행정학석사학위논문

The Effect of Organizational Democracy on Innovation in Public Organizations in Korea

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Abstract

The Effect of Organizational Democracy on Innovation in Public Organizations in Korea

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Major streams of government reform places large emphasis on improving the work environment in public organizations. As part of this movement, empowerment and easier communication are regarded as key components, which conveys increased attention to upward communication within organizations. Recent research in various fields have constantly produced research that are noteworthy related to the matter, most of which confirm that improved communication within organizations lead to positive outcomes in terms of work environment, and possibly other long term consequences.

The phenomenon related with reforms in public organizations is often adopting the skills and habits from private sector, which are known to be effective and useful. One of such would be innovation, a concept that is frequently stressed

in private sector but rather new to the public organizations. The public sector is trended in directions away from the stiff bureaucracy and towards more horizontal structures, which in turn promotes innovative behavior throughout the organization. In fact, public organizations have recently viewed to be inclining to promoting innovation in the ways of work, introducing new systems and products.

In this aspect, the current study investigates how such bottom-up communication yields positive results in terms of innovation at the organizational level. Specifically, the relationship between the level of formal channels for upward communication, to enhance organizational democracy, and two types of innovation: employee-driven innovation and output innovation is to be examined.

Using survey data from the Work Panel Study, analysis proved statistical significance for two hypotheses. First, the relationship between organizational democracy and employee-driven innovation is found to be positively correlated. The other hypothesis between organizational democracy and output innovation is also confirmed, implying a positive connection between two concepts. The results could indicate promoting organizational democracy at work yields positive outcome for the organization.

The study broadens understanding on the importance of work environment in fostering innovative behavior. Possible policy recommendation to enhance such effect is suggested, as well as study limitations and implications that follow.

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keywords: organizational democracy, communication, innovation, employee-driven innovation, output innovation, work environment
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Chapter 1. Introduction

1.1. Research Background and Purpose of the Study

Osborne and Gaebler, in their study of reinventing government (1992) have proposed 10 principles for managing the government as entrepreneurs. The features include catalytic, community-owned, competitive, mission-oriented, performance-oriented, future-oriented, customer-oriented, enterprising, and decentralization. These principles are consistent with recent reform movements in private sector considers communication as the central key to better performance and effectiveness of the organization. In the public sector, this effort is also viewed as crucial, especially when promoting small government following the New Public Management.

In this regard, private organizations also emphasize innovation at organizational level as a means to improve efficiency. One way to promote innovation would be through empowerment and decentralization, via which individuals participate to contribute to decision making. Although such movement is prevalent in private organizations, with hierarchies transforming into horizontal structures, active use of task force teams, and much discretion assigned to lower levels in the hierarchy, not much is observed in public organizations. Especially in Korea, where traditional and cultural norms value strict hierarchies, empowerment

and dispersion of power are hampered even more. However, as constant discussion on how to make effective organization is continued in the public sector represents that efforts to demolish perhaps useless customs in organizational settings, and to transform into more effective and functional organizations. Public organizations in Korea are also going through the phase to shift from old hierarchical organizations to rather horizontal and decentralized organizations, thereby adopting such mechanisms. Given the distinctive traditional background and public organizational settings, adopting concepts such as innovation and empowerment seems difficult. With evidenced data on the effect of these variables, it would be more likely that the organizations accept and make use of the new movement. This paper is expected to shed a light in how participatory environment is related to innovation in the organizations in public organizations in Korea, and possible policy recommendations will be suggested.

Chapter 2. Literature Review

2.1. Theoretical Background

Much literature emphasizes the importance of empowerment and its effect on innovation within an organization. Empowerment does not simply mean shift of power, but it rather works as a medium to encourage participation on various levels. Especially pointed out is the importance of communication on horizontal structures rather than across the vertical hierarchies. This study aims to investigate through what mechanisms such participatory communication would be encouraged, and to question whether participatory environment could lead to more innovative behavior of the organization. Specifically, I would like to examine what relationships could be established between organizational democracy or democratic procedures within an organization and innovation on organizational level.

2.1.1. Organizational Democracy

Adopting democratic procedures to gather opinions of the individuals within organization provides a forum for discussion and a realistic platform for participation in decision making in various fields. Recently, many organizations have set an agenda for a reform at organizational level, where horizontal structure to a vertical one is preferred for better communication. At the center of such reform stands more active participation from all of the members of the organization.

Literature shows that in horizontal relationships, where power is shared amongst the members, it is more likely for individuals to take on important roles (Bille, 2001). One exemplar of this would be individuals contributing to decision making via democratic procedures. In reality, voting for an election actually promotes people with the voting right to change their attitude to consider political matters with more sincerity (Olsen, 1972). Also, democratic procedures have positive relationship with political support provided by the related people (Finkel, 1987). This could be interpreted that individuals who pursue their right to vote actually shift their behavior to be more active and passionate about where their right is accounted for.

Despite positive insight involving democracy in political context, careful consideration is necessary when defining organizational democracy. Some major factors of political democracy such as responsibility for the people, participation through civil rights, exchange of information, and representativeness do not function equally within organizational democracy (Kerr, 2004). Still, as organizational reform is crucial in adapting to the rapid changing environment, to change from traditional bureaucracy to be more flexible with multi-level hierarchy (Miles & Snow, 1992). When democracy is adopted at organizational level, it provides formal and practical power to the members of the organization so that they can have an influence on the decisions made within the organization. Such empowerment enhances the organizational commitment of the individuals (Weber, Unterrainer & Seyr, 2012).

Organizational commitment in turn enhances commitment and responsibilities

regarding the final decision, thereby making a better decision after all (Harrison & Freeman, 2004). Better decision in this case entails faster decision making and implementation. Giving individuals the freedom to participate implicitly allocates accountability on results at the organizational level, thus individuals would be expected to act in accordance with the societal or organizational norms, promoting a coherence within the organization (Collins,1997). Such positive and cooperative stance suppress individuals to act against organizational norms or ideals, thereby creating a more coherent organizational climate overall (Harrison & Freeman, 2004). Creating a participatory environment at organizational level facilitates improvements at work or innovative behaviors (Melman, 2001). Discretion provided through participation helps individuals internalize that they are valuable parts in the organization, which in turn promotes for enhanced performance (Losada &Heaphy, 2004). Higher participation and contribution in decision making within organization also make problem solving for the organization more democratic (Bille, 2001), which can be viewed as morally positive.

Across different contexts, participation induces organizational commitment and motivation to make the organization function better in individuals. In fact, in a school environment, empowerment to lower hierarchy was observed when organizational democracy was emphasized, and this led students to think that they have an opportunity to make change, and be internally motivated to do so (Siegel & Rockwood, 2006). Participation via democratic procedures is accompanied by more attention and caution to the related subject matter. Since power shift through democratic procedures can help overcome resistive attitude to change (McArthur,

2002), organizational democracy is also expected to be also effective in management perspective.

Organizational democracy is, however, often difficult to actually implement and expand within the organization. Efficiency and democracy are two concepts that are in a trade-off relationship. Where democracy incorporates broad and varied opinions, taking in all of the inputs is seemingly inefficient (Harrison & Freeman, 2004). It takes time and cost, and also requires active cooperation from all members of the organization. Managers in middle and higher hierarchical levels could be resistant to such change, since it reduces their legitimate power. Members in lower hierarchy might feel like increase of work load. Thus, radical change is often required when introducing democracy in organizations (Kerr, 2004). Another disadvantage in legitimizing democracy in organizations would be the front-line workers or those in lower hierarchical level who now have a say in decision making might not actually be knowledgeable and experienced to see the big picture for the organization. Their input could be short-sighted, and take less into account of the benefit of the organization as a whole (Harrison & Freeman, 2004). In spite of such drawbacks, organizational democracy plays a positive role in organizational integration (윤정향, 2014), which is a crucial function in organizations facing constant change.

Discussions on the effect of organizational democracy can also be applied to public organizations. Smith (1976) revealed that organizational democracy in public organizations has a positive effect in enhancing individual's interpersonal skills. The study also shows that with organizational democracy, less of buck

passing, higher job satisfaction, and more creative solutions to public problems are observed. Though impediments such as the needs, customs, interests of the powered, organizational norm, bureaucratic social values and reward systems exist, the author argues that organizational democracy would bring larger advantages overall. Participation through organizational democracy signifies more voices be heard, and larger discretion assigned to those lower in the hierarchy. Allocating certain amount of discretion make individuals improve their skills and competence, transforming as a more useful component of the group (Harrison & Freeman, 2004). Empowerment also leads to more and better innovation at organization level (Frenandez & Moldogaziev, 2012), an important construct to be observed in this study.

2.1.2. Organizational Innovation

Various scholars have studied innovation with varying definition of the term. Broadly, three different perspectives on innovation exist across different researchers. First perspective is regarding innovation as something new. In this case, new idea, tactics, or process that is newly introduced to the individuals or the organization is considered as ‘innovation’ (Rogers & Shoemaker, 1971; Kimberly, 1981; Steiner, 1965; Myers and Marques, 1969). Second perspective focuses on process of innovation. In this way, anything new that is created, implemented, or adopted as well as the process of practicing the new policy, product, or service are both labeled as innovation (Urabe, 1988). Last perspective pertains to interaction

with the environment. This definition of innovation conveys a sense of introducing new idea or accepting the new idea as a result of interaction between the current organization and the environment, both internally and externally (Damanpour, 1991). This definition considers innovation as a means to adapt to the changing surroundings, in order for the organizations to survive. Under these bold streams of perspectives on innovation, specific definitions vary.

Early in the studies of innovation, definition of innovation referred to anything new, and completely new (Schumpeter, 1928). During this time, innovation itself is a rather an unfamiliar concept that would have been very new to the study of organizational behavior. Also, innovation at organizational level would have been an underdeveloped area, as firms faced rapid and steady changes since then. Barnett (1953) defined innovation as invention or discovery of something new to the organization, which implies a small change in the perception of innovation. In other words, innovation does not strictly regard something brand new that is newly created, but also accepts a discovery of something not found before. Another definition of innovation states new product, process or idea that is used or adopted for the first time, and continued use of it as 'imitation' (Mansfield, 1963). This also supports the change in the definition that pure newness is not the focus anymore. Scholars have since made changes in the definition of innovation, expanding it to first use in the organization. Becker and Whisler (1967) have defined innovation as an idea that is newly used in the organizations with the same goal. Innovation is also viewed as a new process, product, service, or an idea used in an organization for the first time (Evan & Black, 1967; Mohr, 1969) or the adoption of them

(Thompson, 1965). In more recent studies, innovation no longer is constrained as something unseen in the organization, but is extended to bring to the table the concept of change. Hansen and Wakonen (1997) in their studies have noted that with increased communication and acceptance of new things in organizations, innovation can not purely pertain to anything new. Rather, the authors have defined innovation as any changes made to the functioning of organizations. In this regard, innovation in this study can be defined as changes made to process, product, or service at organizational level.

Innovation in the current state does not refer to radical change that applies to whole of the organization, but rather is adopting new skills or way of work or genuine ideas developed to practice. In organizational context, when individual creativity and new idea or attitudes adopted by the organization is encouraged, the maximum level of innovation can be observed (Bharadwaj & Menon, 2000). This study entails that individual input as well as organizational change is required for successful innovative change. In fact, innovation at organizational level has much more impact than at individual level, signaling for a systematic support within the organization. Acknowledging that an individual and their idea is supported in the organization help them develop innovative ideas or attitudes without an apparent reward (Eisenberger et al., 1990). This research is significant in the sense that when humane qualities are fostered in the organization, the members are internally motivated to improve the status quo, which is coherent with the findings in the Hawthorne effect.

While plentiful of research emphasize the personal qualities in management,

an important factor in this relationship stands the role of leaders. Transformational leaders, as opposed to transactional leaders, are viewed to have a positive correlation with organizational performance, through organizational learning and innovation (Garcia-Morales, Jimenez-Barrionuevo, & Gutierrez-Gutierrez, 2012). Organizational learning itself both directly and indirectly affects organizational performance, which in turn has a positive impact on innovation at organizational level. The mechanism is triggered by transformational leadership. Often, leaders' competence and charisma is ranked as one of the important precedents of innovation. Transformational leaders who establish future-oriented visions for the organization and set high standards create organizational climate for accepting and promoting innovation (Sarros, Cooper, & Santora, 2008). In organizations, transformational leadership is seen to facilitate innovative behaviors in individuals (Boerner et al., 2007), making members of the organization internalize an attitude for new ideas. In fact, transformational leadership is positively related to individual creativity within organization (Gumusluoglu & Ilsev, 2009). This finding is especially evident in developing countries, where transformational leadership is positively correlated with innovation at organizational level. Such change is made via psychological empowerment to the members of the organization, motivating the members to function more innovatively. Empowerment requires aggressive demolition of bureaucratic hierarchy, often accompanied by means of communication. Legitimate and liberal communication both up and down the hierarchy promotes innovation at organizational level (Thompson, 1965). As much as leadership is crucial in creating organizational climate, the structure of

organization and its nature is equally important.

Attitudes towards innovation differed between entrepreneur organizations and conservative ones (Miller & Friesen, 1982), suggesting a significant gap amongst the nature of organization. Two categories to classify organizations, coined by Burns and Stalker (1961) are mechanistic and organic structures. While the former focuses on centralization, individualistic environment, standardization, and simple hierarchies, the latter claims the opposite. Organic structures are defined to be more complex in hierarchy, jointly specialized, decentralized, allowing for formal and informal communication structures. These features of organic organization facilitate for more innovation (Aiken & Hage, 1971). Not only within the organization, but also the relationship with outside world plays a role in promoting innovative behavior. Research done by Simao, Rodrigues, and Madeira (2016) provides insights that relationships that organizations established outside, for example with business or research partners, is positively related to innovative behavior and performance of it within the organization. This is highly related to the survival instinct of the organization. There are contradicting viewpoints on this matter. While some adopt more innovation to adjust to the changing surroundings as they age, others who fail to do so are outdated, only to produce the most innovative result which is already behind the current environment. Within the organization, one of the worst enemies to innovation would be strict bureaucratic control (Aiken & Hage, 1971; Pierce & Delbecq 1977). Especially in public organizations where bureaucratic hierarchy prevails, managers are often resistant to allocate power to their subordinates, partly due to high external control (Holdaway

et al., 1975). Such factors make managers in public organizations hold more bureaucratic control than private organizations, thereby inhibiting innovation even further.

In terms of hierarchical boundaries, it is generally accepted that innovation in public organizations initially occur from the top and is applied across the organization (Wilson, 1989). Since organizational structure and hierarchy are stressed for public organizations to function, bureaucratic cultures often entail top-down approaches when considering innovation. However, recent research suggests otherwise. In an empirical study, majority of innovative actions actually come from the middle or frontline workers (Borins, 2001). Especially in developed countries, the proportion of innovation arising among the middle or frontline workers reach almost 70 percent of all the innovations happening within the public organizations. The statistic is not as high in organizations located in developing countries, yet a large part of innovation initiated from the middle or frontline workers. This type of innovation, named as employee-driven innovation, refers to innovative behaviors and actions that are proactively suggested and acted upon by employees to make changes or improve in the work process. Not necessarily directed or led by the top managers, but voluntarily invented by the workers themselves, employee led innovations make it easier for organizations to implement various changes to the organization at multiple levels (Hurley & Hult, 1998). Organizations where employee-driven innovations are accepted also observe higher number of innovations that are successfully implemented. Learning and development on personal level, and participatory decision making are a number of concepts valued

in these organizations, thereby creating a warm climate for personal development.

Employee-driven innovation is therefore necessarily related to organizational culture. Organizations where change or innovation are where innovation is accepted and is sure to be adopted to induce practical change in the work process of the organization. In other words, there are potential demands for change and premises that such change is implemented in real life (Billett, 2012). Individual contributions to meet these demands eventually cumulate to create a holistic innovation as an organization. Although innovation might well be favored in situations where change is needed, innovation administered in uncontrolled environment could result in the opposite. While many scholars doubt any fruitful result from participatory environment, other than enhancing innovation, participation that is not monitored and managed can actually yield counterproductive outcomes (Kesting & Parm, 2010). Thus, thorough manual as to how to involve participation from frontline workers is required, for maximum outcome. Since innovation in general is related to participatory climate within the organization, employee-driven innovation implies similar relationship. A study by De Spiegelaere and Van Gyes (2012) shows that direct participation in organization is positively related with employee-driven innovation. Indirect participation is partially related, in the sense that indirect participation can induce direct participation, which leads to higher employee-driven innovation. Belief that one's contribution to make change would actually put into practice fosters innovative behaviors. In order to support or keep this belief, it is important for leaders to create an organizational climate for bottom-up approach to innovation (Borins,

2002). Leaders can take up different measures, for example by adopting rewards system for recognition, formal structures to promote innovators. Managers could take advantage of various workshops, as employees may develop innovative attitudes (Hasu et al., 2014). Employee-driven innovations involve communication back and forth within the organization, which in turn requires collaborations within the organization (Bardach, 1998). In large organizations, or especially in public organizations where inter-organization communication is lacked, formal structures to aid the communication might be required (Borins, 1998).

2.1.3. Organizational Citizenship Behavior

Previous discussions on organizational democracy and innovation have been separately made while this study aims at examining the relationship between them. Suggested mechanism of how organizational democracy affects innovation is through the concept of Organizational Citizenship Behavior. First coined by Organ (1988), 'Organizational Citizenship Behavior (OCB) is a person's voluntary commitment within an organization or company that is not part of his or her contractual tasks.' It refers to individuals' attitudes or behavior that is voluntary and that is not necessarily compensated through formal reward system or credited directly but accumulates to help organization perform more effectively. In the long run, it is closely related to organizational performance or effectiveness (Bateman &Organ, 1983; Smith, Organ &Near, 1983). There are 7 dimensions of OCB: (1) Helping Behavior, (2) Sportsmanship, (3) Organizational Loyalty, (4)

Organizational Compliance, (5) Individual Initiative, (6) Civic Virtue, and (7) Self Development (Podsakoff et al., 2000). Among these, individual initiatives refer to taking initiatives to develop genuine and innovative ideas in order to enhance personal and organizational work performance. This exactly relates to innovation dealt within this paper.

Various antecedents to OCB exist, such as job satisfaction, organizational commitment, perceived fairness, relationship with the boss, contagiousness, salary, and personal characteristics. Organizational commitment and job satisfaction is positively related with OCB (Podsakoff et al., 1996), the concepts that are also related with organizational democracy. Components of OCB proposed by Van Dyne et al. (1994) include loyalty, obedience, and participation towards the organization. In fact, relationships based on contracts within the organization may work as a mediator variable linking loyalty, functional, social, or advocacy participation to OCB (Van Dyne, Graham, & Dienesch, 1994). Clearly, organizational democracy, if implemented successfully, could work as a trigger for OCB.

Fairness in organizations can be divided into two types: distributive and procedural. Distributive fairness refers to one's output compared to inputs they asserted in work, also output compared with the co-workers. Procedural fairness refers to various aspects: (1) applied in coherence to persons and time, (2) process should not be distorted, (3) Accurate and appropriate knowledge to be collected in decision making, (4) Mandates to be made to inaccurate decisions made, (5) Appropriate to universal ethical standards, and (6) Guarantees that decision stake

into considerations of various interested parties (Leventhal, 1980). Organizational democracy could function with the procedural fairness perceived by the individuals in the organization, which could trigger OCB consequently.

Organizational environment refers to values, beliefs, or assumptions that are internalized, institutionalized and shared within the organization. Directly related to organizational performance (Drach-Zahavy, 2004; O'Reily & Chatman, 1996), organizational environment also helps to determine in-role behavior and extra-role behavior (Morrison, 1994; Van Dyne, Grahman & Dienesch, 1994). Specifically, organizational environment helps to clarify or blur the boundaries defining the in-role behavior or extra-role behavior. Once individuals are familiar with what is required and normative by the organization, task efficiency is increased (van Knippenberg, 2000). Also, cross-functional team contributes to organizational innovation and creativity (Lam et al., 1999; Sethi, Smith & Park, 2001). Managers actually take advantage of OCB to create organizational environment, thereby adjusting individuals in-/out-role behavior (Farh, Earley, &Lin, 1997). In terms of individual efforts, personal initiatives, which is one of the crucial antecedents of OCB, is often carried out through innovative ideas. Through constructive suggestions, individuals within the organization often propose new ways of achieving the goal, at both individual and group levels. This suggests that OCB could work as a mechanism for producing innovation. Innovation in this sense ranges from changes in mundane works to a more monumental or drastic change influencing a larger group of people. The motivation behind such adoption of changes are all to improve function and efficiency of individual, group, or the

organization (George & Jones, 1997).

Chapter 3. Research Design

3.1. Conceptual Framework

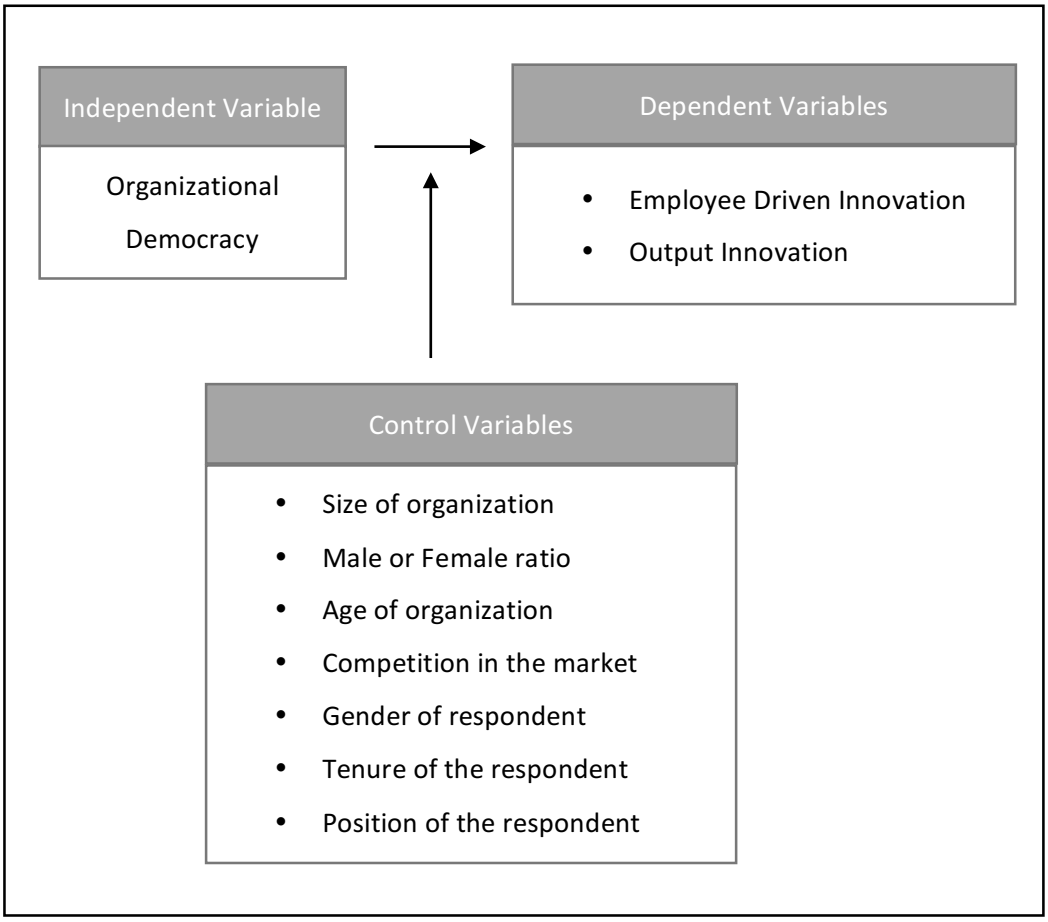

Figure 1: Conceptual Framework for the study

This study is purposed to examine the relationship between organizational democracy and innovation. Specifically, how formal channels for democracy within the organization impacts employee-driven innovation and output innovation respectively.

3.2. Research Question and Hypotheses

3.2.1. Dependent and Independent Variables

As seen with the conceptual framework, independent variable is organizational democracy and is operationalized as formal channels for participation. Previous research shows that structurally installed and stable channels for individuals to participate leads to individuals perceive that their level of participation is high (Unterrainer et al., 2011). In an organization with formal structures for participation enhances affective commitment of the individuals. Also, such legitimate structures results in more egalitarian and humanitarian moral attitudes in individuals. The significance in this study is that it distinguishes between formal structures and perceived level of participation by individuals. In fact, perceived level of participation and democracy in decision making contributes in creating a socio-moral climate in the organization (Weber, Unterrainer, & Schmid, 2009). Higher perceived participation is positively related to individuals' organizational commitment and prosocial behavior, as well as community-oriented behaviors. Prosocial behavior and socio-moral climate leads to enhanced organizational commitment (Weber et al., 2009), thereby leading to construction of organizational citizenship behavior (Podsakoff et al., 1996). With this in mind, this study focuses specifically on the formal structures established for organizational democracy. Individual perception is also important, but since the study sample covers a wide range of organizations, it would be difficult to get a fair and

objective measurement of democracy across different organizations. For this reason, the current study limits the definition of organizational democracy as the presence and use of formal structures for democratic discussion in decision making. Individual perception to organizational democracy is subject to variation and biases, and since the data surveyed a representative individual from each organization, who are responsible for designated teams, the data does not accurately represent the voice of all the members in organization. Thus, individual perception to organizational democracy is not considered for analysis in the study.

Innovation stands as the dependent variable for this study. Innovation is measured using two different constructs: employee-driven innovation and output innovation. As mentioned above, innovation occurring voluntarily from the frontline workers can be referred to as employee-driven innovation. Rather than any innovative action or change that happen as a result from directions or coordination from the upper level managers, employee-driven innovation focuses on changes in work process adopted by the workers in lower level of the hierarchy. Public organizations have constantly observed this phenomenon where implementation at the managerial level is reduced and is overrun by such changes initiated in lower level (Hasu, Saari, & Mattelmaki, 2011). Employee driven innovation emphasizes the source of innovation, happening at the employee level. It is also related with organizational commitment and job satisfaction (Høyrup, 2010). The research also proves that employee-driven innovation can ultimately result in radical change brought to the organization, implying its potential impact to the organization that is underdeveloped. Employee-driven innovation is directly

and strongly related with direct participation of the employees (Wihlman et al., 2014), where open and direct communication forums are suggested to foster such innovations. Thus, this study aims to investigate the relationship between the two constructs.

Innovation can be defined differently in detail according to the author or study design, as discussed in the previous chapter. Some perceive innovation as a radical change made in the system, and some as something new adopted to the organizational functioning. In discussing innovation, it can be distinguished as two separate concepts: technical and administrative innovation (Damanpour, 1987). Technical innovations refer to technical or systematic changes made in the organization, which are directly related to the activity and performance of the organization. It refers to adoption of a new idea, service, or new component in operations. These two types of innovations often go hand-in-hand, promoting overall innovations. When administrative innovation is accompanied by technical innovations, larger influence on maintaining or improving organizational performance was observed, compared to when the innovations are applied separately (Damanpour & Evan, 1984). Over time, changes made via administrative innovation resulting in positive social change plays a role in adopting technical innovation later in time (Damanpour, Szabat, & Evan, 1989). While technical innovations entail a direct change in organizational performance, administrative innovations accounts for a rather indirect effect, through new management system or personnel capacity building systems to improve functioning of the organization overall (Kimberly & Evanisko, 1981). When implementing

technical innovations, administrative or technical competence is required to observe a positive and effective impact of innovation (Nord & Tucker, 19878), providing further support for interaction of the two innovations. For the current study, output innovation is only considered as one of the dependent variables. In the survey, output innovation is defined as innovation in product or service, which would fall under technical innovation from the definition provided above. However, since the study deals with public organizations only, innovation in product or service could create confusion, so the wording is adjusted to output innovation. Survey items which these variables are measured from are explained later in the paper.

3.2.2. Hypotheses

The discussions above set boundaries for independent and dependent variables. Based on this, hypotheses for this study is as follows:

Hypothesis 1: Formal structures for organizational democracy is positively correlated with employee-driven innovations

Hypothesis 2: Formal structures for organizational democracy is positively correlated with output innovations

3.2.3. Control Variables

Since this study takes in data from both individual level and organizational level, various factors might affect the result. Firstly, individuals' characteristics need to be controlled. 'Opinion leaders' who practice a significant influence in the organization are likely to be men, and old in age (Rogers, 1962; Carlson, 1967). Thus, the gender and age of respondent is controlled. Gender is also considered at the organizational level, by controlling for male and female ratios in each organization. Also at the organizational level, various factors affecting innovation are to be controlled. According to Kimberly and Evanisko (1981), these can be classified into three clusters: the leader, organization, and environment. In terms of the leader, whether the person is in powered position, as they exert larger change in organizational performance (Lieberson & O'Connor, 1972). As previously discussed, hierarchy and empowerment is closely linked with innovation (Baldridge & Burnham, 1975). Thus, I plan to control job tenure of the individual or position within the organization. At organizational level, the size, age of the company is to be controlled for, as they have a significant influence on innovation (Stinchcombe, 1965). In the best case, competition in the market could also be measured because if in a competitive situation, organizations tend to be more accepting of innovations (Utterback, 1974). Regarding the survey items measuring dependent variables, the questions ask level of innovation in comparison to the market, which connotes that market competitiveness should also be considered. This measure is included as a survey item, asking the respondents how they think about competitiveness in the market. Competitiveness here refers to competitiveness of the major product or service, measured by profit or outcome.

Year that data was measured is also included in the control variable, to control for any social or national changes that happen at the macro level, which could impact the study result. Although the data is designed as panel data, the portion of data selected to be used for the analysis lacks enough repeated measurement to yield any significant result. Thus, data here is considered as separate measurements taken every other year and it is controlled accordingly.

Tables in the following page summarizes variables to be considered in the current research, as well as measurements that are included in the original survey, to be used for analysis for the study.

Table 1: Variables used in the research

Variable	Operational Definition	Theory
Independent Variable		
Organizational Democracy	The level of formal channels for organizational democracy within organization	(Unterrainer et al., 2011)
Dependent Variables		
Employee-Driven Innovation	The perceived level of employee-driven innovation	(Hasu, Saari, & Mattelmaki, 2011)
Output Innovation	The perceived level of output innovation of the organization	(Damanpour, 1987)
Control Variables		
Size of the organization	The number of employees in the organization at the time of measurement	(Stinchcombe, 1965).
Age of organization	The age of organization at the time of measurement	
Male/female ratio	Male or female ratio in comparison with all the employees in organization	'Opinion Leaders' (Rogers, 1962; Carlson, 1967)
Gender, tenure, and position of respondent	Basic information about the person responsible for completing the survey – gender, tenure and position in the organization	
Competition in the market	The perceived level of market competitiveness	(Utterback, 1974).

3.3. Data

Data to be used for the study is derived from Workplace Panel Survey done by the Korea Labor Institute. A government-funded policy research center, the Korea Labor Institute has consistently collected data from the workplace, through multilevel surveys. The Workplace Panel Survey (WPS) is approved by the national government, for extensive measurement of detailed information on organizations in Korea. WPS has been conducted every two years since 2005, which shows the integrity and consistency of the data provided. Data across the years are all used in analysis, and controlled for year, since the number of repeated measures for public organizations was not enough for statistical analysis.

The sample for WPS is derived using stratified sampling, where organizations with 30 or more employees were targeted samples from all industries, except for those in agricultural, forestry, fishery, and mining. Sampling was conducted from the pool provided by Statistics Korea, ending up with 3,916 organizations in total. For the current study, data on public organizations from the WPS data will be used.

3.4. Measures

Since WPS conducts surveys on various features of organizations, the survey items are selected for measures in the current study. To measure the independent variable, organizational democracy, survey items D402a1, D402a3, D402a4, D402a5 are used. These individual questions are originally ‘check all that applies’

set of question asking about communication channels that exists in the organization. Out of 10 means for communication, 4 are selected, which function as bottom-up communication. Other channels are rather top-down communication delivering message from the top managers to the frontline workers. However, organizational democracy emphasizes two-way communication, and open communication and participation is related with innovation (De Spiegelaere & Van Gyes, 2012). Consequently, out of the 10 items, questions that imply, on employees' behalf, passively receiving information about the organization are eliminated and not considered for analysis. The items that qualify for measuring organizational democracy are rated as having value of '1' and are cumulated as a newly established variable. For example, if an organization responds as having two out of four channels for communication among D402a1, D402a3, D402a4, and D402a5, a variable named 'formalpart' is assigned 2 as its value. The variable 'formalpart' is a quantitative variable and larger the value, more the democracy exists within the organization. The items for formal participations are 'Meeting with top management and all the employees (all or partial)', 'Operating hotline for direct communication with the executives', 'Get together with the affiliated team to share information on administration' and 'survey on regular basis to find out opinion and attitudes of the employees'.

In terms of dependent variable, two items measuring two types of innovation are used in the analysis. Question A307 in survey measures employee-driven innovation. To be exact, the question asks the level of employee-driven innovation compared to the market average, based on the previous year. Labeled as 'innov2',

it is measured in a 5-point Likert scale, and answers for 'N/A' are eliminated for analysis. The other item for innovation measures output innovation, from question A309. Question asks the level of output innovation compared with market average, also based on the previous year. A new variable named 'innov3' is created where answers from A309 on 5-point Likert scale are coded equally but 'N/A' answers are eliminated. Both 'innov2' and 'innov3' are quantitative variables.

As for the control variables, a total of 8 variables are included in the analysis. The number of employees in the organization, suggesting the size of organization, is derived directly from the statistic provided in the data. Male and female ration are calculated individually, each divided by total number of employees. Year of measurement is included to eliminate any possible social or history effects coming from the macro environment. A new variable 'estyear' is adopted to calculate the age of organization. Year of establishment of each organization is subtracted with the year of measurement, to calculate age of population. Competitiveness of the market uses data from another survey item, which asks how competitive it is for the major product or service of the organization amongst domestic market. Measured in 5-point Likert scale, this quantitative variable is also included in the analysis. As mentioned above, characteristics of 'opinion leaders' are included as the gender and position of the respondent. These are labeled 'responsegender' and 'G105' respectively. Also, the tenure of respondent is included for control. The measurements and scale for all the variables used in the current study are summarized in the table below.

Table 2: Measurement Scale of variables

Variable	Survey Item	Measurement Scale
Independent Variable		
Formal Participation	D402. Out of the options below, select all that is implemented for communication within your organization? 1) Meeting with the executives and all employees (all or partial) 2) Hotline for communication with the CEO 3) Regular meeting for information sharing on business management among departments 4) Survey on opinions and attitudes of the employees on regular basis	Level of formal participation on scale from 0 to 4
Dependent Variables		
Employee-Driven Innovation	A307. Compared to the market average, how is employee-driven innovation in your organization?	1= very low, 2= low, 3= normal, 4= high, 5= very high
Output Innovation	A309. Compared to the market average, how is output innovation in your organization?	1= very low, 2= low, 3= normal, 4= high, 5= very high
Control Variables		
Size of the organization	EP002. The number of all paid workers affiliated with your organization	The number of employees
Age of organization	A203. When was your organization established?	The year of measurement subtracted by establishment year

Male/female ratio	EP009. The number of male employees EP010. The number of female employees	The number of male or female employees compared to all
Gender of the respondent	G102. What is your gender?	Gender of respondent: 0=male, 1=female
Tenure of the respondent	G104. What is your tenure?	Tenure of the respondent: the number of years since admission
Position of the respondent	G105. What is your position?	1= Junior or below, 6=CEO
Competition in the market	A204. How competitive is the major out of organization in the market?	1= not competitive at all, 2= slightly competitive, 3= normal, 4= competitive 5= strongly competitive

3.5. Methodology

For analysis of the study, multiple regression will be used, and two identical equations are used for two different dependent variables. Out of various ordinary least squares regressions, pooled OLS regression was selected. Fixed effects or random effects regression seemed reasonable but as these methods assume there are constant changes that apply throughout the time period, it would have been difficult to measure such changes with the given data. The data is named panel data but lacks repeated measurements from all the organizations, only to leave around thirty responses for some year of measurement.

Chapter 4. Results

4.1. Descriptive Analysis

In order to obtain a grasp of the data used for the study, various descriptive analysis have been done. As stated above, a new variable was created to measure formal channels for participation, a construct representing organizational democracy. This variable has values four levels, where existence of a communication channel listed in the survey, and adds to the weighted total of the variable. On average, respondents reported 2.2 formal channels for participation where employees can share their opinions regarding the organization. In detail, out of 337 responses, 29 organizations (9%) reported that they have zero channels for bottom-up communications. 71 respondents, comprising 21% of the sample, reported to have one channel out of four listed ways for upward communication, and 95 organizations (28%) having two. A quarter have reported to have three channels (85 responses) while 57 organizations (17%) have all of the channels listed in the survey, for communication from low levels of the hierarchy upward. The result is displayed in the table below.

Table 3: Responses for formal participation

Level of Formal Participation	Frequency	Percentage
0	29	9%
1	71	21%
2	95	28%
3	85	25%
4	57	17%
Average = 2.2		

Dependent variables were employee-driven innovation and output innovation. Noted here is that some responses are omitted and were eliminated. As for employee-driven innovation, 42 participants failed to complete the survey, with 295 responses counted for the analysis. Average response for employee-driven innovation was 3.47, and the majority of response was 'similar to the market average' with 159 responses (54%). 104 responses, comprising 35% of all the responses, checked 'slightly higher than the market average', and 23 participants (8%) responded that employee-driven innovation in their organization is 'very higher than the market average'. Only 8 responded as having 'slightly lower than the market average', which was 3% of the sample, whereas one organization reported that their employee-driven innovation is 'very lower than the market

average', which comprised around 0.34% of the sample. The data is listed in the table below.

Table 4: Responses for Employee-driven Innovation

Employee-Driven Innovation	Frequency	Percentage
1	1	0.34%
2	8	2.71%
3	159	53.90%
4	104	35.25%
5	23	7.80%
Average = 3.47, Frequency Missing = 42		

Output innovation had 43 missing, leaving 294 responses for the final regression. The responses averaged to 3.52 out of 5 levels of innovation. Out of these responses, 9 organizations (3%) reportedly have output innovation that is 'slightly lower level than the market average'. The majority came from innovation level 'similar to the market average', with 140 responses, comprising 48% of the sample. 128 participants (44%) responded that the level of output innovation in their organization as being 'slightly higher than the market average', and the remaining 17 responses (6%) lied with innovation level 'very higher than the market average'.

Table 5: Responses for output innovation

Output Innovation	Frequency	Percentage
1	0	0%
2	9	3.06%
3	140	47.62%
4	128	43.54%
5	17	5.78%
Average = 3.52, Frequency Missing = 43		

For the analysis, data from a total of 355 respondents have been used. Out of all the data from different organizations in Korea, only those classified as public organizations as labeled in the data are selected for analysis for the current study. The number of respondents varied among the years of measurement, where the highest number was recorded in the year 2005 with 234 respondents. In 2007, the number dropped to 33 participants, and in 2009 to 18. In 2011, 29 representatives responded to the survey, and finally in 2013, 23 respondents from public organizations in Korea have responded to the survey. In terms of the size of organization, the public organizations who are targeted for the research have average of 796 employees, with the largest organization with 33,080 employees and smallest with 31 employees. Most of the organizations showed higher male to female ratio, meaning that there are more men than women in most of the organizations. In fact, when male and female ratio are calculated individually, compared with the overall population, the number of male to all population was

0.811, whereas female to all ratio is 0.297.

Seen from the statistics, it can be assumed that males are likely to be the dominant gender in these organizations, and it implies that in higher levels of the hierarchy, male could pursue larger influence onto the organization than females. This is related to the concept of 'opinion leaders' mentioned above, which depicts influential member of the organization as a male, with high seniority or age. While opinion leaders could refer to influential members within the organization, this study takes into consideration of characteristics of respondents for the survey. In this regard, gender and position of respondents are also calculated. Out of all the respondents, 299 were male, comprising up to 89% of total responses, and the only 38 were women, 11% of the total sample. As for the work position of the respondent, many clarified themselves as middle line managers or frontline workers – around 81%. Majority of the others, which comprised around 18% of the total, placed themselves in the deputy head, or department head, while 1% refused to clarify. Position of the respondents were collected as an important variable rather than tenure because in hierarchical environment, position works more strongly than tenure or age.

The age of the organization was calculated by subtracting the year of establishment from the year of measurement, and the organizations were on average 18.81 years old, ranging from 0 to 119 years since establishment. Competitiveness of the market was calculated from a survey item where the respondent evaluated how competitive is the market for their major output. Each option was weighted and thus higher the number, higher the perceived

competitiveness in the market. As for competitiveness, 36% of the respondents rated 3=moderate competition, which was majority. Second highest response is placed in 4=slightly high competition, with 24% responses. 18% rated that competition is very high, and 14% perceived competition of the market is very low. The rest 8% of the responses rated competitiveness of the market as being slightly low.

4.2. Regression Analysis

To investigate the impact of organizational democracy on two distinct types of innovation, multiple regression was used. Specifically, pooled regression model was used for analysis. Dependent variable is measured using 5-point Likert scale, and this is assumed as continuous variable. Although it is acknowledged that pooled regression analysis assumes no unique attributes or universal changes which could affect study results, other types of regression seemed unrealistic given the data. Year of measurement was added to control for possible universal effect that happen over time across the variables.

Attached are results tables for the regression analysis to analyze the impact of formal participation on employee-driven innovation.

Table 6: Regression analysis for employee-driven innovation

	Variable	Parameter Estimate	Standard Error
	Intercept	7.15576	31.91883
Independent Variable	Formal Participation	0.07710**	0.03436
Control Variables	Size of organization	0.00004880**	0.00001699
	Male ratio	-0.00371	0.03966
	Female ratio	-0.33119**	0.14927
	Year of measurement	-0.00216	0.01591
	Age of organization	0.00093100	0.00223
	Competition in market	-0.04816	0.03351
	Gender of respondent	0.20739	0.12653
	Tenure of respondent	0.00639	0.00741
	Position of respondent	0.01153	0.04931
N		295	
Adjusted R^2		0.0786	
F		3.79	

Note: **p<0.05

As seen above, the main effect for existence of formal participation channel on employee-driven innovation is statistically significant. This suggests that addition of one channel of participation for employees would boost employee-driven innovation by 0.07 level. This confirms the first hypothesis that organizational democracy is positively related to employee-driven innovation.

Various control variables have been included for analysis, and size of organization and female ratio have shown significant impact on employee-driven innovation. In terms of size of organization, it is predicted that larger the organization, more the employee-driven innovation. The case can be interpreted such that larger organization would presumably have more participants who are willing and ready to raise their voice and give in their opinion. It is easily assumed that small organizations would have more open communications and forums, but since this study takes into considerations only organizations with employees no less than 30, the situation would be very different from start-ups or other small organizations. Also considered is the fact that public organizations are only considered in the analysis, which are conventionally believed to have stricter hierarchies, with less chance of bashing such bureaucratic structures. In fact, smaller public organizations could more likely to stick to top-down approaches in decision making, since in such cases authority is more centralized to the executives and managers. Similar effects could be due to cultural differences, for example because the organizations are in Korea, and since public organizations in Korea

have the top managerial positions assigned by the president, the control and authority might be concentrated. Discussion on this matter will continue later in the paper since it not only affects this variable but overall study effects.

Female ratio is also seen to be significantly related with employee-driven innovation. For interpretation of this, two explanations are suggested. First, it could be truly the fact that as female ratio decreases, employee-driven innovation increases. In this case, implied is that males contribute more to creating an ambiance for employee-driven innovation. The matter with male to female could play a role here, where the existence of 'glass ceiling' might be suggested. For example, simple conclusion from the statistical analysis would be more females reduces employee-driven innovation. Glass ceiling refers to unseen, or unspoken barriers that prevent women to be promoted to higher level. Although organization democracy or innovation is not directly related with promotion, glass ceiling in this case means that women's rights at work and generalized equal opportunities might no be granted. Another explanation is related with the disparities that come from actual numbers of male and females in the organization. Looking at the descriptive statistics, it is suggested that most of the organizations have dramatically high male to female ratio. On average, organizations have 0.811 male to all employee ratio, whereas the average for female ratio is 0.297. Looking at the data, it could be may well be the fact that since many organizations have high male ratio, compared to female ratio, it happened as a result of statistical coincidence. Because female to all ratio is so small, while that for male is dominantly high, small change could be biased and exaggerated during analysis.

Table 7: Regression analysis on output innovation

	Variable	Parameter Estimate	Standard Error
	Intercept	22.43839	30.11659
Independent Variable	Formal Participation	0.10539**	0.03273
Control Variables	Size of organization	0.00003173	0.00001626
	Male ratio	0.22332	0.18811
	Female ratio	-0.15665	0.14927
	Year of measurement	-0.00978	0.01501
	Age of organization	-0.00083559	0.00227
	Competition in market	0.03730	0.03192
	Gender of respondent	0.02051	0.11839
	Tenure of respondent	0.00124	0.00706
	Position of respondent	0.08141	0.04733
N		294	
Adjusted R^2		0.0543	
F		2.87	

Note: **p<0.05

Table above shows results from regression analysis on output innovation. As indicated with the asterisk, the existence of formal participation channels was significantly related with output innovation. In other words, having formal participation structure embedded in the organization would enhance output innovation by the organization thereby confirming hypothesis 2.

Other control variables did not yield any significant impact on output innovation. This could be due to the fact that output innovation is not directly related to the individual behavior within the organization. While employee-driven innovation is significantly influenced by different variables, output innovation might be a concept too vague to grasp on individual level. As a consequence, since this data is from survey done by individuals, measuring innovation at the organizational level could be rather difficult. In other words, there was difference in levels of perception. Yet, the main effect was analyzed to be significant. An increase in a formal channel of participation would lead to 0.10539 level increase in output innovation. Considering that output innovation is measured with a variable with 5 levels, such change could contribute to increasing one tenth of innovation level. Consistent with previous result, although not significant, the effect of female ratio in the organization on output innovation is trended in negative direction, contrasting with analysis on male ratio.

Careful inspection of the results table for both analysis reveals some interesting differences. In the analysis for employee-driven innovation, the perceived level of competition in the market is negatively related with employee-

driven innovation, whereas output innovation has positive relationship with competition. The difference could be attributed to the psychology of employees. For example, employee-driven innovation could seem easier for less competitive market, because they might actually have a chance to take advantage of employee-driven innovation to making a fruitful result for performance of the organization. In contrast, where competition is rather high, output innovation, which would be a performance at the organizational level, might seem rather tardy, especially since output innovation is a vague concept that is intermediated by different factors on its way. Also, the performance of organization in the market could impact such perception. Where an organization the respondent is affiliated with is doing bad in the market, one might reason such situation that the market is too competitive for its output. Although these variables did not show statistical significance in explaining the outcome variables, it is worth noticing such differences for thorough interpretation.

Chapter 5. Conclusion

5.1. Hypotheses Testing

Two hypotheses have been established for the study and they are as follows:

Hypothesis 1: Formal structures for organizational democracy is positively correlated with employee-driven innovations

Hypothesis 2: Formal structures for organizational democracy is positively correlated with output innovations

Based on the results from analysis above, both of the hypotheses have been confirmed. Hypothesis 1 tests the relationship between organizational democracy and employee-driven innovations. With p-value of 0.0044, and positive coefficient, this hypothesis is statistically tested to be accepted. Hypothesis 2 investigating whether positive relationship between organizational democracy and output innovations exist is also confirmed. The p-value equals to 0.0014, which confirms the positive coefficient for this model.

5.2. Research Summary

This study is aimed to examine the effect of organizational democracy on innovation in public organizations in Korea. Organizational democracy is referred

to the level of formal communication channels, where employees from different hierarchical levels could voice regarding decisions made for the organization. Innovation is defined as two distinct types – employee driven innovation and output innovation. Employee-driven innovation refers to behaviors or actions to promote or initiate innovation in the lower levels of hierarchy. Specifically, out of communication channels, democracy emphasizes bottom-up direction, rather than top-down communication. This is because democracy necessarily means converging various opinions from different parts of the organization, thus upward communication is the focus for analysis in this case. In terms of output innovation, respondents self-rated the level of innovation of the organization, compared to the average of the market for the main outcome. Independent variable is organizational democracy, and dependent variables are employee-driven innovation and outcome innovation. The analysis was done with multiple regression, with control variables including size of organization, male and female ratio, year of measurement, age of organization, competition of the market for the main outcome, gender of respondent, tenure and position of the respondent. The result suggests significant relationship between organizational democracy and employee-driven innovation, with p-value of 0.0044. The impact of organizational democracy on output innovation also showed significance, where p-value equals to 0.0014. Study limitations and future implications will follow.

5.3. Study Limitations

While the result of analysis could be significant, there is plenty room for improvement in different parts of this study. First of all, the sample size was very small. Although the data was named panel data, it lacked the function. Panel data is characterized by repeated measures across time, for all the variables from the same pool of participants. However, the data used in this case had majority of responses from the first year, and the rest of measurements only recorded around thirty responses every time. Looking closely into the data, it was found that only around ten organizations responded the survey for at least two times, and fewer have completed for 3 and more repeated intervals. As a result, analysis as a panel data was not adequate, and standard regression had to be used, with year of measurement as a control variable. Larger sample, and repeated measurements from the same organization for a series of years would increase the validity of the study findings.

Apart from the absolute number of participants, a few improvements could be made regarding the variables. Innovation was measured using two separate survey items in this study. Looking at the descriptive statistics, it was found that answers to the survey was rather skewed to rate high on the innovation level of each organization. In fact, for output innovation, no response was measured for option 1, which stated that the output innovation of the organization is ‘very lower than market average’. Here, it is suspected that participants might fall into response bias, where they would want their organizations to be portrayed to be very innovative and up-to-date compared to the market average, when in fact they might not be so. Thus, in this case, more objective measure could be included to enhance

the construct validity of the variable to measure output innovation. Regarding the other innovation variable, employee-driven innovation, there is still a chance for bias similar to the one stated above, for example to show as if their organization is generally open for innovation and pursues decentralized authority. However, since this is employee-driven innovation and employees actually answered the questions, it is slightly less likely. Yet, repeated answers to the item would increase the validity. For example, multiple sources from the same organization could participate and respond to the survey, in which case representativeness of the data and eventually generalizability would be increased. Also, for both innovation measures, qualitative data could be collected in addition to the existing survey, to get more thorough understanding and information. Since this study estimates characteristics about the organization based on answers from the individuals, addition of qualitative data would increase credibility of the data. In this case, the disparity that comes from different level of analysis, where data from individual level is analyzed to represent the organizational level, could also be reduced. Suggested ways would be interviews regarding the interested variable, observation of the organization during decision making times, or establishing an objective index to measure innovation. Through these new methods, it is expected that more comprehensive and unbiased evaluation of the measures would be obtained.

Another point to be added regarding the data is related to the nature of data. It needs to be noted here that the survey items measure how individuals within the organization perceive such concepts. In other words, it might lack the actual and exact measurement of both organizational democracy and innovation, but rather

yields information on the level of perception as assumed by the employees. Thus, this has to be taken into account when interpreting the results.

Multiple responses from the same organization is also encourage for measurement of the independent variable – organizational democracy. Especially since the data was designed in ways that do not target organizational democracy in particular, but was a part of survey item questioning communication, some bias might be observed. A new survey item focusing only on organizational democracy is suggested, to raise the construct validity. The range of options provided was also very narrow, and thus adding more options to possible channels for communication might yield more proliferated data. Another suggested direction for improvement lies with perception of the individuals about the construct. In this case, out of the formal and official channels for upward communication, none proved its actual use. Gathering information about whether such channels exist is important but also important is how these channels work in function in real life. Especially since upward communication is not a concept that is used conventionally, practical measure of how these channels do or do not foster more communication needs to be considered in the analysis. Thus, a future study could be designed to investigate the relationship between formal or perceived democracy and innovation. In designing such study, it would be important to obtain data on individual perception from different parts of the organization, in different teams, positions, and so on. Deriving representative data from the organization would be the central to the follow up study.

5.4. Implications

This study yields important findings regarding the relationship between organizational democracy and innovation. Especially in current times where innovation is pursued and stressed throughout public organizations, introducing one method to induce innovation at organizational level could help the executives and the management to gain strategies about their organizations in the near future. With such significant results, the current research also contributes to the field of public administration, where theories of democracy and innovation are confirmed. It can be said that this study is interdisciplinary, in the sense that it brings psychological concept of organizational citizenship behavior to explain the relationship between organizational democracy and innovation. Logical flow of theories behind the current study implies that organizational democracy grants more authority and ownership to the members of organization, which in turn turns on organizational citizenship behavior innate within the employees. Consequently, organizational citizenship behavior motivates the individuals to act out of their role, namely ‘out-role behavior’, where people make extra efforts out of their assigned roles to make the organization a better place. Such behaviors include taking initiative to make work process efficient, enhance job satisfaction and work commitment. One way of doing so would be coming up with innovations regarding the work and performance for the organization. With the current study being significant, it could also confirm the logical and theoretical flow that links organizational democracy with innovation. Such finding yields implications for

both fields of public administration and psychology.

In practical terms, although points mentioned above regarding limitations to the study suggests otherwise, the current study has practical value. Since a dependent variable measures employee-driven innovation, perspectives on their behalf is necessary, which is satisfied by the data. Descriptive statistics reveal that majority of the responses came from frontline workers or middle managers, while only few are from the top managers and department heads. While it might have been the case that if top managers or executives have answered the survey, there could have been another bias where the executives might have answered in the preferable way the organizations could follow. As a result, it would have been more difficult to get a real grasp of the reality, what is really going on within the lower levels of hierarchy. Since the data used for current study asks employee-driven innovation to the employees who are the targets for the survey, also in terms for democracy, the study gains validity and credibility. In other words, it measures what is to be measured from the right sample. Thus, the current study conveys a sense of reality in the research, and thus could gain credibility for mirroring the real life of frontline workers.

The current study can be extended to develop novel research questions related. One could incorporate cultural differences that exist across the glove, affecting either organizational democracy or innovation. Related to organizational democracy, one can start with researching such relationship in different national states. In this case, organizational level in this study is now enlarged to the national level. For example, one can research whether innovation is fostered in

organizations in non-democratic countries less often than countries in democracy. While it is easily assumed that organizations in democratic countries would display more innovation, in organizational level it might be different. Thus, empirical study on this subject could yield more understanding about cultural differences across the world and how national state affects different organizations within the country.

Another subject related to cultural differences would be cultural diversity in the organization. In multiple studies, and in practice, working across culture is challenging (Earley & Ang, 2003), whether one is working in different cultures or working with people from different cultures. This idea is much developed to suggest a new concept named intercultural competence (Leung, Ang & Tan, 2014). Intercultural competence refers to having and showing one's competence or ability across different cultural environments (Whaley & Davis, 2007). As globalization is not a phenomenon anymore, but rather a stable state, intercultural competence is often rated as favored characteristic of an individual. However, being competent across various cultures is not necessarily followed by having the intercultural worldviews. This affects individuals motivational and behavioral insights regarding different culture and cultural contexts (Earley & Ang, 2003). Having that global mindset affects individual attitudes and behaviors across cultures, for example, it helps enhance the ability the adjust to different sociocultural states (Leong, 2007). While public organizations in Korea is still conservative and are not highly culturally diverse in the workplace, it is worth noting that such concepts exist and that are gaining its importance in the workplace. As stated previously, intercultural competence helps individuals adjust and settle down in a new sociocultural

environment. Settlement process is highly related with organizational citizenship behavior, as OCB refers to having ownership about the affiliation. Thus, intercultural competence could also be said to be related with both organizational democracy and innovation. The study incorporating intercultural competence could yield valuable findings for public organizations in the nation. Not only in such organizations, but also intercultural competence can be applied to national officials working overseas, for various reasons. Intercultural competence is related with various behavioral and psychological outcomes, which gives a hint in efficient use of such human resources to be on a mission overseas.

Especially since in public organizations, leadership has a strong influence on innovation level of the employees (Borins, 2002), utilizing this study would be of some help to the leaders and managers in the organization. Future research could include leadership to explain either organizational democracy or innovation within the organization. Leadership in public organization is crucial to foster innovation, as proposed by various scholars. However, since this is related more with top-down approaches in innovation, a new study could investigate effective leadership ways to promote bottom-up innovation. Suggested route would be creating the ambiance for innovation, decentralization, and reward to innovative behavior.

While the study only focuses on occurrence of democracy, and innovation or innovative behaviors on individual and organizational level, it lacks practical link to organizational performance. As mentioned above, organizational democracy is not strictly related with organizational performance. Rather, it reduces efficiency of the organization. Organizational democracy requires gathering and listening out for

all the opinions and ideas within the organization. In company context, such work process might not be so favorable because it takes time and energy to gather and sort out the opinions and figure out the best possible solution to a problem. Rather, it can be very counterproductive in organization perspective. Thus, organization democracy could be favored in one situation but not universally. Further research into organizational democracy could relate democracy with organizational performance. Variables could be included, which might foster or hinder the relationship, and eventually the performance level of organizations. The same applies to innovation. Definition of innovation ranges from small changes that happen in work process to creation of something very novel to the organization. Lacking from such definition is the relation with performance. Creating new things and adopting new ways of work can happen, but if it does not lead to enhanced performance, it would not be appealing to organizations. Thus, new studies into figuring out practical and beneficial ways to promote performance through innovation could bring more insights as to how to effectively and efficiently manage organizations overall. The discussion on performance is especially important since the organizations dealt with here are public organizations. Compared to private ones, public organizations are renowned for its goal ambiguity and absence of performance evaluation. Thus, setting an ideal goal, in any dimension, or a level of performance that is adjusted for public organizations would be also a task for future research.

Related with performance would be reward system embedded in the organization for both democracy or innovation. Especially since innovation or

democracy is not strongly related with enhanced performance, the incentive to promote the two concepts is rather difficult to establish. In such cases, reward system could be used to help stimulate desired behaviors. For example, rewarding innovative ideas or actions regardless of the outcome would encourage employees to take initiative and change their attitude. With democracy as well, simply structuring platforms for participation and communication might not actually lead to realistic practices of organizational democracy. To encourage and enhance organizational democracy, it is important to encourage a subgroup within the organization who can practically handle and control organizational democracy. For example, managers controlling frontline workers could be the candidates because they are likely the population to manage organizational democracy on hand, and also who would most possibly, if any, have an opinion about it. Thus, rewarding those managers for adopting various ways to incorporate democracy regardless of its performance could possibly enhance level of participation. Installing reward systems could possibly relieve some traditional limitations to research on public organization and management of them, with goal and performance ambiguity.

The current study yields insights on the relationship between organizational democracy and innovation. Especially, it has its significance in the fact that survey was done by employees in the lower levels, which could reflect practical evaluations of the constructs. Also, the study is interdisciplinary, incorporating concepts from the field of public administration and psychology, thereby providing meaningful results for both academies. Improvements with data and measurement would enrich the study, and implications for future research is provided.

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국 문 초 록

공공부문의 혁신의 주된 흐름은 업무의 환경을 향상 시키는데에 중점을 둔다. 이러한 변화에 발맞춰서 권력 위임과 커뮤니케이션의 향상이 주요 요인으로 꼽힐 수 있는데, 이는 조직 내에서 상향식의 커뮤니케이션의 중요성을 나타낸다. 업무의 환경, 그리고 커뮤니케이션과 관련하여 다양한 학계에서 중요한 연구가 이루어지고 있으며, 특히 커뮤니케이션의 향상이 조직의 업무 환경에 긍정적인 효과를 야기한다는 것을 볼 수 있다. 커뮤니케이션과 업무 환경의 관계는 장기적으로도 긍정적인 것으로 보이기 때문에, 이에 대한 연구가 더욱 중요 할 것이다.

여기서 논의되는 공공부문의 혁신이란 주로 민간 부문에서 효과적이고 유용하다고 생각되는 업무의 방식 혹은 기술을 가져오는 것을 의미한다. 이 중 조직에서의 혁신도 해당이 될 수 있는데, 이는 민간 부문에서는 흔히 강조되는 개념인 것에 반해 공공부문에서는 비교적 새로운 개념이다. 공공부문은 경직된 관료제를 떠나 수평적인 구조로 변화하는 방향으로 움직이고 있고, 이는 조직 내에서 혁신적인 행동을 촉진할 수 있는 방향성이다. 특히, 최근 공공조직들은 업무상 혹은 산출물의 혁신을 도모하는 양상을 보이고 있다.

본 연구에서는 위에서 논의된 조직 내에서의 커뮤니케이션과 혁신의 관계를 조사 하고자 한다. 특히, 상향성 커뮤니케이션이 혁신에 긍정적인 영향을 줄 수 있는지에 관한 연구가 진행되었다. 세부적으로는, 조직 내에서 사용되는 공식적으로 시행되는 상향적 커뮤니케이션의 수준과 두 가지 혁신의 연관성을 볼 수 있다. 혁신은 두 가지로 분류하여 근로자 주도 혁신과 산출물 혁신으로 구분한다.

연구를 위해서는 한국노동연구원의 사업체패널조사를 사용하였고, 두 개의 가설에 대한 통계분석이 이루어졌다. 조직의 민주성이 근로자 주도 혁신과 정적 상관관계에 있다는 가설과 조직의 민주성과 산출물 혁신이 정적

상관관계에 있다고 가설이 설정되었다. 통계 분석을 통하여 두 가지 가설 모두 통계적으로 유의미하다고 검증되었다. 이는 조직의 민주성을 향상시킴으로써 조직 내의 다양한 혁신에 긍정적인 영향을 미칠 것이라고 해석될 수 있다.

본 연구는 상향적 커뮤니케이션을 통한 조직 민주성 향상으로 업무 환경을 개선하는 것이 조직 내에서의 혁신적인 태도를 촉진시키는 것의 중요성을 논의하고 있다. 적절한 정책적 제언을 통하여 실질적으로 조직에서 유용한 방식으로 사용될 수 있을 것이다.

주요어 : 조직 내 민주성, 커뮤니케이션, 혁신, 근로자 주도 혁신, 산출물 혁신, 업무 환경

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