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# Understanding the Link Between Organizational Communication and Innovation: An Examination of Public, Nonprofit, and For-Profit Organizations in South Korea

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**Abstract**

Innovation and internal communication are essential for any successful organization. Although communication within organizations has long been studied in the for-profit sector, we still know little about the impact of communication types on innovation in the public and nonprofit sectors. To examine this question, we leverage and construct a longitudinal dataset using 5 years of the Korean Workplace Panel Survey (KWPS) from 2005 to 2013. Employing media richness theory, this study finds that internal communication positively influences innovation in the for-profit sector, which is a finding consistent with prior studies. Similarly, in the nonprofit sector, we find that meeting with the executive director and the number of communication channels utilized in an organization has a positive impact on innovation. However, we do not find that these communications have any impact in the public sector.

**Keywords**

internal communication, innovation, public sector, nonprofit sector

## Introduction

Innovation has not only become vital and diffused throughout various business practices in the for-profit sector, but has also in recent years received more attention in the

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public sector (S. E. Kim & Lee, 2009; Moon & DeLeon, 2001; Walker, 2008). Government efforts to reinvent bureaucracies have emphasized organizational innovation to enhance performance, although, despite these efforts, they remain stereotyped as rule-oriented and constrained by red tape (Battaglio & Condrey, 2007; Moon & DeLeon, 2001; D. Osborne, 1993; Sørensen & Torfing, 2011). Scholars agree that innovation enables public and nonprofit organizations to enhance efficiency, improve performance, deliver better services, and be more responsive to customers (Frederickson, 1996; D. Osborne, 1993; Sørensen & Torfing, 2011).

Innovation is also critical to the nonprofit sector. Nonprofit organizations are known as "leading innovators in tackling social problems" (Dover & Lawrence, 2012, p. 991) and are believed to exhibit greater propensities for innovation (McDonald, 2007; S. P. Osborne, Chew, & McLaughlin, 2008). For instance, although social entrepreneurship is not an exclusive descriptor of nonprofits, the term has its roots in the nonprofit sector where it was coined to describe the sector's high level of innovation (Phills, Deiglmeier, & Miller, 2008). In addition, nonprofit organizations are under pressure to adopt businesslike approaches that may demand innovation. Stakeholders and clients expect to see effective, accountable, and well-performing nonprofit organizations that exhibit continuous innovation (S. P. Osborne et al., 2008).

Research suggests that an organization's internal communication facilitates continuous change. However, the effects of communication on organizational innovation, specifically employee-driven innovation, have not received as much attention in the public and nonprofit sector research as they have in for-profit sector research (Dover & Lawrence, 2012; Windrum, 2008). Furthermore, little is known about the different effects of communication on innovation across the three sectors, especially in an international context. In this sense, studies in the Korea context are noteworthy when considering Korean Confucianism and the relationship between nonprofits and governments.

Major themes in the literature include examining the effectiveness of communication on productivity (Clampitt & Downs, 1993), job satisfaction and turnover intentions (Gregson, 1990), job commitment (Putti, Aryee, & Phua, 1990), and understanding organizational strategies (Al-Ghamdi, Roy, & Ahmed, 2007). Unlike in for-profit sector research, only a relatively small number of studies on public and nonprofit organizations, such as law enforcement organizations and hospitals, have examined the effects of communication (Pincus, 1986; Quinn & Hargie, 2004).

Kuchi (2006) argues that stakeholders understand organizational changes and direction through communication. He notes, "the more stakeholders hear and learn about why and how an organization is moving in a particular direction, the lesser conflicts there will be between stakeholders and the organization's understanding of programs and priorities" (Kuchi, 2006, p. 219). Employees understand their employing organizations' strategies, gain knowledge and information, and build trust with senior management via their organization's internal communication (Al-Ghamdi et al., 2007; Byrne & LeMay, 2006; Tkalac Verčič, Verčič, & Sriramesh, 2012). Furthermore, internal communication serves a pivotal role not only in innovation but also in organizational performance. Effective internal communication enhances not only an organization's reputation and credibility externally but also employee job satisfaction

and performance internally (Clampitt & Downs, 1993; Gregson, 1990; Mazzei, 2013; Pincus, 1986).

This study tests media richness theory and investigates what types of communication media are effective for employee-driven innovation. Specifically, a comparison is made of the different effects across the public, nonprofit, and for-profit sectors. Considering that nonprofit and for-profit organizations are more flexible and less hierarchical than their public sector counterparts (Chen, 2012; Feeney & Rainey, 2010), it is important to better understand the different impacts of internal communication on employee-driven innovation in each sector. The key questions that this investigation seeks to answer include: What are the different influences of internal communication on employee-driven innovation across the public, nonprofit, and for-profit sectors? What types of communication media affect employee-driven innovation? Answers to these inquiries will provide theoretical and practical implications regarding the critical roles communication plays within an organization.

In this study, we first present a literature review that provides the theoretical background, including sector dissimilarities, Korea context, and the relationship between communication and innovation. Hypotheses are generated. Next, we discuss our methodology and the findings, respectively. Finally, we conclude with a discussion of the implications of our findings.

## Literature Review

There is no overarching or umbrella theory of organizational communication because communication occurs in a variety of forms depending on the subjects or stakeholders who are communicating (Putnam & Mumby, 2014; Ruck & Welch, 2012). The general definition of communication is "the process of transferring information and meaning between senders and receivers, using one or more written, oral, visual, or electronic channels" (Bovée & Thill, 2010, p. 4). More specifically, Kalla (2005) defines communication within an organization as "integrated internal communications, that is all formal and informal communication taking place internally at all levels of an organization" (p. 304).

Communication is a mechanism determining how receivers interpret the sender's message and their intended meaning (Bovée & Thill, 2010). Therefore, matching an appropriate communication method with the contents of a given message is essential for accurate interpretation of the sender's intended meaning. Moreover, the quality of the message is more important than the quantity of messages. Farrell, Kadous, and Towry (2012) find that communication has an impact on employee effort and allocations. Communicating qualitative information has more effects on the allocations than communicating quantitative information. Hence, selecting appropriate communication media in accordance with the message is critical for communication quality and success.

### *Media Richness Theory*

Media richness theory, introduced by Daft and Lengel (1984), proposes that different types of communication media are used depending upon the complexity of

the information conveyed to reduce the uncertainty and equivocality generated by environments. They define the term richness as "the potential information-carrying capacity of data," in that "[t]he face-to-face medium conveys the richest information while formal numeric documents convey the least rich information" (Daft & Lengel, 1984, p. 196). This richness of information stems from the face-to-face medium normally including both verbal and nonverbal communication, sending and receiving information simultaneously (Byrne & LeMay, 2006; Daft & Lengel, 1984). This makes it the most appropriate way to communicate organizational goals, strategies, and other intangible information. In contrast, lean media is useful when clear and routine information is being delivered (Byrne & LeMay, 2006; Daft & Lengel, 1984).

The theory lays out two distinct conceptual models that are defined as the vertical and horizontal information models. The vertical information model explains how organizations process information hierarchically. When top management must convey subjective, fuzzy, and equivocal information, rich media is used to refine the information such that it is more clear and tangible. Even though all types of media are used at every level, rich media are more likely to be used at the top level, and lean media are more likely to be used at the lower levels. In turn, horizontal information processing between departments is used for coordination (Daft & Lengel, 1984). Media richness is essential when organizations need to build common perspectives and overcome any discrepancies in goals or values between internal stakeholders. For this reason, less rich media can be used effectively but only once common perspectives are built. The vertical information model suggests that sources of information are normally found at the top level of an organization. When top management or an immediate supervisor need to convey information to employees, their choice of communication media is dependent on the information (Byrne & LeMay, 2006).

Employees also perceive the information they receive differently than the top management or supervisors who convey it. For instance, research has found employees desire more and better communication (Ruck & Welch, 2012). Ruck and Welch (2012) argue that the extent to which employees understand the contents of communications is more important than the volume of information. Quinn and Hargie (2004) also find that employees feel a deficit in terms of direct and open communication with senior management. Regardless of the amount of information the mode of delivery, the level of understanding, and satisfaction are the critical features that organizations must consider for successful internal communication (Ruck & Welch, 2012). In short, the research stresses the quality of communication as opposed to the quantity of communication.

With respect to the relationship between communicators, trust is an essential factor that leads to higher employee satisfaction in communication. Research has found that the quality of information is related to the trust in top management and the satisfaction of information (Byrne & LeMay, 2006). The literature also finds that how organizations communicate is dependent on the characteristics of information. They find that employee "perceptions of quality of information from the supervisor were more strongly related to satisfaction in rich media than lean media" (Byrne & LeMay, 2006, p. 166). From the findings, they conclude that organizations use lean media when they

communicate corporate-wide information and use rich media for job-relevant and specific information.

## Communication and Innovation

Innovation is an action intended to enact change and is a phrase often used interchangeably with change or creativity (Crossan & Apaydin, 2010; Lewis, 2014). Damanpour (1991) defines innovation as "adoption of an internally generated or purchased device, system, policy, program, process, product, or service that is new to the adopting organization" (p. 556). Crossan and Apaydin (2010) expanded the term as

> "production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome" (p. 1155).

The innovation process generally includes adoption or generation, implementation, and routinization, with each phase involving communication (Crossan & Apaydin, 2010; Lewis, 2014). First, organizations initiate an innovation process when they decide to adopt a new one from outside the organization or when they generate a new idea, product, or service internally (Crossan & Apaydin, 2010). The occurrence of adoption or generation is preceded by external and internal changes in environments that spur organizations to initiate innovation, especially when they are pressured by social factors (Damanpour, 1991; Lewis, 2014). For example, Flanagin (2000) finds that the perception of social and institutional pressures shapes an organization's innovation adoption. In other words, organizations often have to change constantly because of environmental forces whether they want to or not. If organizations adapt to change, they are more likely to survive in turbulent environments (Kuchi, 2006). Demands for innovation are often generated by key stakeholders through communication (Lewis, 2014). More specifically, Lewis argues that "communication plays an important role in creating social pressure, framing opportunities and crises, and spreading opinions and attitudes about the need for change" (Lewis, 2014, p. 508).

The next phase of the innovation process, implementation, requires effective communication (Adams, Bessant, & Phelps, 2006). Communication is utilized when implementers announce, persuade, explain, and support new practices, share information with stakeholders, and manage the procedures (Lewis, 2014; Lewis, Laster, & Kulkarni, 2013). Damanpour (1991) found from a meta-analysis that internal communication has a positive relationship with organizational innovation, and argued that internal communication helps organizations to disperse diverse information. Amabile (1998) also found similar results, suggesting that the mode of communication used at the top management and team level is the key factor determining whether a project team achieves successful innovation. In addition, formal and informal communication helps organizations reframe employee perceptions about their organizations, thereby reducing resistance to change (Reger, Gustafson, Demarie, & Mullane, 1994). Once a new practice is judged as successful, the practice becomes routinized and stabilized (Lewis, 2014).

### *Dissimilarities Across Public, Nonprofit, and For-Profit Sectors*

The dissimilarities between the public, nonprofit, and for-profit sectors are widely understood by researchers, though there are some conflicting results (Kearns, 1994; Lee & Wilkins, 2011; Rainey & Bozeman, 2000). While a significant amount of research has examined the differences between the public and the for-profit sector or between the for-profit and the nonprofit sector, studies examining the differences between the public and the nonprofit sector are more recent. The research agrees that external environments, organizational structures and processes, work context, and job characteristics vary across the sectors (Blank, 1985; Mirvis & Hackett, 1983; Rainey & Bozeman, 2000; Wright, 2001).

The public and the nonprofit sector are somewhat similar to each other in terms of the values that they pursue, which also serve to distinguish them both from the for-profit sector. In the public and the nonprofit sector, goals are more ambiguous and complex, leading to difficulties in measuring outcomes (Houston, 2006; Rainey & Bozeman, 2000). In particular, the ambiguity of public values, complex goals, and the demands of transparency stemming from *publicness* cause difficulties to innovating in public organizations (Bozeman & Bretschneider, 1994; Rainey, 2014). Complex goals in public organizations ultimately result in an unavoidable preponderance of rules and red tape in public agencies (Bozeman & Bretschneider, 1994; Rainey & Bozeman, 2000). Chen (2012) points out that "rule constraints in the public sector often stem from the demand for accountability, constitutional checks and balances, and the regulations attached to the merit system" (p. 15). The resulting degree of formalization and red tape are commonly perceived as the cause of organizational inefficiency and ineffectiveness (Rainey & Bozeman, 2000). Furthermore, these constraints and personnel inflexibility contribute to public employees having negative attitudes toward their jobs (Chen, 2012).

Nonprofit organizations do not have such internal rules and constraints (Chen, 2012). Rather, the constraints that nonprofit organizations encounter stem from their legal framework. Nonprofit organizations are exempt from federal taxation, and in both the United States and Korea, they cannot distribute profits to their trustees, board members, or directors for their personal enrichment (Bennett, 2001; P. S. Kim, 2002). These legal constraints, however, do not have negative effects on organizational culture and employee job attitudes. Chen (2012) found that nonprofit employees are more likely to show positive work attitudes than public sector employees. Another study argues that employees in the nonprofit sector have more autonomy and that their tasks are more challenging and diverse than those in the other two sectors (Mirvis & Hackett, 1983).

In addition, employees in the three sectors differ inherently in some ways. Employees in the public and nonprofit sector are more likely to be motivated by intrinsic rewards than workers in the for-profit sector. Employees working at private firms are more likely to be interested in economic rewards, including salaries, bonuses, and other fringe benefits (Chen, 2012; Crewson, 1997; Lee & Wilkins, 2011; Rotolo & Wilson, 2006; Wright, 2001). Public servants, in contrast, are substantially different

from their counterparts in the for-profit sector. While public organizations are influenced by executive, judicial, and legislative officers, they are, in fact, run by non-elected administrators whose decisions and actions heavily depend on "their capabilities, their orientations, and their values" (Mosher, 1982, p. 3). Public service motivation (PSM) helps explain different types of motivation to better understand what motivates public service employees (Perry, Hondeghem, & Wise, 2010). Once people enter public organizations, they are also influenced by organizational environments that reinforce their PSM (Wright, 2001). Lee and Wilkins (2011) suggest that participation in volunteer activities is the distinctive difference between public and nonprofit sector employees.

Fundamental differences across the three sectors shape their distinctive cultural dissimilarities, including different styles of communication (Garnett, Marlowe, & Pandey, 2008). Garnett et al. (2008) argue that "an organizational culture that reflects an organization's underlying values and orientation (e.g., task, change, or loyalty) is widely seen as setting the climate and tone for communication, particularly for internal and interpersonal communication" (p. 271). They found that task orientation, feedback, and upward communication have positive relationships with organizational performance in mission-oriented organizations but had the opposite effect in rule-oriented cultures (Garnett et al., 2008). According to them, "rule-oriented cultures are focused primarily on compliance, mission-oriented cultures are focused on outcomes" (Garnett et al., 2008, p. 271). Their view is that communication plays a role in conveying the importance of rules rather than in highlighting performance in the presence of red tape and constraints. Similarly, Pandey, Coursey, and Moynihan (2007) contend that the existence of red tape in the public sector hinders efforts to construct a performance-oriented culture. They found from their interview that respondents highlighted the importance of communication to change from a rule-oriented to a goal-oriented culture.

In sum, organizational communication, particularly internal communication, reflects an organization's culture, characteristics, values, and orientation even though the underlying principles of communication are the same regardless of organization (Garnett et al., 2008). In the public sector, the three key communication differences are severity, centrality, and visibility. These unique characteristics are inherent, as government communications have a much wider audience and have a more serious impact than the communications occurring in the other two sectors (Garnett et al., 2008). Public organizations use formal and scrutinized communication methods more than the other two sectors. However, nonprofit organizations may use informal communication more often than the public sector because nonprofits are mission-driven organizations, less hierarchical, and less constrained by rules (Ott & Dicke, 2001).

The different organizational cultures, structures, and attributes across the sectors may also influence organizational innovation (Lewis, Hamel, & Richardson, 2001). Amabile (1998) posits six categories of managerial practice that affect creativity in organizations: challenge, freedom, resources, work-group features, supervisory encouragement, and organizational support. Scholars contend that individual or group autonomy has a positive impact on successful innovation (Adams et al., 2006; Amabile,

1998; Corder, 2001; Subramanian & Nilakanta, 1996). Damanpour (1991) argues that a low formalization of rules serves to induce innovative behavior among employees. Furthermore, centralization has been shown to be negatively related to the employee discretion at work (Damanpour, 1991; Subramanian & Nilakanta, 1996). Centralized power mitigates employee commitment, thereby hampering the individual and organizational level of innovation. Thus, highly rigid and formalized public organizations, coupled with risk-aversive public manager behavior, tend to quell innovation. Sørensen and Torfing (2011) state that "the public sector is commonly associated with rule-bound, bureaucratic silos characterized by red tape, inertia, and stalemate" (p. 846).

By the same token, the sense of freedom or autonomy in nonprofit organizations may encourage employees to increase intrinsic motivation and innovate (Mirvis & Hackett, 1983). Nevertheless, nonprofit organizations tend to be slow in adopting innovation due to the lack of resources, including organizational capabilities in human capital and financial support (Amabile, 1998; Damanpour, 1991; Hackler & Saxton, 2007; Subramanian & Nilakanta, 1996; Zorn, Grant, & Henderson, 2013). It is widely accepted that the amount of resources available to an organization is positively associated with the organization's level of innovation (Damanpour, 1991; Subramanian & Nilakanta, 1996). Nonprofit organizations often experience severe resource deficits, whereas for-profit organizations are relatively more capable of investing their abundant resources into innovation (Finn, Maher, & Forster, 2006; Lewis et al., 2001). Furthermore, Hackler and Saxton (2007) demonstrated the lack of capacity, willingness to use, and strategic use of new technology, even though adopting new technology is essential for nonprofit organizations to enhance their fundraising capabilities, performance, and eventually their sustainability. Like public organizations, nonprofit organizations also "tend to be significantly more risk-adverse than for-profit organizations, due to such factors as their more complex structure of responsibility" (Hull & Lio, 2006, p. 59).

## *South Korea Context*

Confucian culture is deeply rooted in Korea where people tend to respect government officials and obey rules and authorities (S. Kim, 2009). Such Korean attitudes of deference to superiors in conjunction with conservative bureaucratic structures of governments lead organizations to rely heavily on strong leadership. S. E. Kim and Lee (2009) argue that the success of government innovation is significantly tied with "new leaders' willingness to take risks for new projects, and their fresh perspectives" (p. 359) in Korea. Furthermore, rigid human resource management, such as closed recruiting and a rank-in-person system, exacerbates institutional inflexibility that in turn perpetuates a highly rule-bounded organizational culture (S. Kim, 2009). In addition, organizational communication is inclined to be downward rather than upward in Korea governments.

Korean Confucianism has also affected the nonprofit sector. This philosophy fundamentally emphasizes fulfilling duties rather than exercising rights, thus hampering the growth of self-help based organizations (Bidet, 2002). Bidet (2002) points out that

"Confucianism promotes the creation of organizations strictly controlled from the top to down (i.e., by the state or the elite)" (p. 136). In addition, up until the 1980s, Korean nonprofits were suppressed by authoritarian regimes due to the sector's roles as watchdogs. The Korean National Assembly's passage of the Act of Assistance for Nonprofit Civil Organizations in 2000 (H.-R. Kim, 2000; P. S. Kim, 2002) reflected a change in this attitude to one of acceptance and embrace. Owing to such a short history, we can expect that nonprofits in Korea are still not yet free from governmental influences and are, therefore, institutionally less flexible than for-profit firms. Most nonprofit organizations are highly dependent on governments financially and institutionally (Bidet, 2002; P. S. Kim, 2002). This is a unique feature of nonprofits in Korea that contrasts them with self-help based organizations in Europe (Bidet, 2002).

## Hypotheses: Relationship Between Communication and Innovation

What are common elements that can be identified as constituting major components of employee-driven innovation? As shown previously, employee-driven innovation is more likely to be continuous and incremental rather than episodic and demands organizations' cultural support. Continuous innovation can be achieved in the presence of employee attitudes and willingness conducive to innovation (Lin, 2007). Internal communication has been found to be critical to this. The pertinent finding stems from an empirical study that found that innovators in nonprofit organizations tend to communicate more with internal stakeholders, such as paid staff and board members, than external stakeholders (Lewis, Richardson, & Hamel, 2003).

### *Communication With Top Management*

Communication with top management is critical not only for enhancing the relationship between top management and employees but also for helping employees to better understand their employing organizations. It is so important because top management uses communication as a way of delivering important organizational policies, values, and orientation (Putti et al., 1990). Researchers point out that top management activities related to communication enhance employee commitment to the organization (Putti et al., 1990). Pincus (1986) found that communication with top management is highly correlated with job satisfaction and job performance.

As media richness theory suggests, the face-to-face medium is the most effective form of communication. Top management efforts promoting a social interaction culture may encourage employee-driven innovation (Lin, 2007). Lin (2007) argues that social interaction culture is more important than extrinsic rewards for knowledge sharing. Nonprofit and for-profit organizations are more likely to have a social interaction culture than the public sector because they are more flexible and less constrained by red tape. In particular, communication with top management is easier in nonprofit organizations because they are less hierarchical than the public sector, at least in the United States. In contrast, it is difficult to build a good relationship between top

executives and employees in public organizations due to the rapid turnover of appointed leaders (Mosher, 1982). However, in Korea, this may not hold true because of Confucian cultural norms regarding deference to superiors.

In addition, informal communication may take place more frequently in the workplace than formal communication (Kalla, 2005). Informal communication is more likely to happen in face-to-face interaction (Quinn & Hargie, 2004). The research found that respondents prefer more informal verbal interaction than formal communication (Quinn & Hargie, 2004). Informal verbal communication is more useful when the contents of the communication are delicate or serious matters with regard to employees. This study hypothesizes that face-to-face communication between employees and top management is likely to enhance employee-driven innovation, but that the impacts differ depending on sector.

**Hypothesis 1a (H1a):** Meeting with top management has a positive relationship with employee-driven innovation in nonprofit and for-profit organizations.
**Hypothesis 1b (H1b):** Meeting with top management has no relationship with employee-driven innovation in public organizations.

### *Communication as a Medium of Information Sharing*

Due to technological development, the use of electronic communication, such as e-mail or Intranet systems, has been increasing significantly within organizations because it is convenient and easy to use (Ruck & Welch, 2012). As Daft and Lengel (1984) suggest, such lean media deliver clean and solid information effectively. This is important because when employees have enough information, they are able to use the information for innovation. Moreover, top management plays a role in encouraging employees to share knowledge. Research has found that support from top management affects knowledge-sharing processes while organizational rewards do not have any impact (Lin, 2007). That is to say, "perceptions of top management encouragement of knowledge sharing influence employee willingness to share knowledge" (Lin, 2007, p. 326). Department meetings that encourage the sharing of information can be perceived as support from top management. However, the lack of technological support among nonprofit organizations for communication methods hinders their ability to exploit information sharing communications (Corder, 2001). Corder (2001) contends that these disadvantages can be overcome by giving employees discretion over technology, and he found that nonprofit organizations with such discretion surpass the performance of public organizations. Based on the dissimilarities across the sectors, the hypotheses are as follows:

**Hypothesis 2a (H2a):** Information sharing communication has a positive relationship with employee-driven innovation in nonprofit and for-profit organizations.
**Hypothesis 2b (H2b):** Information sharing communication has no relationship with employee-driven innovation in public organizations.

**Hypothesis 3a (H3a):** The number of communication channels has a positive relationship with employee-driven innovation in nonprofit and for-profit organizations.
**Hypothesis 3b (H3b):** The number of communication channels has no relationship with employee-driven innovation in public organizations.

### *Upward Communication*

Robson and Tourish (2005) contend that an upward flow of information is essential for healthy organizations. Employee surveys and hotlines are ways to listen to employee attitudes and opinions. As Ott and Dicke (2001) point out, nonprofit organizations may enjoy more upward communication due to their less hierarchical culture. However, public employees may have difficulty expressing their opinions to senior administrators, especially in the Korean context where hierarchy is more important. The public sector may prefer to use downward communication because of its rule-oriented culture (Garnett et al., 2008).

**Hypothesis 4a (H4a):** Upward communication has a positive relationship with employee-driven innovation in nonprofit and for-profit organizations.
**Hypothesis 4b (H4b):** Upward communication has no relationship with employee-driven innovation in public organizations.

## Data and Method

Leveraging 5 years of the Korean Workplace Panel Survey (KWPS), this study examines the effects of internal communication on employee-initiated innovation and compares the different effects found for the public, nonprofit, and for-profit sectors. The survey has been conducted biennially since 2005 (2005, 2007, 2009, 2011, and 2013) by the Korea Labor Institute, a government-funded policy research body (Korea Labor Institute, n.d.). The Korea Labor Institute included general private firms with 30 or more employees, but excluded agricultural, forestry, fishery, and mining industries. All the public agencies with 20 or more employees were included in the survey, as well as nonprofit organizations with 30 or more employees. A stratified sampling technique was used with five regions, 12 industries, and four organizational size categories for selecting samples for the for-profit and nonprofit sector. All public organizations were comprised as the target sample population. As a result, the total number of samples was 1,749 organizations for 2005, 960 of which remained in the 2013 data (retention rate: 54.9%).

A two-stage survey method was employed. In-advance contact was made by phone call to check the organization's basic information and identify the representative who would be responsible for completing the survey, to whom the survey packet and supporting information were then mailed (Korea Labor Institute, n.d.). The sample size for one year is 870 organizations, which encompass all three sectors: for-profit ($N$ = 670), nonprofit ($N$ = 101), and public ($N$ = 99). Schools and hospitals are excluded from the dataset for two reasons. First, they are sector-mixed subfields between the

public and nonprofit sector in Korea. Second, they are coded together and distinguished from others in the survey. It is impossible to recode them into either the public or nonprofit sector. All the units are strongly balanced for the 5 years such that the total sample size is comprised of 4,350 organizations. The survey questions were asked of a human resource (HR) manager or HR senior professional in each organization. Confirmatory factor analysis and year fixed effect models were utilized for the results.

## Dependent Variable

The dependent variable is a Likert-type survey scale ranging from 1 = "*very low*" to 5 = "*very high*." The survey items measure perceptions of the extent of organizational employee-driven innovation with the following statement: "What is the extent of your organizational employee-driven innovation by comparing with the average in the same industry?" In the survey, the term "employee-driven innovation" represents a general concept that could include anything that is perceived as innovation driven by employees. Missing values were replaced with the neutral answer "similar to the average." The mean value was 3.27 out of 5.

## Independent Variables

Organizational internal communication variables are constructed by measuring communication channels that are used internally at all levels within an organization (Kalla, 2005). The internal communication includes nine observed variables, which are (a) meeting with the executive director, (b) senior director regular field trips and communication with employees, (c) hotline for direct communication with senior directors, (d) sharing business information through regular meetings within departments, (e) regular employee surveys to identify employee opinion/attitudes, (f) regular newsletter for providing business information, (g) bulletin board system (online/offline) for providing internal/external information, (h) sharing information via regular e-mail, and (i) Intranet system for sharing information that all employees can access. These nine communication channels cover the internal communication types that are traditionally used in organizations (Ruck & Welch, 2012). We inquired about all nine types of communication channels in the survey consistently over the course of the project, but did not distinguish between formal and informal communication due to the limited information in the survey. Specifically, respondents were asked whether their organization operated with a given communication channel (1 = *operate*, 0 = *otherwise*). H1 requires testing for the first two communication types: (a) meeting with an executive director and (b) senior director regular field trips and communication with employees. H2 requires testing for the five types of information-sharing communication: (a) meeting within the department, (b) newsletter, (c) bulletin board, (d) e-mail, and (e) Intranet. H3 requires testing for the number of communication channels that organizations operate, and H4 requires testing for two types of communication: (a) hotline and (b) employee survey.

Internal communication was analyzed in three ways. First, these nine variables were tested to analyze each of their independent effects on employee innovation.

Second, a single predicted factor was constructed and used to analyze the summed effect of all independent variables on innovation. Last, the number of internal communication channels in participating organizations was tested to demonstrate its effects on employee-driven innovation with a Cronbach's alpha of .69. Collinearity diagnostics results confirm that there is no multicollinearity issue among the nine independent variables.

## Control Variables

Model 2 and model 3 include various organizational characteristics. Model 2 includes four organizational HR characteristics: improvement proposal (organizational policy that allows employee proposals of work improvement), multifunctional training (formally implemented training programs for employee multifunctions), regular HR assessment, and the level of work autonomy. Three survey questions measure the first three HR practices by asking whether the respondent's organization operates with them (1 = *operate*, 0 = *otherwise*). The fourth HR practice, the level of work autonomy, was measured with four survey questions that inquired about the level of work autonomy the respondent's organization allowed for choice of task performance methods, task performance pace, new hiring decisions, and training decisions. All responses were given on a scale of 1 = "*not at all*" to 4 = "*to a great extent*." One predicted factor derived from these questions was constructed (Cronbach's alpha = .79, .84, .85, .81, and .80, respectively, from 2005 to 2013). Model 3 includes these four HR characteristics along with demographic characteristics: Seoul (1 = *located in Seoul*, 0 = *otherwise*), organization size, the percentage of female employees, and the percentage of part-time employees.

## Models

The models seek to test the relationship between internal communication and employee-driven innovation by utilizing 5 years of panel data. Three equations of year fixed effect regression models are used to specify each the models. Model 1 only includes independent variables, while model 2 and model 3 include organizational characteristics as control variables.

1. Year Fixed Effect Regression With Each Communication Channel

$$\begin{aligned} Innovation_{it} = {} & \beta_0 + \beta_1 Meeting\ with\ executive\ director_{it} + \beta_2 Seniordirectors\ field\ visit_{it} \\ & + \beta_3 Hotline_{it} + \beta_4 Meeting\ within\ Dept_{it} + \beta_5 Employee\ survey_{it} \\ & + \beta_6 Newsletter_{it} + \beta_7 Bulletin\ board_{it} + \beta_8 Email_{it} + \beta_9 Intranet_{it} \\ & + \beta_{10} Improvement\ proposal_{it} + \beta_{11} Multifunctional\ training_{it} \\ & + \beta_{12} HR\ assessment_{it} + \beta_{13} Work\ autonomy_{it} + \beta_{14} Seoul_{it} \\ & + \beta_{15} Org\ size_{it} + \beta_{16} Percentage\ of\ female_{it} \\ & + \beta_{17} Percentage\ of\ parttime_{it} + \varepsilon_{it} \end{aligned}$$

2. Year Fixed Effect Regression With the Predicted Factor

$$\begin{aligned} Innovation_{it} = {} & \beta_0 + \beta_1 Predicted\ factor_{it} + \beta_2 Improvement\ proposal_{it} \\ & + \beta_3 Multifunctional\ training_{it} + \beta_4 HR\ assessment_{it} \\ & + \beta_5 Work\ autonomy_{it} + \beta_6 Seoul_{it} + \beta_7 Org\ size_{it} \\ & + \beta_8 Percentage\ of\ female_{it} + \beta_9 Percentage\ of\ parttime_{it} + \varepsilon_{it} \end{aligned}$$

3. Year Fixed Effect Regression With the Number of Internal Communication Channels

$$\begin{aligned} Innovation_{it} = {} & \beta_0 + \beta_1 Number\ of\ channelcober_{it} + \beta_2 Improvement\ proposal_{it} \\ & + \beta_3 Multifunctional\ training_{it} + \beta_4 HR\ assessment_{it} \\ & + \beta_5 Work\ autonomy_{it} + \beta_6 Seoul_{it} + \beta_7 Org\ size_{it} \\ & + \beta_8 Percentage\ of\ female_{it} + \beta_9 Percentage\ of\ parttime_{it} + \varepsilon_{it} \end{aligned}$$

## Results

Table 1 reports descriptions of the variables from each of the three sectors. Overall, it shows that the public sector ranked second in employee-driven innovation while having the highest average number of internal communication channels and the highest average of HR practices. Specifically, the mean values of the number of internal communication channels differ, with the public sector exhibiting the highest average (4.90) while the nonprofit sector exhibited the lowest average (2.99). The for-profit sector's average lay in between (3.41). Among the demographic organizational characteristics, 53% of the public organizations are located in the capital city, Seoul, whereas only 31% of the for-profit and 21% of the nonprofit organizations are located in Seoul. The average organization size demonstrates that public organizations are the largest among the three sectors while nonprofit organizations are the smallest. The nonprofit sector reports the highest average percentage of female employees. Public organizations also have the highest averages in terms of improvement proposal (75%), multifunctional training (48%), and regular HR assessment (95%), whereas nonprofit organizations operate with only 45%, 26%, and 59%, respectively. Likewise, public organizations exhibited the highest average work autonomy (11.21).

Year fixed effect regression results in Table 2 show the differences in each internal communication's effect in each of the three sectors. First, in the for-profit sector, the communication type "meeting with an executive director" has a significantly positive relationship with employee-driven innovation in model 1 (.0559) and approaches statistical significance in models 2 and 3 (.0411 and .0409, respectively). The variable approaches statistical significance ($p < .10$) in model 3 (.0963) for nonprofit organizations. However, there is no such relationship in the public sector. Second, the "regularly conducted employee survey" variable has a significant positive association with innovation in all three models in the for-profit sector, but no significant relationship in the nonprofit and public sector. Third, in the nonprofit sector, sharing information via

**Table 1.** Variables Description.

| | For-profit ($N$ = 3,350) | | | | Nonprofit ($N$ = 505) | | | | Public ($N$ = 495) | | | | All ($N$ = 4,350) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | Minimum | Maximum | *M* | *SD* | Minimum | Maximum | *M* | *SD* | Minimum | Maximum | *M* | *SD* | Minimum | Maximum |
| Employee innovation | 3.29 | 0.63 | 1 | 5 | 3.14 | 0.54 | 2 | 5 | 3.26 | 0.58 | 1 | 5 | 3.27 | 0.62 | 1 | 5 |
| Communication Type | | | | | | | | | | | | | | | | |
| Meeting with executive director | 0.51 | 0.50 | 0 | 1 | 0.62 | 0.49 | 0 | 1 | 0.73 | 0.44 | 0 | 1 | 0.55 | 0.50 | 0 | 1 |
| Senior director field visit | 0.57 | 0.49 | 0 | 1 | 0.53 | 0.50 | 0 | 1 | 0.56 | 0.50 | 0 | 1 | 0.57 | 0.50 | 0 | 1 |
| Hotline | 0.24 | 0.43 | 0 | 1 | 0.21 | 0.41 | 0 | 1 | 0.42 | 0.49 | 0 | 1 | 0.26 | 0.44 | 0 | 1 |
| Meeting within department | 0.56 | 0.50 | 0 | 1 | 0.50 | 0.50 | 0 | 1 | 0.73 | 0.44 | 0 | 1 | 0.58 | 0.49 | 0 | 1 |
| Employee survey | 0.19 | 0.40 | 0 | 1 | 0.12 | 0.33 | 0 | 1 | 0.32 | 0.47 | 0 | 1 | 0.20 | 0.40 | 0 | 1 |
| Newsletter | 0.17 | 0.38 | 0 | 1 | 0.11 | 0.31 | 0 | 1 | 0.33 | 0.47 | 0 | 1 | 0.18 | 0.39 | 0 | 1 |
| Bulletin board | 0.53 | 0.50 | 0 | 1 | 0.42 | 0.49 | 0 | 1 | 0.71 | 0.46 | 0 | 1 | 0.54 | 0.50 | 0 | 1 |
| E-mail | 0.26 | 0.44 | 0 | 1 | 0.17 | 0.37 | 0 | 1 | 0.37 | 0.48 | 0 | 1 | 0.26 | 0.44 | 0 | 1 |
| Intranet system | 0.37 | 0.48 | 0 | 1 | 0.30 | 0.46 | 0 | 1 | 0.73 | 0.45 | 0 | 1 | 0.41 | 0.49 | 0 | 1 |
| Number of communication channels | 3.41 | 2.15 | 0 | 9 | 2.99 | 2.01 | 0 | 9 | 4.90 | 2.39 | 0 | 9 | 3.53 | 2.22 | 0 | 9 |
| HR characteristics | | | | | | | | | | | | | | | | |
| Improvement proposal | 0.61 | 0.49 | 0 | 1 | 0.45 | 0.50 | 0 | 1 | 0.75 | 0.43 | 0 | 1 | 0.61 | 0.49 | 0 | 1 |
| Multifunctional training | 0.30 | 0.46 | 0 | 1 | 0.26 | 0.44 | 0 | 1 | 0.48 | 0.50 | 0 | 1 | 0.32 | 0.47 | 0 | 1 |
| HR assessment | 0.74 | 0.44 | 0 | 1 | 0.59 | 0.49 | 0 | 1 | 0.95 | 0.22 | 0 | 1 | 0.74 | 0.44 | 0 | 1 |
| Work autonomy | 10.38 | 2.06 | 4 | 16 | 10.33 | 2.09 | 4 | 16 | 11.21 | 1.71 | 4 | 16 | 10.47 | 2.04 | 4 | 16 |
| Demographic characteristics | | | | | | | | | | | | | | | | |
| Seoul | 0.31 | 0.46 | 0 | 1 | 0.21 | 0.41 | 0 | 1 | 0.53 | 0.50 | 0 | 1 | 0.32 | 0.47 | 0 | 1 |
| Organization size | 381.91 | 717.70 | 5 | 12,967 | 247.19 | 406.94 | 8 | 3,226 | 742.83 | 1,380.41 | 10 | 10,118 | 407.34 | 805.35 | 5 | 12,967 |
| Percentage of female | 0.24 | 0.21 | 0 | 0.98 | 0.38 | 0.28 | 0 | 0.98 | 0.29 | 0.18 | 0.004 | 0.93 | 0.26 | 0.23 | 0 | 0.98 |
| Percentage of part-time | 0.01 | 0.07 | 0 | 0.85 | 0.01 | 0.05 | 0 | 0.46 | 0.01 | 0.04 | 0 | 0.42 | 0.01 | 0.06 | 0 | 0.85 |

*Note.* HR = human resource.

**Table 2.** Year Fixed Effect Regression With Each Communication Channel.

| | For-profit sector | | | Nonprofit sector | | | Public sector | | |
|---|---|---|---|---|---|---|---|---|---|
| Employee innovation | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) |
| Communication Type | | | | | | | | | |
| Meeting with executive director | 0.0559* | 0.0411† | 0.0409† | 0.0891 | 0.0888 | 0.0963† | 0.0159 | −0.0214 | −0.0223 |
| | (0.0241) | (0.0242) | (0.0243) | (0.0539) | (0.0547) | (0.0549) | (0.0593) | (0.0598) | (0.0610) |
| Senior director field visit | 0.0070 | 0.0121 | 0.0122 | 0.0399 | 0.0389 | 0.0456 | −0.0078 | −0.0057 | 0.0007 |
| | (0.0258) | (0.0256) | (0.0256) | (0.0551) | (0.0543) | (0.0545) | (0.0689) | (0.0677) | (0.0682) |
| Hotline | 0.0141 | −0.0038 | −0.0035 | 0.0480 | 0.0435 | 0.0502 | 0.0885 | 0.0744 | 0.0731 |
| | (0.0295) | (0.0292) | (0.0292) | (0.0608) | (0.0636) | (0.0637) | (0.0808) | (0.0816) | (0.0838) |
| Meeting within department | 0.0117 | 0.0059 | 0.0061 | 0.0012 | −0.0054 | 0.0001 | 0.0149 | 0.0174 | 0.0109 |
| | (0.0239) | (0.0235) | (0.0236) | (0.0620) | (0.0640) | (0.0640) | (0.0740) | (0.0741) | (0.0740) |
| Employee survey | 0.0854** | 0.0737* | 0.0734* | 0.0439 | 0.0336 | 0.0292 | −0.0171 | −0.0351 | −0.0374 |
| | (0.0329) | (0.0323) | (0.0323) | (0.1159) | (0.1154) | (0.1162) | (0.0878) | (0.0854) | (0.0867) |
| Newsletter | 0.0576 | 0.0499 | 0.0504 | −0.0601 | −0.0574 | −0.0805 | 0.0394 | 0.0170 | 0.0199 |
| | (0.0392) | (0.0387) | (0.0388) | (0.1147) | (0.1179) | (0.1153) | (0.0725) | (0.0725) | (0.0733) |
| Bulletin board | 0.0419 | 0.0347 | 0.0348 | 0.0423 | 0.0343 | 0.0138 | 0.1117† | 0.0936 | 0.0946 |
| | (0.0267) | (0.0265) | (0.0265) | (0.0581) | (0.0567) | (0.0584) | (0.0655) | (0.0663) | (0.0661) |
| E-mail | 0.0185 | 0.0069 | 0.0070 | 0.1453† | 0.1472† | 0.1387 | −0.0802 | −0.0743 | −0.0798 |
| | (0.0337) | (0.0336) | (0.0336) | (0.0856) | (0.0855) | (0.0885) | (0.0695) | (0.0702) | (0.0698) |
| Intranet system | 0.0068 | −0.0028 | −0.0034 | −0.0826 | −0.0801 | −0.0686 | −0.0085 | −0.0157 | −0.0057 |
| | (0.0312) | (0.0306) | (0.0308) | (0.1143) | (0.1120) | (0.1096) | (0.0708) | (0.0721) | (0.0722) |
| HR characteristics | | | | | | | | | |
| Improvement proposal | | −0.0036 | −0.0039 | | 0.0310 | 0.0456 | | 0.0846 | 0.0811 |
| | | (0.0273) | (0.0273) | | (0.0702) | (0.0722) | | (0.0728) | (0.0738) |
| Multifunctional training | | 0.0985** | 0.0984** | | 0.0844 | 0.0764 | | 0.1463* | 0.1546** |
| | | (0.0284) | (0.0285) | | (0.0659) | (0.0661) | | (0.0586) | (0.0584) |

*(continued)*

**Table 2. (continued)**

| | For-profit sector | | | Nonprofit sector | | | Public sector | | |
|---|---|---|---|---|---|---|---|---|---|
| Employee innovation | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) |
| HR assessment | | 0.1392** | 0.1395** | | −0.0170 | −0.0313 | | −0.1363 | −0.1427 |
| | | (0.0326) | (0.0326) | | (0.0580) | (0.0605) | | (0.1088) | (0.1100) |
| Work autonomy | | 0.0372** | 0.0374** | | −0.0138 | −0.0183 | | 0.1015** | 0.0962* |
| | | (0.0117) | (0.0117) | | (0.0278) | (0.0273) | | (0.0384) | (0.0374) |
| Demographic Characteristics | | | | | | | | | |
| Seoul | | | −0.0180 | | | −0.0008 | | | 0.0638 |
| | | | (0.1010) | | | (0.1179) | | | (0.1747) |
| Organization Size | | | 0.0000 | | | 0.0002 | | | −0.0000 |
| | | | (0.0000) | | | (0.0001) | | | (0.0001) |
| Percentage of female | | | −0.0188 | | | 0.4158 | | | −0.6957 |
| | | | (0.1712) | | | (0.3622) | | | (0.5066) |
| Percentage of part-time | | | −0.0901 | | | 1.0891 | | | 0.3421 |
| | | | (0.1887) | | | (0.6869) | | | (0.7020) |
| Year fixed effect included | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 3,350 | 3,350 | 3,350 | 505 | 505 | 505 | 495 | 495 | 495 |
| $R^2$ | .0139 | .0320 | .0321 | .0545 | .0602 | .0779 | .0364 | .0727 | .0801 |

*Note*. HR = human resource.
†$p < .10$. *$p < .05$. **$p < .01$.

regular e-mail has a significant positive relationship with employee-driven innovation in model 1 and model 2 (.1453 and .1472, respectively), but the effects disappear in model 3. There is no such effect in the other two sectors. Fourth, among the control variables, we found that multifunctional training and work autonomy have significantly positive relationships with employee-driven innovation in the for-profit and public sector. However, it does not have any impact in nonprofit organizations. The same results appear in Tables 2 to 4. Last, the regular HR assessment variable has a significant positive association with innovation in the for-profit sector, but the effects do not appear in the nonprofit and public sector, as shown in all the models in Tables 2 to 4.

Table 3 shows the relationship between the predicted factor of internal communication and employee-driven innovation. The overall communication impacts positively on innovation in for-profit organizations whereas there is no such effect in the nonprofit and public sector. The effects of the number of the internal communication channels are also examined in Table 4. The results show that it has a significant positive relationship in all three models for for-profit organizations. In the nonprofit sector, it has a significant positive relationship in model 1 (.0322) and model 2 (.0296), but the effects disappear in model 3. In addition, there is no such effect found in any of the three models for the public sector. Combining models with sector interaction also confirmed the same results as shown in Tables 2 to 4.

In sum, the results report that internal communication channels have positive effects on organizational innovation in the for-profit sector, but that the effects are mixed in the nonprofit sector and that there is no such effect in public organizations. Interestingly, multifunctional training and work autonomy have been found to have significant impacts on organizational innovation in the public sector yet no communication effects were found to exist. The results suggest very different work contexts and characteristics pertaining to organizational innovation between public and nonprofit organizations.

## Discussion

Continuous innovation driven by employees in the workplace is essential for the public and nonprofit sector. Since the 1990s, the need for change became the dominant theme in the public sector, with growing demands for innovation resulting in the contracting out of some jobs, privatization, and deregulation that together comprised dramatic and revolutionary changes (Frederickson, 1996; Sørensen & Torfing, 2011). The radical and episodic type of innovation may be effective, but gradual and incremental innovation is more likely to generate institutional changes without backfiring (Battaglio & Condrey, 2007; Frederickson, 1996). In the nonprofit sector, innovation has been perceived as a characteristic inherent to the sector due to the distinctive work of the sector. The nonprofit sector historically addresses public needs and social problems that cannot be addressed by the public or for-profit sector due to market and government failure (Dover & Lawrence, 2012; Salamon, 1987). Therefore, nonprofits must be entrepreneurial and constantly changing to survive.

**Table 3.** Year Fixed Effect Regression With the Predicted Factor.

| | For-profit sector | | | Nonprofit sector | | | Public sector | | |
|---|---|---|---|---|---|---|---|---|---|
| Employee innovation | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) |
| Predicted factor | 0.0715** | 0.0510** | 0.0510** | 0.0672 | 0.0607 | 0.0546 | 0.0393 | 0.0137 | 0.0142 |
| | (0.0161) | (0.0161) | (0.0160) | (0.0409) | (0.0428) | (0.0428) | (0.0294) | (0.0290) | (0.0299) |
| HR characteristics | | | | | | | | | |
| Improvement proposal | | −0.0033 | −0.0036 | | 0.0300 | 0.0465 | | 0.0936 | 0.0901 |
| | | (0.0274) | (0.0274) | | (0.0680) | (0.0707) | | (0.0742) | (0.0749) |
| Multifunctional training | | 0.0995** | 0.0993** | | 0.0901 | 0.0822 | | 0.1545** | 0.1623** |
| | | (0.0283) | (0.0284) | | (0.0692) | (0.0698) | | (0.0576) | (0.0576) |
| HR assessment | | 0.1383** | 0.1386** | | −0.0316 | −0.0456 | | −0.1194 | −0.1259 |
| | | (0.0328) | (0.0329) | | (0.0597) | (0.0611) | | (0.1070) | (0.1090) |
| Work autonomy | | 0.0378** | 0.0381** | | −0.0086 | −0.0115 | | 0.0998** | 0.0953* |
| | | (0.0116) | (0.0117) | | (0.0280) | (0.0277) | | (0.0376) | (0.0368) |
| Demographic Characteristics | | | | | | | | | |
| Seoul | | | −0.0260 | | | −0.0491 | | | 0.0327 |
| | | | (0.1036) | | | (0.0633) | | | (0.1589) |
| Organization size | | | 0.0000 | | | 0.0001 | | | −0.0000 |
| | | | (0.0000) | | | (0.0001) | | | (0.0001) |
| Percentage of female | | | −0.0124 | | | 0.3995 | | | −0.6844 |
| | | | (0.1702) | | | (0.3717) | | | (0.4949) |
| Percentage of part-time | | | −0.0859 | | | 1.0696 | | | 0.3280 |
| | | | (0.1930) | | | (0.6637) | | | (0.6974) |
| Year fixed effect included | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 3,350 | 3,350 | 3,350 | 505 | 505 | 505 | 495 | 495 | 495 |
| $R^2$ | .0110 | .0295 | .0296 | .0389 | .0450 | .0614 | .0238 | .0623 | .0692 |

*Note.* HR = human resource.
†$p < .10$. *$p < .05$. **$p < .01$.

**Table 4.** Year Fixed Effect Regression With the Number of Internal Communication Channels.

| | For-profit sector | | | Nonprofit sector | | | Public sector | | |
|---|---|---|---|---|---|---|---|---|---|
| Employee innovation | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) | Model 1 (*b*/*SE*) | Model 2 (*b*/*SE*) | Model 3 (*b*/*SE*) |
| Number of comm. channels | 0.0312** | 0.0223** | 0.0223** | 0.0322† | 0.0296† | 0.0280 | 0.0174 | 0.0057 | 0.0060 |
| | (0.0069) | (0.0069) | (0.0069) | (0.0165) | (0.0173) | (0.0173) | (0.0129) | (0.0128) | (0.0132) |
| HR characteristics | | | | | | | | | |
| Improvement proposal | | −0.0034 | −0.0037 | | 0.0266 | 0.0426 | | 0.0936 | 0.0901 |
| | | (0.0274) | (0.0274) | | (0.0678) | (0.0704) | | (0.0743) | (0.0749) |
| Multifunctional training | | 0.0996** | 0.0994** | | 0.0891 | 0.0808 | | 0.1548** | 0.1626** |
| | | (0.0283) | (0.0284) | | (0.0690) | (0.0696) | | (0.0578) | (0.0578) |
| HR assessment | | 0.1385** | 0.1389** | | −0.0303 | −0.0444 | | −0.1190 | −0.1254 |
| | | (0.0328) | (0.0329) | | (0.0595) | (0.0610) | | (0.1069) | (0.1089) |
| Work autonomy | | 0.0377** | 0.0380** | | −0.0098 | −0.0130 | | 0.0998** | 0.0953* |
| | | (0.0116) | (0.0117) | | (0.0281) | (0.0278) | | (0.0376) | (0.0367) |
| Demographic Characteristics | | | | | | | | | |
| Seoul | | | −0.0241 | | | −0.0530 | | | 0.0323 |
| | | | (0.1030) | | | (0.0635) | | | (0.1586) |
| Organization size | | | 0.0000 | | | 0.0001 | | | −0.0000 |
| | | | (0.0000) | | | (0.0001) | | | (0.0001) |
| Percentage of female | | | −0.0136 | | | 0.4142 | | | −0.6851 |
| | | | (0.1699) | | | (0.3692) | | | (0.4959) |
| Percentage of part-time | | | −0.0871 | | | 1.0619 | | | 0.3279 |
| | | | (0.1924) | | | (0.6486) | | | (0.6971) |
| Year fixed effect included | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| *N* | 3,350 | 3,350 | 3,350 | 505 | 505 | 505 | 495 | 495 | 495 |
| $R^2$ | .0110 | .0296 | .0297 | .0409 | .0467 | .0635 | .0238 | .0622 | .0691 |

*Note.* HR = human resource.
†$p < .10$. *$p < .05$. **$p < .01$.

Given that internal communication encourages employees to continuously innovate by shaping organizational culture, this study investigates the effects of internal communication on employee-driven innovation and compares its impacts on the public, nonprofit, and for-profit sectors. Overall, the results show that internal communication influences employee-driven innovation in the for-profit sector, but that the effects are mixed in the nonprofit sector and that there is no effect in the public sector. Meeting with the executive director and having regular employee surveys influence employee-driven innovation in the for-profit sector as hypothesized.

However, contrary to our expectations, internal communication only marginally influences employee-driven innovation in nonprofit organizations. Among nine types of communication, only meeting with the executive director and e-mail have marginally significant effects on employee-driven innovation. In addition, the number of communication channels is only marginally associated with innovation. As expected, the results show that internal communication has no effect on employee-driven innovation in the public sector. From the findings, we argue that the effects of rich media on innovation seem to appear only in the for-profit sector due to both sectoral and cultural distinctions. The application of media richness theory should be considered with contexts although rich media is indispensable for successful employee-driven innovation due to its ability to deliver sophisticated information.

Indeed, measuring the benefits of communication is relatively more difficult than measuring costs that may cause public and nonprofit organizations to be reluctant to implement communication strategies (Garnett et al., 2008). But why do communication strategies that lead to innovation in the for-profit sector not work in the public or nonprofit sectors? Do rules and regulations in the public sector stifle innovation? The different cultural contexts and work characteristics of public and nonprofit organizations may explain the very different findings. The findings report that the public sector has no communication effect on employee-driven innovation while having the highest average number of internal communication channels. Public organizations might use such communication channels more often in higher levels of hierarchies than with lower-level employees. Furthermore, considering the Korean Confucian culture of hierarchical and top-down control in government and nonprofits in Korea, rigid organizational culture obstructs open and flexible communication for innovation in these two sectors. The significant effect of autonomy on innovation found in the public sector lends some credence to this explanation.

Interestingly, the perception of autonomy is highest in the public sector. The regression results also report that work autonomy has a significant impact on public organizations' employee-driven innovation whereas there is no such effect among nonprofits. These results seem contrary to the expectations set out in the literature that nonprofits tend to utilize work autonomy more than public sector organizations (Mirvis & Hackett, 1983). Nonprofit employees might be insensitive to work autonomy, thinking naturally that autonomy should be given to them. Yet, public employees might appreciate more work autonomy. As shown by the positive effects of work autonomy, constraints and rules in public organizations may obstruct the utility of communication

strategies, but having a certain level of work autonomy appears to be a premise for better innovation.

Resource constraints and their effects on innovation in nonprofits can be translated in two ways. Nonprofit organizations heavily rely upon governmental grants and benefactor donations. As a result, they tend to avoid the risk of failure inherent to innovation (Hull & Lio, 2006). This risk-adverse behavior may subvert employee attempts to innovate. Moreover, a lack of financial resources in a nonprofit may slow adoption of innovations (Finn et al., 2006; Lewis et al., 2001). In contrast, their inherently entrepreneurial characteristics might lead to greater flexibility. Also, their lack of financial resources may force them to be innovative. Both of these scenarios are plausible when applied to nonprofits, suggesting that more attention should be paid to the factors that lead to greater innovation.

This study also has practical implications for the operations of public and nonprofit organizations. The results of this study show the importance of communication between employees and top management. Our findings suggest that meeting with the executive director has significant effects on innovation in all three models for the for-profit sector and in model 3 for nonprofits. Although employee desires for given types of communication may differ, the results indicate that the relationship between employees and top management is critical for employee-driven innovation. Public and nonprofit senior managers should build a communication strategy that involves listening to employee opinion and establishing trust with employees via the utilization of upward and rich communication media rather than just distributing information by lean media. Such communication strategy guides employees to better understand the organizational level of strategies and increases morale, leading them to be more confident when they challenge to innovation. This advice is further supported by a separate study that also found that employees desire a connection with senior management (Quinn & Hargie, 2004).

The results also indicate the importance of an upward communication channel that enables senior directors to listen to employee opinions. Conducting a regular employee survey may deliver a cultural message to employees that organizations are paying attention to their voices. In fact, organizations express the need for more and better communication and stress information flow from the bottom to the top of their hierarchies (Robson & Tourish, 2005). Robson and Tourish (2005) argue that "the absence of adequate upward communication may blind managers to the full nature of their problems" (p. 213). Our results show that having employee surveys has a significantly positive relationship with innovation in the for-profit sector, despite public organizations having the highest average of implementation. Having such a communication channel does not guarantee its effectiveness. As such, upward communication must be substantive, not perfunctory.

This study has several limitations. First, this study conducts a relatively simple comparison of the three sectors that does not distinguish specific subfields or scopes of work within each sector. Some organizations in one sector may have more in common with characteristics found more in other sectors. For example, if a nonprofit organization delivers a public service on behalf of a public agency and receives grants solely by that public agency, the organization's characteristics may be more similar to

those of a public sector organization than to those of a nonprofit-sector organization. Another possible example is that a technology-oriented organization might be more likely to encourage innovation. Therefore, this study can be considered a starting point for future research. Such future studies should focus on exploring specific fields within sectors. Second, this study utilizes the survey in a Korean context. Applying these results to other contexts should be done with caution. Hence, future studies may investigate the same research questions by selecting other contexts such as the United States or Europe and compare, in particular, how the extent of dependency on governments generates a different impact on innovation in the nonprofit sector. Third, our data have limited information. The internal communication data only reflect whether organizations implement communication channels. Communication effects may differ depending on an organization's hierarchical levels, gender distribution, or presence of other types of demographic groups. In addition, employee-driven innovation is captured by only one question, which does not explicitly define the term "employee-driven innovation" in the survey. Respondents might have interpreted the meaning differently. Furthermore, measures of organizational reforms such as decentralization or outsourcing are not included. Controlling for these variables could be critical to measuring organizational innovation, and should be examined more deeply in future studies. Also, nonprofit organizations may prefer to use informal communication channels rather than formal communication channels. We would have been able to capture these effects if we had included other types of informal communication channels. Finally, given that we found work autonomy and multifunctional training to have significant effects for the public sector, it may be that different work contexts may cause different results between public and nonprofit organizations. Fleshing out these intricacies represents a promising future research agenda.

Communication is a form of human interaction (Lin, 2007). Ruck and Welch (2012) also demonstrated that traditional face-to-face communication is the preferred channel. Therefore, sharing information and knowledge via simple electronic systems may not have the same impact on employee-driven innovation (Eimhjellen, 2014). Rather, these forms of communication supplement other richer mediums such as the face-to-face communication channel. Another study supports the argument that communication through the Internet strengthens face-to-face interaction in voluntary organizations (Eimhjellen, 2014). Hence, public and nonprofit organizations would be well served in developing balanced communication channels and encouraging their employees to actively use them.

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