



저작자표시-비영리-변경금지 2.0 대한민국

이용자는 아래의 조건을 따르는 경우에 한하여 자유롭게

- 이 저작물을 복제, 배포, 전송, 전시, 공연 및 방송할 수 있습니다.

다음과 같은 조건을 따라야 합니다:



저작자표시. 귀하는 원저작자를 표시하여야 합니다.



비영리. 귀하는 이 저작물을 영리 목적으로 이용할 수 없습니다.



변경금지. 귀하는 이 저작물을 개작, 변형 또는 가공할 수 없습니다.

- 귀하는, 이 저작물의 재이용이나 배포의 경우, 이 저작물에 적용된 이용허락조건을 명확하게 나타내어야 합니다.
- 저작권자로부터 별도의 허가를 받으면 이러한 조건들은 적용되지 않습니다.

저작권법에 따른 이용자의 권리는 위의 내용에 의하여 영향을 받지 않습니다.

이것은 [이용허락규약\(Legal Code\)](#)을 이해하기 쉽게 요약한 것입니다.

[Disclaimer](#)



저작자표시-비영리-변경금지 2.0 대한민국

이용자는 아래의 조건을 따르는 경우에 한하여 자유롭게

- 이 저작물을 복제, 배포, 전송, 전시, 공연 및 방송할 수 있습니다.

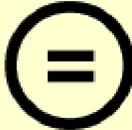
다음과 같은 조건을 따라야 합니다:



저작자표시. 귀하는 원저작자를 표시하여야 합니다.



비영리. 귀하는 이 저작물을 영리 목적으로 이용할 수 없습니다.



변경금지. 귀하는 이 저작물을 개작, 변형 또는 가공할 수 없습니다.

- 귀하는, 이 저작물의 재이용이나 배포의 경우, 이 저작물에 적용된 이용허락조건을 명확하게 나타내어야 합니다.
- 저작권자로부터 별도의 허가를 받으면 이러한 조건들은 적용되지 않습니다.

저작권법에 따른 이용자의 권리는 위의 내용에 의하여 영향을 받지 않습니다.

이것은 [이용허락규약\(Legal Code\)](#)을 이해하기 쉽게 요약한 것입니다.

[Disclaimer](#)

경영학박사학위논문

**A MULTIFACETED FRAMEWORK
TOWARD IMPLEMENTATION BEHAVIOR
AND INNOVATION OUTCOME:**

**INTERACTIVE EFFECTS OF
INNOVATION CHARACTERISTICS AND INDIVIDUAL,
SOCIAL, AND ORGANIZATIONAL FACTORS**

개인, 사회, 조직, 그리고 혁신의 특성이
혁신실행 행위와 결과에 미치는 영향에 관한 연구

2015년 2월

서울대학교 대학원

경영학과 경영학전공

정 구 혁

**A MULTIFACETED FRAMEWORK
TOWARD IMPLEMENTATION BEHAVIOR
AND INNOVATION OUTCOME:**

**INTERACTIVE EFFECTS OF
INNOVATION CHARACTERISTICS AND INDIVIDUAL,
SOCIAL, AND ORGANIZATIONAL FACTORS**

by

Goo Hyeok Chung

A dissertation submitted in fulfillment
of the requirements for the degree of
Doctor of Business Administration
in Seoul National University
2015

Doctoral Committee:

Professor Kyungmook Lee, Chair
Professor Seongsu Kim
Professor Jae Yoon Chang, Sogang University
Professor Jing Du, Wuhan University, China
Professor Jin Nam Choi, Academic Advisor

A MULTIFACETED FRAMEWORK
TOWARD IMPLEMENTATION BEHAVIOR AND INNOVATION OUTCOME:
INTERACTIVE EFFECTS OF INNOVATION CHARACTERISTICS AND
INDIVIDUAL, SOCIAL, AND ORGANIZATIONAL FACTORS

개인, 사회, 조직, 그리고 혁신의 특성이 혁신실행 행위와 결과에 미치는 영향에 관한 연구

지도교수 최진남

이 논문을 경영학 박사학위 논문으로 제출함

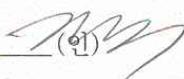
2014년 10월

서울대학교 대학원
경영학과 경영학전공
정구혁

정구혁의 경영학 박사학위 논문을 인준함

2014년 12월

위원장 이정욱 

부위원장 김성우 

위원 장재호 

위원 JING DU 

위원 최진남 

ABSTRACT

A MULTIFACETED FRAMEWORK TOWARD IMPLEMENTATION BEHAVIOR AND INNOVATION OUTCOME: INTERACTIVE EFFECTS OF INNOVATION CHARACTERISTICS AND INDIVIDUAL, SOCIAL, AND ORGANIZATIONAL FACTORS

Goo Hyeok Chung

Department of Business Administration

The Graduate School

Seoul National University

Recently, technological advancement and growth in cross-border trade have accelerated future uncertainties, and thus contemporary organizations have set managing innovation-related activities as one of their top priorities. To this end, a large body of research has examined the nature of innovation, but many studies on innovation remained limited. In contrast to the previous research stream grounded on a bifurcated user behavior model of either acceptance or rejection, this study first attempted to develop a multifaceted framework of individual need and implementation behavior toward innovation.

Specifically, I began with McClelland's Need Theory and hypothesized three relationships between each need (i.e., need for achievement, affiliation, and power) and a corresponding behavior toward innovation (i.e., compliance, cooperation, and championing). Afterwards, drawing on the person-situation-behavior (P-S-B) triad long-established in the personality psychology literature, I postulated that an innovation property (i.e., performance expectancy), social factors (i.e., social expectation), and an organizational factor (i.e., participatory

practice) would moderate each relationship. Finally, I supposed that three forms of implementation behavior would lead to innovation outcome, an individual's gains from using the innovation.

To test my multifaceted framework of individual implementation behavior toward innovation, I collected survey data of 302 individuals from 11 organizations in Korea. The results showed that, as expected, *n* affiliation was positively related to cooperation and *n* power was negatively related to championing, but that unexpectedly, *n* achievement was negatively associated with compliance. In addition, each implementation behavior led to innovation outcome. Although only one of the interaction hypotheses was supported, the post hoc analysis identified three cross-interactions: the interaction effect of social expectation on the *n* achievement–championing relationship; the interaction effect of performance expectancy on the *n* affiliation–cooperation relationship; and the interaction effect of social expectation on the *n* affiliation–championing relationship.

The present study provided theoretically meaningful contributions. First, this new model of individual–level implementation process offered a more balanced view by integrating an innovation property, a social factor, an organizational factor, and individual factors into one framework. In particular, the application of Trait Activation Theory to the innovation literature evoked the effect of social expectation as the strongest situation directing employee need to the utmost implementation behavior. Second, this research firstly elucidated the multiple forms of implementation behavior, namely, compliance, cooperation, and championing. Finally, this study conceptually singled out and empirically tested three different paths from employee need to implementation behavior. Furthermore, the present research firstly examined the form of implementation behavior that leads to the highest innovation outcome, to my knowledge.

This research also suggested several practical implications. The compliant behavior of employees on innovation requirements was a crucial predictor of innovation outcome. However, if management would like to improve organizational effectiveness, it should also derive the cooperation and championing behaviors of employees in using innovation. Management should especially highlight the finding that, given a strong social expectation, those with *n* affiliation can also conduct championing. In other words, to achieve a higher level of innovation outcome, managers should not only leave employees with *n* affiliation to perform cooperation, but they should also encourage employees to conduct championing toward innovation by helping them shape strong social expectation.

In summary, a multifaceted perspective of the individual-level process of innovation implementation can provide contemporary organizations with effective ways to gain expected and extended benefits from using innovation. With this new framework, organizations can obtain a higher level of organizational effectiveness and ultimately accomplish the goal of future survival.

Keywords: Innovation implementation, McClelland's Need Theory, compliance, cooperation, championing, innovation outcome.

Student Number: 2009-30134

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
ABSTRACT	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF APPENDIX	x
 CHAPTER	
I. INTRODUCTION	1
II. LITERATURE REVIEW	9
III. CONCEPTUAL FRAMEWORK	22
IV. METHOD	57
V. RESULTS	65
VI. DISCUSSION	71
 TABLES	 89
FIGURES	93
REFERENCES	99
APPENDIX	113

LIST OF TABLES

Table

1. List of Target Organizations and Innovations	89
2. Means, Standard Deviations, Reliabilities, and Intercorrelations among Study Variables	90
3. Summary of Effects of Independent Variables on Dependent Variables	91

LIST OF FIGURES

Figure

1. Theoretical Framework of the Present Study	93
2. Structural Model of Individual–level Innovation Implementation Process	94
3. Interaction Effect of Participatory Practice on the Relationship between <i>n</i> Power and Championing	95
4. Interaction Effect of Social Expectation on the Relationship between <i>n</i> Achievement and Championing	96
5. Interaction Effect of Social Expectation on the Relationship between <i>n</i> Affiliation and Championing	97
6. Interaction Effect of Performance Expectancy on the Relationship between <i>n</i> Affiliation and Cooperation	98

LIST OF APPENDIX

Appendix

1. Survey Instrument Used in the Present Study 113

CHAPTER I

INTRODUCTION

Contemporary organizations confront tremendous changes in the technology and business environments every day and everywhere; given the accelerated uncertainties and the complicated changes, they continuously adopt and implement innovations for sustained competitive advantages and long-term survival (Klein & Knight, 2005; Sung, Cho, & Choi, 2011). In this respect, a growing body of research has investigated the nature of innovation, particularly by focusing on crucial factors and focal processes that ensure innovation success (Sung et al., 2011). Two widely-accepted, research-targeted stages or topics on organizational innovations are observed: adoption and implementation (Klein & Sorra, 1996). Traditionally, relatively less attention has been paid to implementation than adoption because implementation has been regarded as a relatively static, automatic process (Choi & Moon, 2013; Van de Ven & Rogers, 1988). Recently, however, many scholars in the innovation and organizational change literature have conducted studies on implementation, acknowledging and validating that innovation success is largely dependent on factors and processes in implementation as well as those in adoption (Klein & Sorra, 1996; Sung et al., 2011),.

Therefore, many studies have examined the effects of various factors on the implementation process and ultimate innovation outcomes. The factors investigated by scholars in the literature can be typically classified into four categories: (1) *innovation properties* (e.g., perceived usefulness, perceived ease of use, relative advantage, complexity, and technology self-efficacy; Compeau & Higgins, 1995; Davis, 1989; Moore & Benbasat, 1991; Thompson, Higgins, & Howell, 1991), (2) *social relations or interpersonal factors* (e.g., subjective

norm, critical mass, network externalities, and peer usage; Fishbein & Ajzen, 1975; Markus, 1990; Rogers, 2003), (3) *organizational context or manager-related factors* (e.g., management support, managers' tenure in management, empowering leadership, implementation policies and practices, participation in decision-making, financial resource availability, (collective) learning orientation, and implementation climate; Arnold, Arad, Rhoades, & Drasgow, 2000; Choi & Chang, 2009; De Dreu & West, 2001; Klein, Conn, & Sorra, 2001; MacDuffie, 1995; Mumford, 2000), and (4) *individual factors* (e.g., demographics, learning and performance goal orientation, and personal innovativeness; Agarwal & Prasad, 1998; Choi & Moon, 2013; Leonard-Barton & Deschamps, 1988; Venkatesh, Morris, Davis, & Davis, 2003).

Research Bias of Previous Studies on Innovation Implementation

As noted above, a growing body of research in the innovation implementation literature has disclosed various factors influencing implementation process and outcome. However, most studies overlooked the possibility of several different forms of implementation behavior by endorsing the dichotomized use behavior as either acceptance or rejection of innovation (i.e., the *bifurcated* behavioral perspective; Choi & Moon, 2013). By contrast, through the organizational level of analysis, the institutionalism literature suggests five different strategic responses that organizations should make to conform to institutional pressures: that is, as organizations attempt to take an alternative form of acceptance of the institutional pressures, they often mimic or obey institutional rules (i.e., *acquiescence*); when inconsistencies arise between institutional demands and internal objectives, they may *compromise* the two sides; these organizations can also *avoid* institutional pressures by concealing nonconformity or exiting the institutional domain; when institutional rules are

not strongly enforced, organizations sometimes *defy*; finally, organizations may, as the most active response to institutional pressures, co-opt an institutional constituent onto the board of directors (i.e., *manipulation*; Oliver, 1991, p. 152–159).

Similarly, a recent study in the creativity literature (Montag, Maertz, & Baer, 2012) distinguished four types of creative performance behavior within the most-cited creative process model: *problem formulation*, *information gathering*, *idea generation*, and *idea evaluation*. Furthermore, the organizational behavior literature has elucidated many varied forms of human behavior. For instance, MacKenzie, Podsakoff, and Ahearne (1998) suggested that some people tend to only fulfill the organizational requirements (i.e., *in-role behavior*), whereas others are inclined to do something beyond the requirements (i.e., *extra-role behavior* such as helping). Therefore, researchers (e.g., Meyer & Herscovitch, 2001) have called for studies that can specify various forms of behavior that an individual performs toward innovation (i.e., a *multifaceted* behavioral perspective).

One possible reason for the prevailing bifurcated behavioral perspective is the paucity of research on individuals' characteristics predicting their (multiple forms of) behavior toward innovation (Greenhalgh, Robert, Bate, Macfarlane, & Kyriakidou, 2005). That is, most of the previous studies on innovation implementation offered an *unbalanced* view that neglects individual characteristics (e.g., personality) and mainly focused on contextual factors (e.g., management practices) as predictors for user behavior. Specifically, Judge, Thoreson, Pucik, and Welbourne (1999) argued that the majority of research in the organizational change literature is based on a macro or *systems-oriented* perspective because research in this field has evolved from four major macro perspectives: organizational development, strategic choice, resource

dependence–institutional theory, and population ecology (Quinn, Kahn, & Mandl, 1994). As a result, Judge et al. (1999) and others (e.g., Frambach & Schillewaert, 2002; Herscovitch & Meyer, 2002) called for a more *person-oriented* research, especially on “individual characteristics associated with propensity” (Greenhalgh et al., 2005, p. 8).

The other reason for the predominance of the bifurcated behavioral perspective in the existing studies on implementation may be the biased assumption that implementation is a relatively automatic process (Choi & Moon, 2013; Van de Ven & Rogers, 1988). That is, previous research presumed that employees are passive recipients who have to merely follow managerial directions (e.g., adoption of innovation), rather active participants of innovation (Greenhalgh et al., 2005). However, a growing body of organizational behavior research highlights more active roles of individuals during innovation implementation such that they can develop their (positive or negative) feelings about innovation, experiment with innovation, and attempt to improve tasks given by innovation (Greenhalgh et al., 2005).

In particular, as the personality and social psychology literature suggests, personal characteristics (e.g., personality and motive) can be more crucial antecedents that predict multiple forms of implementation behavior beyond the bifurcated forms when the person–situation–behavior (P–S–B) triad is considered simultaneously (Funder, 2001). In other words, “ideally... if we know everything about a person, and everything about his or her situation, we should be able to predict what he or she will do” (Funder, 2001, p. 210). In a parallel manner, scholars in the creativity literature (e.g., Shalley, Zhou, & Oldham, 2004) imply that a *more balanced* view addressing person–context interactions and the influences of person and context can further expand our knowledge in human behavior. Therefore, the main purpose of the present

research is to theorize and validate a *multifaceted* model of the P–S–B triad toward innovation implementation, which the *bifurcated* model of acceptance and rejection could not account for.

Overview of Theoretical Backgrounds

To achieve its specified goal, this research is targeted at identifying individual propensities that lead to particular behaviors toward using innovation and unveiling the moderating effects of a perceived innovation attribute, a social factor, and an organizational factor on the relationships. Specifically, drawing on McClelland's Need Theory (McClelland, 1951), I begin with three widely-recognized personal propensities: an individual's need for achievement (hereafter *n achievement*), which refers to one's desire to achieve higher performance and competence or to master higher skills; an individual's need for affiliation (hereafter *n affiliation*), which refers to one's desire to feel a sense of belonging in his/her group by creating and maintaining positive interpersonal relationships; and an individual's need for power (hereafter *n power*), which refers to one's desire to see his/her surroundings move in the way that he/she wants.

McClelland's theory is adopted because it offers a systematic framework in specifying an individual's motive and predicting the distinctive behavioral patterns toward innovation, especially when various environmental influences (i.e., innovation characteristic, social influence, and organizational factor) are considered simultaneously (Atkinson & Birch, 1970; Maddi, 1996).

To construe behavioral outcomes led by an individual's needs, I resort to Herscovitch and Meyer's (2002) model of behavioral support for changes and adopt three behaviors toward a given innovation: *compliance*, which refers to an individual's behavior to accept and fulfill explicit requirements for the innovation; *cooperation*, which refers to an individual's behavior to help other

members implement the innovation and share his/her ideas or resources; and *championing*, which refers to an individual's behavior to promote benefits from using the innovation. Led by three different needs, three forms of implementation behavior respectively construct a multifaceted, need-behavior model of innovation implementation, which is more elaborated than the existing dichotomized model.

In addition to McClelland's theory and Herscovitch and Meyer's model, Trait Activation Theory (TAT; Tett & Guterman, 2000) can further deepen our understanding of the need-behavior relationships. This theory offers a theoretical rationale that a need-behavior link can be strengthened (moderated) by a need-relevant, specific situational stimulus. Specifically, given an innovation and exposed to technical, social, or managerial changes, an employee with a certain motive tends to react to a particular motive-relevant stimulus relatively more saliently (Alston, 1975; McClelland, 1951; Murray, 1938; Winter, 1973). From this perspective, I conceptualized three forms of employee perception on a situational stimulus in terms of technical, social, and managerial changes: *performance expectancy*, which refers to an employee's belief that using the innovation will increase his/her performance; *social expectation*, which refers to an employee's perception that many people important to him/her believe he/she should use the innovation (Venkatesh et al., 2003); and *participatory practice*, which refers to the provision of a formal and informal involvement in the implementation process through the use of a participatory body (e.g., worker councils) or through informal opportunities for facilitating innovation implementation (Kim et al., 2011).

The present research is also aimed at examining whether each behavior toward innovation can necessarily lead employees to obtain benefits (e.g., performance improvement and increased skills) from using the innovation.

According to recent studies in the creativity literature (e.g., Montag et al., 2012), not all creative behaviors may generate high outcome effectiveness. Similarly, the consistent and committed implementation behaviors of employees, such as compliance, cooperation, and championing, are a necessary condition for innovation success, but their behaviors do not imply a sufficient condition for innovation success. With respect to this issue, scholars in the innovation implementation literature (e.g., Choi & Chang, 2009; Klein & Sorra, 1996, Klein et al., 2001) introduced the notion of *innovation effectiveness* as an ultimate organizational level outcome that determines innovation success. I reformulate it as *innovation outcome* to capture an individual's realization of the benefits from using a given innovation because the present research is an individual-level study.

Furthermore, the current study attempts to compare the relationship between implementation behavior and innovation outcome with the other relationships, in order to identify the most crucial implementation behavior that would lead to the highest level of innovation outcome. Within the prevailing (bifurcated) behavioral perspective in the innovation literature, comparing the strength of a certain implementation behavior with that of the other(s) is impossible because the model presumes that acceptance is the only positive implementation behavior. However, by diversifying the implementation behaviors in the present research, I can examine the forms of implementation behavior that would predict innovation outcome more strongly than predicted by the other form(s). By doing so, I believe that this investigation offers a sophisticated understanding of the implications of implementation behavior at the individual level.

In short, by assuming that an individual's needs (i.e., *n* achievement, *n* affiliation, and *n* power) are motives that are more sensitive to a specific

situation and lead to a particular behavior, I attempt to isolate three distinct relationships between needs and behaviors toward a targeted innovation. This approach can further deepen our understanding of multifaceted behavioral patterns toward innovation especially when coupled with the validation that the need–behavior relationships are strengthened by situational perceptions (Kenrick & Funder, 1988) of innovation property, social norms, and organizational context. Moreover, by investigating the forms of implementation behavior that produces innovation outcome more strongly, I will propose a new framework for a better understanding of achieving higher institutionalization by an individual from a given innovation (Kim et al., 2011). For this reason, the present research as a whole corresponds Frambach and Schillewaert’s (2002, p. 173) calling for an integrated study “regarding the role of personal characteristics, and organizational and social processes occurring after the organizational adoption decision.”

The present study consists of six sections: literature review, conceptual framework, method, results, discussion, and conclusion. In the literature review section, I review previous studies on innovation or organizational change and classify study variables into four categories: innovation characteristics, social factors, organizational factors, and individual factors. Afterwards, I develop an integrated theoretical framework by considering all four types of factors. Finally, I empirically test my model with a large sample, discuss the results, and present theoretical contributions, practical implications, limitations, and future research directions.

CHAPTER II

LITERATURE REVIEW

Over the past three decades, many scholars have defined creativity as “the development of ideas about products, practices, services, or procedures that are (a) novel and (b) potentially useful to the organization” (Shalley et al., 2004, p. 934). Although creativity is widely recognized to *implicitly (potentially)* contribute to organizational effectiveness and survival (Amabile, 1996; Nonaka, 1991), it is assumed to be *explicitly (successfully)* used or implemented to ultimately achieve the organizational goal (Amabile, 1996; Mumford & Gustafson, 1988; Shalley et al., 2004). Recently, as a result, a growing number of scholars have paid much interest in adopting and implementing creativity, or innovation.

In this respect, scholars have defined innovation from two perspectives: idea-generation and idea-utilization (cf. innovation generating vs. innovation adopting organizations; Damanpour, & Wischnevsky, 2006). Drawing on these two perspectives, some scholars who mainly underlined creativity (e.g., Amabile, 1988) defined innovation as “a new product or service that an organization has *created* for market,” whereas others (e.g., Nord & Tucker, 1987) defined innovation as “a technology or practice that an organization is *using* for the first time, regardless of whether other organizations have previously used the technology or practice” (Klein et al., 2001, p. 811). In the current study, I, by resorting to the latter, define innovation as *a new technology, service, or process which is aimed to improvement of individual and organizational performance.*

As widely and commonly recognized, the innovation process consists of two distinct stages: *adoption*, which refers to an organization’s decision to use an innovation in order that the organization intends to gain benefits from the

innovation, and *implementation*, which refers to employees' consistent use the innovation after adoption stage (Choi & Chang, 2009; Klein & Sorra, 1996). In the adoption stage, the most crucial influences for the decision to adopt an innovation are categorized into either *intra-organizational* factors characterized (or provided) by managers or *supra-organizational* factors around the external environment (Ansari, Fiss, & Zajac, 2010; Sung et al., 2011). Top management (or sometimes senior managers), as an institutional elite that legitimately makes organizational decisions (cf. position power or legitimate power; Northouse, 2007), initiates an innovation by frequently conducting external boundary spanning (Collins & Clark, 2003) and by promptly responding to institutional pressure (Dimaggio & Powell, 1983; Scott, 1994). Moreover, the external environment, such as supplier marketing activity, external network, and competitive pressure, influences adoption decisions (Frambach & Schillewaert, 2002).

In the implementation stage, supra-organizational factors around the external environment little affect this process, but managers' influence as an intra-organizational factor still remains even if in different ways. For instance, top management or managers play critical roles in encouraging employees to implement an innovation by providing implementation policies and practices (e.g., provisions of technical assistance, rewards, and innovation-targeted training; Klein & Knight, 2005) and to shape a strong implementation climate, which refers to users' shared perceptions that implementing the innovation is very important to achieving organizational goals (Klein et al, 2001). As a result, top management's or managers' effect on the innovation does not disappear and sometimes increases during the implementation stage.

Aside from top management's and managers' influences (labeled as *organizational factors* later in this chapter), other types of factors may affect the

implementation process and outcomes. In the adoption stage, the main agent for decision making is usually top management, whereas in the implementation stage, the principal agents for actual use are typically organizational members or employees. Accordingly, employee-related factors and employee perceptions are crucial to the implementation process and outcomes; that is, an individual's perception of *innovation properties*, an individual's perception of *social dynamics*, and *individual characteristics* can determine his/her attitude and behavior toward a targeted innovation. In this chapter, reviews are conducted on the existing studies on innovation implementation, and factors in the implementation process are classified into four categories: innovation characteristics, social factors, organizational factors, and individual factors.

Innovation Characteristics

The first classification of factors affecting innovation implementation is associated with an individual's perceptions of innovation characteristics or properties. Although scholars have revealed that there are seemingly different, various attributes that a user perceives regarding innovation, the economic perspective or the rational decision making of Status Quo Bias Theory (Kim & Kankanhalli, 2009; Samuleson & Zeckhauser, 1988) offers a systemic approach that accounts for a user's implementation behavior. According to this perspective, the comparison of cost and benefit expected or calculated from using an innovation most critically determines the degree to which a user participates in or resists implementation (Keen, 1981; Markus, 1983). In other words, user behavior toward innovation is predicted by the perceived benefit from using an innovation and the perceived cost incurred by switching to an innovation (Kim & Kankanhalli, 2009). For example, if a user believes that he/she can gain considerable benefits (e.g., performance or productivity improvement) by using

an innovation, he/she will participate in its implementation (i.e., performance-oriented evaluation or expectation). Similarly, if a user realizes the relative ease of using a new innovation over a previous one, or if a user recognizes that his/her effort in switching to a new innovation is less costly (e.g., effortless or effort-free) than using the previous one, then he/she will also participate in implementation (i.e., effort-oriented evaluation or expectation). As a result, a user's perceptions of innovation attributes are categorized into two evaluation domains: performance- and effort-oriented evaluations.

On the one hand, an individual develops a performance-oriented evaluation on a targeted innovation. Performance-oriented evaluation, as a subcategory of innovation characteristics, is defined as an appraisal or an expectation of the degree to which an individual believes that implementing an innovation enables him/her to perform better. The most representative concept of this subcategory is *perceived usefulness*, which refers to "the degree to which a person believed that using a particular system would enhance his or her job performance" (Davis, 1989, p. 320). Many similar notions also exist: *relative advantage*, which is defined as the degree which a user considers an innovation to be better than the previous one (Moore & Benbasat, 1991; Rogers, 2003); *result-demonstrability*, which implies that more advantages result in greater frequency of use (Moore & Benbasat, 1991); and *outcome expectations-performance*, which indicates a user's expectation of performance-related consequences, such as increased productivity and enhanced quality of work output (Compeau & Higgins, 1995). All factors from this perspective typically connote that an individual's attitude and behavior toward an innovation are associated with the extent to which he/she considers them to be useful in improving performance.

On the other hand, an individual also develops an effort-oriented evaluation on a targeted innovation. Effort-oriented evaluation, as the other subcategory of innovation characteristics, is defined as an appraisal or an expectation of the degree to which a user believes that implementing an innovation is easy or sometimes effort-free. For example, Davis (1989, p. 320) suggested *perceived ease of use* as “the degree to which a person believes that using a particular system would be free of effort.” Many scholars presented similar concepts: *perceived behavioral control* (Ajzen, 1991), which refers to an individual’s perception of ease or difficulty of conducting a specific behavior, and *complexity* (Rogers, 2003; Rogers & Shoemaker, 1971; Thompson et al., 1991), which is defined as a user’s perception of relatively difficulty of understanding or implementing an innovation. Every factor in this subcategory definitely indicates that a user’s attitude and behavior toward an innovation heavily rely on the extent to which he/she considers the innovation to be easy to implement or at least not difficult to use.

In addition to performance- and effort-oriented evaluations, employees may perceive other types of innovation characteristics that the economic or the rational decision making perspective cannot account for. In other words, a user may interpret innovation attributes, sometimes based on the beliefs, values, and needs of oneself or of a reference group (Rogers, 2003), rather than his/her own performance- or effort-oriented expectations. Whereas the factors pertaining to performance- and effort-oriented evaluations involve *mechanical* or *instrumental* perceptions of an innovation, the factors captured in the third subcategory connote *individual- or social-oriented, psychological* perceptions of an innovation.

For example, a user with a high level of *compatibility*, which refers to the degree to which a user perceives an innovation to be consistent with existing

beliefs, values, and potential needs, is likely to have a positive attitude and behavior toward innovation (Moore & Benbasat, 1991; Rogers, 2003). Moreover, Social Cognitive Theory (Bandura, 1977) offers a critical role of self-efficacy in an individual's use behavior by postulating that "the outcomes one expects derive largely from judgments as to how well one can execute the requisite behavior" (Bandura, 1978, p. 241). Subsequently, Compeau and Higgins (1995) revealed: *technology self-efficacy* has a substantial effect on emotional process, such that it predicts positive affect for innovation acceptance or use (Choi, Sung, Lee, & Cho, 2011; Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) and such that it reduces anxiety that impedes an individual's use of an innovation (Bandura, 1977; Stumpf, Brief, & Hartman, 1978).

Social Factors

The second group of factors in innovation implementation is related to a user's perception of social relations. An employee, as a primary agent using innovation, does not stand alone in an organization. Even in the extreme case in which a clear job description demands an employee to work by oneself, he/she has to sometimes communicate and cooperate with others, including managers, colleagues, and subordinates around him/her. According to the social psychology literature, an individual is concerned with others' evaluations regarding his/her own behavior (Fishbein & Ajzen, 1975; Trafimow, 2000). Accordingly, an employee is inclined to adopt and follow something normative or socially desirable for his/her reference group or organization (Rogers, 2003). From this perspective, an individual usually pays attention to others' responses to his/her behavior.

In this light, scholars in the innovation literature have disclosed several similar social characteristics. For example, Moore and Benbasat (1991) proposed

image, which is defined as the extent to which using an innovation is perceived to improve a user's image or social status; Thompson et al. (1991) suggested *social factors*, which refers to an individual's internalization of the subjective culture of his/her group or the specific agreements on innovation; and Fishbein and Ajzen (1975) introduced *subjective norm* by defining it as an employee's perception that most of those who are important to him/her think that he/she should or should not conduct a specific behavior toward innovation. All above-mentioned factors commonly capture a user's *subjective* perception of social relations, which drives him/her to implement innovation to maintain or gain potential social status or a positive reputation (Venkatesh et al., 2003).

The other sub-classification is related to social factors from a different perspective. An employee frequently develops a *quantity-based* appraisal of social relations, for example, an individual's perception of how many people are using an innovation. If an individual realizes that many employees in his/her group use an innovation, he/she is also highly likely to try it out. Thus, researchers suggested that the number of users around an individual influences his/her behavioral intention of using an innovation by introducing the following notions: *critical mass*, an idea that "some threshold of participants or actions has to be crossed before a social movement explodes into being" (Lou, Luo, & Strong, 2000, p. 93; Markus, 1990; Oliver, Marwell, & Teixeira, 1985); *network externalities*, which refers to a quality of using innovation such that it becomes more valuable to a use as the number of users increases (Rogers, 2003); and "contagion effect" from *peer usage*, which occurs when an employee sees his/her peers using an innovation (Rogers, 2003, p. 353).

In sum, social factors, which are considered either highly normative (socially desirable) or related to the number of users around an individual, can prompt an individual to implement a targeted innovation.

Organizational Factors

The factors belonging to the third category are related to manager characteristics, manager–introduced facilitators, and organizational readiness. First, as mentioned earlier, top management or senior managers play a dominant role in deciding to introduce an innovation in the adoption stage, but even in the implementation stage, their roles do not diminish. Instead, top management’s characteristics such as tenure in management and change–oriented behavior continuously affect both the adoption and the implementation processes (Damanpour & Schneider, 2006). For example, managers with relatively longer tenure in management undertake various projects (Finkelstein, 1992), resolve many managerial issues, and improve political skills to manage people effectively (Kimberly & Evanisko, 1980). Accordingly, the management characteristic of *tenure in management* affects the implementation process in such a way that, when managers have more experiences in dealing with important managerial issues, they encourage employees more effectively to participate in implementation (Mumford, 2000).

Leadership–related attributes also belong to this subgroup, manager characteristics. For instance, *empowering leadership*, which involves the process of facilitating employee participation in decision making (Arnold et al., 2000), reinforces the relationship between employee attitude and use behavior (Mathieu, Ahearne, & Taylor, 2007). In a similar vein, *managers’ change–oriented behavior* positively influences employee behavior toward innovation (Damanpour & Schneider, 2006), frequently by transferring an organizational vision and goal to employees (Ekvall & Arvonen, 1991; Yukl, 1999). Furthermore, *managerial patience* (Klein & Knight, 2005) is one of critical factors in this subgroup. If managers push employees to implement an

innovation for a long time, employees will gradually make less effort to use it (Repenning & Sterman, 2002). The frequent interventions of managers, which entail the physical fatigue and emotional burnout of employees, can definitely deteriorate the quality of innovation implemented by employees.

The second subcategory of organizational factors includes manager-introduced facilitators. Drawing on the Status Quo Bias Theory, Kim and Kankanhalli (2009) suggested that organizational support for change can increase user acceptance even under the situation in which switching costs triggers user resistance. In this light, many scholars uncovered the effects of organizational support or manager-introduced facilitators on implementation. For example, researchers identified *management support* as a primary antecedent that directly fosters implementation-facilitating policies and practices (Leonard-Barton & Krauss, 1985; McKersie & Walton, 1991) and that later enables employees to forge implementation climate – employees' shared climate toward implementation (Klein et al, 2001). Some researchers (e.g., De Dreu, & West, 2001; MacDuffie, 1995) proposed facilitating conditions that improve the institutionalization of innovation by showing that innovative HR practices, such as *participation in decision-making*, can boost employee motivation or better achieve the organizational (innovation) goal. Furthermore, Klein et al. (2001) proposed *implementation policies and practices* as manager-introduced facilitators, which include communication, rewards, coercion (Fidler & Johnson, 1984; Rousseau, 1989), financial incentive (Lawler & Mohrman, 1991), provisions for technical assistance (Rivard, 1987), training programs (Fleischer, Liker, & Arnsdorf, 1988; Klein & Ralls, 1997), and time for experiment (Zuboff, 1988), to encourage employees to use innovation.

The last subcategory of organizational factors is organizational readiness. This subgroup includes several organizational factors. *Financial resource*

availability (Choi & Chang, 2009) is essential to innovation success because implementation policies and practices necessarily require some costs to an organization (Klein et al., 2001). (Collective) *learning orientation*, as a factor within organizational readiness, influences implementation: in an organization or in groups with a collective orientation to learning, employees rarely hesitate to try out innovation because they are not quite blamed for failure (Klein & Knight, 2005), because psychological safety is already shaped (Edmondson, 1999), and because team learning processes, such as trials and reflections, work properly (Edmondson, Bohmer, & Pisano, 2001). Furthermore, *supportive norm* is critical to implementation. Choi (2004) suggested that supportive norm, as a form of individual perception of encouragement from managers and colleagues, facilitates an individual's attitude toward innovation. Finally, *implementation climate*, which refers to employees' shared perception of the importance of innovation implementation, renders employees' implementation behavior more likely (Klein et al., 2001; Klein & Sorra, 1996).

Individual Factors

The last category includes individual factors and consists of two subgroups: the demographics and the trait-like propensities of a user. The first sub-classification is related to *demographics* such as gender and age. For example, Venkatesh et al. (2003) showed the moderating effects of gender and age of an innovation user on the relationship between perceived innovation properties and implementation behavior in such ways: men and younger workers with performance expectancy are inclined to have stronger behavioral intention than women and older workers; by contrast, women and older workers with effort expectancy are likely to have stronger behavioral intention than men and younger workers. Interestingly, similar to the study of Venkatesh et al. (2003),

majority of innovation implementation studies have considered this type of individual factor as control variables, not primary antecedents of individual use behavior.

For the second subcategory, individual factors are associated with propensity. For instance, Choi and Moon (2013) suggested that an individual with high *learning and performance goal orientation* is inclined to hold a high level of self-efficacy and attempts to improve his/her task competence. Accordingly, individuals with these types of motivational disposition are likely to experiment with new ways, enhance their mastery, or increase their productivity by adopting new practices (Choi & Moon, 2013). In addition, other scholars (e.g., Agarwal & Prasad, 1998; Flynn & Goldsmith, 1993; Leonard-Barton & Deschamps, 1988) proposed that an individual with *personal innovativeness*, which is defined as a generalized personal tendency to accept innovation and to be independent of others' influences, exhibits a positive attitude and behavior toward using innovation; that is, inherently innovative persons are highly receptive to change and will use innovation voluntarily (Frambach & Schillewaert, 2002).

Development of Research Issues

In the past decades, a growing body of research in the innovation literature has examined the direct or indirect role of several factors that determine the degree to which an individual adopts and uses innovation. However, it has paid less attention to the direct role of individual attributes, such as a personality, in predicting individual behaviors toward innovation than to the direct role of innovation properties and social and organizational factors (Greenhalgh et al., 2005). Nonetheless, the personality and social psychology literature implies that personal characteristics (e.g., personality and motive) can

be more crucial predictors of specific and varied forms of human behavior. Recently, highlighting their presumed importance, scholars (e.g., Choi, 2004; Frambach & Schillewaert, 2002; Greenhalgh et al., 2005) have called for a more person-oriented research to challenge the existing *unbalanced* view that has mainly dealt with contextual factors (e.g., innovation properties and social and organizational attributes), rather than individual propensities (e.g., personality), as potential antecedents of user behavior.

In this respect, only a handful of research has examined individual propensity, but these studies were highly limited because the propensity was investigated as a (general) trait and not as idiosyncratic to a specific situational factor. For example, Agarwal and Prasad (1998) introduced the notion of personal innovativeness, which refers to an individual's trait-like, generalized tendency to try out a new innovation as a relatively stable disposition invariant across situations. However, TAT suggests that a particular trait gives rise to a specific behavior more clearly when it is coupled with a trait-relevant situation (Kenrick & Funder, 1988; Tett & Guterman, 2000). Arguably, personal motive can predict use behavior more precisely when it encounters motive-relevant situations (Funder, 2001). Accordingly, studies on the creativity literature (e.g., Shalley et al., 2004) and TAT (Tett & Guterman, 2000) suggest that a *more balanced* view addressing person-context interactions can deepen our understanding of human behaviors toward innovation. Therefore, the perspective of the P-S-B triad can develop a more elaborated model of individual behaviors toward innovation.

Furthermore, most of studies on the innovation implementation literature have endorsed the dichotomized use behavior of either acceptance or rejection (Choi & Moon, 2013). However, many studies in the organizational behavior literature (e.g., MacKenzie et al., 1998) indicated that the different forms of task

behavior such as in–role behavior and extra–role behavior may exist. Accordingly, diversifying implementation behaviors can enrich our understanding of the microprocess of innovation implementation in reality.

Finally, an individual’s use behavior is merely a necessary condition, not a sufficient condition for innovation success. Instead, innovation success can be achieved eventually only when the expected outcomes (e.g., performance or productivity increase) are obtained (Klein et al., 2001). Thus, to confirm that an individual accomplishes a high level of institutionalization of a targeted innovation, I will investigate whether each form of individual behavior leads to innovation outcome.

To conduct this investigation, I begin with McClelland’s Need Theory, one of the most dominant theories that account for human motive, to examine the effects of individual propensity on behavior toward an innovation. Afterwards, drawing on several theories from the personality and social psychology, sociology, and information systems domains, I integrate all of four kinds of factors into a single theoretical framework and test it empirically.

CHAPTER III

CONCEPTUAL FRAMEWORK

Scholars in the innovation literature have revealed that implementing innovation entails various changes in tasks assigned, social relations, and even power distribution in the workplace (Ansari et al., 2010). For example, when top management decides to adopt Six Sigma, a widely-recognized statistical methodology for quality improvement (Schroeder, Goldstein, & Rungtusanatham, 2006), it assigns employees to Six Sigma-related project teams in which they have to learn the (technical) use of Six Sigma, develop new interpersonal (social) relationships, and sometimes engage in the decision-making process with a legitimate authority (power) or autonomy. Although the innovation-induced technical, social, and power changes may directly influence an individual's behavior toward innovation, the personality and social psychology literature implies that a certain characteristic of an individual (e.g., personality or motive) could be a more significant antecedent that pertains to a specific behavior than other predictors (e.g., facilitating practices), especially when this characteristic is combined with an external factor (e.g., innovation property; Myers, 2002). For this reason, I focus on individual factors and ground my initial discussion on the personality psychology literature.

The studies dealing with personality have typically drawn on one of three perspectives: *conflict model* (e.g., Murray's List of Needs), *fulfillment model* (e.g., Maslow's Hierarchy of Needs), and *consistency model* (e.g., McClelland's Theory of Needs; Maddi, 1996). The conflict model assumes that two opposing innate propensities (e.g., altruism vs. selfishness) drive a person to experience an irresolvable inner conflict toward inconsistent behaviors (e.g., prosocial vs. antisocial behavior), whereas the fulfillment model presumes that one great

inborn force (e.g., need for belongingness and love) within a person leads him/her to conduct a particular behavior (e.g., make friends). Unlike the first two models, the consistency model emphasizes neither a single great driving force nor a conflict between two inborn forces. Instead, it highlights interactions with environmental stimuli: that is, if a person believes that an interaction with the world may confirm his/her expectation (i.e., *consistency* with what he/she wants), he/she will feel comfort and attempt to meet his/her expectation; otherwise, he/she will be awkward and minimize or avoid the inconsistency (i.e., *inconsistency* with what he/she wants; Maddi, 1996).

In the present study, I begin with McClelland's Need Theory (McClelland, 1985), which is classified as a consistency model. Generally, the first two models (i.e., the conflict model and the fulfillment model) confine our understanding of an individual's use behavior to the perspective of *generalized* individual tendency, regardless of organizational context or innovation characteristics, by deemphasizing environmental stimuli (e.g., changes in task assigned, social relations, and power distribution), which usually exist in implementing innovation (Ansari et al., 2010). However, the consistency model extends our understanding of an individual's behavioral patterns toward innovation to the perspective of *specified* individual tendency to perform a particular behavior toward innovation by highlighting the environmental stimuli.

Specifically, McClelland's theory within this perspective has a distinct advantage of specifying an individual's different motives, which, when coupled with environmental influences, predict his/her distinctive behavioral patterns toward innovation more accurately (Atkinson & Birch, 1970; Maddi, 1996). Accordingly, his theory broadens our understanding of the motives of an individual as critical antecedents of behavior toward innovation by offering a theoretical lens to systematically isolate one distinctive motive-behavior route

from other routes such that a particular motive (e.g., *n* achievement) leads to a specific behavior toward innovation (e.g., compliance) in consideration of the motive–satisfying conditions (e.g., performance expectancy of innovation properties).

In the present study, I consider psychological needs to be different from other personality attributes (e.g., Big Five such as conscientiousness and agreeableness) because a psychological need indicates a *more specified motive* that leads to a particular behavior (cf. Sheldon, Elliot, Kim, & Kasser 2001), whereas personality implies a *generalized attitudinal and behavioral tendency* to perceive and act (cf. Goldberg, 1990). This approach is in accordance with Atkinson and Raynor’s (1975) extension of McClelland’s Need Theory as they considered the motive constructs as meaningful predictors of human action in dynamically changing, event–specific situations (Maddi, 1996), such as innovation implementation.

Figure 1 summarizes the conceptual framework of the present study. Drawing on McClelland’s Need Theory (1985), Herscovitch and Meyer’s Behavioral Model (2002), and TAT (Tett & Guterman, 2000), I suggest a model of three need–situation–behavior triads toward individual–level innovation implementation. Further, resorting to the innovation implementation literature (Choi & Chang, 2009; Klein et al., 2001), I propose that all of individual’s implementation behaviors are related to innovation outcome. The following presents the hypotheses I develop for each link depicted in Figure 1.

Individual Needs: McClelland’s Need Theory

McClelland presumed that the consistency or discrepancy between an expectation and an event drives a specific behavior (Maddi, 1996). According to his argument, an individual tends to maximize the consistency or minimize the

discrepancy by following a course of action that is relevant to a purpose, which is triggered by a specific motive in ways in which the following are observed: (1) “the arousal of motives increases the amount and intensity of behavior”; (2) “motivation organizes responses and introduces trends into behavior, producing orientation and direction”; and (3) “people in a state of motivation seem more sensitive to some kinds of environmental cues than to others” (Maddi, 1996, p. 193). The first statement indicates a positive relationship between a specific motive and a particular behavior, whereas the second implies a causal relationship between the motive and the behavior. Furthermore, the last reflects that a person with a specific motive may perform a particular behavior more saliently when he/she encounters an expectation–satisfiable event or situation. Accordingly, relying on the first and second arguments, I develop hypotheses (*H1–H3*) on the primary relationship between a motive and a behavior toward innovation. Moreover, depending on the last, I construct three hypotheses (*H4–H6*) on the moderating effects of an innovation characteristic, a social factor, and an organizational factor on the relationships, respectively.

Drawing on Murray’s (1938) original list of personal needs, McClelland (1985) postulated the three most widely recognized motives or needs: *n* achievement, *n* affiliation, and *n* power. Resorting to the original definitions of needs (McClelland, 1951 & 1985), I define *n achievement* as an individual’s desire for significant accomplishment (or performance), achievement of higher competence, and mastering of skills or high standards. I define *n affiliation* as an individual’s desire for the creation and maintenance of positive social relationships with other members to feel a sense of being a member within and belonging in his/her social group. Finally, I define *n power* as an individual’s desire to see his/her environment move in the direction that he/she wants, due to his/her involvements.

For instance, persons with high n achievement are inclined to accomplish assigned tasks alone. They prefer to work on moderately difficult tasks knowing that mastery leads to higher emotional satisfaction and higher goal or performance achievement (Maddi, 1996). Moreover, persons with high n achievement are likely to make efforts to accomplish a goal or performance expected by them or by their organization to avoid feeling of loss from failure. Furthermore, people with high n affiliation prefer to develop and maintain positive social relationships with other organizational members in a friendly manner because they desire to be part of groups and to feel loved. Moreover, individuals with this motive are inclined to adhere to the norms of their group or organizational culture to avoid rejection by other members, groups, and organizations. Finally, people with high n power desire to influence others. Therefore, a person with n power generally enjoys others' recognition, pursues a better personal status, and takes initiatives or sometimes potential risks.

An Individual's Innovation Implementation Behavior:

Herscovitch and Meyer's Behavioral Model

Traditionally, most studies in the innovation implementation literature have endorsed the dichotomized use behavior of either acceptance or rejection of innovation by individual users or the organization (Choi & Moon, 2013). In reality, however, people may perform various behaviors toward organizational change (Herscovitch & Meyer, 2002) or innovation. For example, many studies on organizational behavior (e.g., MacKenzie et al., 1998) have validated that some people are inclined to meet the organizational requirements only (i.e., in-role behavior), whereas others tend to do something beyond the explicit requirements (i.e., extra-role behavior). Therefore, a *multifaceted* model of behavioral supports for change (Meyer & Herscovitch, 2001) can offer a more

elaborate framework by conspicuously clarifying the different motive–behavior links toward innovation than the *bifurcated* model of acceptance and rejection does.

While conducting a study on organizational commitment and behavioral support for organizational change, Meyer and Herscovitch (2001) specified behaviors toward organizational change based on a focal–discretionary behavioral distinction. Specifically, they defined *focal behavior* as a “course of action to which an individual is bound by his or her commitment” (e.g., remaining with the organization) and *discretionary behavior* as “any course of action that, although not specified within the terms of the commitment, can be included within these terms at the discretion of the individual” (e.g., exerting extra effort; Herscovitch & Meyer, 2002, p. 475). Using the focal and discretionary behavior domains, they suggested the Behavioral Continuum Model that consists of *resistance* (i.e., an unsuccessful focal behavior or “failure to comply with explicit requirements of change”), *compliance* (i.e., a successful focal behavior), *cooperation* (i.e., a moderately discretionary behavior), and *championing* (i.e., the utmost discretionary behavior; Herscovitch & Meyer, 2002, p. 475–476). Drawing on their definitions of focal and discretionary behavior and on the Behavioral Model, I adopt three types of needs–induced implementation–related behavior: compliance, cooperation, and championing.

Compliance is a focal behavior toward a given innovation. In the current study, I define it as an individual’s minimum support for an innovation by going along with the innovation and by accepting and fulfilling the explicit requirements for the innovation (Herscovitch & Meyer, 2002; Meyer, Srinivas, Lal, & Topolnytsky, 2007). It is also considered an innovation–targeted, in–role behavior to which an individual is bound by his/her obligation and commitment (Meyer & Herscovitch, 2001).

Cooperation is a moderately discretionary behavior toward a target innovation. I define it as an individual's modest sacrifices for an innovation by helping others and sharing ideas and resources (Herscovitch & Meyer, 2002; Meyer et al., 2007). It can be regarded as a proactive behavior such as organizational citizenship behavior–individual (OCB–I), which “occurs without any external rewards” and which is “distinguished from the traditional performance of in–role behavior” (Williams & Anderson, 1991, p. 602).

Championing is the most discretionary behavior toward a given innovation. I define it as an individual's extreme enthusiasm for an innovation by going above and beyond the formal requirements to ensure the success of the innovation and by promoting benefits from the change to others (Herscovitch & Meyer, 2002; Meyer et al., 2007). Although not exactly the same in terms of definition, championing can also be considered a form of change–oriented OCB, which refers to “constructive efforts by individuals to identify and implement changes with respect to work methods, policies, and procedures to improve the situation and performance” (Choi, 2007, p. 469).

Both cooperation and championing can be similarly considered as innovation–relevant and autonomous behaviors in that an individual views his/her job as encompassing a wider range of behaviors (extra–role; Meyer & Herscovitch, 2001). However, two behaviors fundamentally differ from each other: cooperation is an “*affiliative* type of extra–role behavior designed to improve task performance by maintaining and enhancing existing working relationships and task performance (e.g., do it smoothly and efficiently),” whereas championing is a “*promotive* but *challenging*... behavior such as voice and making suggestions tend to improve work performance (e.g., do it in a better way)” (Choi, 2007, p. 467–468).

Relationship between Individual Need and Innovation Implementation Behavior

An individual's specific need can produce the amount (intensity) and orientation (direction) of a particular behavior toward innovation (Maddi, 1996). In other words, a specific need arouses various responses in thought processes but leads to a particular action that can satisfy the need (McClelland, 1951). As a result, a need is usually followed by a need-driven behavior, and under the situation of innovation implementation, the behavior pertains to using the innovation.

For instance, individuals with *n* achievement can consider an innovation as an opportunity to improve their skills or performances. Especially, before the innovation is introduced, individuals with high *n* achievement may be bored with doing daily works already routinized. After given an innovation to be implemented, they may be exposed to a situational stimulus that can fully evoke *n* achievement, and they are inclined to perform compliant behaviors in accordance with both the *approach* motives of challenge and satisfaction and the *avoidance* motives of boredom (Maddi, 1996; McClelland, 1951). I develop three need-behavior relationships as follows.

Relationship between n Achievement and Compliance

Those who have high *n* achievement have a stronger tendency to accomplish their tasks than those who have low *n* achievement (McClelland, 1985; Murray, 1938) and comply with explicitly defined innovation requirements. Although the direct link between *n* achievement and compliance has been little examined, a growing body of research on personality (Big Five) has implied that the relationship should be positive. Specifically, Barrick and Mount (1991), and Hurtz and Donovan (2000) substantiated that the *n* achievement, as a dimension

of conscientiousness incorporating hard work and perseverance, is positively associated with job proficiency. Moreover, they revealed that this achievement-oriented personality is important to the accomplishment of tasks regardless of jobs (Barrick & Mount, 1991). Thus, I conjecture that the n achievement is a critical predictor of behavior that accomplishes innovation-related tasks across all jobs.

In many cases of adopting an innovation, an individual's workload increases. Many employees already have a large amount of daily tasks to be accomplished, but innovation-related, additional tasks are usually assigned to them. Some people with low n achievement may encounter unpleasant situations with increased workloads and may avoid or even resist accomplishing innovation-related tasks. Nevertheless, individuals with high n achievement tend to conduct a compliant behavior toward the innovation to meet its explicit requirements because they are typically willing to accomplish their duties and achieve assigned goals and targeted performances despite increased workloads.

Not surprisingly, n achievement as a dimension of conscientiousness can be somewhat positively related to cooperation or altruism, a dimension of OCB that refers to a voluntary action that helps another person with a work problem (Podsakoff, Mackenzie, Paine, & Bachrach, 2000). Moreover, to some extent, it can be positively associated with championing or civic virtue (or individual initiative), the other dimension of OCB that indicates a voluntary involvement in the political decision process of an organization (Crant, 2000; Organ, 1988, 1990a, 1990b; Podsakoff et al., 2000).

However, because people with high n achievement have been found to be consistent and persistent in obtaining higher performance (McClelland, 1958, 1961; Skinner & Drake, 2003), they, as users not inventors of the innovation, are more likely to conduct only a "sound, conforming, safe, and dependable" in-role

behavior toward the innovation (Kirton, 2000, p. 10). In other words, those who have a strong sense of achievement that is related to purpose, persistence, and hard work generally perform better than those who do not have (Barrick & Mount, 1991), but they will conduct in–role behavior such as compliance more saliently than extra–role behavior by following a prescribed performance objective. In this light, an individual with high n achievement tends to be motivated to accomplish an expected goal, show an expected performance (Phillips & Gully, 1997), and conduct a more focal behavior to comply with innovation requirements. Thus, those with high n achievement are more likely to comply with the explicit requirements of innovation.

Hypothesis 1: n achievement will be more strongly positively related to compliance than cooperation or championing.

Relationship between n Affiliation and Cooperation

Individuals with high n affiliation are more strongly inclined to cooperate with others than those with low n affiliations by helping others or sharing their ideas and resources with others. The n affiliation is not only a personality attribute pertaining to an individual’s desire for social contact and belongingness (Veroff & Veroff, 1980) but also a tendency to obtain social gratification from harmonious relationships with other members and from a sense of solidarity within a group or organization (Murray, 1938). Similarly, the n affiliation corresponds with a self–construal based on interdependence rather than independence (Markus & Kitayama, 1991). Accordingly, individuals with n affiliation may consider innovation as a chance to maintain, shape, or enhance positive interpersonal relations and may tend to perform cooperative behaviors, as many innovations consist of tasks with a high level of “interdependence and

complexity that require collective effort and intensive coordination” (Choi, 2007, p. 469).

Moreover, the *n* affiliation varies across people (Markus & Kitayama, 1991). A person with a high *n* affiliation prefers a sense of organizational identification that can provide him/her with the opportunity to satisfy his/her desire for affiliation (Glynn, 1998), and thus he/she is willing to cooperate with others who have difficulties in using the innovation and performing extra-role behaviors such as OCB (Wiesenfeld, Raghuram, & Garud, 2001). By contrast, a person with low *n* affiliation is less willing to conduct helping behaviors or OCB even when using the innovation is highly interdependent. The reason is that he/she prefers to view himself/herself as independent from others and that he/she also believes that “defining himself/herself with respect to his/her organizational membership will not offer him/her an opportunity to express and satisfy his/her personality characteristics” (Wiesenfeld et al., 2001, p. 217).

The *n* affiliation is associated with compliance or championing to some extent. Supposing that the *n* affiliation is similar to agreeableness, which is a personality trait related to friendliness (Guilford & Zimmerman, 1949) and social conformity (Fiske, 1949), it is considered to be somewhat related to compliance (Podsakoff et al., 2000). In addition, even though a direct relationship between agreeableness and championing has been little examined, prior empirical evidence indicates that agreeableness well predicts job performance of managers and sales representatives whose main task is to promote or persuade either subordinates to elicit desirable behavior or buyers to purchase their products (i.e., championing; Podsakoff et al., 2000). Thus, agreeableness can be a positive predictor of championing.

Nevertheless, many studies (e.g., Barrick & Mount, 1991; Van Scotter & Motowidlo, 1996) suggest that agreeableness influences “interpersonal

facilitation component of contextual performance” (e.g., cooperation) more strongly than in–role performance (e.g., compliance; Hertz & Donovan, 2000, p. 871; Van Scotter & Motowidlo, 1996) or persuasion. Therefore, individuals with high *n* affiliation tend to cooperate with others by helping them and sharing their ideas and resources with them (Glynn, 1998; Wiesenfeld et al., 2001) rather than comply with innovation requirements or champion the innovation.

Hypothesis 2: n affiliation will be more strongly positively related to cooperation than compliance or championing.

Relationship between n Power and Championing

Finally, regarding the relationship between *n* power and championing (H3), I propose a set of competing hypotheses in a different manner from the previous hypothesis developments (H1 and H2). The reason that I adopt a different approach is that whereas *n* achievement and *n* affiliation are usually satisfied in such a way that an organization wants or that an innovation directs, the *n* power can be met in either the same or the opposite direction that innovation pursues. For instance, a person with *n* achievement or *n* affiliation highly tends to perform need–satisfiable behavior such as compliance or cooperation, which is also considered organizationally desirable.

However, a person with *n* power can have either the same or the opposite behavioral direction that his/her organization wants, by depending on the degree to which he/she agrees with the innovation means and goals. Specifically, if a person with *n* power develops a high level of person–innovation fit (P–I fit), which refers to the extent to which a person perceives congruence between his/her personal values (or retained abilities) and innovation values (or required abilities), that person can commit to implementation (Choi & Price, 2005) and

champion using the innovation. Otherwise, he/she can neither engage in implementation nor promote the innovation.

Likewise, personality psychology offers a similar conceptual framework. If a person has *socialized n* power, which refers to a desire for prosocial influence, that person will promote the innovation; if a person has *personalized n* power, which refers to a desire for antisocial or neutralizing influence, that person will not positively champion innovation (Magee & Langner, 2008; McClelland, 1975, 1985; Winter, 1973). In other words, if a person believes that implementing the innovation helps him/her obtain higher power, he/she will champion its benefit (i.e., a positive relationship between *n* power and prosocial behavior); otherwise, he/she will negatively promote it (i.e., a negative relationship between *n* power and prosocial behavior). Theoretically, the two types of *n* power are independent (Magee & Langner, 2008), but they are empirically difficult to distinguish because of the necessarily high correlations with the aggregate score (McClelland & Watson, 1973). Hence, in this study, drawing on the two underlying assumptions that a person with *n* power either agrees or disagrees with the innovation benefit, I propose a set of two competing hypotheses depicting the relationship between *n* power and championing.

On the one hand, in terms of socialized *n* power, I posit that individuals with high *n* power have a stronger tendency to promote an innovation to other members than those with low *n* power. As mentioned above, individuals with high *n* achievement are inclined to conduct compliant behaviors toward innovation to obtain a sense of personal accomplishment and avoid a sense of loss, which stems from their failure to comply with innovation requirements (Elliot & Thrash, 2004). Similarly, those with high *n* affiliation tend to perform cooperative behaviors toward innovation to obtain a sense of being as a member in or belonging in their groups and avoid others' blame which arises from their

non-cooperation. Consequently, from the perspective of risk aversion or risk taking, both a person with high n achievement and a person with high n affiliation usually take a *risk-aversion strategy* by accomplishing an organizational goal or implementing innovation.

By contrast, individuals with high n power often take a *risk-taking strategy* by voluntarily being in charge of more extreme tasks, such as promoting innovation. Innovation may typically alter the distribution of power and the structure of an organization (Shane, Venkataraman, & MacMillan, 1994) and may cause a shift of power in an organization from an entrenched administrator (group) to some person (a new group; Mintzberg, 1984). Developing high P-I fit, persons with n power may perceive it as a chance to satisfy their personal goals and desire for higher power, as an effective means for *symbolic efficiency*, such that using an innovation can improve social reputation and positional status (Lee & Park, 2009), and as a good opportunity for *impression management* such that conducting OCB such as civic virtue can enhance their images at work (Bolino, 1999). Accordingly, “power motivation directs people to doing whatever draws most attention to their own effect on the world” (Veroff, 1982, p. 100), and it increases the likelihood of risky decision making (e.g., championing; Maner, Gailliot, Butz, & Peruche, 2007) in accordance with the managerial direction or innovation. For this reason, promoting a new idea can be a form of risk-taking behavior conducted by those with high n power (Drory & Romm, 1990).

Moreover, even though personality psychologists neither directly elucidated nor empirically test the n power-championing relationship, some of them implied that a positive connection could exist. Generally, innovation entails a high level of uncertainty, which some employees are afraid to properly deal with but which other (power-motivated) employees can regard as an opportunity to satisfy their n power by conducting what their organization wants. In this case,

those with n power have tendency to believe that more exposure to the public means that they are more likely to have power (McClelland & Watson, 1973). Thus, they are likely to promote the innovation to group or organization members.

Similarly, Haley (1969) and Winter (1973) argued that individuals with high n power tend to bring themselves to the attention of people. Those with high n power believe that if they have sheer visibility and become widely known to others, they can easily participate in further discussions or decision-making processes and obtain higher power in the future (Haley, 1969). To the end, they are inclined to create some influence by promoting or championing something even somewhat disputable to draw others' attention (Winter, 1973).

Interestingly, n power may also be somewhat related to compliance and cooperation. Generally, because many contemporary innovations are targeted at improving technological advancement and increasing work process efficiency, a person with n power is often concerned about learning the innovation and coordinating with and helping others use it so that he/she can better persuade them (Winter, 1973). However, because mastering new skills merely belongs to an individual's own work and because cooperating with others is exposed to only colleagues who are relatively close to the individual, promotion may be the most effective means for the individual to efficiently attract (unspecified) others and increase his/her visibility to the public. Thus, an individual with high n power tends to conduct the most supportive behavior toward an innovation by promoting the expected benefits from using the innovation to others rather than by performing either compliant or cooperating behavior.

Hypothesis 3: n power will be more strongly positively related to championing than compliance or cooperation.

On the other hand, in terms of personalized n power, I posit that n power is negatively related not only to championing but also to compliance and cooperation. When a person with n power fails to develop a P-I fit or congruence between person and innovation or when a person has personalized n power rather than socialized one, he/she does not perform positive implementation behavior that the organization considers desirable for innovation success. Unlike socialized n power, which is a desire to influence for social or organizational welfare, personalized n power is a desire to influence for self-serving, antisocial, and neutralizing ends (Magee & Langner, 2008; McClelland, 1975, 1985; Winter, 1973). A person is not concerned about any implementing behavior toward innovation because that person with (personalized) n power has a “strong inhibition tendency, or activity inhibition,” and thus he/she does not participate in improving the “welfare of a constituent group.” Rather, he/she seeks only “political office to achieve recognition” (Magee & Langner, 2008, p. 1548); that is, a person with n power conducts behavior both in a self-serving manner and in the direction of decreasing organizational (innovation) effectiveness (Batten & Swab, 1965; Drory & Romm, 1990; Pettigrew, 1973; Porter, 1976). Thus, n power is negatively related to compliant behavior and prosocial behaviors (e.g., cooperation and championing), which are considered to be organizationally-beneficial activities toward a target innovation.

Hypothesis 3-Alternative: n power will be negatively related to compliance, cooperation, and championing.

Moderating Effect of Innovation Characteristic, Social Factor, and Organizational Factor: Interactionist Perspective and TAT

Combined with a motive–relevant stimulus or situation, a motive can prompt an action more saliently (Winter, 1973). This interactionist perspective has been long supported by many psychologists. For example, Murray (1938, p. 119) suggested the concept of *press* to account for “a directional tendency in an object or situation,” which refers to the activation or the provocation of a behavioral response to a psychological need. McClelland (1951) also implied that, when people with a specific motive are confronted with environmental cues arousing a motive–relevant expectation (*sensitization*; Maddi, 1996, p. 193), they are inclined to perform an expectation–fulfilling behavior. Moreover, Alston (1975, p. 19) proposed that “to say that X has a certain disposition is to assert... that if X is in a certain type of situation (S), X will emit a certain type of response (R)”. By agreeing that “if little is known about situations, even less is known about behaviors” (Funder, 2001, p. 211), all of these psychologists emphasized the interaction between needs and need–relevant situations to better predict human behavior.

In a similar vein, Tett and Guterman (2000, p. 398) formalized this trait–situation relationship by proposing TAT, which states that “the behavioral expression of a trait requires arousal of that trait by trait–relevant situational cues.” In the present study, drawing on the interactionist perspective and TAT, I postulate the moderating effect of three types of situational factors (i.e., performance expectancy as an innovation property, social expectation as a social factor, and participatory practice as an organizational factor) on three need–behavior relationships.

My postulation that the three types of situational factors in innovation can moderate the need–behavior relationships corresponds with Johns’ (2006)

assertion that the innovation and implementation contexts can interact with personal factors such as the disposition to influence organizational behavior. According to his argument, two levels of contextual analyses exist: *omnibus context*, which refers to “an entity that comprises many features or particulars,” such as occupation, location, time and rationale (cf. think journalism: Who? Where? When? Why?), and *discrete context*, which refers to the “particular contextual variables or levers that shape behavior or attitude” (Johns, 2006, p. 391). In the current study, I adopt the perspective of the discrete context because the discrete (innovation and implementation) context can be considered to be nested within the omnibus (organization) context (Johns, 2006) and because the focal phenomenon of this study is the innovation and implementation context, not the organizational context.

Furthermore, Johns (2006) suggested that the discrete context includes three dimensions: task context (e.g., autonomy, uncertainty, and resources), social context (e.g., social density and social influence), and physical context (e.g., temperature, light). However, I include only the first two dimensions in the discussion because the effects of task and social contexts on organizational behavior have been well grounded on theoretical pervasiveness and widely manipulated in classic social psychology (Johns, 2006; Pfeffer, 1997). Instead of the physical context, an innovation property (i.e., performance expectancy) is included as the third dimension, as most innovation theories introduced similar concepts (e.g., perceived usefulness within the Technology Acceptance Model and attitude toward behavior within Theory of Planned Behavior). Thus, newly including a dimension related to innovation characteristics and still drawing on the two remaining dimensions of Johns (2006), I consider innovation property (i.e., performance expectancy), social context (i.e., social expectation), and task context (i.e., participatory practice) as potential moderators.

The reasons that I link *n* achievement to performance expectancy, *n* affiliation to social expectation, and *n* power to participatory practice are that each pair denotes an interaction between a specific need and a need–relevant situation more saliently than other cross relationships. In other words, classified in a conceptually similar manner (i.e., domain correspondence), *n* achievement and performance expectancy belong to the *performance domain*; *n* affiliation and social expectation are placed in the *social domain*; and *n* power and participatory practice are commonly grounded on the *authoritarian domain* (cf. dominance, legitimacy, or authority; Winter, 1973, p. 8–9). Therefore, by relying on the domain correspondence, I posit three distinct interactions between need and need–relevant situation below.

Moderating Effect of Performance Expectancy

On the one hand, the extent to which an individual believes that using an innovation helps him/her accomplish the innovation–related tasks (i.e., performance expectancy) can moderate the relationship between his/her *n* achievement and the compliant behavior toward the innovation. Traditionally, many theories cited in the information systems literature have suggested a series of notions similar to performance expectancy as one of influential factors of implementation behavior. For instance, the Technology Acceptance Model (TAM) proposes *perceived usefulness*, which refers to “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). Similarly, grounded on general motivation theory, the Motivational Model (MM) offers *extrinsic motivation*, a user’s perception that he/she prefers to use technology “because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity

itself, such as improved job performance” (Davis, Bagozzi, & Warshaw, 1992, p. 1112).

Recently, proposing an integrated model called the Unified Theory of Acceptance and Use of Technology (UTAUT), Venkatesh et al. (2003) introduced the concept of performance expectancy. In the present study, I use performance expectancy rather than perceived usefulness and extrinsic motivation as a moderator of the *n* achievement–compliance relationship. The main reason to adopt this term is that it is properly reframed and relabeled within the motivational perspective (cf. Expectancy Theory; Vroom, 1964) and that it corresponds with Atkinson’s (1953) suggestion that an action tendency is the summation of a motive (need) multiplied by expectancy. I define *performance expectancy* as the degree to which an individual believes that using the innovation can help him/her attain gains in job performance or goal achievement (Venkatesh et al., 2003).

In general, when an organization adopts an innovation, people tend to decipher usefulness–focused instrumentality of the innovation. Research on implementation indicates that those who expect positive consequences from their implementation efforts tend to be highly performance–oriented (i.e., *implementation instrumentality*; Baer, 2012, p. 1105). Therefore, *n* achievement, which focuses on skill or performance improvement, is more likely to result in compliance as performance expectancy increases. Specifically, when an employee believes that using an innovation can help him/her improve job performance, increase productivity, and enhance job effectiveness (Davis, 1989; Davis et al., 1989), he/she develops high performance expectancy. When an employee with *n* achievement has high performance expectancy, more efforts are made to comply with innovation requirements so that more expected gains, such as increased performance offered by the innovation, can be obtained. By contrast,

when an employee believes that using an innovation does not help him/her accomplish innovation-targeted tasks, less effort is made by the employee to comply with the innovation requirements because the employee realizes that using it is only a waste of time. Employees with higher n achievement are more sensitive and more strongly respond to performance expectancy because of their potent motivation for increased performance (Baer, 2012; Vroom, 1964).

Consequently, n achievement more strongly predicts compliant behavior toward innovation when performance expectancy is high than when it is low because the need is multiplied in a positive direction by the need-satisfying situation (Atkinson & Raynor, 1975) or performance expectancy. According to previous research (e.g., McClelland, 1951; Venkatesh et al., 2003), n achievement is a strong determinant of behavioral intention and of the actual behavior toward innovation of a person with high performance expectancy. Therefore, high performance expectation may reinforce the n achievement-compliance relationship by driving an employee with n achievement to exert substantial efforts toward fulfilling the innovation requirements.

Hypothesis 4: Performance expectancy will moderate the relationship between n achievement and compliance, such that the relation will be stronger when performance expectancy is high than when it is low.

Moderating Effect of Social Expectation

The consumer decision literature (e.g., Keller & Staelin, 1987) shows that consumer decisions are based on two attributes of information: quantity and quality. Drawing on the consumer decision literature, I posit that an employee usually develops quality- and quantity-based evaluations of social relations and propose that this employee's perception of social relations may affect the n

affiliation–cooperation relationship. On the one hand, in terms of the quality–based evaluation of social relations, the extent to which an individual believes that others who he/she considers to be important to himself/herself think he/she should use an innovation (i.e., subjective norm) can moderate the relationship between his/her n affiliation and the cooperative behavior toward the innovation. When an innovation is adopted within an organization, a person may be aware not only of the attributes of the innovation itself but also of others' perceptions, attitudes, or reactions to his/her own behavior toward the innovation. Many theories in the innovation implementation literature have conceptualized this form of social norm. For instance, Theory of Planned Behavior (TPB; Ajzen, 1991) suggests *subjective norm*, which is defined as “the person’s perception that most people who are important to him think he should or should not perform the behavior in question” (Fishbein & Ajzen, 1975, p. 302). Moreover, the Technology Acceptance Model 2 (TAM2) extended the original TAM that proposes perceived usefulness and perceived ease of use by including *subjective norm* as an additional antecedent of a user’s behavioral intention and the actual use behavior (Venkatesh & Davis, 2000).

On the other hand, in terms of the quantity–based evaluation of social relations, an employee is often concerned about the number of people using an innovation in the organization, and this social perception may also influence the n affiliation–cooperation relationship. If an employee realizes that many people in the organization use an innovation, he/she is also highly willing to use it. Similar to network externalities and the contagion effect (Rogers, 2003), *critical mass*, which refers to “some threshold of participants or actions has to be crossed before a social movement explodes into being” (Lou, Luo, & Strong, 2000, p. 93; Markus, 1990; Oliver, Marwell, & Teixeira, 1985), has been considered as a critical factor of implementation behavior by many innovation researchers. In the

present study, by drawing on the quality– and quantity–based evaluations of social relations, I define *social expectation*, which consists of two dimensions, – subjective norm and critical mass – as the degree to which an individual perceives that many important others believe that he or she should use the innovation (Venkatesh et al., 2003). As mentioned above, while performance expectancy can be considered as a form of *operant* motive, – because it is “implicit, internal, and personal, not a reaction to external, social expectations” – social expectation can be regarded as a form of *respondent* motive – because it is socially elicited but personally perceived (Maddi, 1996, p. 192).

Arguably, when an employee believes that most people around him/her think that he/she has to implement an innovation, he/she perceives a strong social expectation of using the innovation (Ajzen, 1991; Davis et al., 1989). As this social expectation becomes stronger, the employee with n affiliation will make more effort to cooperate with others because he/she can interpret the innovation as a great opportunity to effectively show solidarity with other members and gain a positive reputation from other members in a group. By contrast, if an employee perceives a weak social expectation, he/she will make less effort to cooperate with others because he/she recognizes that only a few are concerned with his/her prosocial behavior. Moreover, when a person perceives a weak social expectation despite his/her high n affiliation, he/she will not perform relatively more cooperative behavior because he/she considers that the innovation is a less effective means for satisfying his/her n affiliation.

Furthermore, a person who perceives a strong social expectation is generally sensitive to others’ evaluation of his/her behaviors, and he/she has a strong tendency to adhere to the norms within the workplace due to his/her fear of rejection. Accordingly, this individual prefers collaboration, cooperation, and prevention of interpersonal friction, and thus he/she develops and maintains

positive social relationships with others (Chatman & Barsade, 1995; Greenhalgh & Gilkey, 1993). Hence, an employee with high n affiliation is more likely to conduct a cooperative behavior toward innovation when he/she perceives a strong social expectation than when he/she perceives a weak social influence.

Hypothesis 5: Social expectation will moderate the relationship between n affiliation and cooperation, such that the relation will be stronger when social expectation is strong than when it is weak.

Moderating Effect of Participatory Practice

Finally, a provision of participatory practice to facilitate innovation implementation can be a potential moderator of the relationship between n power and championing. Since I adopted two separate subconcepts of n power (i.e., socialized vs. personalized) while postulating the relationship between n power and championing (H3), I also attempt to maintain the same approach to the development of the hypotheses on the moderation effects on this relationship (i.e., a set of two competing hypotheses). On the one hand, in terms of socialized n power, participatory practice can moderate the positive relationship between n power and championing more strongly. As an innovative HRM practice aimed at enhancing employee motivation for achieving organizational (innovation) goal and as an influential organizational factor of innovation success, participatory practice has been highlighted in a large number of studies on high-performance work systems (e.g., Appelbaum, Bailey, Berg, & Kalleberg, 2000; Ichniowski & Shaw, 1999; Sun, Aryee, & Law, 2007) as well as in a growing body of research on innovation implementation process and outcome (e.g., Axtell, Holman, Unsworth, Wall, Waterson, & Harrington, 2000; De Dreu & West, 2001).

Generally, *participation* refers to a “process which allows employees to exert some influence over their work and the conditions under which they work” (Strauss, 1998, p. 15). A provision of participation in decision-making is considered as a formal involvement in a participatory body (e.g., worker councils) for facilitating innovation implementation (Kim et al., 2011) and sometimes as a type of empowerment that invites informal participation (Mathieu et al., 2007). It encourages employees to spend more time and make more effort to improve performance and productivity by increasing employee motivation (Sun et al., 2007), stimulating information exchange, and reducing resistance to change (De Dreu & West, 2001).

Even though these studies investigated its direct effect on the individual or the collective behavior toward the organizational goal (innovation), Winter (1973) presumed its moderating role in the need-behavior relationship. Specifically, he noted that *n* power could “predict attempts to get power, but situational variables [e.g., the degree to which participation in decision-making is allowed] would determine success in power-seeking” (Winter, 1973, p. 12). In other words, given strong participatory practice, *n* power is more likely to lead an employee to perform championing behavior, which can be recognized as a highly committed, autonomous reaction to the innovation and to the organization by colleagues and managers (Herscovitch & Meyer, 2002).

In this light, I suppose that the extent to which an employee perceives participatory practice may positively moderate the relationship between *n* power and championing behavior. Individuals with high *n* power believe that if they have sheer visibility and become widely known to others, they can easily participate in further discussions or decision-making and can obtain higher power in the future (Haley, 1969). Given a strong participatory climate, a person with *n* power can view the innovation as an effective means with a high level of

political efficiency to gain power in his/her organization (Lee & Park, 2009). If a person with n power perceives a strong participative climate, he/she will make more effort to promote the innovation to others because he/she considers that the championing behavior corresponds with what strong participative policy and practice means (e.g., importance of innovation implementation) and what he/she is eager to obtain (e.g., chance of enhancing power through participation in the decision-making process). Contrarily, if the employee perceives a weak participatory climate despite his/her high n power, he/she will make less effort to promote the innovation to others because he/she considers that a few chances of participating in decision-making diminish the possibilities of increasing his/her power because of reduced opportunities for public exposure.

A person with n power prefers to influence and be in charge of other people or valuable resources so that he/she can see them work in the way that he/she wants (Keltner, Gruenfeld, & Anderson, 2003; McClelland, 1975). In particular, innovation is often accompanied by the reallocation of human resources and physical resources, and thus a person with n power may consider it a chance to acquire power. Given strong participatory practice, an individual with high n power is more likely to promote what management wants or what innovation stands for, by (deceptively) identifying himself/herself with management and by considering championing an avenue to power acquisition. With strong participatory practice, the innovation is potently enforced, and its implementation comes with substantial resource expenditures. These organizational conditions render resistance to the innovation ineffective, further diminishing the power source of the resisting members. Therefore, an individual with high n power is more likely to champion innovation when participatory practice is provided strongly.

Hypothesis 6: Participatory practice will moderate the positive relationship between n power and championing, such that the relation will be stronger when participatory practice is strongly provided than when it is weakly provided.

On the other hand, in terms of personalized n power, participatory practice can more strongly moderate the negative relationship between n power and championing. Based on the definition, personalized n power is a desire to influence for self-serving or even antisocial ends (Magee & Lagner, 2008; McClelland, 1975, 1985; Winter, 1973). A person with this need tends to participate in negative championing because he/she believes that implementing innovation can increase organizational performance only and fail to meet self-serving goals. Furthermore, even if participatory practice is strongly provided, an employee with personalized n power will not regard it as an effective means of accomplishing his/her self-serving purposes. Instead, the employee will more strongly negatively promote innovation because he/she will interpret both innovation itself and participatory practice as an ineffective means of accomplishing a personal goal.

In other words, given strong participatory practice, a person with (personalized) n power or a desire to influence for antisocial ends avoids participating in positive championing. Instead, he/she begins to promote the innovation negatively because he/she believes that negative championing behavior can satisfy his/her self-serving or antisocial motive. Therefore, when a strong participatory practice is given, a person with n power promotes innovation more negatively to achieve his/her self-serving or antisocial goals.

Hypothesis 6–Alternative: Participatory practice will moderate the negative relationship between *n* power and championing, such that the negative relation will be stronger when participatory practice is strongly provided than when it is weakly provided.

Employee Benefit from Using Innovation: Innovation Outcome

Recently, scholars in the innovation implementation literature (e.g., Choi & Chang, 2009; Klein et al., 2001; Klein & Sorra, 1996) have considered not employees' consistent and committed use (i.e., implementation effectiveness), but also the benefits from using a target innovation (i.e., innovation effectiveness) as an ultimate organization–level outcome. For purposes of the present study, by reformulating innovation effectiveness as an individual–level, ultimate consequence, I define *innovation outcome* as an individual's realization of the benefits from using a given innovation (e.g., improvements in quality, productivity, and skill; Klein et al., 2001).

The reason that I adopt innovation outcome as an ultimate outcome of an individual's implementation behavior is that the present study also aims at examining whether an individual's behaviors (e.g., compliance, cooperation, and championing) necessarily ensure the actual benefits from this individual's innovation–using behaviors (Klein et al, 2001). For instance, I assume that an organization adopts Six Sigma. If employees choose an easy–to–improve process (which little needs to be improved but seems to be relatively easy to improve) rather than a need–to–improve process (which needs to be improved but seems to be relatively difficult to improve) as a Six Sigma–targeted process, then they will fail to achieve the intended benefits (e.g., reaching high–quality improvement) from implementing Six Sigma despite their compliant, cooperative, or promoting behavior toward Six Sigma.

In the present study, I investigate whether each implementation behavior leads to innovation outcome and what form of implementation behavior predicts innovation outcome more strongly than the other(s). Specifically, comparing the relationship between one implementation behavior and innovation outcome with the other two remaining relationships, this study deepens our understanding of individual-level innovation implementation process.

Relationship between Compliance and Innovation Outcome

I posit that compliance is positively related to innovation outcome. Given an innovation, employees are required to perform activities related to *task performance* that “directly contribute to or support the transformation of inputs into outputs (i.e., the organization’s technical core)” (Lepine & Van Dyne, 2001, p. 327). Compliance indicates a relatively passive, in-role behavior such as adapting to or coping with a given innovation (Kim et al., 2011): accordingly, individuals who attempt to comply with the innovation are likely to accomplish what was prescribed or intended by their organization (Meyer et al., 2007); those who meet the innovation requirements can achieve the expected task performance (Borman & Motowidlo, 1993); also, those who consistently use the innovation can obtain the expected benefits (e.g., performance or skill improvement) from using the innovation (Klein et al., 2001). Thus, individuals who comply with innovation achieve a high level of innovation outcome.

Moreover, compliance leads to innovation outcome because the adaptation and learning that occur through compliance can provide an employee with opportunities to acquire new knowledge and skill that he/she and his/her organization did not expect before. Individuals who conduct a compliant behavior tend to cope with changes (Ashford, 1988; Judge et al., 1999) and have adaptivity (Griffin, Neal, & Parker, 2007), and their behaviors result in adaptive

performance (Pulakos, Arad, Donovan, & Plamondon, 2000). In other words, by adapting to, coping with, and learning something new, individuals who comply will enhance their skills, reach higher performance levels, and thus have a high level of innovation outcome. For these reasons, an employee's compliant behavior toward innovation is likely to lead to innovation outcome.

Hypothesis 7: Compliance will be positively related to innovation outcome.

Relationship between Cooperation and Innovation Outcome

In the same line of reasoning, I postulate that cooperation is positively related to innovation outcome. Cooperation indicates a discretionary, extra-role behavior such as innovation-oriented OCB (Choi, 2007), helping as explicitly different from in-role behavior (Van Dyne & LePine, 1998), and voice, which refers to constructive change-oriented communication (LePine & Van Dyne, 2001). It is not formally enacted by an organization (Meyer et al., 2007), but it can be critical to reaching a high level of innovation outcome.

An employee's compliant behavior is essential but insufficient for innovation success. In many cases, innovation-related tasks may be highly interdependent and complex (Choi, 2007), and often cannot be accomplished by one individual. Then, collaborating with one another is necessary for employees. While helping others and sharing ideas or resources with others, some employees may learn what they did not know from their coworkers and even what their organization did not initially intend; while communicating with coworkers, others may shape positive interpersonal relationships within groups. In this case, the former can enhance innovation-related performance by learning something new from others, and the latter can perceive an increased commitment or

satisfaction to innovation, group members, and the organization. For these reasons, cooperation can be considered a moderately proactive behavior such as OCB–I (Williams & Anderson, 1991), which improves not only the effectiveness of work groups or organizations but also individual performance (MacKenzie et al., 1998; Podsakoff & MacKenzie, 1997).

Interestingly, as implementation processes usually include *unpredictable* changes, employees are required to more proactively, flexibly, and innovatively deal with innovation–related issues (Bettencourt, 2004; Frese, Fay, Hilburger, Leng, & Tag, 1997). These unpredictable situations need employee behavior pertaining to *contextual performance*, which indicates “helping and cooperating with others” and “volunteering to do more than the minimum behaviors required by the job” (LePine & Van Dyne, 2001, p. 327). Cooperation, as a form of behavior for contextual performance, can contribute to innovation success by improving the “organizational, social, or psychological environment necessary for the technical core to function effectively and efficiently” (Motowidlo, Borman, & Schmit, 1997, p. 76). Furthermore, it involves *situation oriented*, discretionary, and *free will*, which are differently from the somewhat *deterministic, purpose–oriented* mechanism between compliance and anticipated consequences (Merton, 1936; Montag et al., 2012; Portes, 1999). Accordingly, cooperation, as a consequence of free will saliently manifested by the implementation nature of unpredictability, leads to innovation outcome positively.

Hypothesis 8: Cooperation will be positively related to innovation outcome.

Relationship between Championing and Innovation Outcome

Furthermore, I propose that innovation outcome can result from championing. Championing is the other form of *contextual performance*-oriented behavior and includes activities such as “supporting and defending organizational objectives” and “persuading others to accept ideas, opinions, and directions” (Borman & Motowidlo, 1993; Borman, Motowidlo, Rose, & Hanser, 1985; LePine & Van Dyne, 2001, p. 327). Championing conducted by opinion leaders can play a critical role in diffusing or implementing innovation (Lee & Park, 2009; Rogers, 2003). Similar to cooperation, championing can also contribute to innovation success by the creating organizational (implementation) climate necessary for the innovation to function effectively (Motowidlo et al., 1997).

In general, innovation has a certain degree of uncertainty and risk of failure (Baer, 2012). When an innovation is adopted in an organization, some employees may avoid using it and even resist because they cannot foresee the magnitude and direction of the changes (Van de Ven, 1986). In this case, “this [potential] resistance creates a need for innovation champions” (Shane, Venkataraman, & MacMillan, 1995, p.931), and those who perform championing such as strategy-supportive behavior (Gagnon, Jansen, & Michael, 2008), personal initiative (Frese & Fay, 2001), and taking charge (Morrison & Phelps, 1999) can increase others’ confidence and comfort by helping others lessen or avoid emotional disagreement (LePine & Van Dyne, 2001).

Moreover, championing is considered the most proactive behavior that is not initially intended or explicitly expected by the organization (Montag et al., 2012) and that an individual conducts either spontaneously or in a self-starting manner (Kim et al., 2011). It leads not only to manager-rated individual performance but also to the effectiveness of work groups or organizations toward a positive direction (MacKenzie et al., 1998; Podsakoff & MacKenzie, 1997).

For these reasons, championing is critical to achieving a higher level of innovation outcome. Thus, I posit that championing has a strongly positive relationship with innovation outcome.

Hypothesis 9: Championing will be positively related to innovation outcome.

Comparison of Three Behavior–Outcome Relationships

Although I postulate that each implementation behavior (compliance, cooperation, and championing) is positively related to innovation outcome, I further develop one hypothesis that compares the three behavior–outcome relationships. That is, I theorize that cooperation is more strongly positively associated with innovation outcome than compliance is and that championing is more strongly positively related to innovation outcome than cooperation is. By definition, compliance is an individual’s in–role behavior to accomplish the purpose of innovation (Herscovitch & Meyer, 2002). Compliance, which is also a purpose–oriented, explicitly mandated action (cf. purposive action; Merton, 1936; Montag et al., 2012), is positively related to accomplishing the intended goal only or showing the expected performance only (Phillips & Gully, 1997) because the purpose is always predefined before the consequences are produced.

However, because an innovation typically has a high level of uncertainty (Baer, 2012) and consists of tasks with a high level of interdependence and complexity (Choi, 2007), implementing it often entails unpredictable changes. To resolve the unexpected innovation–related issues, employees are required to make a collective effort and an intensive coordination. Those who cooperate with others are likely to already comply with the explicit innovation requirements and readily learn new ways of doing things while they help others. Therefore, by

incurring such opportunities for skill enhancement and performance improvement, cooperation is more strongly associated with innovation outcome than compliance.

Moreover, innovations usually have a high risk of failure (Baer, 2012). When an innovation is adopted in an organization, employees often cannot predict how the change proceeds (Van de Ven, 1986) and some employee may resist using the innovation. In this case, an individual who performs championing behavior can help others increase their confidence and comfort and decrease their resistance.

Undoubtedly, to promote innovation to others effectively and to overcome the resistance, those who champion should deeply understand all the features surrounding the innovation, attempt to be familiar with all technical functions, and know the benefits from using the innovation; that is, they should already comply with the innovation. Moreover, they tend to acquire the necessary resources (Shane et al., 1995) and participate in decision-making as helpers and coordinators who “bring together organization members with different backgrounds and knowledge for innovation to take place” (Shane et al., 1995, p.934); that is, they also cooperate with others. Furthermore, with the acquisition of implementation-facilitating resources (e.g., expertise, authority, and autonomy), they can increase the innovation-related performance, satisfaction, commitment, and morale of others, as well as their own, by improving the effectiveness and efficiency of resource allocation and decision-making processes. Accordingly, a person championing innovation is likely to have necessarily performed compliant and cooperative behavior toward the innovation and further attempt to overcome the resistant’s negative voice. Therefore, championing can achieve a higher level of innovation outcome than compliance and cooperation do.

Hypothesis 10: Cooperation will be more strongly positively related to innovation outcome than compliance will be, and championing will be more strongly positively related to innovation outcome than cooperation will be.

CHAPTER IV

METHOD

Sample and Data Collection Procedure

To test the theoretical propositions, I collected field data from 11 organizations in Korea. The target organizations included one of top five engineering and construction companies, a global car maker, two auto parts manufacturers, one of the largest processed food producers, a large pharmaceutical firm, a global semiconductor manufacturer, a joint venture between a Korean accountancy firm and a global consultancy, a major information systems provider, a local government, and an electricity service company. On average, each organization employed 9,500 personnel ($SD = 18,700$) and yielded approximately \$11.3 billion in revenue ($SD = 25.9$; except for the local government) in 2013.

For data collection, I met one or two manager(s) in each organization to ascertain that it had adopted an innovation within six months. These managers listed one to three innovations, and we collaboratively identified only one case that could meet the following criteria: (a) the innovation should be completely implemented before the time point of the data collection; (b) it should not be extremely radical or complex to use; otherwise, the possibility of implementation failure and innovation failure could have occurred; and (c) every employee in the survey-targeted departments or divisions should have participated in implementing the innovation. On the basis of these criteria, I singled out 11 innovation cases from the target organizations.

In addition, I interviewed the managers to confirm that the features of innovation and implementation context could properly reflect the meaning of the survey instruments. All interviews were semi-structured and targeted at

identifying the following: (a) a brief history of the organization, (b) innovation title, (c) innovation goal, (d) innovation type (technological or administrative innovation), (e) implementation history, and (f) specific forms of HRM practices (e.g., training programs) provided for facilitating the implementation. Using the interviews and measures widely used in the previous studies, I finalized the survey items, and the managers later confirmed them again. I summarized the brief features of the organizations and innovations in Table 1.

To alleviate the common method variance, I separated the participant sources and used a method of time-lag responses. Specifically, I distributed 441 questionnaires to obtain the employees' psychological needs and perceptions of the innovation properties and contexts. At the same time, I asked managers to evaluate their subordinates' behaviors (T1). Two weeks later, I again asked the supervisors to assess their subordinates' performances (T2). I requested the managers to answer the questions on compliance, cooperation, and championing at the same time when the employees responded *n* achievement, *n* affiliation, *n* power, performance expectancy, social influence, and management support (T1). Afterwards, I asked the managers to assess the employees' innovation outcome at least two weeks later (T2).

After the responses with missing data were excluded ($n = 22$), the final sample for testing the hypotheses included 302 individuals from 42 teams (approximately 7 participants per team), resulting in a response rate of 68.5% (302 valid returns divided by the 441 surveys distributed), which was higher than the average response rate reported in other field studies (55.6%; Baruth, 1999; Roth & BeVier, 1998). The individual sample included 241 males and 61 females, with an average age of 36.0 ($SD = 7.6$) and an average organizational tenure of 8.2 years ($SD = 7.3$). Among the employees, 67 (22.1%) held a degree obtained from two- or three-year colleges, 187 (61.9%) held a bachelor's degree,

and 48 (16%) held a graduate degree. Majority of the participants (56.0%, 169 employees) were responsible for general administrative tasks, such as planning, auditing, and controlling. The remaining participants held responsibilities for R&D (17.9%, 54 employees), production (9.3%, 28 employees), sales (4.6%, 14 employees), and others (12.3%, 37 employees).

The supervisor sample included 39 males and 3 females, with an average age of 46.4 (SD = 5.9). On average, they worked for their organizations for 16.2 years (SD = 9.0) and as supervisors in their current team for 3.8 years (SD = 3.3). Nine of them (21.4%) held a degree obtained from two- or three-year colleges, 23 (54.8%) held a bachelor's degree, and 10 (23.8%) held a graduate degree.

Measures

Three forms of individual need and three measures of innovation property and contexts were measured with multi-item scales using a five-point Likert scale (1 = "strongly disagree" and 5 = "strongly agree"). However, employee behaviors and performances evaluated by the managers were measured with multi-item scales using a 10-point Likert scale (1 = "strongly disagree" and 10 = "strongly agree") because the target organizations commonly used a 10-point scale for the evaluation of individual performance. I provided the Cronbach's alpha for each scale and summarized the survey instruments in Appendix A.

Measuring Individual Needs

Three dimensions of individual needs. I used items from the manifest needs questionnaire (Chun & Choi, 2014; Steers & Braunstein, 1976) developed based on McClelland's (1951; 1985) Need Theory.

n Achievement. The *n* achievement refers to an individual's desire for the significant accomplishment of given tasks, achievement of higher performance,

and mastering of higher skills. I constructed a three-item measure ($\alpha = .72$) to measure *n* achievement. Employees rated the following items: (a) “I try very hard to improve on my past performance at work;” (b) “I stick my neck out to get ahead at work;” and (c) “I try to perform better than my co-workers.”

n Affiliation. The *n* affiliation refers to an individual’s desire for the maintenance and creation of positive social relationships with other members to perceive a sense of being a member within and belonging to his/her group. I used a three-item, self-reported index ($\alpha = .71$) to measure *n* affiliation. Items include: (a) “When my important co-workers are having a personal issue, I feel as if it was my own problem;” (b) “I try to have time with my co-workers at work;” and (c) “When I have a choice, I try to work in a group instead of by myself.”

n Power. The *n* power refers to an individual’s desire to see his/her environment move in such a direction that he/she wants, due to his/her involvements. It was measured with a three-item index ($\alpha = .85$) by individuals. This scale includes the following items: (a) “I find myself organizing and directing the activities of others;” (b) “I strive to gain more control over the events around me at work;” and (c) “I strive to be *in command* when I am working in a group.”

Measuring Individual’s Innovation Implementation Behaviors

Compliance. Adopting items designed by Herscovitch and Meyer (2002) and Skinner and Drake (2003), I used three items ($\alpha = .88$) to measure compliance, which refers to an individual’s focal behavior to go along with the innovation and to accept and fulfill the explicit requirements for the innovation. Supervisors rated the following three items: (a) “This employee accepts role changes for innovation success;” (b) “This employee adjusts the way he/she does his/her job as required by this innovation;” and (c) “This employee conforms to innovation requirements.”

Cooperation. Cooperation refers to innovation-targeted, individual's discretionary behavior, such as helping others and sharing ideas and resources. In the Behavioral Continuum Model, Herscovitch and Meyer (2002) failed to confirm the distinctiveness among the three behaviors (compliance, cooperation, and championing). Subsequently, they implied that the low value of factor loadings among compliance, cooperation, and championing could result from some questionable items with regard to cooperation. To attenuate this problem, I changed the cooperation items of Herscovitch and Meyer (2002) to those used by Pinto and Pinto (1990). Similar to compliance items, cooperation items ($\alpha = .88$) were also rated by managers. Items include: (a) "This employee openly shares his/her ideas regarding this innovation with other team members;" (b) "This employee helps others to more effectively perform their tasks for innovation success;" and (c) "This employee shares resources to complete others' tasks for innovation success."

Championing. Using items developed in previous studies (Herscovitch & Meyer, 2002; Howell & Higgins, 1991; Kanter, 1988; Shane et al., 1995), I used three items ($\alpha = .94$) to measure championing, which refers to an individual's enthusiasm for innovation success by influencing other members' behavior. Supervisors rated the following three items: (a) "This employee speaks positively about this innovation to others;" (b) "This employee attempts to get people to commit their resources to this innovation by showing them the benefit of this innovation to the organization as a whole;" and (c) "This employee convinces people that the innovation deserves their support by showing the benefits of the innovation to them."

Measuring the Moderators Affecting the Need-Behavior Relationships

Performance expectancy. Adopting items used in previous research (Davis, 1989; Davis et al., 1989; Venkatesh et al., 2003), I used a four-item scale ($\alpha = .90$) to measure the degree to which an individual believes that implementing the innovation would help him/her achieve his/her goals. Individuals rated the following items: (a) “I would find the innovation useful in my job;” (b) “Using the innovation enables me to accomplish tasks more quickly;” (c) “Using the innovation increases my productivity;” and (d) “Using the innovation would enhance my effectiveness on the job.”

Social expectation. It refers to the degree to which an individual perceives that many important others believe that he/she should implement the innovation. Social expectation is composed of two dimensions in terms of quality- and quantity-based evaluations of social relations: subjective norm and critical mass. By using items pertaining to subjective norm (Venkatesh et al., 2003) and items related to critical mass (Van Slyke, Ilie, Lou, & Stafford, 2007), I developed four items ($\alpha = .84$). Individuals rated the following items: (a) “People who influence my behavior think that I should use the innovation;” (b) “People who are important to me think that I should use the innovation;” (c) “Many people I communicate with use the innovation;” and (d) “The people I communicate with will continue to use the innovation in the future.”

Participatory practice. Using the items of high-performance work practices adopted by Sun et al. (2007), I constructed a three-item scale of participatory practice ($\alpha = .84$). This scale includes the following items: (a) “Employees in the job assigned for the innovation are often asked by their supervisor to participate in decisions;” (b) “Employees are provided the opportunity to suggest improvements for the innovation in the way things are done;” (c) “Supervisors keep open communications with employees in this job assigned for the innovation.”

Measuring the Ultimate Consequence of Individual Implementation Behaviors

Innovation outcome. Adopting the existing measures of innovation effectiveness and role innovation (Klein et al., 2001; West, 1987), I used a six-item index ($\alpha = .96$) to assess employee's ultimate gains from using the innovation. The managers rated the following items: (a) "Because of this innovation, this employee's producing quality for product, service, or administration is improved, as initially intended;" (b) "Because of this innovation, this employee's productivity is improved, as initially intended;" (c) "Because of this innovation, this employee's ability to accomplish scheduled jobs is improved, as initially intended;" (d) "This employee decides the methods used in this innovation to better achieve work targets/objectives;" (e) "Because of this innovation, this employee decides the order in which different parts of the job are done;" and (f) "Because of this innovation, this employee initiates new procedures or information systems."

Control Variables

Demographics and Innovation Type. In this study, I controlled for the innovation type by categorizing the focal innovation into administrative and technological innovations (Adams, 2003; Rogers, 2003). In addition, as used in most of individual-level studies on innovation implementation (e.g., Venkatesh et al., 2003), gender, education, age, position, and organizational tenure were included as other control variables.

Resistance. Aside from the positive implementation behaviors, such as compliance, cooperation, and championing, a negative form of implementing behavior such as user resistance may exist (Herscovitch & Meyer, 2002). Accordingly, I included resistance as another control variable by using a three-

item index ($\alpha = .92$; Kim & Kankanhalli, 2009). The supervisors rated the following items: (a) “This employee does not comply with the change to the new way of working with the innovation;” (b) “This employee does not cooperate with the change to the new way of working with the innovation;” and (c) “This employee opposes the change to the new way of working with the innovation.”

CHAPTER V

RESULTS

Preliminary Tests:

Internal Consistency, Factor Analysis, and Confirmatory Factor Analysis (CFA)

The present sample includes 302 valid individual-level data in 11 organizations. I present the descriptive statistics and intercorrelations among all the study variables in Table 2. Before testing the hypotheses developed in the conceptual framework section, I conducted three preliminary tests. First, I investigated that the factor structure of each scale had an internal consistency. I calculated the Cronbach's alpha coefficient of each scale and found that its items reflected one factor or a single construct. The results showed that the alpha coefficients of all scales were greater than .70, indicating acceptable levels (see Table 2).

Second, to ensure that all variables were distinguishable constructs, I conducted exploratory factor analyses (principal-axis factor analyses with varimax rotation on three different item groups). In the first step, I included nine items for the three individual needs and 11 items for the three innovation characteristic and contexts, which were captured by employee's self-report. As expected, the factor analysis yielded six factors with eigenvalues greater than 1.0, confirming that all items loaded the highest on the appropriate factor and that their factor loadings exceeded .49 (factor loadings range from .49 to .87). That is, employee-rated items were distinctively classified into six variables: *n* achievement, *n* affiliation, *n* power, performance expectancy, social expectation, and participatory practice.

In the next step, I conducted the other principal-axis factor analysis with employee behaviors, which were composed of nine items and rated by supervisors at T1. I used other criteria rather than the latent root (eigenvalue) criterion used in the first step because championing was highly correlated with cooperation ($r = .68, p < .01$). That is, the possibility exists in which employees who performed championing behavior could also conduct cooperative behavior toward the target innovation (Herscovitch & Meyer, 2002). To this end, I used other three guidelines or stopping criteria: (a) a number of factors verified in previous research; (b) enough factors to meet 60% or higher percentage of the variance explained; and (c) scree test criterion (Hair, Black, Babin, & Anderson, 2010). The results showed that employee behavior items rated by supervisors were distinctively loaded on compliance, cooperation, and championing, as expected (factor loadings ranged from .68 to .92).

In the last step, I additionally included six items of employee innovation outcome – which were assessed by supervisors at T2 or two weeks after their first evaluation of employee behaviors – to nine items of implementation behaviors. Similarly drawn on the previous three criteria, the analysis and results showed that four factors (compliance, cooperation, championing, and innovation outcome) had statistical distinctiveness (factor loadings ranged from .52 to .87).

Finally, for the empirical distinctiveness of the study variables, I conducted a CFA. An eleven-factor measurement model showed that all loadings of items on the corresponding latent factor were statistically significant ($p < .001$), thereby confirming that each scale indicated a distinct latent factor. Thus, I concluded that this model fit the data well ($\chi^2 (df = 504) = 869.50$, CFI = .95, RMSEA = .049), and I proceeded to test the structural relations among the constructs.

Hypothesis Testing

To empirically test the present conceptual framework depicted in Figure 1, I used structural equation modeling using Mplus 6.0 because it enables researchers to conduct simultaneous tests of multiple relationships (Bentler, 2006; Muthen & Muthen, 2007–2010). I incorporated all hypothesized paths into one structural model and confirmed that the model showed a good fit to the current data ($\chi^2 (df = 303) = 840.01, p < .001, CFI = .91, RMSEA = .077$).

By controlling for the effects of innovation type, gender, age, education, position, and organizational tenure on the participating employees' implementation behaviors and innovation outcome and the effect of their resistance on innovation outcome, I tested all hypothesized relationships (see Table 3 and Figure 2). First, as expected, *n* achievement was a strong predictor of compliance ($\beta = -.14, p < .05$) but neither of cooperation ($\beta = .02, ns$) nor of championing ($\beta = .06, ns$). However, unexpectedly, the relationship was not positive, and thus it does not support Hypothesis 1. Next, *n* affiliation was positively related to only cooperation ($\beta = .16, p < .05$) but neither to compliance ($\beta = -.01, ns$) nor to championing ($\beta = .05, ns$), thereby supporting Hypothesis 2. Finally, *n* power had a negative relationship with cooperation ($\beta = -.13, p < .1$) and championing ($\beta = -.15, p < .05$), partially supporting Hypothesis 3–Alternative and rejecting Hypothesis 3 because it did not exhibit a significant relationship with compliance ($\beta = .08, ns$).

With respect to the three hypothesized interaction effects of innovation characteristic and implementation contexts on the need–behavior relationship, the results showed that two moderators affected the relationship significantly (Hypothesis 5 and 6 rejected): (a) the moderating effect of performance expectancy on the relationship between *n* achievement and compliance ($\beta = -.10,$

$p < .1$); and (b) the moderating effect of participatory practice on the relationship between n power and championing ($\beta = -.10, p < .1$). To test Hypotheses 4 and 6–Alternative, I drew two interaction graphs by following the common procedure of graphing interaction effects (Aiken & West, 1991): two subgroups with high and low performance expectancy and two subgroups with high and low participatory practice, by operationalizing them as one standard deviation greater and less than the mean of performance expectancy and the mean of participatory practice, respectively. I obtained two graphs but reported a graph of the latter only (see Figure 3) because an interaction graph of the former failed to confirm Hypothesis 4. In the opposite direction to Hypothesis 4, performance expectancy moderated the relationship between n achievement and compliance, such that the relationship was *weaker* when performance expectancy was high than when it was low (Hypothesis 4 rejected). However, Hypothesis 6–A was confirmed. Figure 3 demonstrates that the negative relationship between n power and championing behavior became more strongly negative among those who perceived that participatory practice was strongly provided than among those who perceived otherwise (Hypothesis 6–Alternative supported). This moderation effect will be discussed later.

Finally, as hypothesized, every implementation behavior was positively related to innovation outcome. Specifically, compliance predicted innovation outcome ($\beta = .13, p < .1$; Hypothesis 7 supported), cooperation positively affected innovation outcome ($\beta = .26, p < .01$; Hypothesis 8 supported), and championing was a statistically significant predictor of innovation outcome ($\beta = .67, p < .001$; Hypothesis 9 supported). However, coefficient difference tests partially confirmed Hypothesis 10: it was not statistically significant that cooperation is more strongly related to innovation outcome than compliance is;

and it was statistically significant that championing is more strongly associated with innovation outcome than both compliance and cooperation are ($p < .001$ for both; Hypothesis 10 partially supported). I summarized all coefficients for every relationship between independent and dependent variables in Table 3.

Post Hoc Analysis

This study was aimed at investigating the relationships between need and implementation behavior, the interaction effects of innovation characteristic and contexts on the relationships, and the ultimate effects of these links on innovation outcome. I developed and tested 10 hypotheses, but I acknowledge that they were insufficient to capture all possible paths among the study variables. Accordingly, to more comprehensively understand the nature of the implementation process, I conducted a set of post hoc analysis: the cross–interaction effects of innovation characteristic and contexts on the need–behavior relationships.

Although I developed only three interaction hypotheses (H4–H6) stating that innovation characteristic and contexts moderate the need–behavior relationships in terms of domain correspondence, I conducted a set of further analyses to determine all possible cross–interaction effects. Specifically, aside from the three hypothesized interactions (n achievement X performance expectancy, n affiliation X social expectation, and n power X participatory practice), I tested all possible cross–interactions among the three types of needs, three types of situational factors, and three types of implementation behaviors.

The results showed three statistically significant interactions that were not initially hypothesized: (1) an interaction effect of social expectation on the relationship between n achievement and championing ($\beta = .17, p < .01$), (2) an

interaction effect of performance expectancy on the relationship between *n* affiliation and cooperation ($\beta = -.14, p < .05$), and (3) an interaction effect of social expectation on the relationship between *n* affiliation and championing ($\beta = .09, p < .1$). Drawing on the common procedure of graphing interaction effects (Aiken & West, 1991), I identified two subgroups with high and low situational factors (either performance expectancy or social expectation) by operationalizing them as one standard deviation greater and less than the mean of the situational factor for the three interaction models. I obtained three cross–interaction graphs and reported them in Figures 4, 5, and 6.

Specifically, Figure 4 demonstrates that *n* achievement may positively affect championing behavior toward innovation more strongly among those who perceive high social expectation than among those who perceive low social expectation. Figure 5 shows that *n* affiliation can negatively lead to cooperative behavior toward innovation more strongly among those with high performance expectancy than among those with low performance expectancy. Figure 6 indicates that *n* affiliation may have a positively stronger relationship with championing among those who perceive a high social expectation than among those who perceive low social expectation. These moderation effects will be discussed later.

CHAPTER VI

DISCUSSION

Summary of Findings

The present study was aimed at identifying the different types of individual needs such that each propensity predicts a corresponding form of implementation behavior toward innovation more saliently than other forms of behavior (H1–H3). This research was also targeted at revealing the interaction effects of the situational factors (innovation characteristic and implementation contexts) on the need–behavior relationships (H4–H6). Finally, the present framework presumes that every implementation behavior leads to innovation outcome (H7–H9) and investigates that a certain form of implementation behavior leads to innovation outcome more strongly than other behaviors (H10).

Although the results of the empirical tests in the current study did not support all hypothesized paths, they offers several meaningful findings. First, as hypothesized, each employee need is distinctively related to a particular form of implementation behavior. Specifically, *n* affiliation is most strongly positively related to cooperation ($\beta = .16, p < .05$), which indicates that, considering the innovation nature of interdependence and complexity (Choi, 2007), those who desire social belongingness or a sense of group solidarity (Murray, 1938; Veroff & Veroff, 1980) tend to conduct an extra–role behavior (cooperation) toward innovation.

The results also show that *n* power is negatively associated with cooperation and championing ($\beta = -.13, p < .1$; $\beta = -.15, p < .05$, respectively). Individuals who desire to influence others for antisocial or neutralizing ends (i.e., personalized *n* power; Magee & Langner, 2008; McClelland, 1975, 1985; Winter,

1973) do not participate in enhancing the welfare of their groups (Magee & Langner, 2008). They negatively promote innovation both in a self-serving manner and in the direction of deteriorating organizational (innovation) outcome (Batten & Swab, 1965; Drory & Romm, 1990; Pettigrew, 1973; Porter, 1976). Unexpectedly, *n* achievement is not a positive predictor of compliance ($\beta = -.14$, $p < .05$). This negative result implies that, whereas *n* achievement may be an *autonomous* and *proactive* nature of motive, compliance may be a relatively *responsive* and *passive* nature of implementation behavior toward innovation. Although this result is in the opposite direction of the original hypothesis (H1), *n* achievement is more strongly associated with compliance than cooperation or championing, as expected.

Second, among the three hypothesized moderation effects of situational factors on the need-behavior links, only one interaction (effect of participatory practice on the *n* power-championing relationship) was confirmed. Nevertheless, through a set of post hoc analyses, I additionally identified three meaningful cross-interactions that were not initially hypothesized. Specifically, as hypothesized, the relationship between *n* power and championing is more negatively strengthened among those with a strong participatory practice than among those with a weak one ($\beta = -.10$, $p < .1$; see Figure 3). This finding coincides with Hypothesis 6-Alternative that a person with (personalized) *n* power interprets participatory practice as a managerial intervention, which is opposite to his/her self-serving personal goals. Provided with a strong participatory practice as an innovation-facilitating condition by management, a person with (personalized) *n* power may consider it a chance to release a negative voice and to inhibit implementation (Freeman & Medoff, 1984). Therefore, given the participatory practice, this person champions innovation

more negatively to satisfy his/her self-serving or antisocial motive (Magee & Lagner, 2008; McClelland, 1975, 1985; Winter, 1973).

On the other hand, even though the moderating effect of performance expectancy on the *n* achievement–compliance relationship is statistically significant, its interaction graph fails to support Hypothesis 4 probably because it is in accordance with the rejection of Hypothesis 1. That is, despite the positive effect of performance expectancy on compliance ($\beta = .14, p < .05$), the main negative effect of *n* achievement on compliance ($\beta = -.14, p < .05$) results in the negative interaction effect of performance expectancy on this relationship (see Table 3). However, the post hoc analysis shows that social expectation could be a critical moderator affecting the *n* achievement–championing relationship (see Figure 4). Given a high social expectation, individuals with *n* achievement may consider it a good, *public-supported* opportunity to further satisfy their *n* achievement and improve their own abilities, skills, and performances. Therefore, they are more likely to participate in championing far beyond compliance.

Hypothesis 5, which states the moderating effect of social expectation on the *n* affiliation–cooperation relationship, is not supported. However, the post hoc analysis suggests another possible link: an interaction effect of social expectation on the *n* affiliation–championing (see Figure 6). Perceiving a high social expectation, individuals with *n* affiliation participated in championing but not in cooperation. In other words, regardless of the level of social expectation, individuals with *n* affiliation are likely to conduct cooperative behavior in a relatively steady manner, as Hypothesis 5 is not supported. However, perceiving a higher social expectation, they are more likely to participate in championing because their motive (*n* affiliation) is multiplied by more need-satisfiable conditions (high social expectation), leading to a more proactive and autonomous implementation behavior (championing) than cooperation.

Furthermore, the post hoc analysis identified a new cross–interaction pertaining to *n* affiliation: an interaction effect of performance expectancy on the *n* affiliation–cooperation relationship (see Figure 5). When a person with *n* affiliation has high performance expectancy, he/she does not help others because he/she believes that others may also develop high performance expectancy, make full efforts to implement the innovation, and have few difficulties in the implementation. Therefore, they participate in cooperation less actively. By contrast, when this person has low performance expectancy, he/she believes that others have many difficulties in implementing the innovation and therefore helps others to obtain gratification from increasing social contacts.

Third, as hypothesized, every implementation behavior (compliance, cooperation, and championing) is positively associated with innovation outcome ($\beta = .13, p < .1$; $\beta = .26, p < .01$; $\beta = .67, p < .001$, respectively). Besides, cooperation is a stronger predictor of innovation outcome than compliance, although the coefficient difference test showed statistical insignificance. Furthermore, championing is the most statistically significant and the strongest antecedent of innovation outcome among the three implementation behaviors. These findings confirm all the hypotheses of the behavior–outcome relationship (H7– H10) fully or at least partially. In accordance with previous research (Herscovitch & Meyer, 2002), the results substantiated my postulation that championing is the most discretionary behavior toward a target innovation and goes above and beyond the formal requirements of the innovation.

Finally, the results show several influences of the control variables on the implementation behaviors toward innovation. Female employees are more likely to conduct compliant behavior toward innovation than male employees ($\beta = .11, p < .1$). This finding coincides with some of the previous findings that female workers tend to show a higher level of individual task proficiency than male

workers (Griffin et al., 2007). However, the test should be replicated in future studies because a consistent pattern has not been reported yet (Walker, 1986).

An employee's positional status and organizational tenure are meaningful predictors of his/her cooperative behavior toward innovation ($\beta = .12, p < .1$; $\beta = .20, p < .1$, respectively). Not surprisingly, senior employees who hold higher positions and who have worked for a relatively long time in their organization are more likely to more easily and better understand the reason for the adoption of innovation in their organization. Accordingly, they are more likely to help or collaborate with others than junior employees are.

Innovation type is negatively related to championing. Employees may have more difficulties in positively championing toward innovation when they are given an administrative innovation than when they are given a technological innovation ($\beta = -.26, p < .001$). The reason may be that they can fail to forge a clear image of the expected benefits when using administrative innovation rather than when using technological innovation, thereby negatively promoting the innovation. This finding coincides with the previous finding that employees can view technology as a more visual instrument for innovation than work process reengineering or social restructuring (Adams, 2003; Damanpour, Szabat, & Evan, 1989). Nevertheless, further investigations into the different influences of the two innovation types remain for future studies because each sample size in the present study was not sufficiently large ($n = 91$ for technological innovation; $n = 211$ for administrative innovation).

Furthermore, education and organizational tenure are positively associated with championing. An employee with a higher educational background and a longer organizational tenure can more likely participate in championing. The reason is that a person with a higher educational background or a longer organizational tenure is more likely to have more knowledge or better

experience related to the innovation or the implementation than a person with a lower educational background or a shorter organizational tenure.

Theoretical Contributions

Traditionally, most existing studies on innovation have paid less attention to implementation than to adoption because implementation was considered to be a relatively more automatic and mechanical process than adoption (Choi & Moon, 2013; Van de Ven & Rogers, 1988). Recently, considering that innovation failure depends on implementation failure rather than adoption failure, innovation researchers (e.g., Choi & Chang, 2009; Klein et al., 2001) have begun to highlight the implementation process and to identify the influential factors. However, grounded on a macro-oriented assumption that given an innovation, employees will not vary in implementation behavior, this stream of innovation research has largely focused on organizational factors or the collective-level implementation process. Beyond this somewhat simplified presumption, this study expanded the innovation implementation literature in several meaningful ways.

First, this new model of individual-level implementation process offers a more balanced view than most existing studies have presented. As argued in the literature review section, existing studies have identified various crucial factors in the implementation process, and I classified them into four categories: innovation properties (e.g., performance expectancy), social factors (e.g., social influence), organizational contexts (e.g., participation in decision-making), and individual factors (e.g., demographic characteristics such as gender). However, majority of research has primarily relied on an *unbalanced* view, as it has overlooked individual factors by highlighting the three remaining types of influential factor relatively more frequently (Judge et al., 1999). Within the

biased perspective, studies on innovation implementation have been necessarily confined to the consideration of a bifurcated model of user behavior (either acceptance or rejection). In the present study, acceding to researchers' recent call for a more person-oriented view (e.g., Frambach & Schillewaert, 2002; Greenhalgh et al., 2005; Herscovitch & Meyer, 2002; Judge et al., 1999) and newly drawing on personality psychology (Alston, 1975; McClelland, 1951; Murray, 1938; Winter, 1973), I developed and tested a more *balanced* framework of innovation implementation.

Second, this research firstly elucidates the multiple forms of implementation behavior, which have been overlooked in most existing innovation studies that have mainly endorsed the dichotomized user behavior of acceptance or rejection, to my knowledge. Scholars in the organizational behavior literature identified the various forms of employee's behavioral pattern. For example, they separated extra-role from in-role behaviors and specified various OCB dimensions (e.g., interpersonal helping and conscientiousness; Podsakoff et al., 2000). In a similar vein, drawing on Herscovitch and Meyer's Behavioral Model (2002), I introduced three forms of implementation behavior (compliance, cooperation, and championing) to the innovation literature.

Third, this study deepens our understanding of the individual-level implementation process by conceptually isolating and empirically examining three different paths from employee need to implementation behavior. Majority of previous research has assumed that employees would be passive users rather than active ones by ignoring the fact that employees could also try out a new innovation and streamline the way of tasks to be done through implementation (Greenhalgh et al., 2005). However, resorting to the personality and social psychology literature, which views individuals as more active respondents to external stimuli, I argue that employee propensity could be a more critical

predictor of implementation behavior than innovation characteristics, social factors, and organizational circumstances could be. Based on the P–S–B triad suggested by many interactionists and personality psychologists (e.g., Alston, 1975; McClelland, 1951; Murray, 1938; Winter, 1973), my framework integrates individual needs, relevant situational factors, and corresponding behaviors toward innovation into a single theoretical framework.

In particular, to the best of knowledge, this research highlights the distinctive effects of situational factors on the need–behavior relationships by first introducing TAT to the innovation literature. Although the hypothesis testing demonstrated that the only one interaction is statistically significant, which is the effect of participatory practice on the *n* power–championing relationship (see Figure 3), the post–hoc results (see Figures 4 and 6) suggest that a certain situational factor (i.e., social expectation) is most crucial for the need–behavior relationship. After developing three moderating hypotheses (*H4–H6*), I presume the domain correspondence (e.g., *n* achievement and performance expectancy belong to the performance domain) or trait–situation relevance to be one of two underlying assumptions on which TAT is grounded. However, the post hoc analysis (Figures 4 and 6) reveals that the other assumption – the consideration of situation strength – is more critical in analyzing the individual–level innovation implementation process than the assumption of trait–situation relevance.

Specifically, according to TAT, *situation strength* is the “compellingness to behave such that individual differences in behavioral dispositions are washed out” (Tett & Guterman, 2000, p. 399), and the emergence of behavioral variations driven by individual traits is possible only under the weak or moderate strength of a trait–relevant situation and not under a strong situation (Ekehammar, 1974; Monson et al., 1982; Snyder & Ickes, 1985; Weiss & Adler, 1984). For

instance, “in the heat of battle, differences among soldiers in aggressive tendencies may be undetectable” (Tett & Guterman, 2000, p. 398). From this perspective, performance expectancy and participatory practice have the relatively weak or moderate situation strength, whereas social expectation denotes the relatively strong situation such that it pushes a person to invariantly perform the utmost implementation behavior. The reason is that, while performance expectancy is only a *self-perception* of innovation property and participatory practice is a *top-down*, managerial intervention, social expectation includes *all surrounding normative pressure* (e.g., horizontally from colleagues, top-down from managers, and even bottom-up from subordinates) toward innovation implementation. Thus, given a strong social expectation, a person with either *n* achievement or *n* affiliation tends to perform the utmost implementation behavior (i.e., championing; see Figures 4 and 6).

Finally, the present research attempts to validate every relationship between implementation behaviors and innovation outcome. Furthermore, this study initially theorizes and tests what form of implementation behavior leads to innovation outcome more strongly than the other two forms. As a result of the direct and interaction effects among employee need, innovation property, social context, and organizational factor for facilitating innovation, the different forms of implementation behaviors emerge and lead to the ultimate benefits of using innovation to different extents. In short, within this new theoretical perspective, this study elaborates a *multifaceted* model of the individual-level innovation implementation process.

Practical Implications

The present study also provides valuable implications for practitioners. Overall, an organization should encourage employees to perform not only

compliant and cooperative behaviors but also championing behavior toward innovation so that they can obtain benefits from using the innovation. Specifically, the findings indicate that those who comply with the explicit innovation requirements will achieve the original goal or gain expected benefits from using the innovation. Those who perfectly deal with the changes directed by the innovation can improve their performance and skills. The results also imply that those who share their ideas and resources with colleagues and who help others will obtain the ultimate benefits from using the innovation. People who cooperate with others may learn what they did not know from colleagues, which is beyond what their company expected as the ultimate benefits from using innovation. Accordingly, employees can creatively adopt new knowledge and skills learned through the implementation process for other jobs extensively beyond the initial scope of the innovation.

Despite the important effects of compliance and cooperation on innovation outcome, managers should bear in mind that championing is the most effective employee behavior in maximizing employee benefits from using an innovation. Generally, innovation entails uncertainty and risk of failure (Baer, 2012). When innovation is adopted in an organization, employees may avoid using it and sometimes resist it. In this case, championing toward innovation can increase the possibility of innovation success. To support and defend the goals of the innovation and to persuade others to use it, an employee should deeply understand all features of innovation in advance and reinforce self-confidence in terms of the innovation during championing. As a result, an individual who promotes an innovation can improve his/her own performance and skills, reaching a higher level of innovation outcome. Therefore, despite the importance of employee compliance and cooperation toward innovation in obtaining

innovation outcome, managers should try to induce employees to conduct the championing behavior toward innovation.

Moreover, top management and managers should attempt to fully inspire employees with n affiliation, rather than inspire employees with either n achievement or n power, to perform cooperative and championing behaviors toward innovation. Although the n achievement–compliance relationship and the n power–championing relationship are significant, they are negative. By contrast, the n affiliation–cooperation relationship is positive and involves the most practically meaningful implications. That is, the strong positive relationship between n affiliation and cooperation reflects that those with n affiliation are mostly likely to share their ideas and resources with colleagues and to help others comply with the innovation requirements, thus increasing the possibility of obtaining extended benefits from using the innovation.

Furthermore, management should encourage employees to shape strong social expectation toward using the innovation because, given a strong social expectation, n affiliation leads to championing toward innovation beyond cooperation. Without social expectation, n affiliation naturally leads to cooperation. However, given a strong social expectation, those with n affiliation can further speak positively about the innovation and can actively communicate the benefits from using the innovation to colleagues. It is because their motive (n affiliation) can be magnified by a need–satisfying, preferable condition (high social expectation), which results in the strongest implementation behavior (championing). Therefore, managers should help an employee form a strong social expectation so that he/she can promote innovation to others far beyond cooperating with others.

Social expectation may also play a different pivotal role in generating championing behavior toward innovation by increasing the possibility that a

person with n achievement promotes innovation to others. Given a high social expectation, employees with n achievement will interpret it as a better *public-supported* opportunity to reach a higher level of skills and performances. When a person with a high level of achievement motive naturally encounters a better contextual condition that is strongly supported by the public, this person is most likely to participate in championing. Therefore, managers should encourage employees to develop a high social expectation so that those with n achievement can also exert significant effort in promoting innovation.

In short, to derive a higher level of innovation outcome from employee's usage of innovation, the management should not leave those with either n achievement or n affiliation to perform any implementation behaviors toward innovation without managerial interventions. Instead, managers should help employees forge a strong social expectation so that employees can conduct championing, which is the most effective and desirable behavior toward innovation.

Limitations and Future Research Directions

Despite several theoretical contributions and meaningful practical implications, this research has some limitations. First, in contrast to Hypothesis 1, n achievement has a negative relationship with compliance. The original items of the manifest needs questionnaire (Steers & Braunstein, 1976) were developed to capture the *proactive* and *autonomous* nature of the individual need for achievement. However, the items for compliance (Herscovitch & Meyer, 2002) can be construed as a relatively *passive* and *responsive* nature of individual behavior toward the innovation requirements. Accordingly, although the relationship between n achievement and compliance is positively hypothesized, the result shows that it is negative. Future research should be conducted to

confirm this positively hypothesized relationship by using new items for *n* achievement.

Second, the principal-axis factor analysis among compliance, cooperation, and championing was not conducted on the eigenvalue criteria. When I constructed items regarding cooperation, I replaced an existing measure developed by Herscovitch and Meyer (2002) with a measure employed by Pinto and Pinto (1990). Nevertheless, cooperation remains highly correlated with championing, as Herscovitch and Meyer (2002) mentioned in their study. For a more conceptually and empirically convincing distinctiveness between cooperation and championing, future studies should develop or adopt new behavioral measures for these behaviors.

Third, although the post hoc analysis shows that the three cross-interactions may exist, only one among the three interaction effects originally hypothesized is supported. The reason may be that over two-thirds of the sample used in this study was collected from administrative innovation cases ($n = 211$). I speculate that individuals, by depending on their experience with either technological or administrative innovation, could develop performance expectancy to different extents. Specifically, employees are likely to develop performance expectancy more vaguely when given administrative innovation than when given technological innovation because they consider technology as a more visual innovative tool than a process reengineering or cultural change. Therefore, future studies should replicate the three hypothesized interactions for technological innovation cases only to understand the P-S-B triad under situations of innovation implementation more clearly.

Fourth, further investigations on the gender effect on implementation behaviors could not be conducted because of the small sample size (61 female workers). Although the results in the current study show that female employees

are more likely to comply with innovation than male employees, inconsistent patterns have been reported by existing studies. Therefore, further investigations that can disclose the effect of gender on implementation behaviors should be replicated to deepen our understanding of the individual-level implementation process.

Finally, future research needs to replicate this study with Western samples because the results of this current study indicate that *n* affiliation is the only predictor positively leading to implementation behavior and that social expectation is the practically most important moderator. Typically, Korean employees are familiar with the traditional Eastern culture characterized by Confucianism and collectivism, which is different from the Western culture characterized by liberalism and individualism (Chung, Du, & Choi, 2014; Hofstede & Bond, 1988). In this culture, Koreans are long-trained to keep the Confucian doctrine that the most desirable behavior within organizations is to help others, share resources, and maintain harmonious interpersonal relationships. If an employee is considered self-oriented and self-serving, he/she may be socially isolated (Kam & Bond, 2008). For this reason, the results indicate that personalized motives (*n* achievement and (personalized) *n* power) have negative relationships with implementation behaviors, whereas the relatively socialized motive (*n* affiliation) has a positive relationship with implementation behavior. In addition, the results imply that social factor (social expectation), rather than the innovation property and organizational factor, is practically the most meaningful moderator.

Given Korea's traditional values, Korean employees are likely to have or develop *n* affiliation more strongly than other motives, and they tend to respond to social expectation most saliently to maintain a favorable social image (Chung, Du, & Choi, 2014). By contrast, the Western culture generally underscores

personalized motives, and the result of future studies with Western samples can be different from that of the present study. Therefore, this study needs to be replicated with Western samples.

Conclusion

Nowadays, technological advancement and increases in cross-border trade accelerate future uncertainties (e.g., organizational survival) and thus contemporary organizations have set managing innovation-related activities (e.g., idea generation, adoption, and implementation) as a top priority. To this end, a large body of research has examined the nature of innovation, but traditionally, by relying on macro-perspectives (e.g., organizational development, strategic choice, resource dependence-institutional theory, and population ecology; Quinn et al., 1994), most previous studies have focused on the earlier stage of innovation (i.e., idea generation and adoption). Recently, however, considering that innovation failure is implementation failure rather than adoption failure, innovation scholars have begun to pay more attention to the later stage of innovation, namely implementation.

Nevertheless, many studies on implementation have still remained limited for several reasons (e.g., using the macro- or systems-oriented perspective). Therefore, this study aims to expand the innovation implementation literature in meaningful ways. Specifically, in contrast to the previous research stream grounded on a bifurcated user behavior model of either acceptance or rejection, this study first attempted to specify in-role and extra-role behaviors toward innovation, such as compliance, cooperation, and championing. To this end, I began with McClelland's Need theory and hypothesized three relationships between each need and a corresponding behavior toward innovation. Then, drawing on the P-S-B triad long established in the personality psychology

literature, I postulated that an innovation property, a social factor, and an organizational factor moderate each relationship. Finally, I supposed that the three forms of implementation behavior would lead to innovation outcome.

The results show that, as expected, *n* affiliation is positively related to cooperation, and *n* power is negatively related to championing. However, unexpectedly, *n* achievement is negatively associated with compliance. In addition, each implementation behavior leads to innovation outcome. Although only one of the interaction hypotheses was supported, the post hoc analyses identified three cross-interactions: the interaction effect of social expectation on the *n* achievement–championing relationship, the interaction effect of performance expectancy on the *n* affiliation–cooperation relationship, and the interaction effect of social expectation on the *n* affiliation–championing relationship.

The study provides theoretically meaningful contributions. First, this new model of individual–level implementation process offers a more balanced view by integrating innovation properties (i.e., performance expectancy), social factors (i.e., social expectation), organizationally provided facilitating condition (i.e., participatory practice), and individual factors (i.e., needs) into one framework. Particularly, the application of TAT to the innovation literature evokes the effect of social expectation as the strongest situation directing the employee’s need to the utmost implementation behavior. Second, this research initially elucidates the multiple forms of implementation behaviors such as compliance, cooperation, and championing. Finally, this study conceptually singles out and empirically tests three different paths from employee need to implementation behavior. Furthermore, to my knowledge, the study is the first to examine the form of implementation behavior that leads to the highest innovation outcome.

The study also suggests several practical implications. An employee's compliant behavior with innovation requirements is a crucial predictor of innovation outcome. However, if the management wants to improve organizational effectiveness, it should also derive employee's cooperation and championing behaviors from using the innovation. Especially, the management should highlight the finding that, given a strong social expectation, individuals with *n* affiliation can conduct championing as well. In other words, to achieve a higher level of innovation outcome, managers should not only leave employees with *n* affiliation to perform cooperation, but they should also encourage employees to conduct championing toward innovation by helping employees shape a strong social expectation.

Despite theoretical and practical importance, the present study also has some limitations. Although a prior study (Herscovitch & Meyer, 2002) suggested the conceptual distinctiveness between cooperation and championing, these two variables are highly correlated with each other in this study. Future studies should develop new behavioral measures for better empirical distinctiveness. Besides, the current study failed to support two hypothesized interaction effects. Future studies can confirm the P-S-B triad in the individual-level innovation implementation process.

In conclusion, Michael Collins, an Apollo 11 astronaut and the second person who landed on the moon, once stated: "(For mankind) exploration is not a choice, really; it's an imperative." By the same token, for contemporary organizations, innovation is not a choice but is imperative to survive in competitive global markets. Undoubtedly, a multifaceted perspective of the individual-level innovation implementation process can provide contemporary organizations with effective views of gaining expected and extended benefits from using innovation. With this new framework, organizations will obtain a

higher level of organizational effectiveness and ultimately accomplish the goal of future survival.

TABLE 1. List of Target Organizations and Innovations

Org.	Industrial Sector ^a	Org. Overview	Innovation Title ^c	Innovation Overview	Innovation Type ^d	Number of Participants
A	Construction & Materials	A large engineering & construction company	CostReduce	Employees' idea generation for cost reduction; later, their idea was evaluated, selected, and implemented.	Administrative	48
B	Automobiles & Parts	A global car maker	AutoDesign	An integration of all design systems for employee's convenient use in the R&D division.	Technological	42
C	Automobiles & Parts	An auto parts manufacturer	AutoQC	An organizational movement for quality and efficiency improvement in production and business administration.	Administrative	40
D	Automobiles & Parts	An auto parts manufacturer	AutoIntranet	A newly integrated intranet system (e.g., email and BBS) for employees' effective and efficient use.	Technological	29
E	Food Producers	A processed food producer	SmartIntraApp	A bundle of new intranet applications provided for employees using a smartphone.	Technological	20
F	Pharmaceuticals & Biotechnology	A pharmaceutical & cosmetics company	ProjEvalu	A new evaluation practice of HRM aiming at a more precise assessment of the performance of a project member.	Administrative	9
G	Technology Hardware	A semiconductor manufacturer	JobRotate	A new HRM practice targeted at increasing internal mobility and decreasing voluntary turnover.	Administrative	20
H	Computer Services	An IT & management consultancy	OrgRestruct	A new HRM system including new compensation policies, following organizational restructuring (i.e., spinoff).	Administrative	18
I	Computer Services	An IT service provider	ProcReengin	Business process reengineering for higher efficiency.	Administrative	8
J	Local Government ^b	A city in the northern province of S. Korea	ServiceImprove	An organizational cultural movement deployed by a newly inaugurated mayor to improve civil petitioners' satisfaction.	Administrative	52
K	Electricity	A controller of safety in electricity distribution	PerformIncrease	An organizational cultural movement to increase individual and organizational performance (e.g., the prohibition of conducting private affairs during office hours).	Administrative	16
Total	11				Tech:3 / Admin:9	302

a. Industry classification: Industry Classification Benchmark (ICB) developed by Dow Jones and FTSE, or the Financial Times and the London Stock Exchange.

b. Local government is not included in the original taxonomy of ICB.

c. Innovation titles are pseudonyms.

d. Innovation types are categorized by functionality or domain of the application (Adams, 2003; Rogers, 2003)

TABLE 2. Means, Standard Deviations, Reliabilities, and Intercorrelations among Study Variables

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Innovation Type (0:Tech/; 1: Admin)	.70	.46	–																
2. Gender (0: Male; 1: Female)	.20	.40	.15**	–															
3. Education	3.84	.82	.04	–.05	–														
4. Age	36.0	7.56	.07	–.28**	–.12*	–													
5. Position	2.12	1.15	–.02	–.32**	.29**	.43**	–												
6. Org. Tenure	8.15	7.30	–.02	–.05	–.27**	.80**	.19**	–											
7. <i>n</i> Achievement	3.78	.64	–.07	–.10	.14*	.02	.13*	–.01	(.72)										
8. <i>n</i> Affiliation	3.79	.63	.01	–.11*	.12*	.09	.15**	.06	.33**	(.71)									
9. <i>n</i> Power	3.31	.80	.02	–.21**	.21*	.10	.27**	–.01	.52**	.37**	(.85)								
10. Performance Expectancy	3.63	.68	–.03	–.08	.16**	.07	.09	.06	.27**	.29**	.38**	(.90)							
11. Social Expectation	3.34	.63	–.11*	–.07	.10	.07	.09	.05	.25**	.28**	.32**	.48**	(.84)						
12. Participatory Practice	3.34	.70	–.05	–.02	.01	.02	.07	.01	.13*	.26**	.21**	.24**	.34**	(.84)					
13. Compliance	7.61	1.19	.03	.13*	–.03	–.10	–.07	–.04	–.09	.05	.03	.12*	.10	.15**	(.88)				
14. Cooperation	7.19	1.31	–.08	.01	–.09	.02	.09	.07	.02	.16**	–.02	.06	.06	.13*	.61**	(.88)			
15. Championing	6.47	1.84	–.27**	–.07	.13*	.17**	.07	.23**	.04	.10	–.05	.08	.10	.04	.31**	.68**	(.94)		
16. Resistance	2.52	1.27	.08	.08	–.11	.08	–.13*	.13*	.02	–.10	–.07	–.09	–.07	–.08	–.50**	–.50**	–.38**	(.92)	
17. Innovation Outcome	6.60	1.62	–.20**	.01	.10	.15**	.08	.20**	.05	.07	–.04	.09	.11	.13*	.37**	.63**	.75**	–.34**	(.96)

Note: Internal consistency reliabilities are shown on the diagonal in parenthesis; * $p < .05$, ** $p < .01$

TABLE 3. Summary of Effects of Independent Variables on Dependent Variables (To be continued)

Dependent variable	Independent variable	β	p value	Hypothesis Testing
Compliance	Innovation Type (0: Tech; 1: Admin)	.01	.854	
	Gender (0: Male; 1: Female)	.11+	.096	
	Education	-.07	.293	
	Age	-.18	.142	
	Position	.06	.424	
	Organizational Tenure	.09	.408	
	n Achievement	-.14*	.038	H1 not supported
	n Affiliation	-.01	.989	
	n Power	.08	.275	
	Performance Expectancy	.14*	.030	
n Achievement X Performance Expectancy	-.10+	.077	H4 not supported	
Cooperation	Innovation Type (0: Tech; 1: Admin)	-.10	.105	
	Gender (0: Male; 1: Female)	.01	.842	
	Education	.10	.130	
	Age	-.18	.140	
	Position	.12+	.092	
	Organizational Tenure	.20+	.075	
	n Achievement	.02	.832	
	n Affiliation	.16*	.017	H2 supported
	n Power	-.13+	.082	H3–Alternative partially supported
	Social Expectation	.01	.945	
n Affiliation X Social Expectation	.02	.793	H5 not supported	

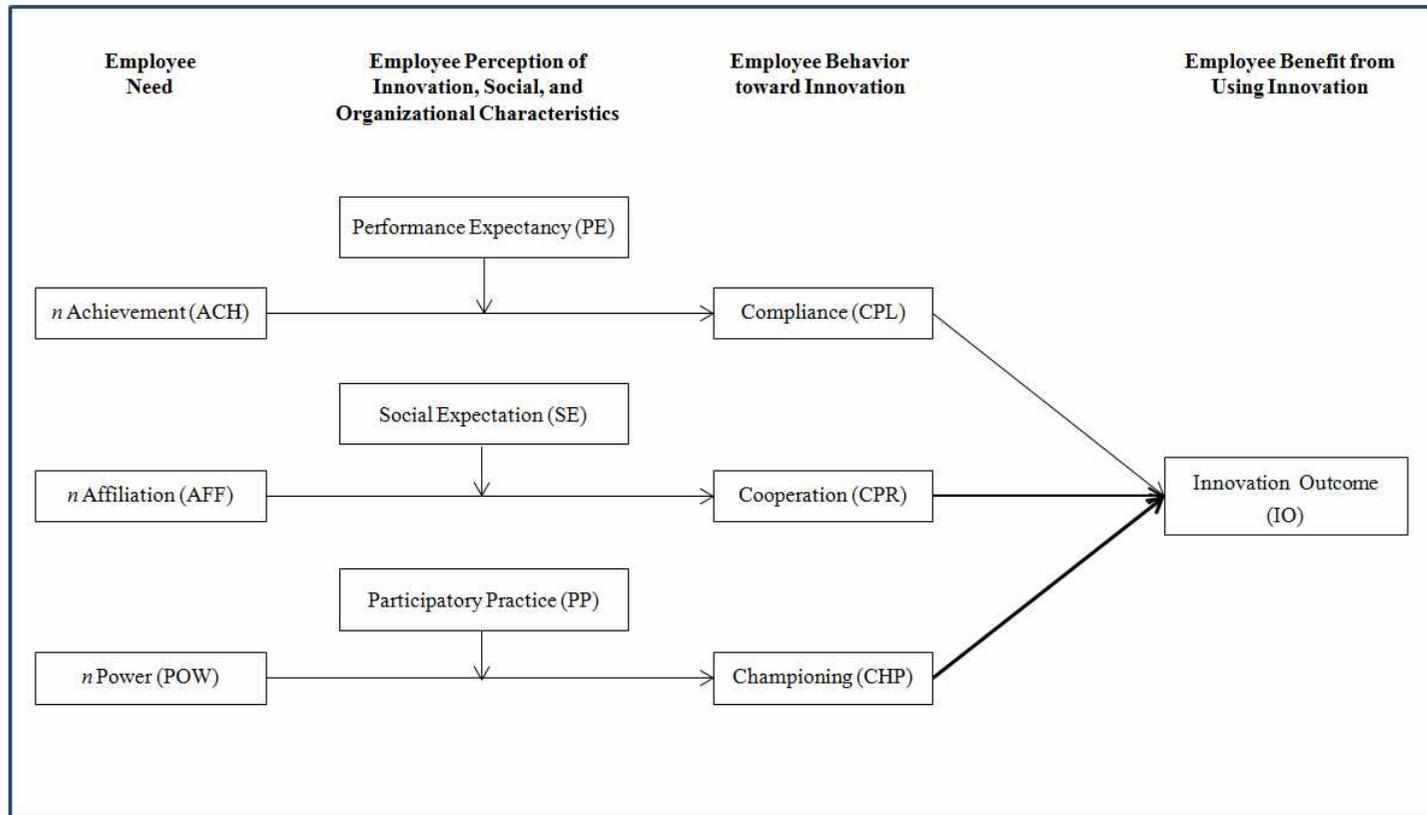
Note: Innovation type and gender are control variables. + $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

TABLE 3. (Continued)

Dependent variable	Independent variable	β	<i>p</i> value	<i>Hypothesis Testing</i>
Championing	Innovation Type (0: Tech; 1: Admin)	-.26***	.000	
	Gender (0: Male; 1: Female)	-.05	.391	
	Education	.24***	.000	
	Age	.02	.843	
	Position	-.03	.621	
	Organizational Tenure	.30**	.002	
	<i>n</i> Achievement	.06	.314	
	<i>n</i> Affiliation	.05	.421	
	<i>n</i> Power	-.15*	.019	H3–Alternative partially supported
	Participatory Practice	.05	.329	
<i>n</i> Power X Participatory Practice	-.10+	.073	H6–Alternative supported	
Innovation outcome	Innovation Type (0: Tech; 1: Admin)	-.03	.542	
	Gender (0: Male; 1: Female)	.06	.246	
	Education	.02	.741	
	Age	.07	.403	
	Position	.01	.935	
	Organizational Tenure	-.01	.923	
	Resistance	.01	.835	
	Compliance	.13+	.052	H7 supported
	Cooperation	.26**	.001	H8 supported; H10 partially supported
	Championing	.67***	.000	H9 supported; H10 partially supported

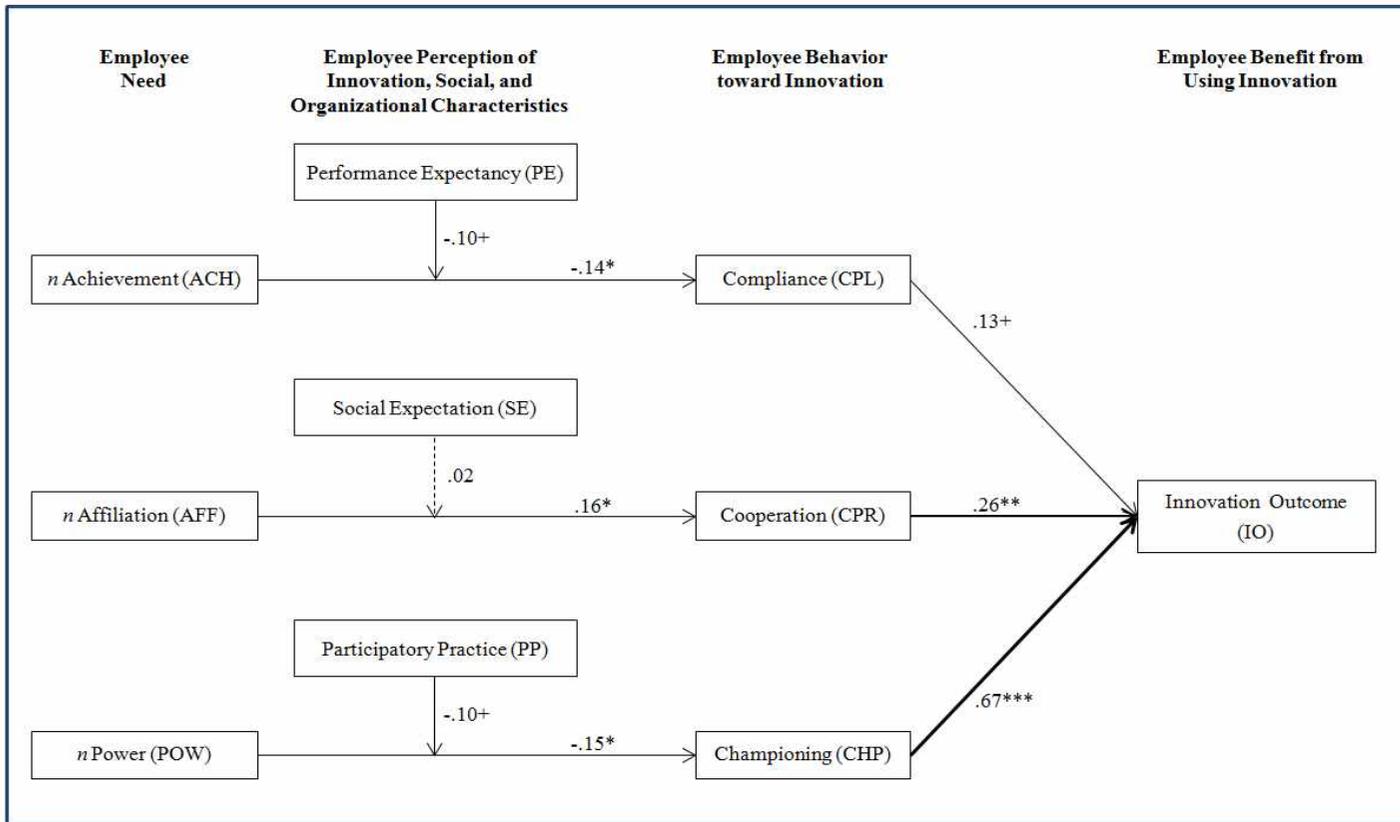
Note: Innovation type, gender, and resistance are control variables. + $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

FIGURE 1. Theoretical Framework of the Present Study



Note: Thicker line(s) predict stronger behavior–benefit relationship than thinner line(s) do.

FIGURE 2. Structural Model of Individual-level Innovation Implementation Process



Thicker lines represent statistically more significant results. Dotted lines represent statistically insignificant results.

$+ p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$

FIGURE 3. Interaction Effect of Participatory Practice on the Relationship between n Power and Championing

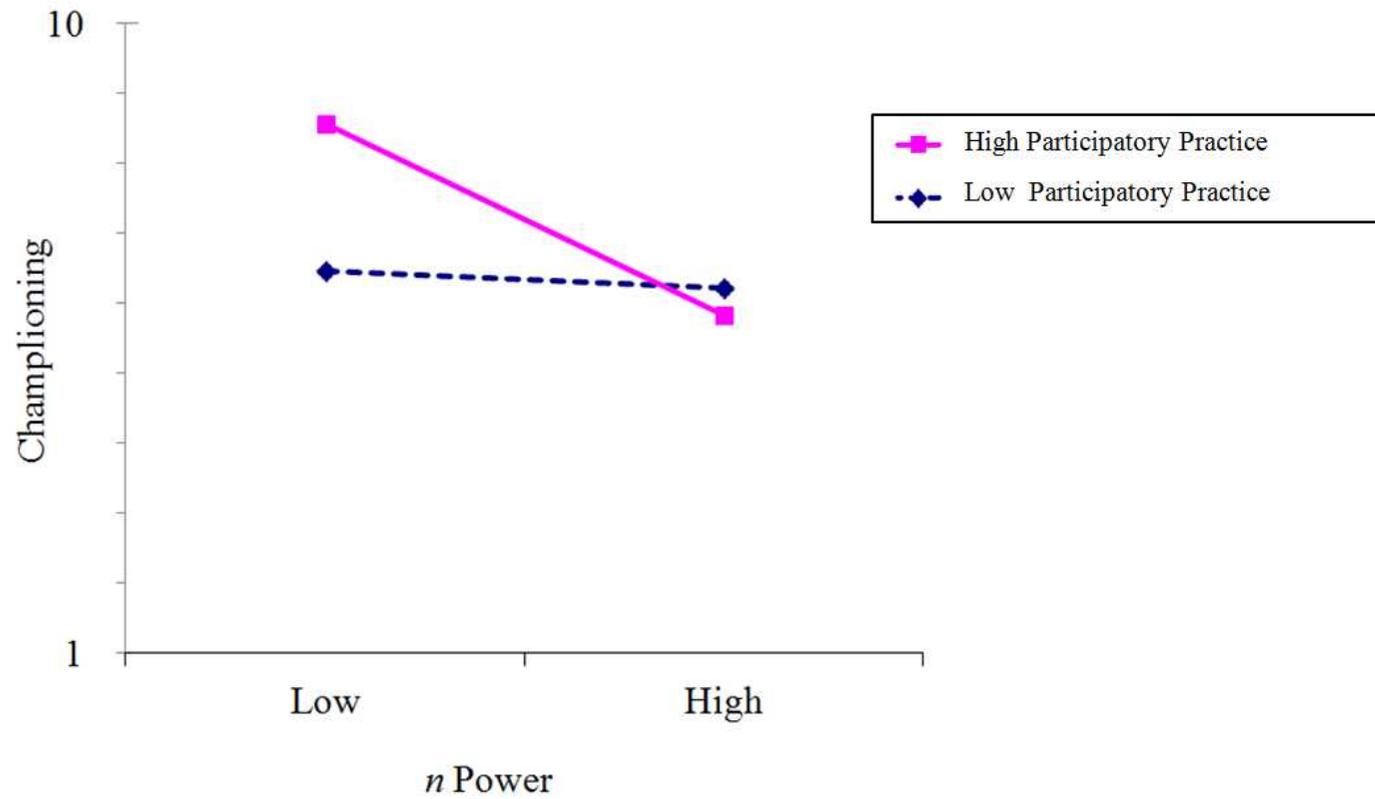


FIGURE 4. Interaction Effect of Social Expectation on the Relationship between n Achievement and Championing

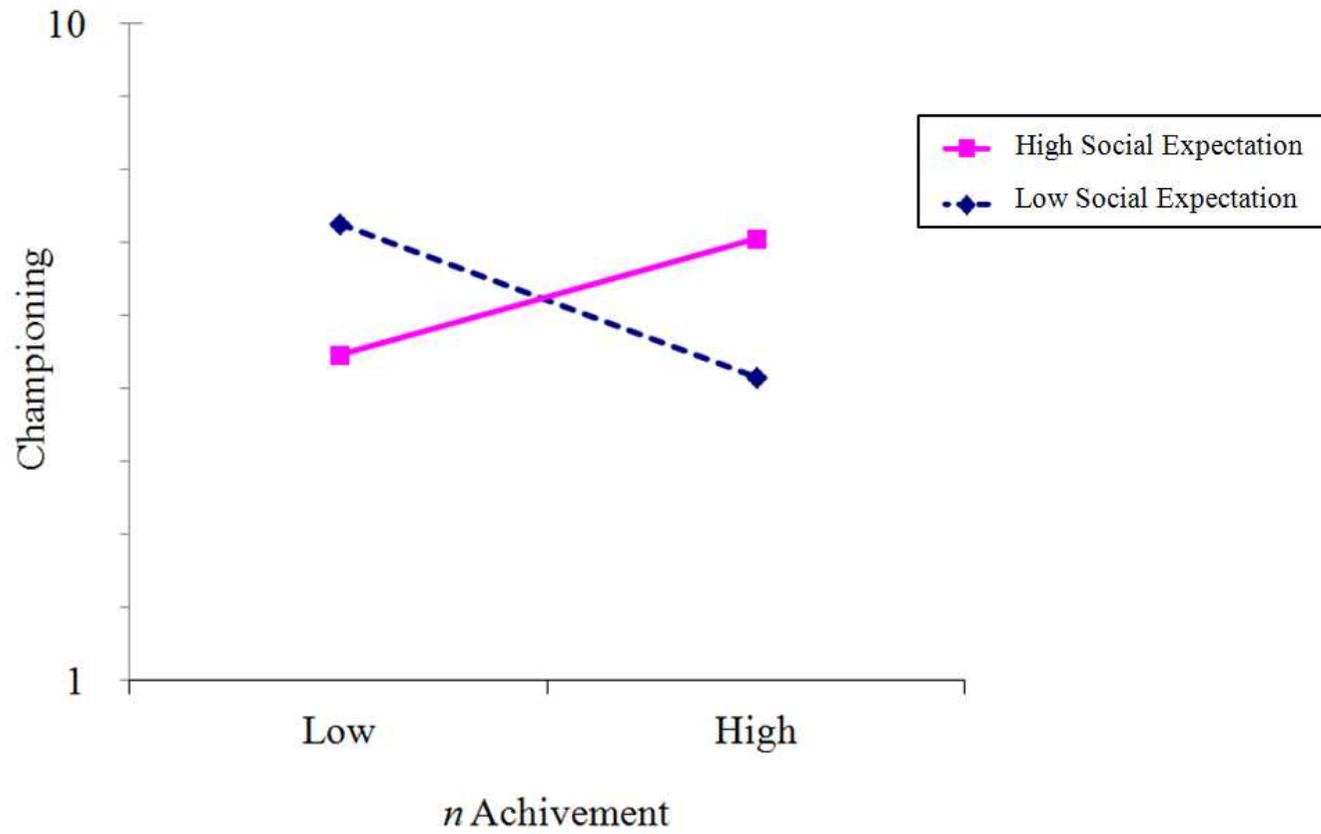


FIGURE 5. Interaction Effect of Performance Expectancy on the Relationship between n Affiliation and Cooperation

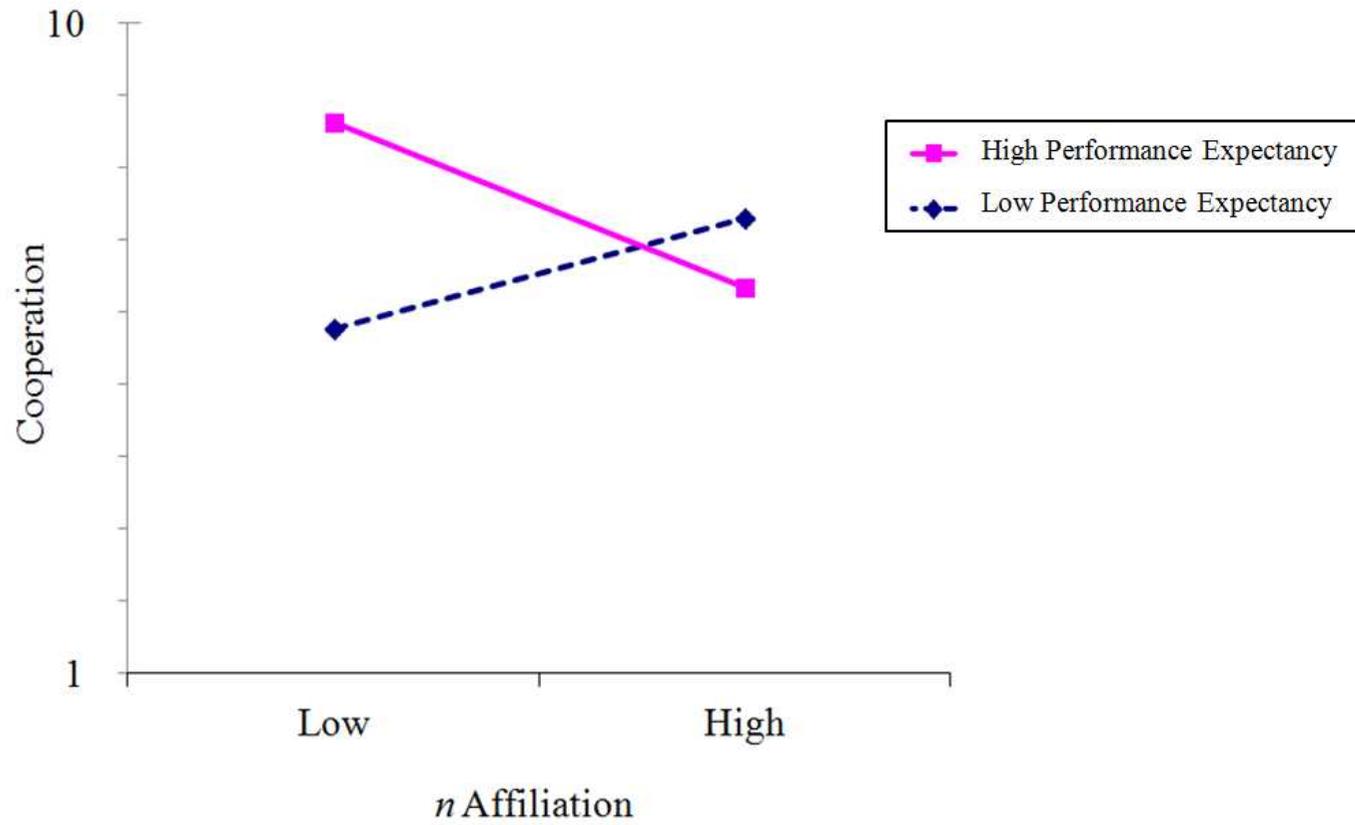
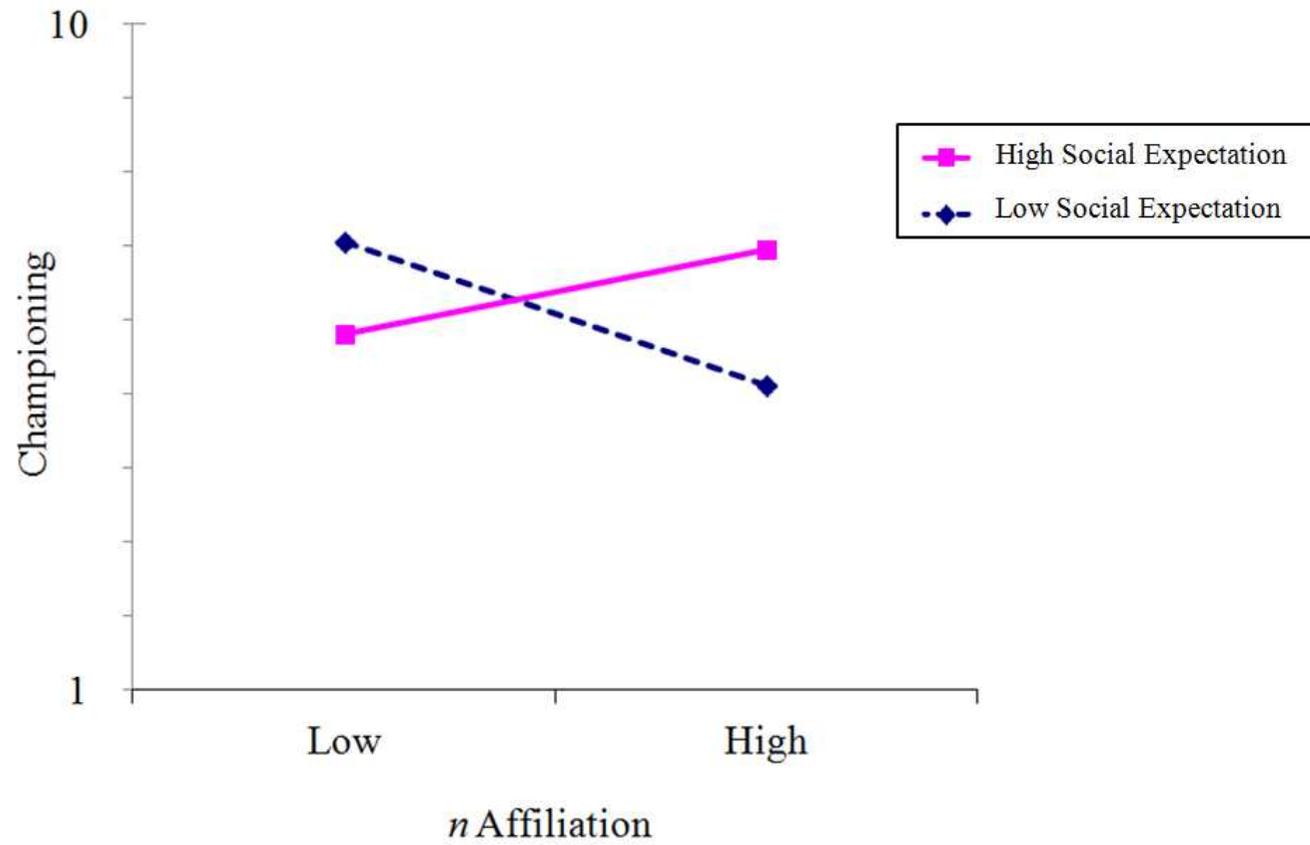


FIGURE 6. Interaction Effect of Social Expectation on the Relationship between n Affiliation and Championing



REFERENCES

- Adams, R. (2003). *Perceptions of innovations: Exploring and developing innovation classification*. A PhD thesis: Cranfield University, UK.
- 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.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*, 179-211.
- Alston, W. P. (1975). Traits, consistency and conceptual alternatives for personality theory. *Journal for the Theory of Social Behaviour, 5*, 17-48.
- Amabile, T. (1988). A model of creativity and innovation in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 123-167). Greenwich, CT: JAI Press.
- Amabile, T. (1996). *Creativity in context*. Boulder, CO: Westview.
- Ansari, S. M., Fiss, P. C., & Zajac, E. J. (2010). Made to fit: How practices vary as they diffuse. *Academy of Management Review, 35*: 67-92.
- Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. (2000). *Manufacturing advantage: Why high-performance work systems pay off*. Ithaca, NY: ILR Press.
- Arnold, J. J., Arad, S., Rhoades, J. A., & Drasgow, F. (2000). The empowering leadership questionnaire: The construction and validation of a new scale for measuring leader behaviors. *Journal of Organizational Behavior, 21*, 249-269.
- Ashford, S. J. (1988). Individual strategies for coping with stress during organizational transitions. *The Journal of Applied Behavioral Science, 24*, 19-36.
- Atkinson, J. W. (1953). The achievement motive and the recall of interrupted tasks. *Journal of Experimental Psychology, 46*, 381-390.
- Atkinson, J. W., & Birch, D. (1970). *The dynamics of action*. New York: Wiley.
- Atkinson, J. W., & Raynor, J. Q. (1975). *Motivation and achievement*. Washington, DC: Winston.
- Axtell, C. M., Holman, D. J., Unsworth, K. L., Wall, T. D., Waterson, P. E., & Harrington, E. 2000. Shopfloor innovation: Facilitating the suggestion and

- implementation of ideas. *Journal of Occupational and Organizational Psychology*, 73, 265-285.
- Baer, M. (2012). Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal*, 55, 1102-1119.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1978). Reflections on self-efficacy. In S. Rachman (Ed.), *Advances in behavioral research and therapy* (Vol. 1, pp. 237-269). Oxford, England: Pergamon Press.
- Baruth, Y. (1999). Response rate in academic studies: A comparative analysis. *Human Relations*, 52, 421-438.
- Batten, J. D., & Swab, J. L. (1965). How to crack down on company politics. *Personnel*, 42, 8-20.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44, 1-26.
- Bentler, P. M. (2006). *EQS 6 Structural equations program manual*. Encino, CA: Multivariate Software.
- Bettencourt, L. A. (2004). Change-oriented organizational citizenship behaviors: The direct and moderating influence of goal orientation. *Journal of Retailing*, 80, 165-180.
- Bolino, M. C. (1999). Citizenship and impression management: Good soldiers or good actors? *Academy of Management Review*, 24, 82-98.
- Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71- 98). San Francisco: Jossey-Bass.
- Borman, W. C., Motowidlo, S. J., Rose, S. R., & Hanser, L. M. (1985). Development of a model of soldier effectiveness. *Personnel Decisions Research Institute* (Institute Report No. 95).
- Chatman, J. A., & Barsade, S. G. (1995). Personality, organizational culture, and cooperation: Evidence from a business simulation. *Administrative Science Quarterly*, 40, 423-443.
- Choi, J. N. (2004). Individual and contextual dynamics of innovation-use behavior in organizations. *Human Performance*, 17, 397-414.

- Choi, J. N. (2007). Change-oriented organizational citizenship behavior: Effects of work environment characteristics and intervening psychological processes. *Journal of Organizational Behavior, 28*, 467-484.
- 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.
- Choi, J. N., & Moon, W. J. (2013). Multiple forms of innovation implementation: The role of innovation, individuals, and the implementation context. *Organizational Dynamics, 42*, 290-297.
- Choi, J. N., & Price, R. H. (2005). The effects of person-innovation fit on individual responses to innovation. *Journal of Occupational and Organizational Psychology, 78*, 83-96.
- Choi, J. N., Sung, S. Y., Lee, K., & Cho, D. (2011). Balancing cognition and emotion: Innovation implementation as a function of cognitive appraisal and emotional reactions toward the innovation. *Journal of Organizational Behavior, 32*, 107-124.
- Chun, J. S., & Choi, J. N. (In press). Members' needs, intragroup conflict, and group performance. *Journal of Applied Psychology*.
- Chung, G. H., Du, J., & Choi, J. N. (2014). How do employees adapt to organizational change driven by cross-border M&As? A case in China. *Journal of World Business, 49*, 78-86.
- Collins, C., & Clark, K. D. (2003). Strategic human resource practices, top management team social networks, and firm performance: The role of human resource practices in creating organizational competitive advantage. *Academy of Management Journal, 46*, 740-751.
- Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly, 19*, 189-211.
- Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management, 26*, 435-462.
- 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.
- Damanpour, F., Szabat, K. A., & Evan, W. M. (1989). The relationship between types of innovation and organizational performance. *Journal of Management Studies, 26*, 587-602.

- Damanpour, F., & Wischnevsky, J. D. (2006). Research on innovation in organizations: Distinguishing innovation-generating from innovation-adopting organizations. *Journal of Engineering and Technology Management*, 23, 269-291.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13, 319-339.
- Davis, F.D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35, 982-1003.
- Davis, F.D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Psychology*, 22, 1111-1132.
- De Dreu, C. K., & West, M. A. (2001). Minority dissent and team innovation: The importance of participation in decision making. *Journal of Applied Psychology*, 86, 1191-1201.
- Dimaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147-160.
- Drory, A., & Romm, T. (1990). The definition of organizational politics: A review. *Human Relations*, 43, 1133-1154.
- Edmondson, A.C. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44, 350-383.
- Edmondson, A. C., Bohmer, R. M., & Pisano, G. P. (2001). Disrupted routines: Team learning and new technology implementation in hospitals. *Administrative Science Quarterly*, 46, 685-716.
- Ekehammar, B. (1974). Interactionism in personality from a historical perspective. *Psychological Bulletin*, 81, 1026-1048.
- Ekvall, G., & Arvonen, J. (1991). Change-centered leadership: An extension of the two-dimensional model. *Scandinavian Journal of Management*, 7, 17-26.
- Elliot, A. J., & Thrash, T. M. (2004). The intergenerational transmission of fear of failure. *Personality and Social Psychology Bulletin*, 30, 957-971.
- Fidler, L. A., & Johnson, J. D. (1984). Communication and innovation implementation. *Academy of Management Review*, 9, 704-711.
- Finkelstein, S. (1992). Power in top management teams: Dimensions, measurement, and validation. *Academy of Management Journal*, 35, 505-538.

- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fiske, D.W. (1949). Consistency of the factorial structures of personality ratings from different sources. *Journal of Abnormal Social Psychology, 44*, 329-344.
- Fleischer, M., Liker, I., & Arnsdorf, D. (1988). *Effective use of computer-aided design and computer-aided engineering in manufacturing*. Ann Arbor: MI: Industrial Technology Institute.
- Flynn, L. R. & Goldsmith, R. E. (1993). A validation of the Goldsmith and Hofacker innovativeness scale. *Educational and Psychological Measurement, 53*, 1105–1116.
- Frambach, R. T., & Schillewaert, N. (2002). Organizational innovation adoption: A multi-level framework of determinants and opportunities for future research. *Journal of Business Research, 55*, 163-176.
- Freeman, R. B., & Medoff, J. L. 1984. *What do unions do?* New York: Basic Books.
- Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in Organizational Behavior, 23*, 133-187.
- Frese, M., Fay, D., Hilburger, T., Leng, K., & Tag, A. (1997). The concept of personal initiative: Operationalization, reliability and validity in two German samples. *Journal of Occupational and Organizational Psychology, 70*, 139-161.
- Funder, D. C. 2001. Personality. *Annual Review of Psychology, 52*, 197-221.
- Gagnon, M., Jansen, K., & Michael, J. H. (2008). Employee alignment with strategic change: A study of strategy-supportive behavior among blue collar employees. *Journal of Managerial Issues, 20*, 425-443.
- Glynn, M. A. (1998). Individuals' need for organizational identification (nOID): Speculations on individual differences in propensity to identify. In D.A. Whetten & P.C. Godfrey (Eds.), *Identity in organizations: Building theory through conversations* (pp. 238–244). Thousand Oaks, CA: Sage.
- Goldberg, L. R. (1990). An alternative "description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology, 59*, 1216-1229.
- Greenhalgh, L., & Gilkey, R. (1993). The effect of relationship orientation on negotiators' cognitions and tactics. *Group Decision and Negotiation, 2*, 167-183.

- Greenhalgh, T., Robert, F., Bate, P., Macfarlane, F., & Kyriakidou, O. (2005). *Diffusion of innovations in health service organizations: A systemic review*. Malden, MA: BMJ Books Blackwell.
- Griffin, M. A., Neal, A., & Parker, S. K. (2007). A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal*, *50*, 327-347.
- Guilford, J.P., & Zimmerman, W.S. (1949). *The Guilford-Zimmerman temperament survey*. Beverly Hills, CA: Sheridan Supply.
- Haley, J. (1969). *The power tactics of Jesus Christ and other essays*. Oxford, England: Grossman.
- Hair, Jr. J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- Herscovitch, L., & Meyer, J. P. (2002). Commitment to organizational change: Extension of a three-component model. *Journal of Applied Psychology*, *87*, 474-487.
- Hofstede, G., & Bond, M. H. (1988). The Confucius connection: From cultural roots to economic growth. *Organizational dynamics*, *16*, 5-21.
- Howell, J., & Higgins, C. (1991). Champions of change: Identifying, understanding, and supporting champions of technological innovations. *Organization Dynamics*, *10*, 40-55.
- Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology*, *85*, 869-879.
- Ichniowski, C., & Shaw, K. (1999). The effects of human resource management systems on economic performance: An international comparison of U.S. and Japanese plants. *Management Science*, *4*, 704-721.
- Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, *31*, 386-408.
- Judge, T. A., Thoreson, C. J., Pucik, V., & Welbourne, T. M. (1999). Managerial coping with organizational change: A dispositional perspective. *Journal of Applied Psychology*, *84*, 107-122.
- Kam, C. C., & Bond, M. H. (2008). Role of emotions and behavioral responses in mediating the impact of face loss on relationship deterioration: Are Chinese more face-sensitive than Americans? *Asian Journal of Social Psychology*, *11*, 175-184.

- Kanter, R. M. (1988). When a thousand flowers bloom: Structural, collective and social conditions for innovation in organization. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. 10, pp. 169-211). Greenwich, CT: JAI Press.
- Keen, P. G. W. (1981). Information systems and organizational change. *Communication of the ACM*, 24, 24-33.
- Keller, K. L., & Staelin, R. (1987). Effects of quality and quantity of information on decision effectiveness. *Journal of Consumer Research*, 14, 200-213.
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, 110, 265-284.
- Kenrick, D. T., & Funder, D. C. (1988). Profiting from controversy: Lessons from the person-situation debate. *American Psychologist*, 43, 23-34.
- Kim, T. G., Hornung, S., & Rousseau, D. M. (2011). Change-supportive employee behavior: Antecedents and the moderating role of time. *Journal of Management*, 37, 1664-1693.
- Kim, H., & Kankanhalli, A. (2009). Investigating user resistance to information systems implementation: A status quo bias perspective. *MIS Quarterly*, 33, 567-582.
- Kimberly, J. R., & Evanisko, M. (1981). Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Management Journal*, 24, 679-713.
- Kirton, M. J. (2000). *Adaption and innovation: Styles of creativity and problem-solving* (Rev. ed.). London: Routledge.
- Klein, K. J., Conn, A. B., & Sorra, J. S. (2001). Implementing computerized technology: An organizational analysis. *Journal of Applied Psychology*, 86, 811-824.
- Klein, K. J., & Knight, A. P. (2005). Innovation implementation: Overcoming the challenge. *Current Directions in Psychological Science*, 14, 243-246.
- Klein, K. J., & Ralls, R. S. (1997). The unintended organizational consequences of technology training: Implications for training theory, research, and practice. In J. K. Ford, S. Kozlowski, K. Kraiger, E. Salas, & M. Teachout (Eds.), *Improving training effectiveness in organizations*. Hillsdale, NJ: Erlbaum.
- Klein, K. J., & Sorra, J. S. (1996). The challenge of innovation implementation. *Academy of Management Review*, 21, 1055-1080.

- Lawler, E. E., & Mohrman, S. A. (1991). Quality circles: After the honeymoon. In B. M. Staw (Ed.), *Psychological dimensions of organizational behavior*. New York, NY: Macmillan.
- Lee, K., & Park, M. (2009). Innovation attributes and innovation diffusion. *Korean Journal of Management*, 17, 125-153.
- Leonard-Barton, D., & Deschamps, I. (1988). Managerial influence in the implementation of new technology. *Management Science*, 31, 1252-1265.
- Leonard-Barton, D., & Krauss, W. A. (1985). Implementing new technology. *Harvard Business Review*, 63, 102-110.
- LePine, J. A., & Van Dyne, L. (2001). Voice and cooperative behavior as contrasting forms of contextual performance: Evidence of differential relationships with big five personality characteristics and cognitive ability. *Journal of Applied Psychology*, 86, 326-336.
- Lou, H., Luo, W., & Strong, D. (2000). Perceived critical mass effect on groupware acceptance. *European Journal of Information Systems*, 9, 91-103.
- MacDuffie, J. P. (1995). Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review*, 48, 197-221.
- MacKenzie, S. B., Podsakoff, P. M., & Ahearne, M. (1998). Some possible antecedents and consequences of in-role and extra-role salesperson performance. *Journal of Marketing*, 62, 87-98.
- Maddi, S. R. (1996). *Personality theories: A comparative analysis* (6th ed.). Pacific Grove, CA: Brooks/Cole Publishing Company.
- Magee, J. C., & Langner, C. A. (2008). How personalized and socialized power motivation facilitate antisocial and prosocial decision-making. *Journal of Research in Personality*, 42, 1547-1559.
- Maner, J. K., Gailliot, M. T., Butz, D. A., & Peruche, B. M. (2007). Power, risk, and the status quo does power promote riskier or more conservative decision making? *Personality and Social Psychology Bulletin*, 33, 451-462.
- Markus, M. L. (1983). Power, politics, and MIS implementation. *Communications of the ACM*, 26, 430-444.
- Markus, M. L. (1990). Toward a 'critical mass' theory of interactive media. In J. Fulk & C. Steinfield (Eds.), *Organizations and communication technology* (pp. 194-218). Newbury Park, CA: Sage.

- Markus, H., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.
- Mathieu, J., Ahearne, M., & Taylor, S. R. (2007). A longitudinal cross-level model of leader and salesperson influences on sales force technology use and performance. *Journal of Applied Psychology, 92*, 528-537.
- McClelland, D. C. (1951). *Personality*. New York, NY: Dryden Press.
- McClelland, D. C. (1975). *Power: The inner experience*. New York, NY: Irvington Publishers.
- McClelland, D. C. (1985). *Human motivation*. Glenview, IL: Scott, Foresman.
- McClelland, D. C., & Watson, R. I. (1973). Power motivation and risk-taking behavior. *Journal of personality, 41*, 121-139.
- McKersie, R. B., & Walton, R. E. (1991). Organizational change. In M. S. S. Morton (Ed.), *The corporation of the 1990's* (pp. 244-277). New York: Oxford University Press.
- McKinley, W., & Scherer, A. G. (2000). Some unanticipated consequences of organizational restructuring. *Academy of Management Review, 25*, 735-752.
- Merton, R. K. (1936). The unanticipated consequences of purposive social action. *American Sociological Review, 1*, 894-904.
- Meyer, J. P., & Herscovitch, L. (2001). Commitment in the workplace: Toward a general model. *Human Resource Management Review, 11*, 299-326.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology, 83*, 340-363.
- Meyer, J. P., Srinivas, E. S., Lal, J. B., & Topolnytsky, L. (2007). Employee commitment and support for an organizational change: Test of the three-component model in two cultures. *Journal of Occupational and Organizational Psychology, 80*, 185-211.
- Mintzberg, H. (1984). Power and organization life cycles. *Academy of Management Review, 9*, 207-224.
- Monson, T. C., Hesley, J. W., & Chernick, L. (1982). Specifying when personality traits can and cannot predict behavior: An alternative to abandoning the attempt to predict single act criteria. *Journal of Personality and Social Psychology, 43*, 385-399.
- Montag, T., Maertz, C. P., & Baer, M. (2012). A critical analysis of the workplace creativity criterion space. *Journal of Management, 38*, 1362-1386.

- 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.
- Morrison, E. W., & Phelps, C. C. (1999). Taking charge at work: Extrarole efforts to initiate workplace change. *Academy of Management Journal*, 42, 403-419.
- Motowildo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. *Human performance*, 10, 71-83.
- Mumford, M. D. (2000). Managing creative people: Strategies and tactics for innovation. *Human Resources Management Review*, 10, 313-355.
- Mumford, M. D., & Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, 103, 27-43.
- Murray, H. A. (1938). Explorations in personality: A clinical and experimental study of fifty men of college age. New York, NY: Oxford.
- Muthen, L. K., & Muthen, B. O. (2007-2010). *Mplus user's guide* (6th ed.). Los Angeles, CA.
- Myers, D. G. (2002). Social psychology (7th ed.). New York, NY: McGraw-Hill.
- Nonaka, I. (1991). The knowledge-creating company. *Harvard Business Review*, 69, 96-104.
- Nord, W. R., & Tucker, S. (1987). *Implementing routine and radical innovations*. Lexington, MA: Lexington Books.
- Northouse, P. G. (2007). *Leadership: Theory and practice*. Thousand Oaks, CA: Sage.
- Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*, 16, 145-179.
- Oliver, P., Marwell, G., & Teixeira, R. (1985). A theory of the critical mass: Interdependence, group heterogeneity, and the production of collective action. *American Journal of Sociology*, 91, 522-556.
- Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington Books.
- Organ, D. W. (1990a). The motivational basis of organizational citizenship behavior. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior*, (Vol. 12, pp. 43-72). Greenwich, CT: JAI Press.

- Organ, D. W. (1990b). The subtle significance of job satisfaction. *Clinical Laboratory Management Review*, 4, 94-98.
- Pettigrew, A. M. (1973). *The politics of decision making*. London: Tavistock.
- Pfeffer, J. (1997). *New directions for organization theory: Problems and prospects*. New York: Oxford University Press.
- Phillips, J. M., & Gully, S. M. (1997). Role of goal orientation, ability, need for achievement, and locus of control in the self-efficacy and goal-setting process. *Journal of Applied Psychology*, 82, 792-802.
- Pinto, M. B., & Pinto, J. K. (1990). Project team communication and cross-functional cooperation in new program development. *Journal of Product Innovation Management*, 7, 200-212.
- Podsakoff, P. M., & MacKenzie, S. B. (1997). Impact of organizational citizenship behavior on organizational performance: A review and suggestion for future research. *Human performance*, 10, 133-151.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26, 513-563.
- Portes, A. (2000). The hidden abode: Sociology as analysis of the unexpected. *American Sociological Review*, 65, 1-18.
- Porter, L. W. (1976, September). *Organizations as political animals*. In Washington, DC, Presidential Address, Division of Industrial-Organizational Psychology, 84th Annual Meeting of the American Psychological Association.
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, 85, 612-624.
- Quinn, R. E., Kahn, J. A., & Mandl, M. J. (1994). Perspectives on organizational change: Exploring movement at the interface. In J. Greenberg (Ed.), *Organizational behavior: The state of the science* (pp. 109-133). Hillsdale, NJ: Erlbaum.
- Repenning, N.P., & Serman, J.D. (2002). Capability traps and self-confirming attribution errors in the dynamics of process improvement. *Administrative Science Quarterly*, 47, 265-295.
- Rivard, S. (1987). Successful implementation of end-user computing. *Monthly Labor Review*, 105, 37-39.

- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: Free Press.
- Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of innovations: A cross-cultural approach*. New York, NY: Free Press.
- Roth, P. L., & BeVier, C. A. (1998). Response rates in HRM/OB survey research: Norms and correlates, 1990-1994. *Journal of Management*, 24, 97-117.
- Rousseau, D. M. (1989). Managing the change to an automated office: Lessons from five case studies. *Office: Technology & People*, 4, 31-52.
- Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1, 7-59.
- Schroeder, R. G., Goldstein, S. M., & Rungtusanatham, M. J. (2006). *Operations management: Contemporary concepts and cases* (3rd ed.). New York, NY: McGraw-Hill/Irwin.
- Scott, W. R. (1994). Institution and organizations: Toward a theoretical synthesis. In W. R. Scott, & J. Meyer (Eds.), *Institutional environments and organizations: Structural complexity and individualism* (pp. 55-80). Thousand Oaks, CA: Sage.
- Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management*, 30, 933-958.
- Shane, S., Venkataraman, S., & MacMillan, I. (1994). The effects of cultural differences on new technology championing behavior within firms. *Journal of High Technology Management Research*, 5, 163-181.
- Shane, S., Venkataraman, S., & MacMillan, I. (1995). Cultural differences in innovation championing strategies. *Journal of Management*, 21, 931-952.
- Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, 80, 325-339.
- Skinner, N. F., & Drake, J. M. (2003). Behavioral implications of adaption-innovation: III. Adaption-innovation, achievement motivation, and academic performance. *Social Behavior & Personality: An International Journal*, 31, 101-106.
- Snyder, M., & Ickes, W. (1985). Personality and social behavior. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology* (Vol. II, pp. 883-947). New York: Random House.

- Steers, R. M., & Braunstein, D. N. (1976). A behaviorally-based measure of manifest needs in work settings. *Journal of Vocational Behavior*, 9, 251-266.
- Strauss, G. (1998). An overview. In F. Heller, E. Pusic, G. Strauss, & B. Wilpert (Eds.), *Organizational participation: Myth and reality* (pp. 8-39). Oxford, UK: Oxford University Press.
- Stumpf, S.A., Brief, A.P., & Hartman, K. (1978). Self-efficacy expectations and coping with career-related events. *Journal of Vocational Behavior*, 31, 91-108.
- Sun, L., Aryee, S., & Law, K. E. (2007). High performance human resource practices, citizenship behavior, and organizational performance: A relational perspective. *Academy of Management Journal*, 50, 558-577.
- Sung, S. Y., Choi, J. N., & Cho, D-S. (2011). Who initiates and who implements? A multi-stage, multi-agent model of organizational innovation. *Journal of Management & Organization*, 17, 344-363.
- Tett, R. P., & Guterman, H. A. (2000). Situation trait relevance, trait expression, and cross-situational consistency: Testing a principle of trait activation. *Journal of Research in Personality*, 34, 397-423.
- Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, 15, 124-143.
- Trafimow, D. (2000). A theory of attitudes, subjective norms, and private versus collective self-concepts. In D. J. Terry, & M. A. Hogg (Eds.), *Attitudes, behavior, and social context* (pp. 47-65). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Van de Ven, A. H. (1986). Central problems in the management of innovation. *Management Science*, 32, 590-607.
- Van de Ven, A. H., & Rogers, E. M. (1988). Innovations and organizations: Critical perspective. *Communication Research*, 15, 632-651.
- Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, 41, 108-119.
- Van Scotter, J. R., & Motowidlo, S. J. (1996). Interpersonal facilitation and job dedication as separate facets of contextual performance. *Journal of Applied Psychology*, 81, 525-531.
- Van Slyke, C., Ilie, V., Lou, H., & Stafford, T. (2007). Perceived critical mass and the adoption of a communication technology. *European Journal of Information Systems*, 16, 270-283.

- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 45, 186-204.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27, 425-478.
- Veroff, J. (1982). Assertive motivations: Achievement versus power. In A. J. Stewart (Ed.), *Motivation and society: A volume in honor of David C. McClelland*. San Francisco: Jossey-Bass.
- Veroff, J., & Veroff, J. B. (1980). *Social incentives: A life span developmental approach*. New York: Academic Press.
- Vroom, V. H. (1964). *Work and motivation*. New York, NY: Wiley.
- Walker, H. A. (1986). Gender differences in role different and organizational task performance. *Annual Review of Sociology*, 12, 255-275.
- Weiss, H. M., & Adler, S. (1984). Personality and organizational behavior. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (Vol. VI, pp. 1-50). Greenwich, CT: JAI Press.
- West, M. A. (1987). A measure of role innovation at work. *British Journal of Social Psychology*, 26, 83-85.
- Wiesenfeld, B. M., Raghuram, S., & Garud, R. (2001). Organizational identification among virtual workers: The role of need for affiliation and perceived work-based social support. *Journal of Management*, 27, 213-229.
- Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17, 601-617.
- Winter, D. G. (1973). *The power motive*. New York, NY: The Free Press.
- Yukl, G. (1999). An evaluative essay on current conceptions of effective leadership. *European Journal of Work and Organizational Psychology*, 8, 33-48.
- Zuboff, S. (1988). *In the age of the smart machine: The future of work and power*. New York: Basic Books.

APPENDIX A

Survey Instrument Used in the Present Study

n Achievement (ACH)

ACH1: I try very hard to improve on my past performance at work.

ACH2: I stick my neck out to get ahead at work.

ACH3: I try to perform better than my co-workers.

n Affiliation (AFF)

AFF1: When my important co-workers are having a personal issue, I feel as if it was my own problem.

AFF2: I try to have time with my co-workers at work.

AFF3: When I have a choice, I try to work in a group instead of by myself.

n Power (POW)

POW1: I find myself organizing and directing the activities of others.

POW2: I strive to gain more control over the events around me at work.

POW3: I strive to be "In command" when I am working in a group.

Performance Expectancy (PE)

PE1: I would find the innovation useful in my job.

PE2: Using the innovation enables me to accomplish tasks more quickly.

PE3: Using the innovation increases my productivity.

PE4: Using the innovation would enhance my effectiveness on the job.

Social Expectation (SE)

SE1: People who influence my behavior think that I should use the innovation.

SE2: People who are important to me think that I should use the innovation.

SE3: Many people I communicate with use the innovation.

SE4: The people I communicate with will continue to use the innovation in the future.

Participatory Practice (PP)

PP1: Employees in the job assigned for the innovation are often asked by their supervisor to participate in decisions.

PP2: Employees are provided the opportunity to suggest improvements for the innovation in the way things are done.

PP3: Supervisors keep open communications with employees in this job assigned for the innovation.

Compliance (CPL)

CPL1: This employee accepts role changes for innovation success.

CPL2: This employee adjusts the way he/she does his/her job as required by this innovation.

CPL3: This employee conforms to innovation requirements.

Cooperation (CPR)

CPR1: This employee openly shares his/her ideas regarding this innovation with other team members.

CPR2: This employee helps others to more effectively perform their tasks for innovation success.

CPR3: This employee shares resources to complete others' tasks for innovation success.

Championing (CHR)

CHR1: This employee speaks positively about this innovation to others.

CHR2: This employee attempts to get people to commit their resources to this innovation by showing them the benefit of this innovation to the organization as a whole.

CHR3: This employee convinces people that the innovation deserves their support by showing the benefits of the innovation to them.

Resistance (RST)

RST1: This employee does not comply with the change to the new way of working with the innovation.

RST2: This employee does not cooperate with the change to the new way of working with the innovation.

RST3: This employee opposes the change to the new way of working with the innovation.

Innovation Outcome (IO)

IO1: Because of this innovation, this employee's producing quality for product, service, or administration is improved, as initially intended.

IO2: Because of this innovation, this employee's productivity is improved, as initially intended.

IO3: Because of this innovation, this employee's ability to accomplish scheduled jobs is improved, as initially intended.

- IO4: This employee decides the methods used in this innovation to better achieve work targets/objectives.
- IO5: Because of this innovation, this employee decides the order in which different parts of the job are done.
- IO6: Because of this innovation, this employee initiates new procedures or information systems.

< 국문 초록 >

개인, 사회, 조직, 그리고 혁신의 특성이 혁신실행 행위와 결과에 미치는 영향에 관한 연구

서울대학교 대학원
경영학과 경영학 전공
정 구 혁

오늘날, 끊임없는 기술의 발달과 국가간 무역의 증가는 기업의 미래 생존에 대한 불확실성을 증가시키고 있고, 이를 해결하고자 기업들은 지속적으로 조직 창의력(idea generation; organizational creativity), 혁신 도입(adoption) 및 실행(implementation)을 최우선 과제로 삼고 있다. 이를 위해, 많은 학자들이 혁신에 영향을 주는 여러 요인들을 밝혀왔으나, 대부분의 기존 연구들은 조직개발, 전략적 선택, 제도론, 그리고 생태학적 관점과 같이 거시적(macro) 이론들을 기반으로 혁신을 분석/해석해왔기에, 창의력 또는 혁신 도입과 같은 주제/현상들만 주로 다루어졌다. 그러나, 혁신실패(innovation failure)는 도입실패(adoption failure) 보다는 실행실패(implementation failure)라는 사실에 주목하면서, 최근 연구자들은 혁신의 마지막 단계인 실행에 관심을 두기 시작하였다.

그럼에도 불구하고, 혁신실행에 대한 최근 연구들이 혁신을 실행하는 개인적 성향의 영향을 간과하였기에 여전히 제한적 해석의 틀을 가지고 있다. 따라서, 이 연구는 이러한 이론적, 현상학적 해석의 간극을 메우고 혁신실행에 대한 이해를 학문적 그리고 실무적으로 확장시키고자 하였다. 구체적으로 혁신 수용(acceptance)과 거부(rejection)라는 (혁신사용자에 대한) 이분법적인 행동(bifurcated model of implementation behaviors)을 가정한 기존 연구의 이론적 한계를 넘어, 이 연구는 혁신 사용자의 행위를 혁신에 대한

준수(compliance), 협동(cooperation), 옹호(championing)와 같이 역할 내/외 행위로 다각화하는 것을 최초로 시도하였다. 이를 위해, McClelland의 욕구이론(need theory)을 기반으로, 욕구-행위간의 어떤 두드러진 관계가 있는지를 밝히고, 욕구-상황-행위(person-situation-behavior)의 삼각관계(triad)의 관점에서 혁신의 특성(innovation property), 사회적 요인(social factor) 그리고 조직수준의 요인(organizational factor)이 욕구-행위간의 관계를 어떻게 조절하는가를 연구하였다. 마지막으로, 혁신에 대한 어떤 행위가 다른 행위보다 혁신의 효과성(innovation outcome)을 가장 크게 예측할 수 있는가를 이론화하고 검증하였다.

연구결과에 의하면, 친애욕구(need for affiliation)는 혁신에 대한 협동 행위를 정(+)적으로 가장 강하게 예측하는 반면, 권력욕구(need for power)는 혁신에 대한 옹호 행위를 부(-)적으로 예측하는 것으로 나타났다. 그러나, 가설과는 반대로, 성취욕구(need for achievement)는 혁신에 대한 준수 행위를 정(+)적이 아닌, 부(-)적으로 가장 강하게 예측하였다. 이들 세 가지 형태의 혁신실행 행위는 모두 혁신의 효과성을 강하게 예측하였다. 마지막으로, 혁신실행에 대한 사회적 기대(social expectation)가 성취욕구-옹호행위 그리고, 친애욕구-옹호행위를 강화시키는 가장 중요한 상황적 요인으로 파악되었다.

이 연구는 크게 세가지 점에서 이론적 기여를 하였다. 첫째, 거시이론에 기반한 기존 연구들은, 혁신사용자의 개인적 특성이 혁신실행 행위에 미치는 영향을 거의 살펴보지 않았지만, 이 연구는 개인의 특성, 사회적 요인, 혁신의 특성, 그리고 조직의 실행환경을 하나의 이론적 모형에서 모두 고려함으로써 기존의 연구보다 더 균형있는 관점(more balanced view)을 제시하였다. 둘째, 이 연구는 혁신실행 분야에서 최초로 혁신에 대한 행위를 다각화함으로써 해당 분야의 이론적 해석범위를 넓혔다. 끝으로, 이 연구는 개인의 욕구와 혁신에 대한 행위간의 세 개의 관계를 차별화, 이론화하고 검증하였으며, 가장 높은 수준의 혁신의 효과성을 달성하는 경로를 찾았다.

또한, 이 연구는 몇 가지 중요한 실무적 함의를 제공하고 있다. 혁신에 대한 사용자의 준수 행위는 혁신의 효과성을 보장하기 위한 가장 기본적인 행위이지만, 보다 높은 혁신의 효과성에 도달하기 위해서 관리자는 사용자(직원)들의 혁신에 대한 협동 및 옹호 행위를 이끌어내야 한다. 특히, 가장 높은 수준의 혁신의 효과성을 얻기 위해, 관리자는 가장 중요한 상황요소인 사회적 기대를 강하게 조성할 수 있는 정책을 제공하고 혁신실행에 대한 분위기를 형성함으로써, 원래 기대하였던 효과 이상을 혁신실행으로부터 얻을 수 있도록 하여야 한다.

이러한 이론적, 실무적 중요성에도 불구하고, 이 연구는 이론 및 실무에 적용하기에 몇 가지 제한점이 있다. 협동과 옹호 행위가 매우 높은 상관관계를 가지고 있기에, 향후 연구에서는 이를 더 명확히 구분할 수 있는 설문항목을 사용해야 할 것이다. 또한, 이 연구는 유교적이고 집단주의적 경향이 강한 한국 직원들을 대상으로 행해졌기 때문에 친애욕구와 사회적 기대가 가장 두드러진 독립변수 및 조절변수로 나왔다. 그러나, 개인주의적 성향이 더 강한 서구 샘플을 가지고 다시 행해진다면 다른 의미있는 결과를 얻을 수 있을 것이다.

요컨대, 현대의 모든 조직에 있어서 혁신은 선택이 아닌 필수이다. 따라서, 이 연구에서 제시한 다면적인(multifaceted) 혁신실행 모형에 대한 이해를 통해 기업은 직원들로 하여금 높은 수준의 혁신의 효과성을 달성할 수 있도록 도와줄 수 있을 것이다.

주요어: 혁신실행, 맥클래랜드 욕구이론, 혁신준수, 혁신협동, 혁신옹호, 혁신결과

학 번: 2009-30134