

**INDIVIDUAL INNOVATION IN THE WORKPLACE: THE ROLE
OF PERFORMANCE AND IMAGE OUTCOME EXPECTATIONS**

A Dissertation

by

FEIRONG YUAN

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2005

Major Subject: Management

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ABSTRACT

Individual Innovation in the Workplace: The Role of Performance and Image Outcome Expectations. (August 2005)

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Chair of Advisory Committee: Dr. Richard W. Woodman

Why do people engage in innovative behavior in the workplace? More specifically, what motivational reasons affect an employee's decision to introduce new product ideas, apply new work methods, and suggest new ways to achieve objectives? Based on the efficiency-oriented perspective and the social-political perspective in understanding innovation, I hypothesize and test expected positive performance outcomes, expected image risks, and expected image gains as proximal determinants of individual innovative behavior at work, and examine how they mediate the effects of more distal antecedents. Adopting a contingency approach, I also examine the explanatory power of performance and image outcome expectations under different reward contingency situations.

The theoretical framework was tested in a field study. I found a significant positive effect of expected positive performance outcomes and a significant negative effect of expected image risks on employee innovative behavior. Five distal antecedents (perceived organization support for innovation, supervisor relationship quality, innovativeness as job requirement, reputation as innovative, and dissatisfaction with the status quo) had indirect effects on innovative behavior by either increasing expected

positive performance outcomes or reducing expected image risks, or both. The effect of expected positive performance outcomes was stronger when perceived performance-reward contingency was high. The effect of expected image risks was stronger when perceived image-reward contingency was high. Implications were discussed in terms of building a multiple-perspective framework for understanding innovative behavior and designing managerial strategies to encourage employee innovativeness.

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INTRODUCTION

Few issues have been characterized by as much agreement as the importance of innovation for social development and organizational effectiveness (e.g., Van de Ven, 1986; Wolfe, 1994). In particular, employee innovativeness is an important asset that enables an organization to constantly adapt to a changing environment and establish competitive advantages in strategic competition (Kanter, 1983; West & Farr, 1990a). A review of the innovation literature, however, suggests that most existing research and theoretical development are at the organizational level. We are still far from a good understanding of *why* individuals engage in innovative behaviors (Bunce & West, 1995; West & Farr, 1989).

A review of the existing literature on individual innovation reveals three major limitations. First, there is a lack of systematic examination of antecedents to individual innovation. Individual traits (Howell & Higgins, 1990) and values (Ettlie & O'Keefe, 1982) as well as a variety of contextual factors such as culture or climate (Kanter, 1988; Scott & Bruce, 1994; West & Wallace, 1991), organization structure (Aiken, Bacharach, & French, 1980), job characteristics (Munton & West, 1995), and socialization tactics (Black 1992; Jones, 1986) were identified as important antecedents to individual innovation in the workplace. However, those antecedents have mostly been studied in a fragmented manner. Few studies have examined antecedent factors in an integrated fashion based on established theories of individual behavior.

This dissertation follows the style and format of the *Academy of Management Journal*.

Second, few studies have directly tested the intermediate processes through which individual and contextual antecedents impact individual innovation. Farr and Ford (1990) posited a conceptual model of individual role innovation. They identified three motivation factors (perceived need for change, self-efficacy, perceived payoff from change) and one ability factor (technical knowledge) as proximal antecedents to innovative behaviors. Yet, few studies have directly tested the effects of those perceptions and expectations on individual innovation and how those more proximal antecedents mediate effects of more distal factors such as individual differences and organization characteristics. Scott and Bruce's (1994) study was the first attempt to systematically examine the antecedents to individual innovative behaviors since West and Farr's (1989) call for more individual innovation research. In their study, the authors examined how contextual factors such as leader-member exchange and individual difference variables such as different problem-solving styles impact individual innovative behaviors through the perceptions of organization climate for innovation. Organization climate was conceptualized as a cognitive interpretation of an organizational situation, which affects individual innovative behaviors because it signals expectations for behavior and potential outcomes of behavior (Scott & Bruce, 1994). It is an important study that integrated a number of antecedents to individual innovation. But still, like the majority of other innovation studies, the processes of how organizational climate for innovation impacts individual expectations were not directly tested in the study. The lack of research on intermediate processes limits our

understanding of exactly *how* and *why* different individual differences and contextual variables affect individual innovation.

Finally, most innovation research has followed a “rational” efficiency-oriented model, which assumes that organizations make rational decisions in adopting innovation to maximize their efficiency gains (Abrahamson, 1991; Wolfe, 1994). Such an efficiency-oriented perspective is in part responsible for the pro-innovation bias (i.e., innovation is beneficial for organizations/individuals) in the existing literature (Farr & Ford, 1990; Kimberly 1981; King, 1990; Van de Ven, 1986). Recently, some researchers have started to pay attention to social-political processes in innovation (Dean, 1987; Dyer & Page, 1988; Wolfe 1994). Yet unfortunately, most of those studies are focused at the organizational level and more specifically on innovation adoption decisions by firms (Arndt & Bigelow, 2000; Tolbert & Zucker, 1983; Westphal, Gulati, & Shortell, 1997). Although there is anecdotal evidence suggesting the importance of social-political issues such as image consideration and impression management for individual innovative behaviors (e.g., Sutton & Hargadon, 1996; West, 1989), such considerations have largely been ignored in the individual innovation literature. The focus of previous innovation studies on R&D samples where individual innovative behaviors are fully legitimized is another reason why image and legitimacy issues are under-addressed in the existing literature.

To gain a better understanding of the effects of antecedent factors and to explore intermediate psychological processes we need to examine what motivational reasons affect people’s innovative behavior in the workplace. In this dissertation, I propose and

test a model of individual innovation in the workplace to answer this question. Specifically, I hypothesize and test the effects of expected performance outcomes and expected image outcomes on employee innovative behavior. Expected performance outcomes are an individual's expectations of how his or her innovative behaviors would affect the performance or efficiency of the individual's work role or unit. Expected image outcomes are an individual's expectations about how his or her innovative behaviors would affect other organization members' perceptions of him or her. The effects of expected performance and image outcomes on individual innovation represent the efficiency-oriented and social-political perspectives in understanding innovation, respectively. Moreover, I test how contextual and individual difference factors affect individual innovation indirectly through their impacts on these performance and image outcome expectations. Adopting a contingency approach, I also hypothesize and test the moderating effects of perceived reward contingencies on the relationship between these outcome expectations and employee innovative behavior.

An examination of the proposed model should contribute to the existing literature in multiple ways. First, this study is among the first attempts to hypothesize and test the intermediate motivation processes that lead to individual innovative behavior. Findings regarding these proximal processes will help to clarify the processes by which more distal contextual and individual factors affect employee innovation, and will also point out directions for identifying other relevant but less addressed antecedents. Secondly, by testing the effect of image outcome expectations on innovative behavior, this study contributes to the literature by directly exploring the social-political side of employee

innovation beyond the traditional efficiency-oriented model. Moreover, this dissertation adopts a contingency approach to incorporate both the efficiency-oriented perspective (represented by the impact of performance outcome expectations) and the social-political perspective (represented by the impact of image outcome expectations). Testing the moderating effects of reward contingencies will further our understanding of the powers of both perspectives in explaining employee innovation in different situations and provide insights on the impact of organization reward systems on employee innovation. Finally, the proposed model will provide a preliminary framework to integrate various contextual and individual antecedents of innovative behavior based on theory of individual motivation and actions.

I hypothesize the effects of performance and image outcome expectations after a discussion of the definition of individual innovative behavior. Then, I discuss how distal contextual and individual difference antecedents influence these outcome expectations and therefore innovative behavior. Following that, the contingency hypotheses are proposed. In the methods section, I describe the sample and procedure (pilot study and field study) as well as information about the measures. The results section is followed by a discussion of theoretical and managerial implications of the findings as well as avenues for future research.

INDIVIDUAL INNOVATIVE BEHAVIOR

Based on West and Farr's (1989, 1990b) definition of innovation, individual innovative behavior is defined as the intentional behavior of an individual to introduce and/or apply new ideas, products, processes, and procedures to his or her work role, unit, or organization. Examples of employee innovative behavior include introducing new technologies and techniques, suggesting new ways to achieve objectives, trying new ways of performing work tasks, and facilitating the implementation of new ideas.

Several points in the definition are worth noting. First, individual innovative behaviors include behaviors pertaining to both the introduction and the application or implementation of the new ideas, products, processes, and procedures. This definition thus includes a variety of behaviors pertaining to the innovation processes.

Second, this definition incorporates both technical innovations (the introduction and/or application of new technologies, products, and services) and administrative innovations (the introduction and/or application of new procedures and policies) (Van de Ven, 1986). Technical innovations are innovations that occur in the primary work activity of the organization; administrative innovations are innovations that occur in the social system of an organization (Daft, 1978; Damanpour & Evan, 1984). Examples of technical innovation include the implementation of an idea for a new product or the introduction of new elements in an organization's production process. Examples of administrative innovation include the implementation of new policies of recruitment, allocating resources, and reward. Individual innovative behaviors could be behaviors

pertaining to the introduction and/or implementation of both technical and administrative innovations.

Third, the “new” ideas, products, processes, and procedures being introduced or implemented do not have to be absolutely new to the field. They only need to be new to the relative unit of adoption. For example, an employee is innovating when he introduces to his organization an IT technology that has not been used in his organization before. This technology, though, doesn’t have to be a new invention and could have been used in other organizations. And finally, innovative behaviors include not only those behaviors leading to innovations within the individual’s work role but also behaviors that initiate or facilitate innovations in higher level units such as the individual’s work group, department, or the entire organization.

Several similar constructs exist in the literature. A brief discussion about how those constructs are similar to and different from the construct of individual innovative behavior will prevent potential confusion and further our understanding of innovative behavior. One similar construct is individual creative behavior. Creativity refers to the production of novel and useful ideas, products, or processes (Amabile, 1988; Oldham & Cummings, 1996; Shalley, 1995; Woodman, Sawyer, & Griffin, 1993). Individual creative behaviors are behaviors pertaining to the generation of such novel and useful ideas, products, or processes. Creative behavior is closely related to innovative behavior in that it can be considered as one type of innovative behavior. However, innovative behaviors include a broader range of behaviors in addition to creative behaviors. For one thing, innovative behaviors include both the introduction of self-generated ideas

(creative behavior) and the introduction of new ideas generated by other people and organizations. Creativity requires absolute novelty of the idea whereas innovation only requires relative novelty of the idea to the unit of adoption (King, 1990; Woodman, Sawyer, & Griffin, 1993). Therefore, adopting a new policy from another organization to the current organization would be innovative but not creative. Also, the definition of creativity includes an inherent requirement for the idea or product to be useful. The phenomenon of innovative behavior, though, doesn't include a usefulness judgment in itself. An innovative attempt could result in different possible consequences for the organization. Yet an ineffective innovation is still an innovation. Also, creative behavior concerns the generation of ideas whereas innovative behavior includes both the generation or introduction and the application or implementation of the new ideas (Amabile, 1988; Scott & Bruce, 1994; Zhou, 1998, 2003).

Another related concept is role innovation. Role innovation is the introduction of significant new behaviors into a pre-existing role (West, 1987a, 1987b). Role innovation is usually studied in the context of job change and relocation (e.g., Allen & Meyer, 1990; Ashford & Saks, 1996; Munton & West, 1995; Nicholson, 1984; West & Rushton, 1989). The reference for comparison in role innovation is the "pre-existing role." It is considered as role innovation if the way the current job incumbent does her job is different from the way the previous job incumbent did it or from the way other people currently do the same job in the same organization. Role innovation is related to innovative behavior in that introducing new behaviors and procedures into an existing work role is one type of innovative behavior. However, these two constructs are still

different. Role innovation only changes procedures or processes within an individual's work role. Innovative behaviors, however, pertain to innovations occurring not only in the work role but also in the department, unit, and the organization. In addition, not all innovative behaviors can be considered as role innovation. For example, generating new ideas and products is part of the job for some organizational positions (e.g. the R&D department). People occupying those job positions routinely introduce new products and procedures into the organization and therefore frequently engage in innovative behavior. However, since introducing new ideas is part of their existing job or work role, those behaviors are not considered as role innovation.

The construct of "taking charge" is proposed by Morrison and Phelps (1999) as the voluntary and constructive efforts, by individual employees, to effect organizationally functional change with respect to how work is executed within the context of their jobs, work units, or organizations. The construct of taking charge is related to innovative behavior in that both constructs involve changes initiated by individuals. In addition, some taking charge behaviors such as voluntary introduction of new procedures into the organization can be considered as innovative behaviors. However, those two constructs are different in the following ways. First, taking charge is defined as one type of extrarole behavior. Innovative behaviors, on the other hand, can include both extrarole behaviors and job- required behaviors. Second, not all taking charge behaviors are innovative behaviors. Taking charge does not necessarily involve the introduction of novel ideas and processes. For example, taking charge behaviors such as eliminating existing procedures are not considered as innovative behaviors. Finally,

the notion of taking charge is focused on behaviors that bring about change in organization processes. Innovative behavior, on the other hand, can affect both the process aspect of the organization (administrative innovation) and the technology aspect of the organization (technical innovation).

Another similar construct is personal initiative. Frese, Kring, Soose, and Zempel (1996: 38) defined personal initiative as “a behavior syndrome resulting in an individual’s taking an active and self-starting approach to work and going beyond what is formally required in a given job. More specifically, personal initiative is characterized by the following aspects: it (1) is consistent with the organization’s mission; (2) has a long-term focus; (3) is goal-directed and action-oriented; (4) is persistent in the face of barriers and setbacks, and (5) is self-starting and proactive.” Some behaviors such as voluntarily suggesting new ideas to the organization can be considered as both personal initiative and innovative behaviors. However, not all personal initiative behaviors are innovative behaviors. Personal initiative includes both quantitative and qualitative initiatives. Quantitative initiative refers to activities that only require additional energy. Those activities do not introduce or apply new ideas, products, and procedures into the workplace and therefore are not innovative behaviors. Moreover, personal initiative emphasizes the voluntary nature of the behavior whereas innovative behaviors do not have to be beyond the formal job requirement.

Yet another related construct is issue selling, which refers to the process by which individuals affect others’ attention to and understanding of the trends, developments, and events that have implications for performance (Ashford, Rothbard,

Piderit, & Dutton, 1998; Dutton & Ashford, 1993; Dutton, O'Neill, & Lawrence, 2001).

Both issue selling and innovative behaviors involve intentional individual efforts to bring about change in the workplace. However, whereas issue selling calls attention to problems or opportunities, it might not offer suggestions about how to address those problems or opportunities, nor does it entail efforts to implement solutions (Morrison & Phelps, 1999). Moreover, those issues being sold need not be new to the organization. They could be existing issues that have not been paid attention to.

In sum, creative behavior, role innovation, taking charge, personal initiative, and issue selling are all related to but different from the construct of individual innovative behavior. Differentiating these constructs will further clarify the concept of individual innovative behavior. At the same time, the existing similarities suggest the possibility that the literatures devoted to these related constructs could inform research on innovative behaviors.

PERFORMANCE AND IMAGE OUTCOME EXPECTATIONS

Why do employees innovate in the workplace? A piece of wisdom repeated by learning theories and motivation theories is the importance of outcome expectations in determining human behavior. The operant conditioning theory of learning emphasizes the importance of the Law of Effect, which says behavior that appears to lead to a positive consequence tends to be repeated, while behavior that appears to lead to a negative consequence tends not to be repeated (Thorndike, 1911). Bandura's social learning theory (1977) further suggested that people learn about the consequences expected for certain behaviors not only from their own experiences but also from observing others. Taken together, operant conditioning theory and social learning theory suggest that people develop outcome expectations either from direct experiences or from vicarious learning. Those outcome expectations, in turn, guide their future behavior.

The important impact of outcome expectations on behavior is more directly addressed in Vroom's expectancy theory of motivation (1964). The well-known expectancy theory of motivation proposes that an individual's motivational force to perform an act is determined by the strength of his expectancies that the act will be followed by the attainment of certain first-level outcomes (expectancy), that these first-level outcomes will lead to certain second-level outcomes (instrumentality), and the value of these second-level outcomes (valence). The importance of outcome expectations is captured by the concept of "expectancy," which is a subjective belief concerning the likelihood that a behavior will lead to particular first-level outcomes. A similar discussion of the importance of outcome expectations in affecting individual

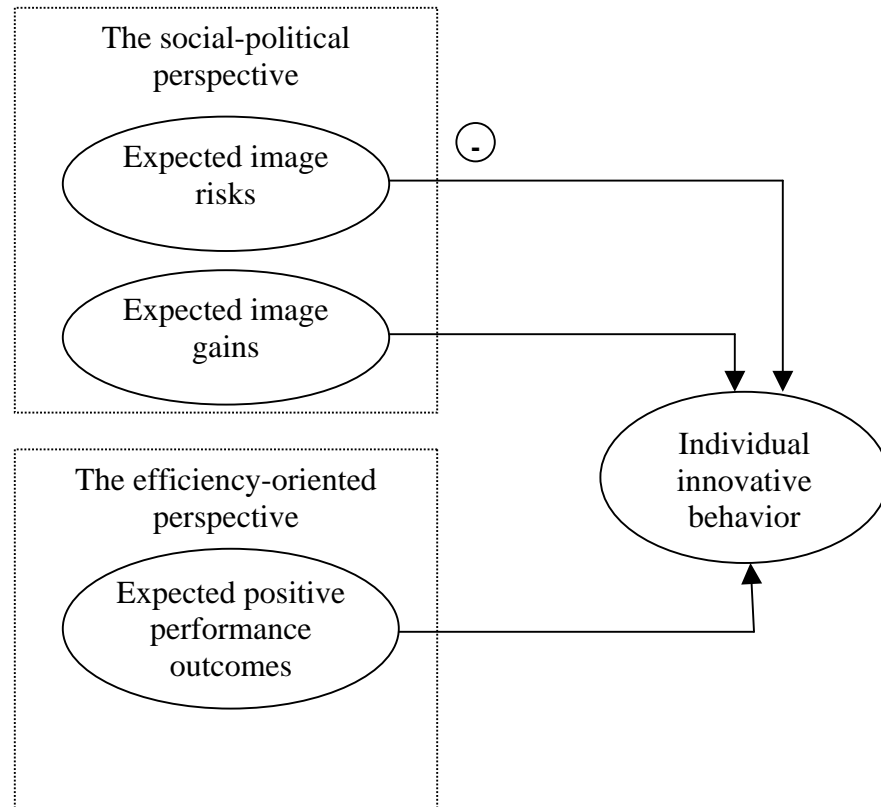
behavioral intentions can also be found in Ajzen and Fishbein's theory of reasoned action (1980).

Outcome expectations guide behaviors. In the particular case of individual innovative behavior, what are the major outcome expectations that affect individual innovation at work? I contend that two major types of outcome expectations will impact people's decision to engage in such behaviors: expected performance outcomes and expected image outcomes. Expected performance outcomes are an individual's expectations of how his or her innovative behaviors would affect the performance or efficiency of the individual's work role or unit. Expected image outcomes are an individual's expectations about how his or her innovative behaviors would affect other organization members' perceptions of him or her.

The typology of performance versus image outcomes at the individual level could be roughly compared to the differentiation between organization efficiency and legitimacy as suggested by institutional theory (Meyer & Rowan, 1977). From the institutional perspective organizations compete for social as well as economic fitness (DiMaggio & Powell, 1983). While economic fitness or organization efficiency enhance the organization's profits and competitive advantages, social fitness brings legitimacy which will help the organization gain resources, stability and hence survival. Recently, several studies have brought such an institutional perspective into the study of innovation processes by emphasizing the impacts of both potential efficiency outcomes and potential legitimacy outcomes on innovation adoption decisions. For example, Tolbert and Zucker (1983) found that early adoption of civil service is related to internal

organizational requirements while late adoption is related to institutional definitions of legitimate structural form. Similarly, Westphal, Gulati, and Shortell (1997) found that early adopters customize TQM practices for efficiency gains, while later adopters gain legitimacy from adopting the normative form of TQM programs. Results from both studies suggest that an organization's decision to adopt an innovation is influenced by both internal efficiency considerations (i.e., the efficiency outcome) and external legitimacy considerations (i.e., the image outcome). Those results not only support the importance of considering both outcomes in the innovation process but also suggest that their relative impact on innovation adoption will vary across situations.

Abrahamson (1991) developed a typology that includes the dominant efficient choice paradigm and other less dominant perspectives that can be used to guide innovation research. The dominant paradigm is the efficient choice perspective (i.e., the efficiency-oriented perspective), which posits organizations as rational actors who always adopt innovations that can improve organization efficiency or performance. In contrast, two other perspectives – the fashion and fad perspectives – emphasize the importance of social-political processes by suggesting that organizations sometimes adopt innovations for their symbolic meaning, such as signaling innovativeness, rather than to boost organizations' economic performance. The impacts of expected performance outcomes and expected image outcomes on individual innovative behavior represents the efficiency-oriented and the social-political motives for employee innovation, respectively (see Figure 1).

FIGURE 1**Outcome Expectations and Individual Innovative Behavior**

Note: Except for those marked with negative signs, all links in the model are hypothesized to be positive.

Expected Performance Outcomes: The Efficiency-Oriented Perspective

Consistent with the efficiency-oriented perspective in understanding innovation, one major reason people innovate is to bring performance gains. Although assumed to be the major motivational reason in this dominating paradigm, few studies have directly tested the effect of such expected performance outcomes on innovative behavior. In this dissertation, I provide a formal definition of such outcome expectation and hypothesize and test its effect on individual innovation at work.

Expected performance outcomes are positive when an individual believes that his or her innovative behaviors will bring performance improvement or efficiency gains for his or her work role or work unit. Such performance improvement and efficiency gains represent the technical function of innovative behaviors. The concept of efficiency usually refers to an input-output ratio or comparison (Ostroff & Schmitt, 1993; Pennings & Goodman, 1977). Here I define efficiency broadly, as institutional theory has, and use the term synonymously with “performance.” Examples of positive performance outcomes include increased productivity and work quality, decreased error rate, increased ability to achieve goals and objectives, and general improved job performance.

People may use innovative behaviors to bring performance improvement and efficiency gains in two ways. On the one hand, they may introduce innovations to solve an existing performance problem. For example, a secretary may want to introduce a more efficient new filing system into his work role because he could not finish his increased workload using the old system. This problem-driven approach is consistent with the traditional model of change where changes are evoked by existing problems

(Cummings & Worley, 2005). On the other hand, people may feel inclined to introduce innovations because they see potential opportunity to enhance efficiency. In other words, people can be motivated to engage in innovative behaviors to further improve performance or efficiency without necessarily perceiving existing performance problems. For example, a high-performing employee may want to introduce a new work technique because he or she perceives opportunities to further improve efficiency. An excellent teacher may want to try new instructional methods to further improve class time quality. Compared with the problem-driven approach this latter approach is consistent with the more contemporary vision-guided change model (Cooperrider & Srivastva, 1987; Cummings & Worley, 2005; Watkins & Mohr, 2001) and possibility-driven logic of change (Ford & Ford, 1994). In contrast to the traditional philosophy of change, this approach suggests that changes can be initiated not only to solve existing problems but also to pursue further improvement toward an ideal vision.

Improvement in efficiency and performance increases the competitiveness and success of an employee. Whether the purpose is to fix existing performance problems or to explore potential benefits, people will be more likely to engage in innovative behavior if they expect that the introduction of new ideas, products, procedures, or processes would bring positive performance outcomes to his or her work role or unit (see Figure 1). This effect of expected performance outcomes represents the efficiency-oriented perspective in understanding innovation. It suggests that people innovate because they expect positive results in performance gains.

Hypothesis 1: Expected positive performance outcomes are positively related to individual innovative behavior.

Expected Image Outcomes: The Social-Political Perspective

Our reality is, at least in part, socially constructed. Individual behaviors have both technical and symbolic functions. Innovative behavior is not an exception. Regardless of whether the introduction of new ideas or procedures will ultimately improve efficiency or performance the fact of engaging in innovative behaviors signals to the social context information about the actor. This symbolic function of innovative behavior, and therefore the impact of image considerations, has been relatively under-addressed in the literature.

For success and survival, people are trying to be both technically efficient and socially appropriate. Other people's potential perceptions or impressions are important determinants of individual behavior because social impressions influence other people's reactions to the actor and therefore the possibility for the actor to get necessary resources and social support to achieve goals (Leary & Kowalski, 1990; Tedeschi & Riess, 1981). The significant impact of social perceptions and impressions on human behavior is well captured by the following paragraph from Zelditch's (2001: 49) chapter:

“... people both want to and must look right. They want to look right because norms are not only constraining, they are also enabling; they channel the ways in which an actor can accomplish his or her goals in the same way that a system of roads channels how one gets from here to there.

They have to look right because norms also constrain (regulate) behavior.

To the extent that one is dependent on others for resources and rewards, success, even survival, depend on looking right.”

Consistent with the organization level literature of institutional theory (DiMaggio & Powell, 1983; Meyer & Rowan, 1977) and the fashion and fad perspectives of innovation (Abrahamson, 1991) expected image outcomes capture people’s concern for social and political consequences when they engage in innovative behaviors.

The body of literature in impression management supports the importance of potential image outcomes in determining behavior (e.g., Giacalone & Rosenfeld, 1989; Schlenker, 1980; Tedeschi, 1981). Purposive behaviors are always potential sources of information about the actor and thus may be manipulated for the sake of impression management (Schneider, 1981). Impression management and image considerations have been proposed to influence a variety of behaviors in organizations such as feedback seeking (Ashford, 1986; Ashford & Northcraft, 1992), organization citizenship behaviors (Bolino, 1999; Rioux & Penner, 2001), and issue-selling (Ashford, Rothbard, Piderit, & Dutton, 1998).

In the innovation literature, image concerns and related social-political processes have received growing attention in organizational level studies (Arndt & Bigelow, 2000; Dean, 1987; Dyer & Page, 1988; Tolbert & Zucker, 1983; Westphal, Gulati, & Shortell, 1997). Although image or impression concerns are relatively under-addressed in the individual-level literature, anecdotal evidence exists suggesting its importance in determining individual innovation at work. In West’s study (1989) of innovation among

community nurses, the participating nurses listed “other’s reaction” as the fourth most important barrier that prevents them from being innovative. Specific comments representing such concerns include: “I’m afraid of stepping out of line” (West, 1989: 181). Sutton and Hargadon’s (1996) qualitative study of brainstorming sessions in a product design firm provides further evidence of how employees may engage in innovative behavior for image presentation or impression management purposes. In addition to generating efficient ideas, brainstorming sessions were used by design engineers as “prestige” or “status” auctions. A vivid example was the comments from an industrial designer: “You are probably going to ask me about how brainstorms lead to creative products, but what strikes me is that those engineers treat it as a competition. It’s a competition!” (Sutton & Hargadon, 1996: 706). Design engineers used brainstorming sessions as an opportunity to impress their peers and establish a favorable social image. Thus, the research evidence strongly suggests the importance of expected image outcomes in determining individual innovative behavior.

Expected image outcomes are an individual’s expectations about how his or her innovative behavior would impact other organization members’ perceptions of him or her. In agreement with Ashford, Rothbard, Piderit, and Dutton (1998), I consider expected image outcomes as different from the concept of subjective norm in the theory of reasoned action (Ajzen & Fishbein, 1980). The concept of subjective norm refers to a person’s belief about whether significant others think that he or she should engage in the behavior. Although both are related to potential social outcomes of behavior, expected image outcomes refer to expected perceptions from a potential audience (i.e., other

people in the organization) rather than the concern for the approval or disapproval of significant others. Expected image outcome is also different from the general concept of norm. As social criteria of conduct, norms are but one of many factors affecting an individual's expectations about image outcomes. Other factors such as relationship quality, peer expectations, and job requirements can also influence image outcome expectations.

One basic distinction in impression management is between defensive and assertive impression management (Arkin, 1981; Schlenker, 1980). Tetlock & Manstead (1985:61) provided a good discussion of this distinction: "Defensive impression management is designed to protect an individual's established social image; it is triggered by negative affective states (e.g., embarrassment, shame). Assertive impression management is designed to improve an individual's social image; it is triggered by self-enhancing motives activated by perceived opportunities for creating favorable impressions on others." The difference between avoiding image risks and pursuing image enhancement, therefore, is not only a matter of degree. They represent different affective states and individual motives.

Consistent with the impression management literature, I hypothesize that two major types of image outcome expectations will affect an employee's decision to engage in innovative behavior. First, expected risks of image loss will constrain people from demonstrating innovative behavior. An employee may choose to "play it safe" and avoid being innovative in order to look socially appropriate and to prevent potential image loss. Such a tendency to avoid negative evaluations represents the protective self-presentation

(Arkin, 1981) or defensive impression management motive (Tetlock & Manstead, 1985). In the aforementioned West's study (1989), community nurses' concern of "stepping out of line" represents such a motive to prevent image loss. This self-protective motive suggests that expected image risks will reduce the tendency of an employee to engage in innovative behavior (see Figure 1).

Secondly, people may engage in innovative behaviors as a deliberate effort to improve image. Engaging in innovative behavior to pursue image gain represents the "acquisitive" or assertive impression management motive (Rioux & Penner, 2001). One example will be employees suggesting new ideas to supervisors to appear competent and conscientious. In Sutton and Hargadon's study (1996), design engineers' competitive behaviors in brainstorming sessions represent such a self-enhancing motive. This motive suggests that expected image gains will increase individual innovative behavior at work (see Figure 1). Consistent with the social-political perspective in understanding innovation, both avoiding image risks (the self-protective impression management motive) and pursuing image gains (the self-enhancing impression management motive) emphasize the importance of social-political considerations in determining employee innovative behavior.

Hypothesis 2a: Expected image risks are negatively related to individual innovative behavior.

Hypothesis 2b: Expected image gains are positively related to individual innovative behavior.

OUTCOME EXPECTATIONS AS INTERMEDIATE PROCESSES

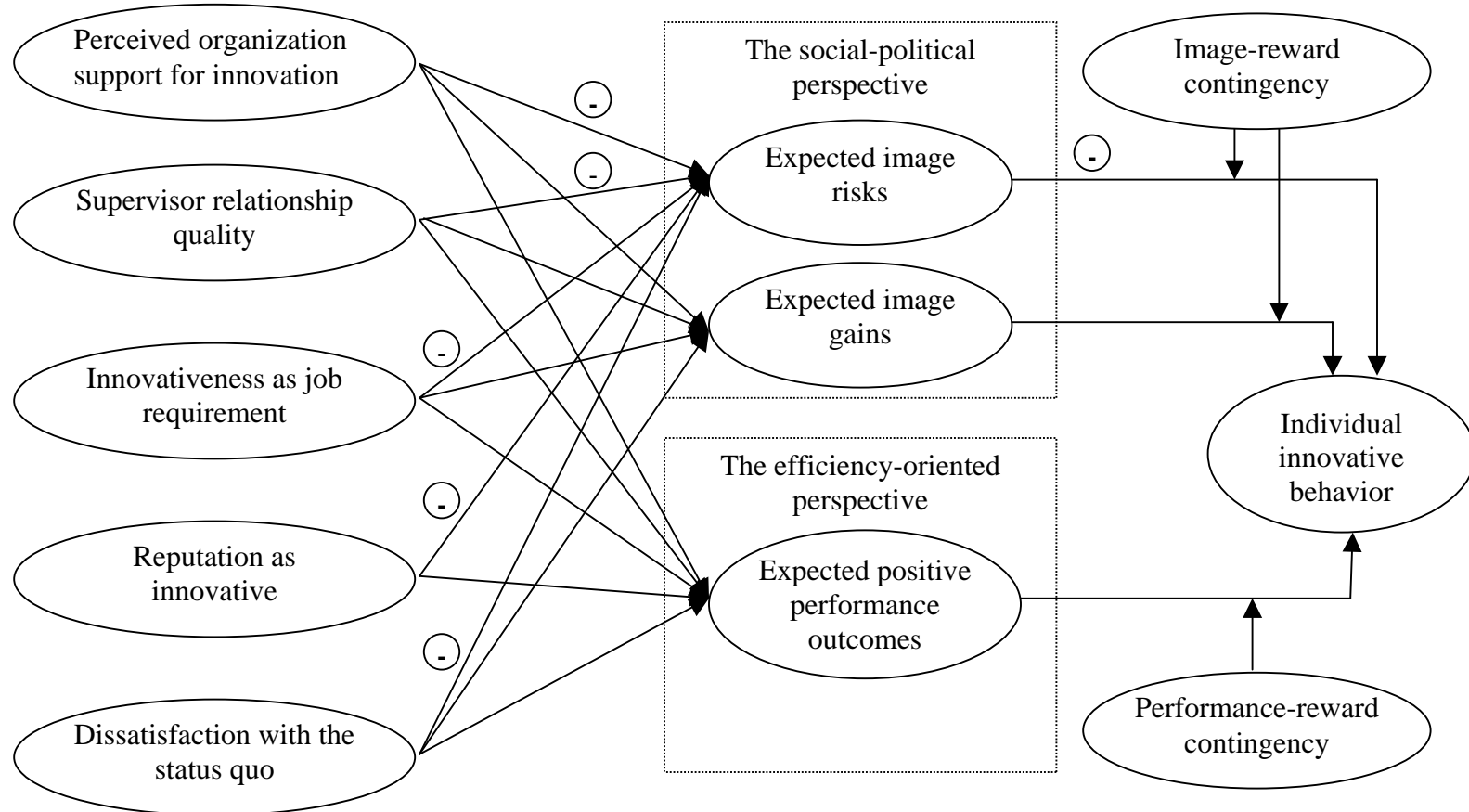
As more proximal determinants, performance and image outcome expectations also serve as intermediate processes by which more distal individual differences and contextual antecedents affect individual innovation (Figure 2). An examination of how distal antecedent factors influence outcome expectations and therefore individual innovative behavior is important for at least two reasons. First, it addresses the question of “how” distal individual differences and contextual factors affect individual innovation by examining the intermediate psychological processes. Second, it explains the sources of variance in performance and image outcome expectations across individuals and situations.

Without the intention to provide an exclusive list I consider the following five distal antecedent factors as especially important: perceived organization support for innovation, supervisor relationship quality, innovativeness as job requirement, reputation as innovative, and dissatisfaction with the status quo. These antecedents were chosen because they are among the most studied in the literature and they represent different angles to understand innovative behavior.

In the following sections, I hypothesize how these five antecedents impact individual innovative behavior indirectly through influencing performance and image outcome expectations. At the same time, I do not exclude other direct effects of these antecedents and will explore these in data analyses.

FIGURE 2

A Model of Individual Innovation in the Workplace



Note: Except for those marked with negative signs, all links in the model are hypothesized to be positive.

Perceived Organization Support for Innovation

Organization support for innovation, which can be manifested in terms of pro-innovation climate, resources, and time allocation, is one of the most important environmental qualities mentioned that promote innovation and creativity (Amabile, 1988; Kanter, 1988). In particular, I propose that performance and image outcome expectations constitute important intermediate processes that explain why such organization support affects innovative behavior.

If the organizational norms favor change, rather than tradition for its own sake, its members will seek to initiate change in order to be culturally appropriate (Farr & Ford, 1990: 73). Likewise, an organization climate that promotes innovation will encourage employee innovative behaviors because such climate legitimates experimentation (West & Wallace, 1991) and reduces image risk involved in such behaviors (Ashford et al., 1998). An organization climate for innovation delivers expectancies and instrumentalities (Scott & Bruce, 1994) so that organization members understand that being innovative is a desirable image. When the organization supports innovation, employees are more likely to engage in innovative behaviors because such behaviors will enhance their images and make them look good. Reduced potential image risks and increased potential image gain encourage people to engage in more innovative behaviors when perceived organization support for innovation is high.

Members in an organization with strong support for innovation may want to engage in more innovative behaviors not only because of the beneficial image outcomes but also because they have higher expectations for positive performance outcomes

resulting from such behaviors. A favorable organization climate for innovation demonstrates the belief that innovation will benefit the organization as a whole. Having such beliefs ingrained in the culture of the organization will influence individual attitudes and beliefs through the organization socialization processes. Moreover, Schneider's (1987) attraction-selection-attrition (ASA) framework suggests people attracted to and remaining in the organization are likely to be those individuals who share beliefs with the organization. Hence, it is logical to expect that, compared with others, people in organizations with pro-innovation climates are also more likely to have pro-innovation individual beliefs. In other words, they are more likely to believe that innovations will benefit the efficiency and performance of their work. Such beliefs in positive performance outcomes serve as another motive for innovative behavior.

Hypothesis 3a: Perceived organization support for innovation is positively related to expected positive performance outcomes associated with innovative behavior.

Hypothesis 3b: Perceived organization support for innovation is negatively related to expected image risks associated with innovative behavior.

Hypothesis 3c: Perceived organization support for innovation is positively related to expected image gains associated with innovative behavior.

Supervisor Relationship Quality

A quality manager-employee relationship has been found as an important contextual factor on individual innovation and creativity (Scott & Bruce, 1994; Tierney, Farmer, & Graen, 1999). I hypothesize that a quality relationship with supervisor will

influence innovative behavior indirectly through its influence on performance and image outcome expectations.

A quality relationship with the supervisor will increase an employee's belief that his or her innovative behavior will result in performance/efficiency gains. Leader-member exchange (LMX) theory (Dansereau, Graen, & Haga, 1975; Graen, 1976; Graen, Novak, & Sommerkamp, 1982) suggests that subordinates who have high-quality relationships with their supervisors are given greater resources (e.g., privileged information) and decision latitude in return for greater loyalty and commitment. Such a high-quality supervisor relationship, therefore, provides additional resources and support to facilitate the subordinate's innovative behavior and increases the odds that it will be successful. Hence, employees with high-quality supervisor relationships are more likely to be confident that their innovative behavior will result in performance and efficiency gains.

Innovative behaviors are risky behaviors that break the routine by introducing something new. A quality relationship with the supervisor will also increase potential image gains and reduce concern for image risks by inducing more favorable perception and attribution processes by the supervisor. When there is a mutual liking and trust relationship existing between an employee and his or her supervisor, the supervisor is likely to perceive the innovative behavior of the employee as more meaningful and significant and therefore increase the possibility of image gains. We see things as we want them to be. Desire and motivation of the perceiver influence what he or she perceives (Gilbert, 1998; Markus & Zajonc, 1985; Postman, Bruner, & McGinnies,

1948). Research evidence from performance evaluation studies shows that supervisors tend to evaluate the employees they like and trust in a more positive way (Cardy & Dobbins, 1986; Judge & Ferris, 1993; Wayne & Liden, 1995). When a supervisor likes and trusts the employee, he or she is more likely to think positively about the employee's ideas and believe such ideas are meaningful and significant (Zhou & Woodman, 2003). Therefore, when perceiving a good relationship with the supervisor, an employee will feel more confident that his new ideas will receive acceptance and favorable evaluations from his supervisor, resulting in higher possibilities for image gains.

Quality relationships with supervisors will also induce more favorable attribution processes and therefore reduce potential image loss. Research on attributions indicates that when the observer likes or empathizes with a target person, he or she is more likely to attribute positive outcomes to the target person's dispositional causes and negative outcomes to situational causes (Green & Mitchell, 1979; Regan, Straus, & Fazio, 1974; Regan & Totten, 1975). We expect good people to perform good actions, and bad people to perform bad actions. Thus when liked actors do good things or disliked actors do bad things, we attribute the action to characteristics of the actor. In contrast, when liked actors do bad acts or disliked actors do good acts we tend to attribute those actions to factors external to the actor (Heider, 1958). Ashford, Rothbard, Piderit, and Dutton (1998) also found that relationship quality between the respondent and the group to whom a female manager would have to sell an issue was negatively related to perceived image risk in issue selling. Therefore when perceiving a good relationship with the

supervisor, employees feel more secure and expect less image risk from engaging in innovative behaviors.

Hypothesis 4a: Supervisor relationship quality is positively related to expected positive performance outcomes associated with innovative behavior.

Hypothesis 4b: Supervisor relationship quality is negatively related to expected image risks associated with innovative behavior.

Hypothesis 4c: Supervisor relationship quality is positively related to expected image gains associated with innovative behavior.

Innovativeness as Job Requirement

The requirements of a job have been suggested as an activating force for innovation (Kanter, 1988) and an important factor in employee creativity (Shalley, Gilson, & Blum, 2000; Tierney & Farmer, 2002). I propose that one mechanism through which perceived job requirement for innovativeness encourages individual innovation is by its influences on both expected performance and image outcomes.

People who consider innovativeness as part of their job requirement will perceive a stronger linkage between their innovative behavior and their job performance. I conceptualize this job requirement construct as a subjective perception of the job incumbent. Thus, such a perception is determined not only by the objective nature of the job position (e.g., R&D scientists versus technicians) but also by the subjective attitude of the job incumbent, which can be influenced by factors including but not limited to the job incumbent's social environment as suggested by the social information processing

theory (Salancik & Pfeffer, 1978). When innovativeness is considered as part of the job requirement, such innovativeness would likely to be considered as contributing to better job performance. In this situation, innovative behaviors are more likely to be considered as necessary to accomplish the job and lack of innovativeness could lead directly to deficiency in performance. In contrast, one reason that people who do not consider innovativeness as part of their job are less innovative is because they do not expect such behavior to benefit their work.

Perceived innovativeness as a job requirement will also encourage innovative behavior by reducing the concerns for image risks and increasing the expectations for image gain. First, it makes innovative behaviors officially legitimized and socially appropriate. The job requirement serves as a contextual influence that justifies the job incumbent's innovative behavior. Thus, job incumbents do not need to provide special reasons to explain their innovative behaviors and do not need to be concerned about being perceived as behaving inappropriately. Second, research evidence shows that an audience is less critical and more receptive to change-initiated behaviors from people whose functional background or job position supports their behaviors. For example, Ashford and colleagues (1998) found that functional background-issue fit negatively related to image risk from selling issues. Similarly, Daft (1978) found that organizations appeared to adopt a larger number of technical ideas from professionals (in that case, teachers) and administrative ideas from administrators. Following the same logic, managers and fellow coworkers will be more receptive to the innovative behaviors of job incumbents in innovativeness-required positions and will consider their new ideas as

more valid and well-grounded, resulting in lower image risk and higher potential of image gain for the innovators.

Hypothesis 5a: Innovativeness as job requirement is positively related to expected positive performance outcomes associated with innovative behavior.

Hypothesis 5b: Innovativeness as job requirement is negatively related to expected image risks associated with innovative behavior.

Hypothesis 5c: Innovativeness as job requirement is positively related to expected image gains associated with innovative behavior.

Reputation as Innovative

People are considered as more socially appropriate and legitimate when their behaviors match other's categorizations and expectations (Zelditch, 2001). The impression management literature suggests that the impressions people try to create are affected by their current social image (Leary & Kowalski, 1990; Schlenker, 1980). Behaviors consistent with expectations and reputations (especially desirable ones) are socially legitimized, and behaviors against those expectations run the risk of being frowned upon.

Employees who are not expected to be innovative may hesitate to engage in innovative behavior because they are afraid to act against social expectations and to be considered as "weird" and "out of line." In contrast, an individual who enjoys the reputation of innovativeness among his fellow workers will be more likely to engage in innovative behavior because his or her reputation serves to legitimize the behavior and

reduce concerns for inappropriateness. Therefore, having such a reputation will encourage innovative behavior by reducing concerns for image loss.

In addition, people who enjoy a reputation for being innovative are also more likely to internalize the value of innovation and are more likely to believe that innovative behavior will benefit their work. A reputation as innovative builds into one's self-identity. Once an individual views or identifies herself as an innovative person, her self-esteem will reinforce the positive view of innovation, strengthening the belief that innovations will make meaningful contributions to performance or work efficiency.

A reputable innovative person, though, may not necessarily expect that being innovative will further improve his or her image. Therefore, I don't expect this reputation factor to affect expected image gains. Hence, I predict:

Hypothesis 6a: Reputation as an innovative person is positively related to expected positive performance outcomes associated with innovative behavior.

Hypothesis 6b: Reputation as an innovative person is negatively related to expected image risks associated with innovative behavior.

Dissatisfaction with the Status Quo

Dissatisfaction with the status quo is an important factor that makes people aware of the need to change (Farr & Ford, 1990) and the value of introducing new ideas, products, procedures, or processes. Zhou and George (2001) found that job dissatisfaction, when coupled with continuance commitment, supportive coworkers, and organization support for creativity, can lead to higher employee creativity. Likewise,

Schein (1971) suggested that role innovation in a profession may come about either because of changes in the environment or a misfit between individual value systems and the role demands of the job, which causes dissatisfaction. In the present study I define dissatisfaction with the status quo as an individual's dissatisfaction with the current performance or efficiency condition of his or her work unit or organization.

Dissatisfaction undermines the value of maintaining the status quo and increases the necessity for introducing something new to improve the current situation.

Dissatisfaction with the status quo could arise for a variety of reasons such as unfavorable performance evaluation, social comparison, environmental changes, personality traits (e.g., neuroticism), and the discovery of potential improvement opportunities. Such dissatisfaction strengthens people's beliefs that new ideas, products, procedures, or processes will improve efficiency (expected positive performance outcomes), leading to more innovative behaviors.

A less satisfactory performance condition of the work unit or organization also serves to justify the innovative action, reducing image risks and increasing the chances of image gain. Change is often more legitimized under conditions where performance is below the targeted level, or perceived as a failure (Lant & Mezias, 1992). This is consistent with the common outcomes of trial and error adaptation; behavior that is associated with success tends to be repeated (not changed), whereas behavior that is associated with failure tends not to be repeated (Levitt & March, 1988). Poor performance is a strong force for counteracting persistence to an established mode of operating (Tushman & Romenelli, 1985), making it easier to break down resistance and

reducing potential criticisms and image risks associated with “rock-the-boat” innovative behaviors. Moreover, a less satisfactory performance condition of the organization also provides an opportunity for self-enhancement. When the work unit or organization is less effective, people are more likely to get credit for introducing new technologies and suggesting new ways to achieve objectives. In this situation, innovative behaviors are more likely to be welcomed and accepted in the social context. And people who demonstrate these behaviors will be more likely to be considered as conscientious and competent (if not heroic), increasing the potentials for image gain.

Hypothesis 7a: Dissatisfaction with the status quo is positively related to expected positive performance outcomes associated with innovative behavior.

Hypothesis 7b: Dissatisfaction with the status quo is negatively related to expected image risks associated with innovative behavior.

Hypothesis 7c: Dissatisfaction with the status quo is positively related to expected image gains associated with innovative behavior.

A CONTINGENCY APPROACH

The effects of expected performance and image outcomes on individual innovative behaviors may also vary across situations. Expectancy theory of motivation (Vroom, 1964) suggests that the importance of a particular expected first-level outcome is influenced by the likelihood to which this first level outcome will lead to second-level outcomes that are valued by the focal person (i.e., instrumentality). In the particular case of innovative behavior, I propose that the effects of performance and image outcome expectations will be moderated by the likelihood to which these outcomes are related to an employee's success and survival in an organization. Specifically, two moderators are proposed (see Figure 2). One is perceived performance-reward contingency, which refers to the perceived relationship between job performance and an employee's rewards and success in the organization. The other is perceived image-reward contingency, which refers to the perceived relationship between image and an employee's rewards and success in the organization.

People will be more likely to engage in innovative behavior when they expect such behavior to improve the performance of their work role or work unit. However, a higher level of job performance and efficiency may not always lead to important organizational outcomes desired by an employee. In particular, the motivational effect of such expected positive performance outcomes will be stronger when an employee perceives a close relationship between an effective job performance and their personal rewards and success in the organization (e.g., salary, promotion).

As a subjective perception, this performance-reward contingency will be affected by both differences in organization reward policies/practices and individual differences in personalities and attitudes. Organization rewards do not always vary based on job performance. Some employees are paid on hourly bases. Some employees are working on a fixed salary. Bonuses may become unavailable due to deficient organization performance or a less favorable economic condition. Promotions may be contingent on seniority rather than merit, and promotion opportunities may not be available to all types of employees. Individual differences may also come into play. One relevant individual trait is locus of control, which refers to the perception by an individual of his or her ability to exercise control over the environment (Rotter, 1966). Those characterized by an internal locus of control believe they have control over their environment and their personal successes, whereas those with an external locus of control view their lives as controlled by external factors such as chance or powerful others. Therefore, even in the same organization environment, employees with an internal locus of control may perceive a stronger link between their job performance and their success than others with an external locus of control.

H8: Perceived performance-reward contingency will moderate the relationship of expected positive performance outcomes and individual innovative behavior such that the effect of expected positive performance outcomes will be stronger when perceived performance-reward contingency is higher.

An employee will be more likely to engage in innovative behavior when expected image risks are low and expected image gains are high. Similarly, the effects of these image expectations on innovative behavior will be based on the extent to which a good image matters in a particular situation. This perceived image-reward contingency, again, will vary across both different organizational contexts and different individuals. Social and political images will be more critical in companies that base rewards heavily on subjective peer reviews than in organizations that base rewards on more objective measures. Also, maintaining a good social image may be more important for success and survival in a highly political organizational context than in others (Kacmar & Ferris, 1991; Leary & Kowalski, 1990). Compared with others, employees who are pursuing a long-term career path within the company (usually full-time employees) may consider maintaining a good image within the organization as more related to their personal goals than others (e.g., part-time employees). And, individuals with certain personalities (e.g., high on need for social approval or public self-consciousness) may place more importance on maintaining social image and are more sensitive to image risks (Buss, 1980; Fenigstein, 1987; Leary & Kowalski, 1990; Rosenfeld, Giacalone, & Riordan, 1995).

H9a: Perceived image-reward contingency will moderate the relationship of expected image risks and individual innovative behavior such that the effect of expected image risks will be stronger when perceived image-reward contingency is higher.

H9b: Perceived image-reward contingency will moderate the relationship of expected image gains and individual innovative behavior such that the effect of expected image gains will be stronger when perceived image-reward contingency is higher.

METHODS

Participants and Procedures

The proposed model was tested via a field survey. Before administering the survey, I pretested the questionnaire with 8 management major Ph.D. students with work experiences in the United States (average work experience = 12 years). I asked each of them in person (meeting from 30 minutes to an hour) for detailed comments on survey items and format and revised the questionnaire based on their feedback. Then, I conducted a pilot survey with 66 full-time MBA students in a public University in the southwestern U.S. and 32 part-time MBA students in a public University in the northwestern U.S. All MBA students participated in the pilot survey for extra class credits. MBA participants were encouraged to comment on questionnaire items. Open space questions were also included at the end of the survey where they commented on the clarity of the questions as well as other aspects of the survey.

Through the pilot survey, I intended to examine the psychometric properties of survey measures (because some measures were developed for this study) and seek further information on the clarity, format, and length of the survey. All survey measures demonstrated good reliabilities and sound factor structures expect for the scale developed to measure dissatisfaction with the status quo. I modified this scale by adding new items and rewriting items. MBA respondents provided valuable comments on the clarity of individual items either in the margins of the questionnaire or in the open space questions at the end. These comments resulted in minor modifications to the wording of some questionnaire items. The pilot survey also suggested (based on my observation

notes and multiple respondents' comments) that the length of the questionnaire might be problematic for field settings. To improve the practicality of the survey, I reduced the length of several scales based on both psychometric properties and content of the items. Modifications after the pilot study resulted in the field questionnaire that later was administered to company employees. Measures in the field questionnaire will be discussed later in the next section.

Participants in the field survey included a cross-section of employees from four U.S. companies in various industries: IT service, software/computer system development, furniture supply manufacturing and designing, and chemical instruments development and manufacturing. Four hundred and twenty-five full-time employees were surveyed (12, 174, 151, and 88 employees from each of the four companies) as well as their supervisors. I deliberately included a mix of employees to increase the variance in some variables (e.g., innovativeness as job requirement) and therefore to increase the statistical power in hypotheses testing.

I discussed and verified the field questionnaire with the company human resource manager (in two companies) or general manager (in two companies) to ensure its clarity. Before administering the survey, each company president sent memos to employees to explain the purpose and confidentiality of the survey and to encourage participation. Questionnaires were administered via company mail to employees who mailed the completed survey back directly to me using business reply envelopes. First-round reminder letters were sent about one week after the survey administration. Two weeks later, a second-round of reminder letters were sent.

Participation was voluntary for all employees, and confidentiality of responses was assured. I received 287 questionnaires, a response rate of 68 percent (response rates in the four participating companies: 67%, 66%, 68%, 69%). There was no significant difference between respondents and nonrespondents with regard to organization membership and job position. The 96 direct supervisors of the 425 employees were also asked to fill out a short questionnaire on subordinate innovative behavior and the leader version of the leader-member exchange (LMX) scale. I received 84 returned questionnaires from supervisors, a response rate of 88 percent. Matching employee and supervisor questionnaires resulted in 238 complete pairs of data. Incomplete questionnaires reduced the final usable sample to 216.

The final sample represents employees in a wide variety of job positions including technicians (about 21%), sales and marketing (about 20%), production foremen and quality control inspectors (about 13%), service representatives (about 7%), R&D scientists and engineers (about 6%), general managers (about 6%), and a variety of other positions such as purchasing agents, accountants, human resource personnel, and shipping/stock clerks (about 27%). The average age of respondents was between 40 and 49 years and 72 percent of the respondents were men. Seventy-eight percent of the respondents had at least some college and 39 percent had at least Bachelor's degrees. Their average organization tenure was 5.57 years and their average tenure on current jobs was 3.26 years.

Measures

Unless noted otherwise, all measurement scales are from 1 (strongly disagree) to 5 (strongly agree).

Individual innovative behavior was measured by 3 items from Scott and Bruce's (1994) innovative behavior scale (Alpha = .70 in that study) and 2 items from George and Zhou's (2001) measure of creative behavior (Alpha = .96 in that study). Each participant's supervisor indicated how characteristic each of the following behaviors was of the employee being rated on a 5-point Likert-type scale (1 = not at all characteristic to 5 = very characteristic): 1) searches out new technologies, processes, techniques, or product ideas; 2) generates creative ideas; 3) investigates and secures funds needed to implement new ideas; 4) suggests new ways to achieve goals and objectives; 5) exhibits creativity on the job when given the opportunity to. Cronbach's alpha was .91 in this study. Objective measures of innovative behavior were not obtained because these indicators (e.g., number of research reports and patents) were largely unavailable for the diverse sample used in this study.

Expected positive performance outcomes are the expectations that innovative behavior will lead to performance or efficiency gains. This variable was measured by 3 items modified from House and Dessler's (1974) outcome expectancy scale. Items include: "The more innovative I am, the better my job performance"; "Coming up with creative ideas helps me do well on my job"; and "My work unit will perform better if I often suggest new ways to achieve objectives". Cronbach's alpha was .77 in this study.

Expected image risks was measured by 3 items adapted from Ashford's (1986, Alpha = .80 in that study) measure of image risk in feedback seeking. Items are: "My co-workers will think worse of me if I often try out new approaches on my job"; "People will think I am crazy if I come up with new ways of doing my job"; and "Other people will think worse of me if I try to change the way things operate within the organization." Cronbach's alpha was .77 in this study.

Expected image gains was measured by 4 items adapted from Ashford et al.'s (1998, Alpha = .91 in that study) measures of image outcomes associated with issue selling. Items include: "If I were to do something innovative, my image in the organization would be enhanced"; "Searching out new technologies or techniques for the organization will make me look good"; "Participating in the implementation of new ideas will improve my images in the organization"; and "Suggesting new ways to achieve goals will improve my supervisor's evaluation of me." Cronbach's alpha was .86 in this study.

Perceived organization support for innovation was measured by 13 items from the support-for-innovation scale used in Scott and Bruce (1994). The original scale in Scott and Bruce's (1994) study included 16 items (Alpha = .92 in that study) measuring three factors: support for creativity, tolerance for differences, and reward-innovation contingency. I excluded the 3 items measuring reward-innovation contingency to avoid the content overlapping between this variable and reward-contingency variables (i.e., performance-reward contingency, image-reward contingency). This scale is a modification and extension of the innovative climate measures developed by Siegel and

Kaemmerer (1978). Sample items include: “Around here, people are allowed to try to solve the same problems in different ways”, and “This organization can be described as flexible and continually adapting to change.” Cronbach’s alpha was .92 in this study.

Supervisor relationship quality was measured by the 7-item leader-member exchange scale (LMX) developed by Graen, Novak, and Sommerkamp (1982). The Cronbach’s alpha for that measure was .90 in Scott and Bruce (1994), .91 in Tierney, Farmer, and Graen (1999), and .93 in Kacmar et al. (1999). Participating employees filled out the member’s version (Alpha = .90) and their corresponding supervisors filled out the leader’s version (Alpha = .82) of the scale. The correlation between employee and supervisor reports was positive and significant ($r = .43, p < .001$), indicating a good quality of the data (Graen, Novak, & Sommerkamp, 1982). In the proposed model, what directly influences outcome expectations is an employee’s perception of his or her relationship quality with his or her supervisor. Therefore, employee reported LMX score was used to measure this variable.

Innovative behavior as job requirement was measured by 5 items developed for this study. Sample items include: “Introducing new ideas into the organization is part of my job,” and “I don’t have to be innovative to fulfill my job requirements (reverse coded)”. Cronbach’s alpha was .85 in this study.

Reputation as innovative was measured by two items developed for this study (Alpha = .80). Items are: “People come to me when they want new ideas,” and “Others in the organization often expect me to contribute innovative ideas.” Cronbach’s alpha was .80 in this study.

Dissatisfaction with the status quo was measured by 3 items developed for this study. Sample items include: “Many things in my department need improvement” and “The performance of my work unit needs to be improved.” Cronbach’s alpha was .75 in this study.

Perceived performance-reward contingency was measured by 4 items adapted from the personal outcome expectancy scale in Riggs and Knight (1994, Alpha = .81-.87 in that study). Sample items include: “Around here, such things as salary and promotions are determined by how well as person does his or her job,” and “Doing good work here is not worth the effort (reverse coded).” This scale measures the perceived relationship between performance and personal success and survival in the organization. Cronbach’s alpha was .71 in this study.

Perceived image-reward contingency was measured by 2 items adapted from the personal outcome expectancy scale in Riggs & Knight (1994) and 3 items from the Perceptions of Organizational Politics Scale (POPS) scale developed by Kacmar and Ferris (1991). Sample items include: “Favorism rather than merit determines who gets ahead around here,” and “To survive in this organization, doing a good job is not enough. You also have to make a good impression on others.” This scale measures the perceived relationship between image and personal success and survival in the organization. Cronbach’s alpha was .78 in this study.

Outcome expectations affect the motivation for employees to innovate. But innovative behavior is not possible unless people also have the ability to carry out that

action. Two variables (hierarchical distance and education) were controlled in this study to partial out the potential confounding effects of ability factors.

Each respondent reported his or her *hierarchical distance* by indicating the number of levels his or her position was below the president of the company (ranging from 1 level to 7 levels below the company president in this sample). Level in organization hierarchy affects an employee's access to resources and capability in conducting innovative behavior and has been shown to influence innovative behavior (Aiken, Bacharach, & French, 1980; Daft, 1978; Mumford & Gustafson, 1988). Because some participating companies had more organizational levels than others, I divided the reported hierarchical distance by the mean value of hierarchical distance reported for that particular company and used that score to reflect the relative hierarchical distance of a respondent in his or her organization. The higher the score, the lower the respondent's position was in his or her organization.

Education level of an individual affects the ability of an employee to identify and generate new ideas and has been suggested to be important to innovation (Mumford & Gustafson, 1988; Tierney & Farmer, 2002). Data on education level were obtained by self-report from respondents and were coded as follows: some high school, 1; high school diploma, 2; some college, 3; associate degree, 4; Bachelor's degree, 5; Master's degree, 6; Ph.D. degree, 7.

Confirmatory Factor Analyses of Outcome Expectation Measures

A confirmatory factor analysis using LISREL 8 (Jöreskog & Sörbom, 1993) was conducted to further validate the measures for expected positive performance outcomes, expected image risks, and expected image gains. These three outcome expectations were specified as three factors, each of which was loaded with the items designed to measure that particular variable. Each item was allowed to load only on the outcome expectation it was designed to measure and three factors were allowed to correlate with each other. Considering multiple indexes of fit, I reviewed LISREL fit statistics including the chi-square test, the root mean square error of approximation (RMSEA) (Steiger & Lind, 1980), normal fit index (NFI; Bentler & Bonnett, 1980), the goodness-of-fit index (GFI; Jöreskog & Sörbom, 1986), and comparative fit index (CFI; Bentler, 1990).

The results strongly supported the three-factor measurement model for the three outcome expectations. All factor loadings were significant at .05, supporting the convergent validity of the measurement scales. An examination of the modification indices indicated that the fit of the model would not improve significantly if certain items were allowed to cross load on the other factor, supporting the discriminant validity of the three-factor measurement model. There are no specific guidelines for assessing the fit of the entire model. Usually, a smaller chi-square value, a small value of RMSEA (less than .05) (MacCallum, Browne, & Sugawara, 1996), and larger values for NFI, GFI, and CFI (.90 or above) indicate a good fit. In the present sample, the chi-square was significant ($\chi^2 = 57.33$, $df = 32$, $p = .0039$). However, chi-square values are likely to be inflated when sample size is large. An inspection of the other fit indexes (RMSEA

= .048, NFI = .94, GFI = .95, CFI = .97) indicates that the three-factor measurement model fits the data well.

The correlations among the three outcome expectations were significant ($r = -.25, .47$ and $-.30$, respectively, $p < .01$). Following Byrne (1998) and Janssens, Brett, and Smith (1995), I also tested two alternative nested measurement models to further validate the discriminant validity among these outcome expectations. One alternative model tested a one-factor model where all measurement items for the three outcome expectations loaded on a single factor. Compared with the three-factor measurement model, this one-factor model fixed all correlation parameters among the three outcome expectations at 1.0. An inspection of the fit indices (RMSEA = .14, NFI = .62, GFI = .75, CFI = .64) indicates that the one-factor measurement model fits the data poorly. A chi-square difference test with 3 degrees of freedom ($\Delta\chi^2 = 290.08$) was significant at the .05 level, indicating that the three-factor measurement model fits the data significantly better than this one-factor model.

The other alternative model tested a two-factor model where items measuring expected image risks and expected image gains loaded on one factor and items measuring expected positive performance outcomes loaded on the other factor. Compared with the three-factor measurement model, this two-factor model fixed the correlation parameter between expected image risks and expected image gains at 1.0. An inspection of the fit indices (RMSEA = .11, NFI = .76, GFI = .83, CFI = .79) indicates that the two-factor measurement model also did not fit the data very well. A chi-square difference test with 1 degree of freedom ($\Delta\chi^2 = 160.21$) was significant at the .05 level,

indicating that the three-factor measurement model fits the data significantly better than this two-factor model.

Comparisons with the two alternative models provides further support for the three-factor measurement model where expected positive performance outcomes, expected image risks, and expected image gains are conceptualized as separate factors.

Assessment of Common Methods Bias

To alleviate potential common methods bias, I collected data for innovative behavior from supervisors, which is an alternative source from employee self-reports. However, due to the focus on psychological and perceptual processes, distal antecedent variables and outcome expectation variables in this study were measured by subjective measures gathered from the same source (employees) in the same questionnaire, which raises the concern for common method biases among these variables. When both variables are measured by self-report from the same person the covariance between those two variables could reflect artificial method factors instead of a real underlying relationship. To assess the impact of common-method bias, I performed Harmon's one-factor test, following Podsakoff and Organ (1986). I performed a principal components factor analysis on items measuring the 3 outcome expectation variables and the 5 distal antecedent variables using varimax rotation. From this analyses, eight clear factors representing the eight expected constructs emerged: expected positive performance outcomes, expected image risks, expected image gains, perceived organization support for innovation, supervisor relationship quality, innovativeness as job requirement,

reputation as innovative, and dissatisfaction with the status quo. The average item loading on the intended variables was .71. No single factor accounted for most of the variance among the items. The results suggested that common method bias was not a problem in this study and that these self-report variables were not related solely because of common method variance.

RESULTS

Correlations

Table 1 reports the means, standard deviations, and correlations among the study variables. The bivariate relationships indicate that all three outcome expectations were significantly related to innovative behavior except for expected image gains. Three distal antecedents (supervisor relationship quality, innovativeness as job requirement, and reputation as innovative) also had significant correlations with innovative behavior. The distal antecedent variables were significantly correlated with expected positive performance outcomes and expected image gains except for dissatisfaction with the status quo. The distal antecedent variables had significant negative correlations with expected image risks except for reputation as innovative and dissatisfaction with the status quo.

Data Analysis Procedures

The theoretical model was tested in two steps. In the first step, the mediation model (Hypothesis 1 to Hypothesis 7a-c) was tested using LISREL 8 (Jöreskog & Sörbom, 1993) using structural equation modeling, which is a useful method in testing multiple complex mediating relationships. A single-indicator approach was used, where each latent construct was indicated by only one manifest variable (either a single variable or a composite measure).

TABLE 1
Means, Standard Deviations, and Correlations^a

| Variable | Mean | S.D. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|--|------|------|-------|--------|--------|-------|--------|--------|--------|-------|--------|--------|-------|-------|----|
| 1. Individual innovative behavior | 3.26 | 0.94 | (.91) | | | | | | | | | | | | |
| 2. Expected positive performance outcomes | 3.93 | 0.66 | .28** | (.77) | | | | | | | | | | | |
| 3. Expected image risks | 2.16 | 0.77 | -.16* | -.25** | (.77) | | | | | | | | | | |
| 4. Expected image gains | 3.66 | 0.78 | .04 | .47** | -.30** | (.86) | | | | | | | | | |
| 5. Perceived support for innovation | 3.12 | 0.74 | .02 | .19** | -.41** | .31** | (.92) | | | | | | | | |
| 6. Supervisor relationship quality | 3.76 | 0.80 | .22** | .28** | -.30** | .37** | .44** | (.90) | | | | | | | |
| 7. Innovativeness as job requirement | 3.32 | 0.89 | .18** | .53** | -.35** | .48** | .34** | .38** | (.85) | | | | | | |
| 8. Reputation as innovative | 3.36 | 0.83 | .30** | .49** | -.08 | .31** | .08 | .12 | .47** | (.80) | | | | | |
| 9. Dissatisfaction with the status quo | 3.30 | 0.78 | -.04 | -.00 | .30** | -.07 | -.41** | -.39** | -.18** | .03 | (.75) | | | | |
| 10. Perceived performance-reward contingency | 3.53 | 0.70 | .16* | .23** | -.29* | .42** | .50** | .44** | .35** | .15* | -.27** | (.71) | | | |
| 11. Perceived image-reward contingency | 3.09 | 0.76 | -.07 | -.15* | .40** | -.15* | -.70** | -.45** | -.28** | -.04 | .52** | -.48** | (.78) | | |
| 12. Hierarchical distance | 1.01 | 0.46 | -.08 | .06 | -.01 | .05 | -.08 | .07 | -.08 | -.02 | -.02 | -.02 | -.01 | — | |
| 13. Education | 3.62 | 1.34 | .12 | -.01 | .09 | .08 | -.10 | -.03 | .00 | .09 | .12 | -.06 | .08 | -.14* | — |

^a n = 216

* p < .05.

** p < .01.

A decision was made to use the single-indicator approach in this study rather than the multiple-indicator approach for the following reasons. First, in order to increase sample size relative to the parameter estimates, a multiple-indicator approach will require shortening well-established scales or breaking a scale into multiple indicators, which may adversely impact the psychometric properties of the measures. Also, a simultaneous estimation of the measurement model and the structural model may lead to distorted path estimates that confound interpretations (Anderson & Gerbing, 1988). Because the major purpose of this study is testing structural paths instead of validating the measurement model, the single-indicator approach enables me to focus on the structural model and maintain well-established scales without sacrificing statistical power.

When using the single-indicator approach, I did not assume perfect measurement of each variable or scale. Following the procedures recommended by Kenny (1979), James, Mulaik, and Brett (1982), Williams and Hazer (1986), and Scott and Bruce (1994), the loadings from indicator to latent construct were set as the square root of the coefficient-alpha internal consistency estimate for each manifest scale, and the error terms were fixed to equal 1.0 minus the value of alpha. Netemeyer, Johnston, and Burton (1990) demonstrated in their study that this procedure resulted in path estimates that were virtually identical to the estimates generated by using multiple indicator variables. The reliabilities of the observable variable (hierarchical distance and education) were set at .90. The five distal antecedent variables (perceived organization support for innovation, supervisor relationship quality, innovativeness as job requirement, reputation

as innovative, and dissatisfaction with the status quo) were allowed to covary in the estimation of the model.

The hypothesized model specifies a full mediation model where the five distal antecedent variables only indirectly affect innovative behavior through their effects on the three outcome expectations. Following prior work (e.g., Bono & Judge, 2003; Seibert, Kraimer, & Liden, 2001), I also tested three alternative models based on different theoretical assumptions, as recommended by Kelloway (1998). The three alternative models tested were: a baseline control-variable-only model, the partially mediated, and the nonmediated model. I performed sequential chi-square difference tests to compare the fit of these models, as recommended by Anderson and Gerbing (1988).

The control-variable-only model specifies only the direct paths from the control variables to individual innovative behavior. It thus provided a baseline fit for an assessment of the incremental contribution of adding additional paths in the model (Seibert, Kraimer, & Liden, 2001). The partial mediation model specified both direct and indirect effects from the distal antecedents to innovative behavior. Thus this model allows the possibility that distal antecedents affect innovative behavior through other processes in addition to the hypothesized mechanisms. The nonmediation model specifies only direct effects to innovative behavior from distal factors and outcome expectations. This model tests the possibility that the effects of distal antecedents are not mediated by hypothesized outcome expectations. Control variable paths were included in the full mediation model, partial mediation model, and the nonmediation model.

Because the moderating hypotheses (Hypotheses#8, 9a, and 9b) involve testing interactions, the main effect terms and 2-way interaction terms may be highly correlated with one another. This raises the issue of multicollinearity, which makes the regression coefficients unstable and difficult to interpret (Cohen & Cohen, 1983). Therefore, I used hierarchical regressions to test the hypotheses. The significance of a 2-way interaction term will be determined by the significance of R-square change when it is added into the main effect equation. In addition, Aiken and West (1991) recommended that all independent continuous variables be centered to reduce multicollinearity. In this study, centering was accomplished by standardizing all independent, continuous variables. An alternative approach could be to test the moderation hypotheses using multiple group analyses of the structural path model. This approach was not chosen for this study because it would require artificially dichotomizing the two continuous moderating variables, which will result in loss of information.

The Mediation Model

The hypothesized full mediation model fit the data well ($\chi^2 = 38.38$, $df = 15$, $p < .01$; root mean square error of approximation [RMSEA] = .035; normal fit index [NFI] = .93; goodness-of-fit index [GFI] = .97; comparative fit index [CFI] = .95). I performed sequential chi-square tests (Bentler & Bonett, 1980) to compare the full mediation model with alternative models (Table 2).

TABLE 2
Nested Model Comparisons

| Model | $\chi^2 (df)$ | $\Delta\chi^2 (\Delta df)$ | RMSEA | NFI | GFI | CFI | Nested Model Comparisons |
|----------------------------------|------------------|----------------------------|--------------|------------|------------|------------|--|
| Hypothesized (Full mediation) | 38.38** (15) | | .04 | .93 | .97 | .95 | |
| Control variables only | 307.80** (32) | 269.42** (17) | .19 | .42 | .78 | .42 | Control-variables-only model compared to hypothesized model |
| Partial mediation | 21.24* (10) | 17.14** (5) | .03 | .96 | .98 | .98 | Partial mediation model compared to hypothesized model |
| Nonmediation | 261.37** (24) | 244.23** (14) | .18 | .51 | .81 | .50 | Nonmediation model compared to partial mediation model |

* $p < .05$.

** $p < .01$.

Anderson and Gerbing (1988) suggested that an indication of goodness of fit from a practical standpoint, such as the change in the normed fit index (NFI), can be useful in conjunction with a chi-square test for the final decision of which model to accept. Therefore, I compare alternative nested models by examining both chi-square changes and the changes in fit indices.

The first comparison (see Table 2) showed that the hypothesized model provides a significantly better fit than did the control-variables-only model. Adding hypothesized paths in addition to the control variable paths significantly reduced the chi-square value ($\Delta\chi^2 = 269.42$, $\Delta df = 17$, $p < .01$) and substantially improved goodness of fit indices.

The second comparison was between the hypothesized full mediation model and the partial mediation model. The partial mediation model specifies the same paths as the hypothesized model and also five direct paths from distal antecedent factors to innovative behavior. Both the improvement in goodness of fit indices and the change in chi-square test showed that this partial mediation model was significantly better than the hypothesized full mediation model ($\Delta\chi^2 = 17.14$, $\Delta df = 5$, $p < .01$).

The partial mediation model was therefore retained as the best-fitting model and was then compared with the nonmediation model. The nonmediation model specifies only direct effects from variables (the 5 distal antecedent variables, the 3 outcome expectation variables, and control variables) to individual innovative behavior. Compared with the partial mediation model, the nonmediation model fixed to zero all paths from distal factors to outcome expectations. Both goodness of fit indices and the

change in chi-square suggested that the partial mediation model fit the data significantly better than the nonmediation model ($\Delta\chi^2 = 244.23$, $\Delta df = 14$, $p < .01$).

The comparisons among alternative models indicated that the partial mediation model (the model including both direct and indirect effects of distal antecedents on innovative behavior) provided the best fit for the data. I retained this model as the best-fitting model and interpret it below to examine hypothesized relationships.

Table 3 presents the structural parameter estimates for all hypothesized relationships. The model accounted for 31 percent of the variance in individual innovative behavior, 56 percent of the variance in expected positive performance outcomes, 35 percent of variance in expected image risks, and 42 percent of variance in expected image gains. Figure 3 presents the final model with nonsignificant paths removed. Twelve of the 17 hypothesized paths were significant and in the predicted directions.

TABLE 3
Standardized Path Estimates

| Dependent variables | Paths | Estimates ^a | s.e. |
|--|--|------------------------|------|
| Innovative behavior | | | |
| | Expected positive performance outcomes → Innovative behavior | .27* | .13 |
| | Expected image risks → Innovative behavior | -.24* | .10 |
| | Expected image gains → Innovative behavior | -.25* | .10 |
| Expected positive performance outcomes | | | |
| | Perceived organization support for innovation → performance | .05 | .09 |
| | Supervisor relationship quality → performance | .17* | .09 |
| | Innovativeness as job requirement → performance | .45*** | .11 |
| | Reputation as innovative → performance | .31** | .10 |
| | Dissatisfaction with the status quo → performance | .20* | .09 |
| Expected image risks | | | |
| | Perceived organization support for innovation → Image risks | -.28** | .09 |
| | Supervisor relationship quality → Image risks | -.02 | .10 |
| | Innovativeness as job requirement → Image risks | -.39*** | .12 |
| | Reputation as innovative → Image risks | .15 | .11 |
| | Dissatisfaction with the status quo → Image risks | .13 | .10 |
| Expected image gains | | | |
| | Perceived organization support for innovation → Image gains | .18* | .08 |
| | Supervisor relationship quality → Image gains | .26** | .09 |
| | Innovativeness as job requirement → Image gains | .46*** | .08 |
| | Dissatisfaction with the status quo → Image gains | .25** | .09 |

^a Standardized path estimates

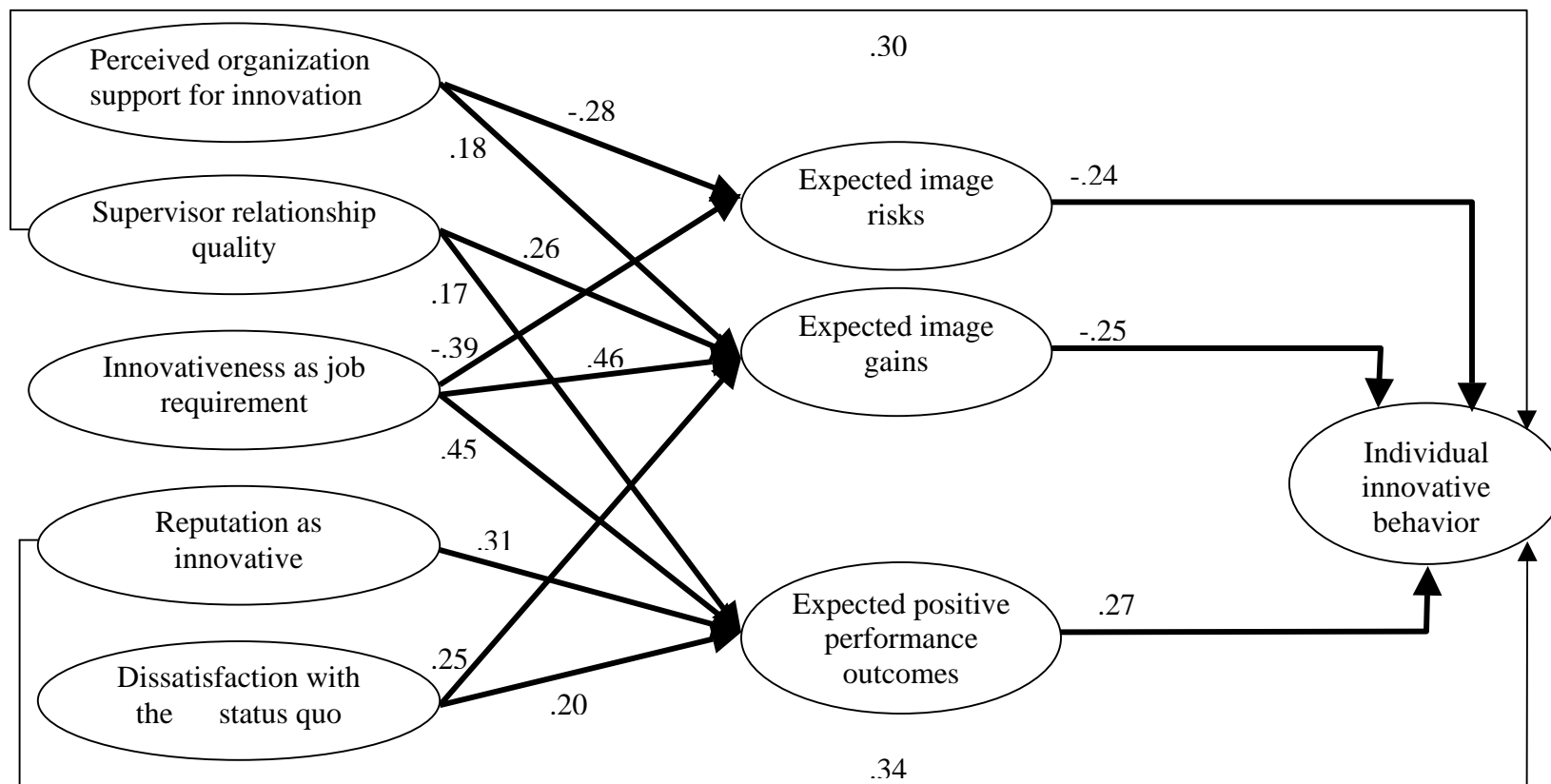
* $p < .05$.

** $p < .01$

*** $p < .001$

FIGURE 3

Results of the Mediation Model^a



^aFit: $\chi^2 = 21.24$, $df = 10$, $p < .05$; $RMSEA = .03$, $NFI = .96$, $GFI = .98$, $CFI = .98$. Parameter estimates are from the standardized solution and are significant at $p < .05$. Hypothesized relationships are represented by bold arrows, and relationships that were not hypothesized are represented by light arrows. Control variables and their paths are not shown for the sake of clarity.

Specifically, all three outcome expectations related significantly to innovative behavior. Expected positive performance outcomes had a positive relationship with innovative behavior ($b = .27, p < .05$), supporting Hypothesis 1. Expected image risks had a negative relationship with innovative behavior ($b = -.24, p < .05$), supporting Hypothesis 2a. Expected image gains, however, had a significant yet negative relationship with innovative behavior ($b = -.25, p < .05$). This negative effect was contrary to the prediction of Hypothesis 2b.

Perceived organization support for innovation had a significant negative effect on expected image risks ($b = -.28, p < .01$) and a significant positive effect on expected image gains ($b = .18, p < .05$), providing strong support for Hypotheses 3b and 3c. Respondents who perceived higher levels of organization support for innovation expected less image risks and more image gains from being innovative. The path from perceived support for innovation to expected positive performance outcomes was not significant. Thus Hypothesis 3a was not supported.

Supervisor relationship quality had a significant positive effect on expected positive performance outcomes ($b = .17, p < .05$) and expected image gains ($b = .26, p < .01$), but a nonsignificant effect on expected image risks. Thus, support was found for Hypothesis 4a and 4c, but not for Hypothesis 4b. In addition to its indirect effects through expected positive performance outcomes and expected image gains, supervisor relationship quality also had a significant direct effect on innovative behavior ($b = .30, p < .01$).

Hypotheses 5a, 5b, and 5c predict a significant positive effect of innovativeness as job requirement on expected positive performance outcomes and expected image gains, and a significant negative effect on expected image risks. The results strongly supported these three hypotheses. The perception that innovativeness was part of the job was positively related to the expectation that innovative behavior will bring performance improvement ($b = .45, p < .001$). It reduced perceived image risks associated with being innovative ($b = -.39, p < .001$), and was positively related to the expectation that innovative behavior will bring image gains ($b = .46, p < .001$).

Reputation as innovative had a significant positive effect on expected positive performance outcomes ($b = .31, p < .01$). The path from reputation to expected image risks, however, was not significant. Thus, support was found for Hypothesis 6a, but not for Hypothesis 6b. In addition to its indirect effect through expected positive performance outcomes, reputation as innovative also had a significant direct effect on innovative behavior ($b = .34, p < .01$).

Dissatisfaction with status quo had significant effects on expected positive performance outcomes ($b = .20, p < .05$) and expected image gains ($b = .25, p < .01$), but not on expected image risks. Therefore, the results provided support for Hypotheses 7a and 7c, but not for Hypothesis 7b.

The significant yet negative path from expected image gains to innovative behavior was unanticipated and was contradictory to the predicted direction in Hypothesis 2b. Expected image gains had a non-significant correlation with innovative behavior ($r = .04, n.s.$) and a significant positive correlation with expected positive

performance outcomes ($r = .47, p < .001$). There was a significant correlation between expected positive performance outcomes and innovative behavior ($r = .28, p < .001$). A multiple regression with the two control variables and only expected image gains as independent variables found an insignificant effect of expected image gains on innovative behavior ($b = .04, n.s.$). A multiple regression with the two control variables and only expected positive performance outcomes as independent variables found a significant effect of expected performance outcomes on innovative behavior ($b = .28, p < .001$).

When both expected positive performance outcomes and expected image gains were included in the equation, the effect of expected image gains became negative ($b = -.12, p = .11$). At the same time, the positive effect of expected positive performance ($b = .34, p < .001$) increased to a level that was stronger than its bivariate correlation with innovative behavior ($r = .28$). This result pattern suggests that suppression might be occurring (Cohen & Cohen, 1983).

The Moderating Hypotheses

Table 4 presents the results of the hierarchical regression analysis for the moderating effect of perceived performance-reward contingency. Hypothesis 8 predicts that the positive effect of expected positive performance outcomes on innovative behavior will be stronger when perceived performance-reward contingency is higher. This hypothesis predicted a significant positive interaction between expected positive performance outcomes and perceived performance-reward contingency.

In step 3, when this interaction was added to the main effect equation R-square improved significantly (R-square change = .02, F change = 4.43, $p < .05$), supporting a significant interaction effect. Consistent with the predicted direction, the unstandardized coefficient of this interaction was positive ($b = .14$).

Following Aiken and West (1991), I plotted the relationship between expected positive performance outcomes and innovative behavior at one standard deviation above and below the mean of expected positive performance outcomes (see Figure 4). The solid line represents the relationship between expected positive performance outcomes and innovative behavior when perceived performance-reward contingency was high (i.e., one standard deviation above the mean of performance-reward contingency). The dotted line represents the relationship between expected positive performance outcomes and innovative behavior when perceived performance-reward contingency was low (i.e., one standard deviation below the mean of performance-reward contingency).

TABLE 4
Results of Hierarchical Regression Analysis for the Moderating Effect of Perceived Performance-reward Contingency

| Step | Variable | <i>B</i> | ΔR^2 | ΔF |
|------|--|----------|--------------|------------|
| 1 | Controls | | | |
| | Hierarchical distance | -.08 | .15*** | 5.10 |
| | Education | .07 | | |
| | Perceived organization support for innovation | -.10 | | |
| | Supervisor relationship quality | .23** | | |
| | Innovativeness as job requirement | -.02 | | |
| | Reputation as innovative | .28*** | | |
| | Dissatisfaction with the status quo | -.01 | | |
| 2 | Main effects | | | |
| | Expected positive performance outcomes | .20* | .06** | 3.82 |
| | Expected image risks | -.16* | | |
| | Expected image gains | -.19* | | |
| | Perceived performance-reward contingency | .01 | | |
| 3 | Interaction | | | |
| | Expected positive performance outcomes × Perceived performance-reward contingency | .14* | .02* | 4.43 |

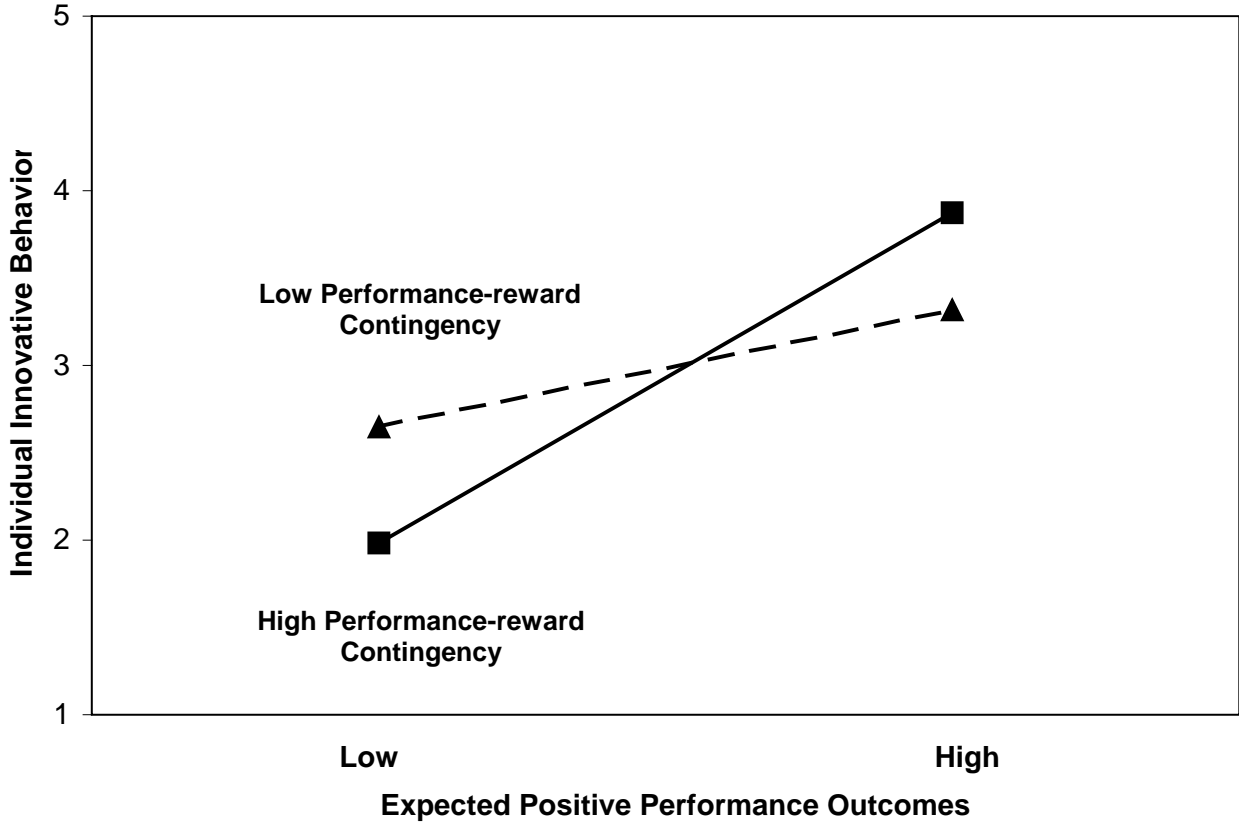
* $p < .05$.

** $p < .01$.

*** $p < .001$.

FIGURE 4

The Moderation Effect of Perceived Performance-reward Contingency on the Relationship between Expected Positive Performance Outcomes and Individual Innovative Behavior



As predicted, the positive effect of expected positive performance outcomes on innovative behavior was stronger when respondents perceived higher levels of performance-reward contingency. Hypothesis 8 received substantial support.

Hypothesis 9a predicts that the negative effect of expected image risks on innovative behavior will be stronger when perceived image-reward contingency is higher. This hypothesis predicted a significant negative interaction between expected image gains and perceived image-reward contingency. Table 5 presents the results of the hierarchical regression analysis for the moderating effect of perceived image-reward contingency.

In step 3, when this interaction was added to the main effect equation R-square improved significantly (R-square change = .02, F change = 4.08, $P < .05$), supporting a significant interaction effect. Consistent with the predicted direction, the unstandardized coefficient of this interaction was negative ($b = -.13$).

I plotted the relationship between expected image risks and innovative behavior at one standard deviation above and below the mean of expected image risks (see Figure 5). The solid line represents the relationship between expected image risks and innovative behavior when perceived image-reward contingency was high (i.e., one standard deviation above the mean of image-reward contingency). The dotted line represents the relationship between expected image risks and innovative behavior when perceived image-reward contingency was low (i.e., one standard deviation below the mean of image-reward contingency).

TABLE 5
Results of Hierarchical Regression Analysis for the Moderating Effect of Perceived Image-reward Contingency

| Step | Variable | <i>B</i> | ΔR^2 | ΔF |
|------|---|----------|--------------|------------|
| 1 | Controls | | | |
| | Hierarchical distance | -.08 | .15*** | 5.10 |
| | Education | .07 | | |
| | Perceived organization support for innovation | -.10 | | |
| | Supervisor relationship quality | .23** | | |
| | Innovativeness as job requirement | -.02 | | |
| | Reputation as innovative | .28*** | | |
| | Dissatisfaction with the status quo | -.01 | | |
| 2 | Main effects | | | |
| | Expected positive performance outcomes | .20* | .06** | 3.82 |
| | Expected image risks | -.16* | | |
| | Expected image gains | -.19* | | |
| | Perceived image-reward contingency | .00 | | |
| 3 | Interactions | | | |
| | Expected image risks | | | |
| | × Perceived image-reward contingency | -.13* | .02* | 4.08 |
| | Expected image gains | | | |
| | × Perceived image-reward contingency | -.07 | .01 | 1.86 |

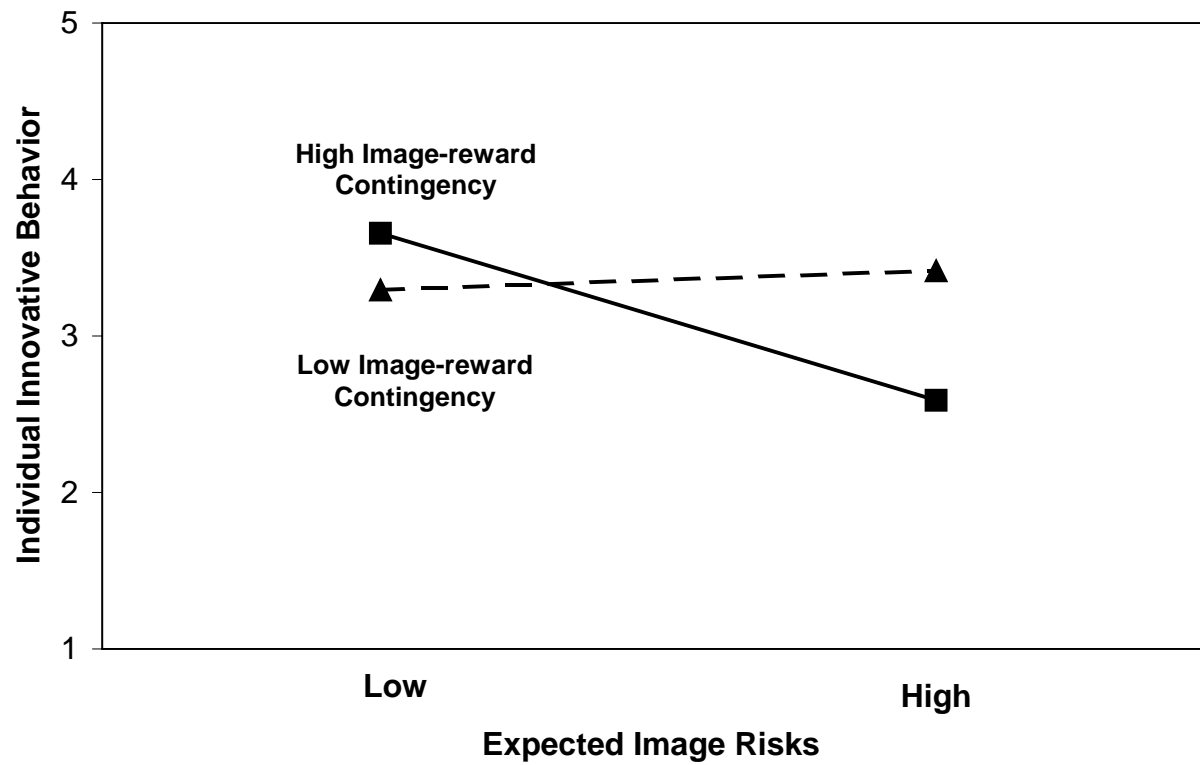
* $p < .05$.

** $p < .01$.

*** $p < .001$.

FIGURE 5

The Moderation Effect of Perceived Image-reward Contingency on the Relationship between Expected Image Risks and Individual Innovative Behavior



The pattern of the interaction in Figure 5 indicated that expected image risks had a more negative effect on innovative behavior when image-reward contingency was higher, providing support for Hypothesis 9a.

Hypothesis 9b predicts that the positive effect of expected image gains on innovative behavior will be stronger when perceived image-reward contingency is higher. Testing of the interaction between expected image gains and image-reward contingency resulted in non-significant results (see Table 5). Therefore, the data failed to support this moderating hypothesis.

DISCUSSION AND CONCLUSIONS

This research sheds light on the question of why employees engage in innovative behaviors from a motivational perspective with a focus on outcome expectations. I hypothesized and tested expected positive performance outcomes, expected image risks, and expected image gains as proximal determinants of employee innovative behavior at work based on both the efficiency-oriented and social-political perspectives of innovation. Moreover, I developed and tested a model where distal contextual and individual antecedents affect individual innovative behavior indirectly through these performance and image outcome expectations. Finally, I took a contingency approach and tested the moderating effect of perceived reward contingencies on the effects of performance and image outcome expectations. Table 6 summarizes the results of hypothesis testing. The theoretical and managerial implications of the findings are discussed below in different sections with suggestions for future research.

TABLE 6
Summarized Results of Hypothesis Testing

| Hypothesis | Prediction (direction) | Results |
|------------|--|---------------|
| H1 | Expected positive performance outcomes → Innovative behavior (positive) | Supported |
| H2a | Expected image risks → Innovative behavior (negative) | Supported |
| H2b | Expected image gains → Innovative behavior (positive) | Not supported |
| H3a | Perceived organization support for innovation → Expected positive performance outcomes (positive) | Not supported |
| H3b | Perceived organization support for innovation → Expected image risks (negative) | Supported |
| H3c | Perceived organization support for innovation → Expected image gains (positive) | Supported |
| H4a | Supervisor relationship quality → Expected positive performance outcomes (positive) | Supported |
| H4b | Supervisor relationship quality → Expected image risks (negative) | Not supported |
| H4c | Supervisor relationship quality → Expected image gains (positive) | Supported |
| H5a | Innovativeness as job requirement → Expected positive performance outcomes (positive) | Supported |
| H5b | Innovativeness as job requirement → Expected image risks (negative) | Supported |
| H5c | Innovativeness as job requirement → Expected image gains (positive) | Supported |
| H6a | Reputation as an innovative person → Expected positive performance outcomes (positive) | Supported |
| H6b | Reputation as an innovative person → Expected image risks (negative) | Not supported |
| H7a | Dissatisfaction with the status quo → Expected positive performance outcomes (positive) | Supported |
| H7b | Dissatisfaction with the status quo → expected image risks (negative) | Not supported |
| H7c | Dissatisfaction with the status quo → expected image gains (positive) | Supported |
| H8 | The effect of expected positive performance outcomes on innovative behavior will be more positive when perceived performance-reward contingency is higher. | Supported |
| H9a | The effect of expected image risks on innovative behavior will be more negative when perceived image-reward contingency is higher. | Supported |
| H9b | The effect of expected image gains on innovative behavior will be more positive when perceived image-reward contingency is higher. | Not supported |

Outcome Expectations for Individual Innovation

What exactly motivates employees to innovate in the workplace? Various motivation and learning theories pointed out the importance of outcome expectations in guiding an individual's behavior. Few attempts, though, have been made to directly conceptualize and test the effects of relevant outcome expectations for individual innovation. We still don't know what kinds of outcome expectations are really important in guiding individual's innovative behavior at work. This study is a preliminary attempt to address this research gap. Based on two major research streams in the innovation literature (the efficiency-oriented perspective and the social-political perspective), I conceptualized and directly tested the effects of two types of outcome expectations (performance and image-related outcome expectations) on employee innovation.

Consistent with the efficiency-oriented perspective, I found a significant effect of expected positive performance outcomes on individual innovation in the workplace. Employees were more innovative when they expected such innovativeness to bring performance or efficiency gains for their work role or unit. Although efficiency improvement has been assumed to be the major logic underlying individual innovation actions, this study is among the first attempts to provide direct empirical support for this argument. I also found a significant negative effect of expected image risks on employee innovation. An employee was less likely to innovate when he believed that being innovative would potentially harm his image in the organization. The significant effect of expected image risks suggests the importance of psychological safety for innovative

actions. And, it indicates the importance of social political considerations in individual innovation processes in addition to a “rational” efficiency-oriented judgment.

Contrary to expectations, the hypothesized positive effect of expected image gains was not supported by the data. In fact, the negative path coefficient from expected image gains to employee innovative behavior was contrary to my hypothesis. Two possible interpretations exist for this unexpected result.

First, given the non-significant correlation between expected image gains and innovative behavior, the significant positive correlation between expected image gains and expected positive performance outcomes, the significant positive correlation between expected positive performance outcomes and innovative behavior, and the positive regression coefficient of expected positive performance outcomes that was further enhanced by expected image gains beyond its bivariate correlation with innovative behavior, it is possible that a suppression effect was operating (Holling, 1983; Horst, 1941; Pedhazur, 1997). It is possible that expected image gains had no significant relationship with innovative behavior but shared some irrelevant variance with expected positive performance outcomes that was not related to innovative behavior. By controlling for or suppressing this irrelevant variance (or noise), expected image gains purified and enhanced the relationship between expected positive performance outcomes and innovative behavior (Horst, 1941). This is referred to as classical suppression or classical enhancement (McFatter, 1979). Under this situation, the regression coefficient for one variable (i.e., expected image gains) could become negative even though its bivariate correlation with the criterion variable (i.e., innovative behavior) is zero.

This interpretation would suggest that the negative effect of expected image gains found in this study was a statistical artifact due to the operation of suppression effect and thus there was no significant relationship between expected image gains and innovative behavior. Why was expected image gains not related to innovative behavior? One potential conceptual explanation is that an aggressive impression management motive is not salient in the individual innovation process. Another potential explanation is that this image gain motive is only important for certain types of innovations. For example, the effect of the image enhancement motive may be more salient for administrative innovations than for technical innovations. Compared with technical innovations, the efficiency or technical outcomes of administrative innovations are more difficult to measure. A higher level of outcome ambiguity makes administrative innovations good opportunities for employees to pursue efficiency-irrelevant purposes such as enhancing their social or political image (Abrahansom, 1991; Dean 1987). Because innovative behavior measured in this study did not differentiate between technical and administrative innovations, it is not possible to explore this possibility with the existing data.

McFatter (1979) cautioned against inferring a suppression effect simply based on correlations and regression coefficients. He suggested that different relationships among variables could result in the same statistical result pattern and that it is important to consider alternative interpretations. In the particular case of this study, an alternative interpretation of the unexpected results concerning expected image gains is that expected image gains had both a direct negative effect on innovative behavior and an indirect

positive effect on innovative behavior through expected positive performance outcomes. Thus, the bivariate correlation between expected image gains and innovative behavior was non-significant because the negative direct effect and the positive indirect effect cancelled each other out. Controlling for expected positive performance outcomes actually revealed some other unique variance in expected image gains that was negatively related to innovative behavior.

This interpretation would suggest an additional positive path from expected image gains to expected positive performance outcomes in the mediation model. In an exploratory fashion, I added this path into the best-fitting partial mediation model and reran the path model. The results revealed both a positive path from expected image gains to expected positive performance outcomes (standardized path estimate = .26, $p < .01$) and a direct negative path from expected image gains to innovative behavior (standardized path estimate = -.20, $p < .01$). The path from expected positive performance outcomes to innovative behavior remained positive and significant (standardized path estimate = .30, $p < .05$). These results thus provide some preliminary support for this second interpretation.

What are some potential conceptual explanations for the direct (negative) and indirect (positive) effects of expected image gains? For the positive effect of expected image gains on expected positive performance outcomes, it is possible that building a positive image among peers and supervisors by innovation would help an employee to get more support and resources and therefore improve job performance. The direct negative effect of expected image gains on innovative behavior is interesting. It is

possible that after partialing out the effect of image gains in service of job performance, what was left was a non-job-related image enhancement motive, which was negatively related to supervisor rated innovative behavior. Employees may want to look good and have a good image for both job-related and non-job-related reasons. On one hand, they may want to establish a conscientious and competent image in order to solicit social resources to better accomplish their jobs. This job-related image enhancement motive may explain the direct positive effect of expected image gains on innovative behavior through expected positive performance outcomes. On the other hand, they may want to look good for non-job-related reasons such as showing off, satisfying egos, or pleasing certain people in order to pursue personal goals. It is possible that employees whose innovative behaviors were heavily based on this non-job-related aggressive impression management motive were perceived and rated by their supervisors as non-innovative.

Another possible explanation for the direct negative effect could be that those who expected innovative behavior to improve their images were employees who were not very innovative. There could be a reciprocal relationship between expected image gains and employee innovativeness. Expectations for image gains will lead to more innovative behavior and a higher level of employee innovativeness, which in turn may reduce the expectation that additional innovative behavior will further benefit an employee's image. Future studies need to collect longitudinal data on image gain expectations and employee innovativeness levels to explore these complex relationships.

Direct and Indirect Effects of Distal Antecedents

As proximal determinants of innovative behavior, performance and image outcome expectations also serve as the intermediate processes to explain *why* and *how* distal contextual and individual difference antecedents affect individual innovation.

Organization support for innovation has been considered as an important antecedent to employee innovative behavior. In a focused study on organization support for innovation, Scott and Bruce (1994) found a significant effect of support for innovation on innovative behavior and suggested that such support affects innovative behavior because it signals expectations for behavior and potential outcomes of behavior. The findings of this study provide empirical evidence for this argument. I found that perceived organization support for innovation reduces expectations for potential image loss and therefore encourages innovative behavior. Innovations are more legitimate in an organization that supports creativity and tolerates differences. Such support encourages employee innovativeness by providing a safe environment for experimentation. I also found a positive relationship between perceived organization support for innovation and expected image gains associated with innovative behavior. It supports the argument that employees in a pro-innovation climate are more likely to believe that being innovative will help their image inside the organization.

The nonsignificant relationship between support for innovation and expected positive performance outcomes is unexpected. This nonsignificant relationship suggests that a supportive organization climate for innovation does not necessarily make employees believe that innovative behavior will benefit their work. One possible

explanation is that expectation for positive performance outcomes is a more specific judgment than a general pro-innovation attitude. Employees working in a pro-innovation organization climate may generally have more pro-innovation attitudes and tend to believe that innovations are good. However, whether innovative attempts will benefit a particular individual's work is a more specific judgment that is also influenced by other specific factors such as the nature of his or her job. Overall, the findings suggest that organization support for innovation affects innovative behavior mainly through the social-political processes (i.e., image considerations) rather than the efficiency-oriented rational judgment processes (i.e., increasing expected positive performance outcomes).

Supervisor relationship quality had both a direct effect on innovative behavior and an indirect effect by influencing expectations for positive performance outcomes and image gains. Consistent with the hypothesis, employees who had a good relationship with their supervisors were more confident that their innovative behavior would benefit their work. Also, a good relationship with the supervisor makes an employee more confident that his or her innovative attempts will receive favorable evaluations and will help his or her image in the organization.

Contrary to expectations, though, the path from supervisor relationship quality to expected image risks was not significant. It seems that a mutually trusting and respectful relationship with the supervisor is not sufficient to relieve the potential concerns for image loss. Scott and Bruce (1994) found a significant positive effect of supervisor-subordinate relationship quality on perceived organization support for innovation. Therefore, one possible explanation is that supervisor relationship quality only affects

expected image risks indirectly through its influence on perceived organization support for innovation, which as found in this study helps to reduce image concerns.

Another potential explanation is that image risk concerns a larger social context that includes not only the supervisor but also other people inside the organization. For example, an employee's work group and coworkers present the immediate social environment that may also affect the employee belief of whether he or she can introduce and attempt to apply a new idea without personal censure. George and Zhou (2001) and Zhou and George (2001) found supportive coworkers important for employee creativity. Woodman, Sawyer, and Griffin (1993) suggest group norms as an important factor on individual creative performance. Future research needs to examine how coworker support and group norms affect an employee's concern for image risks associated with innovative behavior, especially when the group is highly cohesive (Scott & Bruce, 1994; West & Farr, 1989).

Supervisor relationship quality also had a direct effect on innovative behavior beyond its indirect effect through performance expectations. Because in this study innovative behavior was measured by supervisor report, there is the possibility that supervisors inflated their innovative behavior ratings for employees who had good relationships with them. This could be due to the fact that supervisors were closer to these employees and had more opportunities to perceive and remember their day-to-day behaviors. Or, it could be simply because supervisors liked these employees better and inflated their ratings. This potential inflation could have contributed to the direct positive effect from supervisor relationship quality to supervisor-reported innovative behavior

that was not explained by image and performance outcome expectations. Another possibility is that there are other unexplored processes that could explain the effect of supervisor relationship quality beyond the present model. Future studies need to examine the effect of supervisor relationship quality using other measures of innovative behavior (e.g., coworker report, or composite measures of coworker report and supervisor report and objective measures) and need to look at other potential mediating processes.

Innovativeness as job requirement affected employee innovative behavior both directly and indirectly through performance and outcome expectations. Employees who consider innovativeness as part of their job engage in more innovative behavior because they believe such behavior will benefit their work and they do not need to be afraid of stepping out of line by doing so. Also, a job requirement for innovativeness made an employee more confident that his innovative attempts will benefit his image inside the organization.

This finding indicates that employees working on more innovation-related job positions (e.g., R&D scientists and engineers) were more innovative than employees working on other job positions due not only to ability but also motivational reasons. The reason why employees working on jobs that are generally perceived as non-innovation-related are less innovative is not solely because they don't have the right capabilities and personalities. Nor is it solely because their jobs do not provide them with enough opportunity, freedom, and discretion to be innovative.

There are certain social stigmas associated with different job positions. These social expectations, accompanied with the different job descriptions, make employees on

non-innovation-related job positions less motivated to think about new ideas. Based on the findings of this study, they are less motivated to innovate for two major reasons. First, they do not consider new ideas or processes as useful to help their work (e.g., low expectations for positive performance outcomes). Moreover, even when they have a good idea that will benefit their work, they may not attempt it because they are concerned about being considered as behaving inappropriately. Previous studies tend to explain the effects of job characteristics (e.g., job discretion, job autonomy, job complexity) on individual innovation and creativity by using the intrinsic motivation (Amabile, 1988; Oldham & Cummings, 1996; Zhou, 1998) or capability/opportunity (Hatcher, Ross, & Collins, 1989; Munton & West, 1995) explanations. This study contributes to the literature by revealing another important channel by which the nature of the job affects individual innovation, that is, by influencing the focal individual's expectations for potential performance and image outcomes.

The findings of this study suggest that reputation as innovative had both a direct effect on individual innovative behavior and an indirect effect through expected positive performance outcomes. Consistent with the hypothesis, employees who enjoyed a reputation of being innovative tend to internalize the belief that innovative behaviors will benefit their work, which motivated them to innovate more. Note that the reputation in this study was self-reported. Therefore, in addition to representing the actual social expectations for an individual, this perception is also likely to reflect the focal person's view of him or herself. Barron and Harrington (1981) suggest that "a firm sense of self as 'creative'" is an important personality characteristic correlated with creative

achievements and activities in many domains. Consistent with Farmer, Tierney, and Kung-McIntyre's (2003) study on creative role identity, the findings of this study also support the positive impact of self-perceptions on individual innovation. Moreover, the indirect effect through expected positive performance outcomes suggests that people tend to justify their innovative reputations and role identities by rationalizing the benefits and value of innovative behavior.

I also expected an innovative reputation to reduce potential concerns for image risk. This effect, however, was not found in this study. Reputation was not significantly related to expected image risks. One possible explanation is that there are two contradictory effects of reputation that have cancelled out the effects for each other. On one hand, as hypothesized, when innovative people do innovative things they will not surprise other people. Doing so fits their social image and therefore will not make them look weird, resulting in less concerns for image risks. However, at the same time, employees with an innovative reputation may also be in a more risky position of being seen as troublemakers who always want to change things. Compared with other people, their additional innovative attempts may be less tolerated by coworkers and may be more likely to leave unfavorable impressions on others. More recent research on the outcomes of innovative behaviors suggests that innovative behavior could lead to conflict and less satisfactory relationships with coworkers (e.g., Janssen, 2003; Janssen, Van De Vliert, & West, 2004). Future research needs to explore these complex processes and to examine how an employee's innovative reputation affects his subsequent innovative behavior, relationships with coworkers and job satisfaction.

There was also a significant direct effect of innovative reputation on innovative behavior that was not explained by performance and image outcome expectations. One potential explanation for this direct effect is that a reputation as innovative not only motivates an employee to innovate by increasing positive outcome expectations but also creates certain social obligations for the focal person to do innovative things. These obligations create a strong situational force that leads to innovative behavior beyond motivational reasons. Another possibility is that people who enjoy the reputation of being innovative might be so used to trying new ideas and applying new methods that doing so become an automatic process (Bargh, & Chartrand, 1999). Once innovative behavior becomes automatic or a habit, people do not always go through the cognitive process of evaluating potential outcomes before they conduct such behavior. Future studies need to explore these and other possible explanations.

Dissatisfaction with the status quo affected innovative behavior through expected positive performance outcomes and expected image gains. Employees who were less satisfied with the current effectiveness of their work unit and organization had higher appreciation for the potential performance and image benefits brought by new ideas, technologies, and processes. This sense of dissatisfaction, though, did not seem to significantly reduce the concerns for potential image risks associated with innovative behavior. This finding is surprising given the expectation that a less effective situation could justify innovation and make these behaviors more legitimate.

One possible explanation is that the construct of dissatisfaction with the status quo is more a subjective perception than a social consensus. People within the same

department or work unit may well experience different levels of satisfaction within the same situation. Therefore, personal dissatisfaction with the status quo does not necessarily release the concern that other people (who might be satisfied with the current condition) will frown upon the focal person's innovative attempts. Zhou and George (2001) found that employees with high job dissatisfaction exhibited the highest creativity when continuance commitment was high and when (1) useful feedback from coworkers, or (2) coworker helping and support, or (3) perceived organizational support for creativity was high. Interpreting their findings within the framework of the current study, conditions such as coworker support and organizational support may serve to release the concerns for image risks. Therefore, employees will be most innovative when dissatisfaction is accompanied by these support factors because in that situation they have both high expectations for positive performance outcomes and low expectations for image risks.

Contingency Effects

I hypothesized and found that the effect of expected positive performance outcomes on innovative behavior was stronger when an employee perceived a closer link between her job performance and her success and survival in the organization (see Figure 4). This result suggests that the effect of performance outcome expectations on innovative behavior, and therefore the explanatory power of the efficiency-oriented perspective of innovation, will vary across situations. From a practical standpoint, it suggests that under certain organization reward practices, employees may not bother to

try new ideas even when they know these ideas will benefit their work. And, the prospect of performance improvement may not always be exciting and motivating for all employees. When perceived performance-reward contingency is low, convincing employees with the technical value of innovation will not be an effective strategy to boost innovativeness.

The effect of expected image risks on innovative behavior was also found to be moderated by reward contingencies. I found that concerns for potential image loss had a stronger impact on innovative behavior when an employee perceived a closer linkage between image and his success and survival in the organization (i.e., perceived high image-reward contingency) (see Figure 5). Similar to the performance-reward contingency, this image-reward contingency perception could also vary across different organizations and individuals. This result thus suggests that an image consideration may be more powerful in explaining innovative behavior in certain organization contexts and for certain employees than in other situations. In situations when this social-political process is highly powerful, relieving employees of potential image concerns will be an important strategy to encourage innovativeness.

It is important to note here that perceived performance-reward contingency and perceived image-reward contingency, though often negatively correlated with each other ($r = -.48$ in this study, $p < .01$), are two different constructs instead of the two opposites on the same continuum. A strong link between performance and reward does not have to reduce the importance of social image. Although in some situations the strength of one contingency could reduce the relative salience of the other contingency (e.g., a highly

political environment could increase image-reward contingency and at the same time reduce performance-reward contingency), these two contingencies do not necessarily have to substitute for each other. For example, in some organizations, employees may perceive both a strong performance record and a positive social image as necessary conditions for their success. In some cases (e.g., employees work in positions with fixed salary and minimum promotion opportunity) performance-reward contingency and image-reward contingency could both be low. Results of confirmatory factor analyses also indicated that a two-factor model where the two contingencies were conceptualized as two factors fit the data significantly better than a one-factor model where all contingency items located on a single factor ($\Delta\chi^2 = 47.82$, $\Delta df = 1$, $p < .001$).

Enabling Outcome Expectations

Findings from the mediation model not only help to clarify the processes by which antecedent factors affect employee innovation but also suggest potential ways to change these critical outcome expectations. Results of the mediation model suggest that supervisor relationship quality, job requirement for innovativeness, reputation as innovative, and dissatisfaction with the status quo explained 56 percent of the variance in expected positive performance outcomes. And, perceived organization support for innovation and innovativeness as job requirement explained 35 percent of the variance in expected image risks. These relationships suggest potential action levers management could utilize to encourage employee innovation.

Although both expectations have significant influence on employee innovativeness, the impacts of expected positive performance outcomes and expected image risks may be different in different organizations and for different employees, as suggested by the contingency framework. Therefore, it is important that management assesses the specific situation of their organization and employees before taking action. Depending on the different nature of an organization's reward practices (e.g., the importance of peer evaluation in performance evaluation; availability of flexible merit-based rewards) and the nature of the employees (e.g., full-time versus part-time), an organization may choose to focus mainly on performance outcome expectations or image outcome expectations, or both, to encourage employee innovation.

The findings of this study suggest at least four major directions by which management can increase employees' belief that being innovative will benefit their work. First, building trustful and warm relationships between employees and their supervisors is important. Providing social hours and other opportunities for informal interactions (e.g., mix and mingles) across organization hierarchies might be one strategy of building such relationships. Matching personalities and personal attitudes between supervisors and subordinates is another possibility.

The unfavorable effect of non-innovation-related job requirement on expected positive performance outcomes associated with innovative behavior suggests another direction to unleash the innovative potentials of employees working in relatively "low-tech" or routine work positions. Communicating with those employees to let them know that they are also expected to contribute new ideas is one way to break the stereotypes

for their job positions. Incorporating innovativeness as part of their formal job descriptions is another possible way. It is important to note here that increasing the requirement for innovative behavior should not be a stand-alone strategy. Simply emphasizing the importance of innovativeness without providing a supportive environment and necessary resources may result in employee dissatisfaction and stress instead of increased innovativeness. Shalley, Gilson, and Blum (2000) found that a supportive work environment (e.g., high job autonomy, job complexity, job challenge, and organizational support) that complements job-required creativity had a positive effect on job satisfaction and a negative effect on intentions to leave. Therefore, job redesign efforts (e.g., job enrichment) will need to be implemented together with efforts to increase the perception that innovativeness is part of the job.

Providing positive social recognition for innovative employees and increasing employees' view of self as innovative is another important direction. Providing timely and public recognitions for employee innovative attempts will be one strategy to establish such reputation. Also, submitting employees to a strong group norm for innovation will be important. For less creative groups, increasing interactions with other groups and bringing in external members that are more creative will help to build such a group norm.

Finally, another important direction will be to break the psychological comfort with the status quo. Exposing employees to better possibilities may help them realize existing problems in their work unit and help them to recognize the value of innovation. Several strategies may be useful for this purpose. One way is to publicly recognize best

performers. This will help to draw more attention to the best performance records and induce a social comparison process that leads to dissatisfaction. Another way is to organize visits to more efficient work units or to competitors. Yet another strategy is to utilize OD interventions such as appreciative inquiry, which ask employees to envision an ideal situation (e.g., an ideal organization they would want to work in, an ideal performance level they would want to achieve) and compare the current condition with that ideal scenario. Such a process will help employees recognize the discrepancy between the ideal scenario and the current situation and generate dissatisfaction with the status quo, which will motivate innovative behaviors.

Since all four directions can be pursued to improve expected positive performance outcomes, management could choose to act on all or only some of them based on practical considerations and the specific conditions of the organization. For example, if it is impossible to change employee job requirements, management could place more emphases on other strategies such as improving the general organization support for innovation and the support from supervisors to compensate the unfavorable condition of employees working on non-innovation-related jobs.

Increasing perceived organization support for innovation and innovativeness as job requirement are the two major strategies by which management could reduce employees' concerns for image risks associated with innovative behavior. Strategies dealing with job requirement perceptions have been discussed in the previous sections. Strategies to increase the perceived organization support for innovation include

providing rewards for innovation, establishing forums for diversified ideas, allowing experimentation and trial and error, to name a few.

It is important to note here that innovative behavior by itself doesn't guarantee successful results for the organization. Innovative attempts, especially those heavily based on impression management motives and image considerations, could potentially harm the organization by wasting valuable resources. Although the focus of the present study is on the antecedents rather than on the consequences of innovative behavior, the examination of different motivational reasons does imply different utilities of innovative behavior based on different motives. It seems logical that innovative attempts that are motivated by the belief in performance improvement will have a better chance of bringing efficiency gains for the organization than those that are motivated by image (i.e., non-performance related) considerations. The presence of these image and impression management motives raises doubts about the link between innovative behavior and organization efficiency. Bolino (1999) suggested that the relationship between OCB and organization/work group effectiveness would be weaker when impression-management concerns are present. The same logic applies for individual innovations. When people introduce new products and procedures into their organizations primarily based on show-off or face-saving considerations rather than real confidence in those products and procedures it is difficult to be optimistic about the impacts of those innovations on the organization.

Although image considerations always influence human behavior to a certain degree the dominant impact of image concerns will substantially weaken the

contribution of individual innovation to organization efficiency. Thus, from the organization's standpoint, it will be desirable to strengthen the efficiency-oriented processes underlying employee innovation and reduce the impact of social political factors. The results of this study suggest at least one direction, that is, through managing employee perceptions of performance-reward and image-reward contingencies.

Limitations and Future Directions

The findings of this study suggest that efficiency-oriented and social political processes are operating simultaneously to affect employee innovation. It thus reveals the value of utilizing multiple perspectives to examine individual innovation instead of relying on a single perspective. In his review of organization innovation literatures, Wolfe (1994) pointed out that one important barrier to knowledge cumulation in innovation research is that researchers limit their scope of inquiry by working within single theoretical perspectives. Abrahamson (1991) and Poole and Van de Ven (1989) also presented arguments for using multiple perspectives in innovation research and suggested integrating different perspectives by examining the contingencies that determine the explanatory power of different perspectives in different situations. Following a multiple-perspective approach, this study not only tested the effects of performance and image considerations simultaneously but also examined their explanatory power under different reward contingency situations.

FIGURE 6

**Explanatory Power of Efficiency-oriented and Social-political Perspectives under
Different Situations of Perceived Reward Contingencies**

| | | Perceived Performance-reward Contingency | |
|------------------------------------|------|--|---|
| | | High | Low |
| Perceived Image-reward Contingency | High | <p align="center"><i>Quadrant 1</i></p> <p>Efficiency-oriented perspective: High explanatory power</p> <p>Social-political perspective: High explanatory power</p> | <p align="center"><i>Quadrant 2</i></p> <p>Efficiency-oriented perspective: Low explanatory power</p> <p>Social-political perspective: High explanatory power</p> |
| | Low | <p align="center"><i>Quadrant 3</i></p> <p>Efficiency-oriented perspective: High explanatory power</p> <p>Social-political perspective: Low explanatory power</p> | <p align="center"><i>Quadrant 4</i></p> <p>Efficiency-oriented perspective: Low explanatory power</p> <p>Social-political perspective: Low explanatory power</p> |

Different conditions of the two reward contingencies result in four possible situations for the explanatory power of the efficiency-oriented perspective and the social-political perspective in understanding employee innovation (Figure 6). Both perspectives provide powerful explanations for the variance in innovative behavior when both contingencies are high (Quadrant 1). In situations where the perceived image-reward contingency is high and perceived performance-reward contingency is low (Quadrant 2), the social-political perspective will provide a more powerful explanation for innovative behavior while the efficiency-oriented perspective becomes relatively unimportant. In contrast, when the perceived performance-reward contingency is high and perceived image-reward contingency is low (Quadrant 3), the efficiency-oriented perspective will provide more explanation for innovative behavior while the social political perspective becomes relatively unimportant. Finally, when both contingencies are low (Quadrant 4), neither perspective will be effective in explaining innovative behavior. Evaluating the performance- and image-reward contingencies, therefore, provides a preliminary framework to integrate the efficiency-oriented and social-political perspectives in understanding individual innovation.

This contingency framework also points out limitations of the two perspectives and suggests future directions for theoretical development. When both perspectives fail to provide a powerful explanation (Quadrant 4) we need other theoretical perspectives to explain individual innovative behavior. In other words, when both efficient performance and good social image fail to motivate employees, what other factors may motivate individuals to innovate in the workplace? There are numerous possible answers to this

question. It could be other outcomes that are important to employees. Or, it could be an intrinsic explanation that when all extrinsic outcomes fail, the intrinsic interest in trying new ideas becomes the most powerful explanation for the variance in innovative behavior. Exploring these possibilities will expand the model tested in this study to build a more comprehensive understanding of individual innovation.

The negative relationship between expected image gains and innovative behavior found in this study is both surprising and interesting. Additional future research needs to be done to examine the viability of the different interpretations offered in this study. Does the image-enhancement motive really have a significant impact on innovative behavior in addition to performance and image risk considerations? Is the image enhancement motive only important in certain situations (e.g., for administrative innovations)? Does an employee's non-job-related image-enhancement motive actually hurt his or her supervisor's evaluation of his or her innovativeness? Clarifying the effect of image enhancement motive on innovative behavior will help us to further understand the political and self-serving side of employee innovation.

Only five antecedent variables were examined in this study. These critical outcome expectations, though, provide a direction to identify other relevant antecedents. Because expected positive performance outcomes and expected image risks have significant impacts on employee innovative behavior, factors that have important effects on these outcome expectations are also likely to affect innovative behavior. In particular, only two antecedents were found to significantly influence expected image risks in this

study. Further research needs to examine other factors (e.g., peer relationship, group norms, individual personalities) that affect this image risk concern.

In this study, I chose to study individual innovative behavior from a motivational approach. However, motivation by itself is not sufficient for actions. Future research needs to examine how these motivational reasons function with other ability related factors (such as self-efficacy and creative capabilities) to affect innovative behavior. Also, the model only explores extrinsic motivational reasons for employees to innovate in the workplace. Future research needs to explore the role of intrinsic motivation and more importantly how extrinsic motivational reasons interact with intrinsic motivation to affect individual innovation. Do they substitute for each other or do they function simultaneously in individual innovation processes? Moreover, this study only tested one type of moderator (i.e., reward-contingencies) on the relationship of outcome expectations and innovative behavior. Future studies need to explore the role of other potential moderators (e.g., publicity/visibility of the behavior, level of competition within the organization).

Employee innovative behaviors create continuous changes in the organization from the bottom up. In their review of the organization change literature, Pettigrew, Woodman, and Cameron (2001) pointed out the necessity to take a cross-cultural perspective and to gain more knowledge from international comparative studies. The results of this study will also stimulate research questions related to cultural differences in innovation. Different outcome expectations may have different impacts on innovative behavior for employees from different cultures. For example, image considerations or

the “face” issue may be more important for Chinese employees. The strength of the relationship between some of the antecedents and outcome expectations may also vary across cultures. For example, reputation and social expectations may have a stronger impact on image outcome expectations in a country characterized by collectivism.

This study is an attempt to theorize and test proximal motivational processes that lead to individual innovation. Utilizing a contingency approach, this study simultaneously tested the efficiency-oriented and social-political explanations for innovative behavior. The model tested provides a preliminary framework to understand the effects of different contextual and individual factors based on major learning and motivation theories. I hope this study will stimulate more process-oriented innovation research and will encourage more theory building and testing in the area of individual innovation.

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