation for the time you spend learning using the technology.	-.05	.83	.11
25. Says your ability and experience will make it easy for you to use the technology.	.28	.71	.00
26. Praises your past achievements when asking you to use the technology.	.27	.77	-.01
Eigenvalue	6.97	5.28	1.97
Percentage of variance explained	31.70	23.98	8.97
Cumulative percentage of variance explained	31.70	55.69	64.65

Cronbach's alpha	.94	.92	.76
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization			

TABLE 7: Results of the factor analysis of innovation attributes

Original Variable	Items	Factor loadings		
		Relative advantage	Complexity	Trialability
Relative advantage	1. This technology improves the quality of work I perform.	.90	-.19	-.02
	2. This system enhances my effectiveness on the job.	.89	-.16	-.07
Compatibility	3. This system fits generally well with the needs of managing knowledge in my team	.83	-.24	-.07
	4. This system is different from older ways of doing similar jobs in my team. (reverse coded)	-.42	-.38	-.32
Complexity	5. This system is difficult to understand.	-.19	.89	.07
	6. This system is difficult to use.	-.30	.85	.01
Trialability	7. Parts of this system can be used prior to the entire technology is implemented.	-.02	.03	.84
	8. This system can be used by parts of the team as opposed by the entire team at once.	-.08	.05	.85
Cronbach's alpha		0.93	0.83	0.65

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

TABLE 8: Final results of the factor analysis of innovation attributes

Items	Factor loadings		
	Relative advantage	Complexity	Trialability
1. This technology improves the quality of work I perform.	.95	-.19	-.00
2. This system enhances my effectiveness on the job.	.95	-.16	-.05
5. This system is difficult to understand.	-.11	.92	.09
6. This system is difficult to use.	-.24	.89	.04
7. Parts of this system can be used prior to the entire technology is implemented.	.04	.06	.86
8. This system can be used by parts of the team as opposed by the entire team at once.	-.09	.05	.86
Eigenvalue	2.51	1.47	1.11
Percentage of variance explained	41.87	24.43	18.51
Cumulative percentage of variance explained	41.87	66.3	84.81
Cronbach's alpha	0.93	0.83	0.65

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

TABLE 9: Original results of the factor analysis of all individual variables

Original variable	Items	Factor loadings			
		1	2	3	4
Intrinsic motivation	1. An interesting work is important to me.	.725	.404	-.205	.022
	2. A challenging work is important to me.	.834	.275	-.051	.071
	3. The chance to do a number of different things is important to me.	.786	.228	-.090	.009
Extrinsic motivation	4. Good pay is important to me.	.246	.893	-.144	.002
	5. Good fringe benefits are important to me.	.273	.893	-.125	.032
	6. A stable job is important to me.	.234	.802	-.142	.026
Power distance orientation	7. In most situations, managers should make decisions without consulting their subordinates.	.020	-.076	.595	.078
	8. In work-related matters, managers have a right to expect obedience from their subordinates.	.266	.243	.167	.361
	9. Employees who often question authority sometimes keep their managers from being effective.	.000	-.018	.019	.988
	10. Once a top-level executive makes a decision, people working for the company should not question it.	.195	-.053	.588	.028
	11. Employees should not express disagreements with their managers.	-.142	-.183	.633	-.016
	12. Managers should be able to make the right decisions without consulting with others.	-.159	.145	.721	.059
	13. Managers who let their employees participate in decisions lose power.	-.353	-.106	.654	.000
	14. A company's rules should not be broken—not even when the employee thinks it is in the company's best interest.	.032	-.160	.662	-.012
	15. If I heard about a new information technology, I would look for ways to experiment with it	.706	.269	-.140	.085
	16. Among my peers, I am usually the first to try out new information technologies	.655	-.028	.118	-.015
Individual innovativeness	17. In general, I am hesitant to try out new information technology. (reverse coded)	.000	.018	-.019	-.988

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

TABLE 10: Final results of the factor analysis of all individual variables

Items	Factor loadings		
	Extrinsic motivation	Intrinsic motivation	Power distance orientation
1. An interesting work is important to me.	.407	.759	-.155
2. A challenging work is important to me.	.274	.879	.008
3. The chance to do a number of different things is important to me.	.209	.850	-.035
4. Good pay is important to me.	.900	.247	-.127
5. Good fringe benefits are important to me.	.894	.278	-.107
6. A stable job is important to me.	.802	.241	-.133
7. In most situations, managers should make decisions without consulting their subordinates.	-.056	-.017	.612
10. Once a top-level executive makes a decision, people working for the company should not question it.	-.082	.200	.600
11. Employees should not express disagreements with their managers.	-.206	-.132	.629
12. Managers should be able to make the right decisions without consulting with others.	.179	-.250	.714
13. Managers who let their employees participate in decisions lose power.	-.100	-.404	.627
14. A company's rules should not be broken—not even when the employee thinks it is in the company's best interest.	-.182	.043	.669
Eigenvalue	4.43	2.12	1.22
Percentage of variance explained	36.89	17.70	10.14
Cumulative percentage of variance explained	36.89	54.59	64.73
Cronbach's alpha	0.91	0.88	0.72

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

TABLE 11: Descriptive statistics and correlation matrix using all samples

Variables	Mean	s. d.	1	2	3	4	5	6	7	8	9	10	12	13	14
1. attitude toward using KMS	3.63	0.70													
2. Usage	0.00	0.99	.08												
3. Persuasive Strategy	3.83	0.75	.46**	.13*											
4. Assertive Strategy	2.83	0.86	-.23**	-.03	-.09										
5. Relationship-based strategy	2.56	0.82	-.13*	-.08	.16**	.30**									
6. Intrinsic motivation	4.22	0.58	.28**	.06	.27**	-.15**	-.12*								
7. Extrinsic motivation	4.49	0.60	.11+	.10+	.11+	-.06	-.19**	.55**							
8. Power distance orientation	2.42	0.54	.04	-.03	.04	.15**	.25**	-.22**	-.26**						
9. Relative advantage	3.65	0.76	.72**	.12+	.55**	-.15**	.00	.30**	.16**	.08					
10. Complexity	2.61	0.78	-.52**	.07	-.30**	.17**	.14*	-.13*	-.06	-.04	-.37**				
12. Company dummy	0.82	0.38	.26**	.00	.08	.05	-.09	-.04	.01	.04	.25**	-.14*			
13. Team size	13.85	6.68	.11*	.13*	.05	-.02	.04	-.06	.02	-.03	.09	-.04	.46**		
14. Tenure	2.11	1.16	-.06	-.14*	.01	.11+	-.11+	-.04	.03	-.05	-.06	.03	-.09	-.11+	
15. Age	3.27	1.26	.00	-.17**	.03	.12*	-.03	-.07	.00	-.02	.03	-.01	.01	-.12**	.53**

N=263~301

**, Correlation is significant at the 0.01 level (2-tailed).

*, Correlation is significant at the 0.05 level (2-tailed).

+, Correlation is significant at the 0.1 level (2-tailed).

TABLE 12: Descriptive statistics and correlation matrix using EleCom

Variables	Mean	s. d.	1	2	3	4	5	6	7	8	9	10	11	12
1. attitude toward using KMS	3.72	.64												
2. Usage	1.42	.51	.14*											
3. Persuasive Strategy	3.86	.75	.46**	.13+										
4. Assertive Strategy	2.85	.85	-.27**	.00	-.10									
5. Relationship-based strategy	2.54	.81	-.17**	-.08	.19**	.30**								
6. Intrinsic motivation	4.21	.58	.32**	.08	.27**	-.18**	-.11+							
7. Extrinsic motivation	4.50	.58	.12+	.08	.07	-.08	-.20**	.56**						
8. Power distance orientation	2.43	.52	.02	-.01	.08	.14*	.24**	-.23**	-.24**					
9. Relative advantage	3.73	.70	.67**	.15*	.57**	-.17**	.00	.33**	.12+	.06				
10. Complexity	2.56	.76	-.56**	.03	-.30**	.17**	.17**	-.16*	-.08	-.08	-.40**			
11. Team size	15.28	6.38	.01	.18**	.02	-.07	.09	-.04	.02	-.09	-.02	.01		
12. Tenure	2.06	1.20	-.05	-.19**	.00	.12+	-.09	-.09	.01	-.05	-.06	-.01	-.08	
13. Age	3.28	1.32	-.02	-.19**	.04	.13*	-.01	-.10	-.03	-.02	.03	-.02	-.15*	.54**

N=210~248

**, Correlation is significant at the 0.01 level (2-tailed).

*, Correlation is significant at the 0.05 level (2-tailed).

+, Correlation is significant at the 0.1 level (2-tailed).

TABLE 13: Descriptive statistics and correlation matrix using TeleCom

Variables	Mean	s. d.	1	2	3	4	5	6	7	8	9	10	11	12
1. attitude toward using KMS	3.24	0.81												
2. Usage	0.00	1.00	-.10											
3. Persuasive Strategy	3.69	0.74	.45**	.12										
4. Assertive Strategy	2.74	0.91	-.18	-.11	-.11									
5. Relationship-based strategy	2.57	0.92	.10	-.07	.09	.37**								
6. Intrinsic motivation	4.27	0.55	.23	.00	.25	-.01	-.18							
7. Extrinsic motivation	4.48	0.70	.11	.17	.27*	.02	-.15	.53**						
8. Power distance orientation	2.37	0.61	.07	-.06	-.12	.19	.30*	-.18	-.35*					
9. Relative advantage	3.24	0.88	.80**	.02	.49**	-.17	.08	.28*	.31*	.11				
10. Complexity	2.85	0.80	-.31*	.23	-.27	.23	-.02	-.04	-.01	.15	-.18			
11. Team size	7.17	2.91	-.15	-.06	-.04	.15	.10	-.05	-.04	.22	-.05	.23		
12. Tenure	2.34	0.90	.01	.16	.13	.09	-.30*	.25	.15	-.04	.04	.18	-.01	
13. Age	3.25	0.98	.09	-.05	.00	.12	-.18	.20	.14	-.03	.07	.02	-.12	.54**

N=53

**, Correlation is significant at the 0.01 level (2-tailed).

*, Correlation is significant at the 0.05 level (2-tailed).

+, Correlation is significant at the 0.1 level (2-tailed).

TABLE 14: Regression results of influence strategies and individual characteristics (all samples)

Variables	Model 1 (Attitude)	Model 2 (Usage)	Model 3 (Attitude)	Model 4 (Usage)	Model 5 (Attitude)	Model 6 (Usage)	Model 7 (Attitude)	Model 8 (Usage)	Model 9 (Attitude)	Model 10 (Usage)	Model 11 (Attitude)	Model 12 (Usage)
Company dummy	.26**	-.08	.22**	-.13+	.23**	-.13+	.22**	-.13+	.21**	-.13+	.22**	-.15*
Team size	-.01	.15*	-.01	.17*	.00	.17*	-.01	.17*	.00	.17*	-.01	.18*
Tenure	-.06	-.06	-.06	-.09	-.06	-.09	-.06	-.09	-.06	-.09	-.06	-.10
Age	.03	-.11	.03	-.11	.04	-.11	.04	-.11	.04	-.11	.04	-.12
Persuasive strategy			.45**	.18**	.41**	.17**	.44**	.16*	.45**	.18**	.44**	.20**
Assertive strategy			-.15**	.08	-.14**	.09	-.15**	.08	-.16**	.08	-.17**	.13+
Relationship-based strategy			-.14**	-.17*	-.12*	-.17*	-.14*	-.16*	-.16**	-.17*	-.15**	-.20**
Intrinsic motivation					.15**	.01						
Extrinsic motivation							.03	.07				
Power distance orientation									.08	.00	.07	.01
Persuasive X Power distance orientation											-.03	.14*
Assertive X Power distance orientation											-.05	.13+
Relationship X Power distance orientation											.02	-.09
R square	.07	.05	.32	.09	.34	.09	.32	.09	.33	.09	.33	.11
R square change			.25**	.04*	.02**	.00	.00	.00	.01	.00	.00	.02
F	5.74**	3.18*	19.67**	3.50**	18.67**	3.06**	17.21**	3.21**	17.57**	3.05**	12.78**	2.82**

** . Coefficient is significant at the 0.01 level; * . Coefficient is significant at the 0.05 level; + . Coefficient is significant at the 0.1 level

TABLE 15: Regression results of influence strategies and individual characteristics (EleCom only)

Variables	Model 1 (Attitude)	Model 2 (Usage)	Model 3 (Attitude)	Model 4 (Usage)	Model 5 (Attitude)	Model 6 (Usage)	Model 7 (Attitude)	Model 8 (Usage)	Model 9 (Attitude)	Model 10 (Usage)	Model 11 (Attitude)	Model 12 (Usage)
Team size	.00	.16*	.00	.19**	.01	.19**	.00	.19**	.01	.19**	.00	.19**
Tenure	-.06	-.13	-.06	-.15+	-.05	-.15+	-.06	-.15+	-.06	-.15+	-.06	-.16+
Age	.02	-.08	.02	-.10	.03	-.09	.02	-.10	.02	-.10	.03	-.10
Persuasive strategy			.48**	.19**	.44**	.18*	.48**	.18*	.48**	.19**	.47**	.21**
Assertive strategy			-.16**	.13+	-.14*	.13+	-.16**	.13+	-.16**	.13+	-.17**	.16*
Relationship-based strategy			-.22**	-.19**	-.20**	-.19*	-.22**	-.18*	-.23**	-.19*	-.22**	-.22**
Intrinsic motivation					.15**	.03						
Extrinsic motivation							.03	.05				
Power distance orientation									.06	.01	.04	.05
Persuasive X Power distance orientation											-.01	.15+
Assertive X Power distance orientation											-.10	.14+
Relationship X Power distance orientation											-.03	-.09
R square	.00	.07	.30	.12	.32	.12	.31	.12	.31	.12	.32	.14
R square change			.30**	.05*	.02**	.00	.00	.00	.00	.00	.01	.02
F	.23	5.16**	17.55**	4.62**	16.46**	3.97**	15.02**	4.02**	15.21**	3.94**	11.10**	3.30**

**, Coefficient is significant at the 0.01 level

*, Coefficient is significant at the 0.05 level

+, Coefficient is significant at the 0.1 level

TABLE 16: Regression results of influence strategies and individual characteristics (TeleCom only)

Variables	Model 1 (Attitude)	Model 2 (Usage)	Model 3 (Attitude)	Model 4 (Usage)	Model 5 (Attitude)	Model 6 (Usage)	Model 7 (Attitude)	Model 8 (Usage)	Model 9 (Attitude)	Model 10 (Usage)	Model 11 (Attitude)	Model 12 (Usage)
Team size	-.13	-.08	-.10	-.06	-.09	-.06	-.10	-.06	-.13	-.06	-.13	-.07
Tenure	-.04	-.08	-.08	.26	-.09	.27	-.08	.27	-.09	.27	-.07	.27
Age	.10	-.08	.17	-.19	.16	-.19	.17	-.21	.17	-.19	.10	-.17
Persuasive strategy			.42**	.07	.38**	.09	.42**	.03	.45**	.07	.41**	.06
Assertive strategy			-.18	-.10	-.19	-.10	-.18	-.12	-.19	-.10	-.15	-.08
Relationship-based strategy			.14	.01	.17	.00	.14	.04	.09	.01	.12	-.01
Intrinsic motivation					.15	-.05						
Extrinsic motivation							.00	.16				
Power distance orientation									.16	-.02	.16	-.08
Persuasive X Power distance orientation											-.13	.17
Assertive X Power distance orientation											.08	.04
Relationship X Power distance orientation											.14	.01
R square	.03	.06	.27	.08	.29	.08	.27	.10	.29	.08	.32	.10
R square change			.24**	.02	.02	.00	.00	.02	.02	.00	.04	.02
F	.48	1.04	2.77*	.62	2.56*	.54	2.32*	.68	2.59*	.53	2.01+	.47

** . Coefficient is significant at the 0.01 level

* . Coefficient is significant at the 0.05 level

+ . Coefficient is significant at the 0.1 level

TABLE 17: Mediation model Summary, relative advantage as the mediator between influence strategies and Users' attitude (all samples)

Step and Predictors	Coefficient	s.d.
Outcome variable: Relative advantage		
Persuasive strategy	.56**	.05
Assertive strategy	-.07	.04
Relationship-based strategy	-.06	.04
R square	.32	
F	45.87**	
Outcome variable: Attitude toward using KMS		
Persuasive strategy	.11*	.04
Assertive strategy	-.07*	.03
Relationship-based strategy	-.10**	.03
Relative advantage	.59**	.04
R square	.56	
F	92.41**	

Number of samples used for indirect effect confidence intervals: 5000

**, Coefficient is significant at the 0.01 level

*, Coefficient is significant at the 0.05 level

TABLE 18: Report of indirect effect through relative advantage (all samples)

Direct and Indirect Effect				
Omnibus test of direct effect				
R square	.03			
F	6.58**			
Indirect effect through Relative Advantage				
	estimate	s.d.	LLCI	ULCI
Persuasive strategy	.33	.05	.25	.43
Assertive strategy	-.04	.03	-.11	.02
Relationship-based strategy	-.03	.03	-.09	.02

a. Number of samples used for indirect effect confidence intervals: 5000

b. Level of confidence for confidence intervals: 0.95

c. LLCI: Lower level of confidence interval; ULCI: Upper level of confidence interval

TABLE 19: Mediation model summary, complexity as the mediator between influence strategies and users' attitude (all samples)

Step and Predictors	Coefficient	s.d.
Outcome variable: Complexity		
Persuasive strategy	-.33**	.06
Assertive strategy	.09 ⁺	.05
Relationship-based strategy	.14**	.05
R square	.13	
F	15.39**	
Outcome variable: Attitude toward using KMS		
Persuasive strategy	.33**	.05
Assertive strategy	-.08*	.04
Relationship-based strategy	-.08*	.04
Complexity	-.34**	.04
R square	.39	
F	47.94**	

Number of samples used for indirect effect confidence intervals: 5000

** . Coefficient is significant at the 0.01 level

* . Coefficient is significant at the 0.05 level

+ . Coefficient is significant at the 0.1 level

TABLE 20: Report of indirect effect through complexity (all samples)

Direct and Indirect Effect				
Omnibus test of direct effect				
R square	.13			
F	20.63**			
Indirect effect through Complexity				
	estimate	s.d.	LLCI	ULCI
Persuasive strategy	.11	.03	.06	.18
Assertive strategy	-.03	.02	-.07	.01
Relationship-based strategy	-.05	.02	-.09	-.02

a. Number of samples used for indirect effect confidence intervals: 5000

b. Level of confidence for confidence intervals: 0.95

c. LLCI: Lower level of confidence interval; ULCI: Upper level of confidence interval

TABLE 21: Mediation model summary, complexity as the mediator between influence strategies and users' usage (all samples)

Step and Predictors	Coefficient	s.d.
Outcome variable: Complexity		
Persuasive strategy	-.33**	.06
Assertive strategy	.08	.06
Relationship-based strategy	.14*	.05
R square	.13	
F	12.84**	
Outcome variable: Usage		
Persuasive strategy	.26**	.09
Assertive strategy	.01	.07
Relationship-based strategy	-.15*	.07
Complexity	.18*	.08
R square	.05	
F	3.01*	

Number of samples used for indirect effect confidence intervals: 5000

** . Coefficient is significant at the 0.01 level

* . Coefficient is significant at the 0.05 level

+ . Coefficient is significant at the 0.1 level

TABLE 22: Report of indirect effect through complexity (all samples)

Direct and Indirect Effect				
Omnibus test of direct effect				
R square	.04			
F	3.56*			
Indirect effect through Intrinsic motivation				
	estimate	s.d.	LLCI	ULCI
Persuasive strategy	-.06	.04	-.15	-.001
Assertive strategy	.01	.01	-.002	.06
Relationship-based strategy	.03	.02	.001	.08

a. Number of samples used for indirect effect confidence intervals: 5000

b. Level of confidence for confidence intervals: 0.95

c. LLCI: Lower level of confidence interval; ULCI: Upper level of confidence interval

TABLE 23: Mediation model summary, relative advantage as the mediator between influence strategies and users' attitude (EleCom only)

Step and Predictors	Coefficient	s. d.
Outcome variable: Relative advantage		
Persuasive strategy	.54**	.05
Assertive strategy	-.08	.05
Relationship-based strategy	-.06	.04
R square	.34	
F	41.90**	
Outcome variable: Attitude toward using KMS		
Persuasive strategy	.14**	.05
Assertive strategy	-.08*	.04
Relationship-based strategy	-.12**	.04
Relative advantage	.51**	.05
R square	.51	
F	62.89**	

Number of samples used for indirect effect confidence intervals: 5000

**, Coefficient is significant at the 0.01 level

*, Coefficient is significant at the 0.05 level

TABLE 24: Report of indirect effect through relative advantage (EleCom only)

Direct and Indirect Effect				
Omnibus test of direct effect				
R square	.06			
F	9.86**			
Indirect effect through Relative Advantage				
	estimate	s.d.	LLCI	ULCI
Persuasive strategy	.27	.04	.20	.37
Assertive strategy	-.04	.03	-.10	.01
Relationship-based strategy	-.03	.02	-.08	.01

a. Number of samples used for indirect effect confidence intervals: 5000

b. Level of confidence for confidence intervals: 0.95

c. LLCI: Lower level of confidence interval; ULCI: Upper level of confidence interval

TABLE 25: Mediation model summary, complexity as the mediator between influence strategies and users' attitude (EleCom only)

Step and Predictors	Coefficient	s.d.
Outcome variable: Complexity		
Persuasive strategy	-.33**	.06
Assertive strategy	.07	.06
Relationship-based strategy	.17**	.05
R square	.14	
F	13.68**	
Outcome variable: Attitude toward using KMS		
Persuasive strategy	.30**	.04
Assertive strategy	-.10*	.04
Relationship-based strategy	-.09*	.04
Complexity	-.34**	.04
R square	.44	
F	48.71**	

Number of samples used for indirect effect confidence intervals: 5000

** . Coefficient is significant at the 0.01 level

* . Coefficient is significant at the 0.05 level

+ . Coefficient is significant at the 0.1 level

TABLE 26: Report of indirect effect through complexity (EleCom only)

Direct and Indirect Effect				
Omnibus test of direct effect				
R square	.14			
F	19.74**			
Indirect effect through Complexity				
	estimate	s.d.	LLCI	ULCI
Persuasive strategy	.11	.03	.06	.17
Assertive strategy	-.02	.02	-.07	.01
Relationship-based strategy	-.06	.02	-.10	-.02

a. Number of samples used for indirect effect confidence intervals: 5000

b. Level of confidence for confidence intervals: 0.95

c. LLCI: Lower level of confidence interval; ULCI: Upper level of confidence interval

TABLE 27: Mediation model summary, relative advantage as the mediator between influence strategies and users' attitude (TeleCom only)

Step and Predictors	Coefficient	s.d.
Outcome variable: Relative advantage		
Persuasive strategy	.55**	.15
Assertive strategy	-.16	.13
Relationship-based strategy	.10	.13
R square	.26	
F	5.75**	
Outcome variable: Attitude toward using KMS		
Persuasive strategy	.08	.11
Assertive strategy	-.05	.08
Relationship-based strategy	.04	.08
Relative advantage	.70**	.09
R square	.65	
F	22.61**	

Number of samples used for indirect effect confidence intervals: 5000

**, Coefficient is significant at the 0.01 level

*, Coefficient is significant at the 0.05 level

TABLE 28: Report of indirect effect through relative advantage (TeleCom only)

Direct and Indirect Effect				
Omnibus test of direct effect				
R square	.01			
F	.36			
Indirect effect through Relative Advantage				
	estimate	s.d.	LLCI	ULCI
Persuasive strategy	.38	.13	.17	.66
Assertive strategy	-.11	.12	-.37	.10
Relationship-based strategy	.07	.11	-.14	.29

a. Number of samples used for indirect effect confidence intervals: 5000

b. Level of confidence for confidence intervals: 0.95

c. LLCI: Lower level of confidence interval; ULCI: Upper level of confidence interval

Curriculum Vita

Hao-hsuan Chiu

1973	Born September 19 in Taipei, Taiwan
1995	B.A. in Political Science, National Taiwan University, Taipei, Taiwan
1997	M.A. in Economics, Syracuse University, Syracuse, NY
	M.A. in International Relations, Syracuse University, Syracuse, NY
1998-1999	Marketing Specialist, Parametric Technology Corporation, Taipei, Taiwan
1999-2000	English Editor, Classic Communication, Taipei, Taiwan
2001-2002	Marketing Officer, ARC Consulting , Taipei, Taiwan
2003-2006	Senior Officer, Kinpo Group, Taipei, Taiwan
2011	Chiu, H. Effective influence tactics in the context of innovation implementation: The effect of users' intrinsic and extrinsic motivation. Proceedings of 18th Annual International Conference on Advances in Management.
2012	Chiu, H. Manager's Influence Tactics and Innovation Implementation Effectiveness: Effects of User's Motivation. Proceedings of Eastern Academy of Management.
2012	Damanpour, F., Chiu, H., & Magelssen, C. Initiation, Implementation, and Complexity of Managerial Innovation. In T. S. Pitsis (Ed.), The Handbook of Organizational and Managerial Innovation, Edward-Elgar Press.
2012-2013	Part-time Lecturer, Rutgers Business School, Newark, NJ
2013	Ph.D. in Management, Rutgers Business School, Newark, NJ