A2: Human Resources II: Leadership

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How Transformational Leadership facilitates Innovation Behavior of Korean Workers: Examining mediating and moderating process
How Transformational Leadership Facilitates Innovative Behavior of Korean Workers: Examining Mediating and Moderating Process

Abstract

The aim of this article is to investigate the relationship between transformational leadership and innovative behavior of Korean employees. To this end, this article also looks at whether knowledge sharing and perceived organizational support (POS) influence on the above causal relationship. The empirical results indicate that transformational leadership is significantly related to both employee innovative behavior and knowledge sharing. The results also show that knowledge sharing mediates transformational leadership and innovative behavior of employees. In addition, POS moderates the relationship between transformational leadership and innovation behavior. The authors argue that transformational leadership is necessary for innovative behavior of employees given high level of organizational support. Several managerial implications are discussed from the Korean context of leadership practice and limitations are explained for future research.

Keywords: Transformational Leadership; Innovative Behavior; Knowledge Sharing; Perceive Organizational Support; Korean Workers
Introduction

To date, Innovative behavior of employees has great importance on organizational effectiveness and survival which eventually lead to sustainable organizational development (Oldham & Cummings, 1996; Scott & Bruce, 1994; Shalley, 1995; West, Hirst, Richter, & Shipton, 2004; Woodman, Sawyer, & Griffin, 1993). Usually innovation behavior results in new idea generation, efficient multitasking process, organizational support organisms and managerial work related motivation (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Specifically, these idea generating and multitasking processes should be nurtured for long time by the managerial body or leaders of the organization what will give them a comparative gaining chance (Amabile, 1996). A couple of studies noted that leadership is argued the most important indicator of innovation behavior (Jung, Wu, & Chow, 2008) and transformational leadership is considered one of the most influential form to promote organizational innovation for last few decades (Trichy & Ulrich, 1984; Bass, 1985; Basu & Green, 1997; Congner, 1999). Findings of the previous studies indicate that TL empowers employees’ working capacity and motivates innovation behavior. Though most of the literature have been discussed from the organizational level or group level (Jung et al., 2003; Sarros, Cooper, & Santora, 2008; Gumusluoglu & Ilsev, 2009a, b) but the relation between standard TL behavior and individual employee innovation behavior is still untouched (Basu & Green, 1997; Kahai, Sosik, & Avolio, 2003; Shin & Zhou, 2003). From this point, we find a research gap of TL behavior which can influence on employee innovation behavior.

To mobilize innovation process, nowadays many organizations apply different types of stimulating actors to promote innovation behavior among the employees (Martins & Terblanche, 2003). In relation few studies considered that learning orientation acts as an important indicator for knowledge sharing activities which is a concern for, and dedication to, developing one’s competence (Dweck, 1986; Dweck & Legget, 1988). Considering above mentioned arguments, some studies claimed learning orientation as an influential factor to promote innovation behavior (Dweck & Legget, 1988). However, Redmond et al., (1993) reported that it did not show any significant stimulation for solving a specialized marketing task in laboratory manipulation. On the other hand, Shin and Zhou (2003) conducted another study among the Korean employees and supervisor and found that intrinsic motivation partially mediated the relationship between TL and
creativity. Though few studies found learning orientation and intrinsic motivation as less effective factors to promote innovation behavior but several studies argued that knowledge sharing can play an important role to promote employee innovative behavior and alleviate redundancy in the learning effort process (Scarborough, 2003; Calantone, Cavusgil, & Zhao, 2003). Moreover, Connelly and Kelloway (2003) argued that knowledge sharing is considered a key promoter to shape an innovative organization but the factors what promote or discourage knowledge sharing are meagerly understood and studied. Understanding the above mentioned research gap, we intend to revisit knowledge sharing perspective as a mediator to enhance the employee innovation behavior.

Though past studies found several factors to enhance innovation behavior such as intrinsic motivation (Shin & Zhou, 2003; Gumusluoglu & Ilsev, 2009a), conservation (Shin & Zhou, 2003), empowerment and support for innovation (Jung et al., 2003) but organizational support was yet untouched. In terms of organizational support, Jung et al., (2003) argued that support for innovation comes from top management; leader or organizational settings which entirely indicate organizational support mechanism. Perceived organizational support (POS) is considered the supportive contribution of the organizations to its employees for better performance and employee satisfaction (Rhoades & Eisenberger, 2002). So POS can encourage employees to be fully dedicated for the organization by ensuring the supportive mechanism. Thus employees will contribute to the organizational development by applying innovative ideas. Considering its influencing impact, it is necessary to consider POS as a moderating factor which will enhance the relationship between transformational leadership and innovation behavior among the employees. Although several empirical evidences proved that organization’s climate is an important predictor for innovation (Jung et al., 2003) and perceived influence (Janssen, 2005) but we intend to measure the moderating effect of POS in this study.

In this vein, the purpose of this study has three dimensions. First, we examine the causal relationship between transformational leadership and innovation behavior among Korean employees. Second, we attempt to measure the mediating role of knowledge sharing in the relationship between transformational leadership and innovation behavior. Third, we also intend to measure the moderating effect of POS in the above mentioned causal relationship.

**Ongoing Contribution of Leadership**
Since the very beginning of the organizational research, leadership has been considered one of the most vital forces to enhance organizational performance (Jago, 1982). We have seen a major change of leadership stemming from individual/autocratic leadership to team/participative leadership since last few decades (Jacobs, 1971). Since 1940, individual form of leadership changes its own shape and expressed itself as a participative style which is employee centered and relationship oriented (Gibb, 1954; Jacobs, 1971). In line with the changing paradigm, McGregor (1960) explained his two famous theories named as Theory X and Theory Y and argued in his theory Y that workers are inherently honest and intrinsically motivated to work. This behavioral theory makes a bridge between leaders and followers based on change oriented relationship. In an advanced study, Vroom and Yetton (1973) followed the work of McGregor to formulate the structure that to what extent leaders should involve followers in decision making process. In addition, this empirical work brings followers or employees into the decision-making stage of the organizations where followers feel the organizations as a family. Shortly after Theory X and Y, Greenleaf (1977) coined a new leadership style as “Servant Leadership” which includes evaluating the needs and demands of the employees and managing the organizations focusing employee oriented interest. In summary, Greenleaf made an organizational family where leaders act like a father and employees are the children. To this end, Burns (1978) coined another form of leadership which makes a breakthrough in the leadership research area named as “Transformational Leadership” in this current era. Transformational leaders focus on employee morality and this process empowers intrinsic motivation among the followers. Eventually transformational leaders show an organizational vision in front of the employees by influencing intrinsically. Here transformational leadership mostly emphasizes on the employee learning process. Though Burns (1978) conceptualized and explain the core issues of transformational leadership but Bass (1985) shaped it into the organizational context and extended the conceptual understanding. Finally, Lawler (1986) reshape the operational context of transformational leadership by applying it in the flat organizational structure and high involvement of management. Eventually we can argue that transformational leadership emphasizes more on organizational learning process which is also related with organizational knowledge sharing process and thus make the whole system more educative as well as participative. Thus transformational leaders influence followers intrinsically and motivate them to work for the organization.
**Transformational Leadership**

Transformational leadership is defined as a style of leadership that transforms followers to rise above their self-interest by altering their morale, ideals, values and motivating them to perform better than initially expected (Bass, 1985; Yukl, 1999). Several studies focused transformational leadership from the points of idealized influence, inspirational motivation, intellectual stimulation, and individual consideration (Bass, 1985; Nemanich & Keller, 2007). Idealized influence displays leaders as most respectful, trustable, and admirable, shows the features of setting vision and articulating it to accomplish, and describes leaders’ innovative potentials with ethical principles (Bass, 1999; Bass et al., 2003).

In addition, inspirational motivation leads to stimulate employee morals’ by inspirational process which results to work more effectively and efficiently. Specifically, inspirational motivation describes how leaders encourage their employees to achieve vision through enriching individual and team spirit (Bass et al., 2003). Focusing on intellectual stimulation, Bass (1999) and Bass et al., (2003) showed in their research works that how leaders use that inspirational motivation to promote employees’ innovative skills that solve problems in a unique way in the organization which is free from criticizing mistakes and employee grievances. By adopting transformational leadership culture in an organization, employees create relationship based working environment rather criticizing each other or focusing personal interest. Thus every employee values individual consideration of each other and makes a friendly organizational environment. In summary, transformational leader acts as a supervisor and employees get unique opportunity to develop learning facilities which increases organizational performances too (Bass, 1999; Bass et al., 2003; Bass & Riggio, 2006).

**Innovative Behavior**

Simply, innovation is a process to develop new ideas by the people who work in a specific organization and apply its tested outcome for better performance than current situation (Van de Ven, 1986; Grant, 2000). Therefore, innovation starts from individual thinking process which defines individual level innovation. On the other hand, when a pool of employees practices that thinking process together it is labeled as group level innovation. Following the conceptual foundation of innovation behavior, it is a multi stage process of problem recognition, idea
generations, building support for ideas, and idea implementation (Kanter, 1988; Scott & Bruce, 1994). The above mentioned process of innovation behavior is mostly influenced by motivation (Amabile, 1988) and supported by knowledge, skills and organizational supportive mechanisms (Amabile, 1983b; Barron & Harrington, 1981). However, employee innovation behavior is strongly influenced by leadership behavior as we mentioned earlier that innovation is empowered by motivation. In relation, Jung et al., (2003) argued that top managers’ leadership style positively impact on organizational innovation when employee empowerment process and organizational climate are supportive. Organizational climate indicates organizational culture which promotes transformational leadership and affects organizational innovation too (Sarros et al., 2008). Moreover, Gumusluoglu and Ilsev (2009 a, b) found that the characteristics of transformational leadership such as intrinsic motivation, psychological empowerment and managerial support influences employees/followers innovation behavior.

Depending upon the reasoning of previous studies, we argue that transformational leadership behavior intellectually stimulates employee innovative behavior capacities. By following transformational leadership features, employee innovation behavior is highly promoted. On the other hand, employee empowerment and morality enriching process also impacts on organizational vision accomplishment. To articulate organizational vision, employees depend on each other for knowledge sharing and consider themselves as an integral part of organization. In relation, organizational support is needed to accomplish organizational vision. Though the relationship between transformational relationship and employee innovation behavior has been studied over times but few studies focused on the supporting issues which can enhance the above mentioned relationship in a more specific way. In this vein, we argue that transformational leadership positively impacts on innovation behavior and that relationship will be enhanced by knowledge sharing and perceived organizational support (POS).

**Transformational Leadership and Knowledge Sharing**

Knowledge sharing can be defined as a social interaction culture, involving the exchange of employee knowledge, experiences and skills through the whole organization (Hogel et al., 2003). Usually leadership activities encourage organizational learning and promote knowledge sharing among the employees. Specifically transformational leadership excelled this notion as the core point of transformational leadership lies in building employee ideals which is the outcome of
knowledge sharing among the employees. Also numerous studies have found transformational management encourages creating a supportive working climate and provides sufficient resources to perform the task more efficiently (Lin, 2006). To focus this issue, MacNeil (2004) emphasized the importance of the transformational managements’ support to organizational knowledge sharing climate. Moreover, Lin and Lee (2004) proposed that the perceived managerial encouragement of knowledge sharing is necessary to create and maintain a positive knowledge sharing culture in the organization. While most of the leadership scholars pointed its importance on knowledge sharing, Barling and Kelloway (1999) suggested that transformational leadership was a potential predictor of knowledge sharing in organizations specifically.

Depending upon the past empirical evidences, we argue that transformational leadership considers employee moral development as its fundamental characteristic and stimulates innovative behavior. Firstly, transformational leadership intellectually stimulates employees to be innovative and problem solver and thus collectivity comes as a focal issue to work in the organization. Hence employees possess collectivity through innovation; they share their knowledge, expertise, skills and ideas with each other to accomplish the organizational vision. Secondly, leaders need to give instructions to do any organizational activities in an effective manner. To do so, leaders share instructions and feedback among the employees based on organizational knowledge. Sharing instruction among the employees certainly needs organizational knowledge and employees also need knowledge to solve their problems. Hence both of the parties share knowledge among themselves to solve existing problems or innovate new ideas. Thirdly, transformational leadership promotes participative activities or decision making practice inside the organization. While any organizational problems or decisions are taken based on leader-follower participation, knowledge sharing acts as a supportive role. Thus knowledge sharing is promoted through the organizational management practice of transformational leadership. Following above mentioned reasoning issues, we argue that transformational leadership has a positive on knowledge sharing and therefore we hypothesize as following:

**H1: Transformational leadership will influence positively knowledge sharing.**

**Transformational Leadership and Innovation Behavior**

It has been argued for last couple of years that different leadership styles have significant impact on creativity or innovation in the organizations (Mumford et al., 2002; Jung et al., 2003). From
the theoretical perspectives, transformational leadership strongly motivates followers or employees than other existing leadership forms (Yammarino, Spangler, & Bass, 1993). To support the notion, Bass and Avolio (1994) addressed transformational leadership with four behavioral aspects: inspirational motivation, intellectual stimulation, idealized influence and individualized consideration (Jung et al., 2003). Above four unique features helped to reshape employee norms and values and thus promote employee performance level (Jung & Avolio, 2000). In relation, transformational leaders promote followers’ self-efficacy through the intrinsic motivation which significantly affects on creativity and thus self-efficacy encouraged to promote new ideas (Bass, 1990b). Although several empirical and theoretical studies proved the relationship between employee innovative behavior and transformational leadership but we have more space to traverse the arena till now.

Firstly, transformational leadership shapes employee value system. Leaders act as a supervisor in the organization and transformational leaders explain the advantages of morality in front of the employees and thus value oriented employees become intrinsically motivated through the guidance of transformational leaders. Intrinsic motivation forces employees’ to be task and relationship oriented and thus employee unity enhances in a higher level. In doing so, employees become united inside the organization to work for the long term vision accomplishment. On the other hand, employees considered themselves as an independent contributor to the organization and share their working views with each other which discover a bunch of innovative ideas in every step of organizational work (Bass, 1985; Shamir, House, & Arthur, 1993). Secondly, transformational leadership always stimulates intellectually and this process helps employees to think out of the box. We mentioned earlier that transformational leaders initially emphasize on building employee morality. So the employees perceive the leaders as a supervisor or role model. In relation, leaders stimulate employee working behavior and intellectually conscious employees dedicate their whole efforts for the organizational prosperity which is the outcome of employee commitment. Also thinking out of the box perspectives brings high level of vision and employees get committed to accomplish the vision effectively. During organizational activities, employees develop their skills and enhance problem solving capabilities. Thus transformational leadership encourages employees to be innovative along with the accomplishment of organizational vision (Bass & Avolio, 1997; Geyer & Steyrer, 1998). Thirdly, the supportive actors of innovation behavior such as vision, self-efficacy, autonomy, encouragement and
challenge are nourished by transformational leadership which affect employees’ thinking ability too (Gumusluoglu & Ilsev, 2009a). Similarly, transformational leaders promote a unique organizational culture where employees feel challenged to establish their new ideas in every step and that situation push innovative behavior too. Fourthly, though new ideas come out from the individual but employees share their own ideas with team members or group members as they need to work together or in a team. In this way, innovation behavior spreads in an organizational level rather individual level and transformational leaders may play as a supervisory role model among the group members (Shalley at al., 2004).

Depending upon the above mentioned notions, we argue that transformational leadership will promote the knowledge based working system in the organization which will enhance innovation behavior eventually. To build an innovation based organization, managers always need to think about work performance, problem solving techniques, motivational indicators and performance evaluation systems. To accomplish above mentioned activities, managers also need to encourage employees for further organizational learning and sharing the organizational knowledge among each other. By following above mentioned activities, transformational leaders can encourage employee innovative behavior. From this line of reasoning, we hypothesize the relationship between transformational leadership and innovative behavior in following way:

**H2: Transformational leadership will influence positively employee innovative behavior.**

**Knowledge sharing and Employee Innovative behavior**

It is obvious that a firm’s ability to transform and exploit knowledge may determine its level of organizational innovation, such as faster problem-solving capability and enhanced rapid reaction to new information. Early scholars and a bunch of literature emphasized knowledge sharing to enhance innovation capacity (Liebowitz, 2002; Lin, 2006). Following previous empirical evidences and conceptual reasoning, we argue a close association between knowledge sharing and employee innovative behavior in this study.

Firstly, knowledge sharing starts from the employee level of an organization and the main purpose is to manage organizations more efficiently than the current state. To do so, transformational leadership intrinsically motivates and intellectually stimulates employees to accomplish organizational vision. Articulating vision is a long term process and needs whole hearted participation of single individual of the organization. Thus transformational leadership
encourages all employees to be united to obtain the long term goal. In this state, one employee share what he knows or thinks with another employee. Here, employees also need to find out the way to achieve organizational goal. To accomplish that objective, there is always a need of supply for new knowledge and it promotes innovation behavior (Ardichvill et al., 2003). Secondly, we mentioned earlier that organizational learning is a key indicator to promote employee innovation behavior. In an organizational context, knowledge sharing determines the outcome of organizational learning as sharing is necessary in an organizational environment. Also employees share their skills and expertise which are the results of knowledge sharing to innovate new ideas or solve organizational problems. Thus knowledge sharing becomes the helping hand of innovative behavior. From this line of reasoning, we also argue that knowledge sharing will help to generate new ideas which will facilitate further business opportunities and supports innovative behavior. Therefore we hypothesize:

**H3: Knowledge sharing will influence positively employee innovative behavior.**

**Knowledge sharing as a mediator**

Transformational leadership emphasizes employee moral building which promotes knowledge sharing among the employees and leaders in an organization (Bass, 1985). In relation, knowledge sharing has been argued by some noted scholars as a prerequisite for innovation (Brown & Eisenhardt, 1995; Verona et al., 2006), organizational learning (Senge, 2006) and the development of capabilities and best practices (Krogh, 1998; Argote et al., 2000). By doing above mentioned outcomes, knowledge sharing directly and indirectly encourages employee innovation behavior. Moreover, innovation behavior needs to consider revisiting existing problems and find new solutions in a different way regularly. Therefore, knowledge sharing can help employees to keep updated about existing problems and aware about upcoming challenges. Thus knowledge sharing strongly forces employees to be innovative in their work place. From the above empirical evidences, it is assumed that knowledge sharing positively mediates the relationship between TL and innovation behavior and thus we attempt to explain the mediating roles of knowledge sharing in our current study.

Firstly, it is obvious that employees who work under the leader who has high level of TL become knowledge seeker or organizational learning oriented. Accordingly these employees who share key knowledge of their work with their co-workers may increase their innovative behavior.
Secondly, employees are highly interested to develop their own skills, expertise and think to develop skills of their team members as transformational leadership promotes collective vision. By developing skills, employees share their own knowledge and try to acquire their co-workers knowledge; thus increase innovative problem solving skills and attitude (innovative behavior). Thirdly, innovation implies the generation, acceptance, and implementation of new ideas, processes, products, or services. Here, TL stimulates employees’ intrinsic motivation (to share knowledge) and it fuels expertise development (Dweck, 1986; Vandewalle, 1997). Thus employees’ innovative attitude and capability are affected both by TL and knowledge sharing activities. In addition, employees may not be expert on all fields in the same time and thus they need to depend on each other for their task completion which also indicates knowledge sharing process. Fourthly, high level of knowledge sharing ensures skilled organizational working process such as planning, organizing, outsourcing, co-coordinating among the employees and increase innovative behavior. While TL will empower employee skills and encourage knowledge sharing, knowledge sharing will stimulate employee innovation behavior.

From the above line of reasoning, we argue that knowledge sharing will influence the relationship between transformational leadership and innovation behavior. Thus we hypothesize:

**H4: The association between transformational leadership and innovation behavior will be mediated positively by knowledge sharing.**

**Perceived Organizational Support (POS) as a moderator**

Theoretically it has been considered that organizational support can affect positively the relationship between TL and employee innovation behavior. For few years, POS has been considered the organization’s contribution to a positive reciprocity with employees, as employees tend to perform better to pay back (Rhoades & Eisenberger, 2002). In relation, Eisenberger, Huntington, Hutchison, and Sowa (1986) determined that POS helps employees commit to an organization. Additionally, employees who are treated fairly will reciprocate with high job performance and positive attitudes, including organizational creative behavior (Whitener, 1997). POS also ensures employee involvement through its supportive mechanism and positively impacts on creative decision making which is also related with leadership role too (cf. Blau, 1964; Cook & Wall, 1980; Organ & Konovsky, 1989). Therefore, the organization which has high level of POS will strengthen the positive effect of TL on innovation behavior.
because of developing intrinsic motivation among the employees and this situation will increase the level of motivation to solve organizational problems. To support our view, past research has found that POS has significant effect on TL (AL-Hussami, 2008; Asgari et al., 2008) and POS can effect on knowledge sharing behavior and attitudes. Following above mentioned empirical evidences, we argue that POS positively moderates the relationship between TL behavior and employee innovation behavior based on the reasoning which is stated below:

Firstly, innovation behavior needs employee participation and professional dedication in the organization which creates intrinsic motivation to be innovative. In relation, TL usually influences on employee self-regulated working behavior which actively works for accomplishing long term vision. Above integration of TL and Innovation behavior strongly requires organizational supportive mechanism which is labeled as POS. Therefore, POS can help transformational leaders to make employees united and motivated to accomplish organizational vision by being innovative in the organization. Secondly, when employees in an organization trust its leaders, usually they response through actions (Whitener, 2001). Here, POS acts as a role player to strengthen trust between leaders and employees. In relation employee trust, POS will ensure employees commitment to work for the organizations and leaders’ dedication for the well-being of employees (Transformational leaders prioritize employee well-being). While employees are highly committed to work for the organizations, they will be innovative to solve existing problems or mobilize working process and thus POS will moderate the relationship between TL and employee innovation behavior. Thirdly, supervisory support is considered as organizational action where supervisor or instructor is the agent of management of any organizations (Levinson, 1965; Eisenberger et al., 1986) and favorable actions taken by the supervisor may enhance employee loyalty towards the organization. Thus POS builds a loyalty based working environment which is supportive to generate innovative ideas. Moreover, transformational leaders play the role of supervisor or role model by encouraging employee value creation and thus TL motivates employees to be innovative. Importantly, supervisors promote employee innovation behavior being patronized by organizational support.

In this vein, high level of POS can stimulate employee behavior to enhance the level of innovation behavior. On the other hand, low level of POS may discourage employees’ contribution for the organization. In result, employees will be intrinsically ill-motivated and relax to be innovative. From that line of reasoning, we argue that POS strengthen the relationship
between TL and innovation behavior because POS will enhance the level of knowledge sharing, trust, commitment and motivation of employees’ innovation activities. Depending upon the lines of reasoning, we hypothesize:

**H5: POS positively moderates the relationship between transformational leadership and employee innovative behavior.**

**Method**

Sample and procedure
Research was conducted at large electronics and automotive manufacturing firms in Korea. The research design incorporated the following time lag to reduce common method bias. Leadership measures were collected at time t, and followers’ perception on innovative behavior was collected approximately 3 months later at time t+1. This lag enhances the ability to interpret the results by reducing potential concerns over temporal causality confronted with cross-sectional research.

Questionnaires were administered in Korean but were originally constructed in English. We followed Brislin’s (1980) translation-back translation procedure to translate the English version into Korean. A professional translator was requested to translate the original version into Chinese which was then back translated into English by a bilingual academic who was blind to the objectives of the study and had not seen the original survey. This translator was also asked to comment on any ambiguously worded item. This process did not suggest noteworthy changes in any of the items used in this study. We then pilot tested the Korean version using 50 employees of the participating organization but who were not included in the final sample. Based on feedback from the pilot test we reworded a few items to ensure clarity. Unless otherwise indicated, response options ranged from 1 (“Strongly disagree”) to 7 (“Strongly agree”).

*Transformational leadership*

We measured transformational leadership using the 65 version of Multifactor Leadership
Questionnaire (MLQ; Bass & Avolio, 2000), which covers the four dimensions of transformational leadership—(1) charisma, (2) inspirational motivation, (3) intellectual stimulation, and (4) individualized consideration. Each dimension contained three items, with a combined total of 12 items. Sample items are “leaders are admired, respected,” “leaders can tell members what and how they should do in simple words,” “Challenges members to think about old problems in new ways,” “Leaders can provide more concerns on members in special difficulties.” Cronbach’s alpha of the summative scale was 0.93.

**Innovation behavior**

The Innovation behavior of the respondents was rated using Janssen’s (2001, 2004) nine item measures for individual innovative behavior in the workplace. Drawing on Kanter (1988) and Scott and Bruce (1994) work on the stage of innovation, three respondents indicated how often they performed innovative activities, including creating new ideas for difficult issues’ (idea generation), ‘Mobilizing support for innovative ideas’ (idea promotion), and ‘Transforming innovative ideas into useful applications’ (idea realization). The response format was a 7-point scale ranging from never (1) to always (7). Inter-correlations between the responses format of innovative behavior were over 0.79. Given these high inter-correlations, idea generation, idea promotion, and idea realization were viewed as combining additively to create an overall scale of innovative behavior. Cronbach’s alpha of the summative scale was 0.93.

**Knowledge sharing.**

To assess the participants’ perceptions of the knowledge sharing culture in their organizations, six items were included from Block (2005). A sample item is “When I have learned something new, I tell my colleagues about it”. All items were rated by respondents on a seven-point Linkert-type scale from 1 (strongly disagree) to 7 (strongly agree). Cronbach’s alpha of the summative scale was 0.94.

**Perceived organizational support**

Prior studies surveying many occupations and organizations provided evidence for the high internal reliability and unidimensionality of the Survey of Perceived Organizational Support. We used the eight-item short form (Eisenberger et al., 1997; Lynch, Eisenberger & Armeli, 1999).
The sample items include “my organization really cares about my well-being,” “my organization strongly considers my goals and values,” “my organization care about my opinion”. All items were rated by respondents on a seven-point Linkert- type scale from 1 (strongly disagree) to 7 (strongly agree). Cronbach’s alpha of the summative scale was 0.95.

Control variables

Empirical research on follower’s perception on CSR and ethical leadership indicates that one’s age, education and gender may be associated with follower’s perception on CSR and ethical rationales for the relationship between leader’s behavior and CSR (Groves and LaRocca, 2011). Other empirical research has found that gender may also be associated with transformational leadership. Thus, employees’ age, gender (1=male, 2=female) and level of highest attained education were examined as control variables in hypothesis testing.

Result

Preliminary analysis

Because all of our data came from same source (employee), we conducted a series of confirmatory factor analyses CFAs) to examine whether these captured distinctive constructs, using AMOS 18.0. Table 1 presents the CFA results. As shown, the hypothesized 4-factor model fit the data well (χ² =87.38; RMSEA=0.05; CFI = 0.98; TLI = 0.97), and is better than all the alternative models, providing evidence of the construct distinctiveness of transformational leadership, knowledge sharing, perceived organizational support and innovative behavior. In addition, we compared the 4-factor measurement model against an alternative model in which all the measures collected from employees were loaded on to a single factor. The one-factor model fit the data significantly worse(χ² =1171.55; RMSEA=0.21; CFI = 0.45; TLI = 0.35). These results suggest that same-source variance was not a problem in this study further providing support for our measures’ discriminant validity.

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Hypothesis tests
The means, standard deviations, and inter-variable correlations are presented in Table 2.

Main effects results

Hypothesis 1 predicted that transformational leadership will be positively associated with the employee’s perception on knowledge sharing. As shown Table 3, the coefficient for knowledge sharing in Model 2 was positive and significant ($\beta = .14, p < .01$), supporting Hypothesis 1. Hypothesis 2 predicted that transformational leadership will be positively associated with the employee’s innovative behavior. As shown in Model 2 of Table 4 ($\beta = .38, p < .01$), Hypothesis 2 was supported. Hypothesis 3 predicted that knowledge sharing will be related to innovative behavior of employees. As shown in Model 3 of Table 4 ($\beta = .43, p < .01$), we found a positive relationship between knowledge sharing and innovative behavior, supporting hypothesis 3.

Mediating variable results

Hypothesis 4 predicted that knowledge sharing will mediate the relationship between transformational leadership and innovative behavior. To test mediation, we used the criteria established by Baron and Kenny (1986). Based on Baron and Kenny (1986)’s suggestion, we follows three conditions to test the mediating role of knowledge sharing. First, transformational leadership must be related to the knowledge sharing; second, transformational leadership must be related to innovative behavior; third, when controlling the knowledge sharing as the mediating variable, the relationship between transformational leadership as the independent variable and innovative behavior as the dependent variable must be much smaller than it is when transformational leadership is the sole predictor. Thus, we tested Hypothesis 4 by examining the impact of transformational leadership when knowledge sharing was entered into the model. As shown model 3 of Table 4, knowledge sharing become the stronger predictor of innovative behavior ($\Delta R^2 = .15, p < .01$). The coefficient of transformational leadership, on the other hand, showed smaller than it is the sole predictor in the relationship with innovative behaviour. The
regression analyses show that knowledge sharing partially mediated the relationship between transformational leadership and innovative behaviour of employees. Therefore, these results provided support for Hypothesis 4.

Moderating variables results

Hypothesis 5 proposed a moderating effect of POS on the relationship between transformational and innovative behavior of employees. Hierarchical regression (in which the control variables were entered in the first step, the main effects were entered in the second step, and the interaction was entered in the third step) was used to test this hypothesis. As shown in Model 3 of Table 5, the interaction between transformational leadership and POS was statistically significant ($\beta = .11, p < .05$). Therefore, these results provided support for Hypothesis 5.

Table 5 around here

Discussion

This study examined the relationship among transformational leadership, knowledge sharing, and innovative behavior of Korean employees. The results indicate that TL is positively associated with knowledge sharing and employee innovative behavior. In line, knowledge sharing positively mediates the relationship between TL and innovative behavior. Moreover, POS showed strong positive moderating effect on the relationship between TL and innovative behavior. Consistent with previous literature (Jung et al., 2003; Gumusluoglu & Ilsev, 2009), this study emphasizes that TL can promote innovative behavior among employees in Korea. The present study reveals that TL has positive effect on knowledge sharing and thus promotes innovative behavior. In contrast with the study of Jaussi and Dionne (2003), we found that TL has strong effect on innovative behavior at individual level. Consequently, we have found that TL encourages knowledge sharing among the employees in the organization by empowering value system and stimulating intellectually and this knowledge sharing process energizes individual innovative behavior. Though a number of past studies reported that TL has positive effect on innovative behavior of collectivists or organizational level as compared to individual
level (Jung & Avolio, 1999; Jung & Yammarino, 2001; Jung et al., 2003; Gumusluoglu & Ilsev, 2009) but we found an individual level of the TL on innovative behavior in our current study. In addition, it was believed that TL encourages innovative behavior in western societies as the culture is individualistic and same relationship in Asian societies as the culture is collectivist. But our study revealed that TL promotes more flexible, learning oriented organizational environment where employees depends on each other for knowledge sharing and thus the knowledge based environment works as a determinant of employee innovative behavior.

Analysis of the mediation effects reveals that knowledge sharing mediates the relationship between TL and innovative behavior. In contrast with the past mediating variables such as intrinsic motivation (Shin & Zhou, 2003), intrinsic motivation and psychological empowerment (Gumusluoglu & Ilsev, 2009) but we used knowledge sharing as a perceived mediator in our study. The results revealed that TL motivates employees to share knowledge and thus innovative behavior is encouraged too. From the organizational or group level, TL promotes participative and democratic level of leadership while employees get flexibility to work in a group. As TL explains about organizational vision, employees become optimistic to accomplish the objective and consider all the employees as a single united body. To date, employees share knowledge with each other to solve all problems or accelerate working speed. To face new challenge and solve upcoming problems in a strategic way, employees try to think out of the box and this behavior highly encourages innovative behavior in any organization. Moreover our study also reveals that, from the individual level, TL raises value systems and builds a strong sense of organizational responsibility among the employees. So the results suggest that, to update and accomplish more, employees share with each other about working instruction and organizational knowledge. For future steps, every individual tries to think and stimulates them and thus individual innovative behavior is encouraged.

Analysis of the moderator effects reveals that POS moderates positively the relationship between TL and innovation behavior. In contrast with past moderating variables such as empowerment and support for innovation (Jung et al., 2003) we used POS as a perceived moderator in our study. Results indicate that POS positively moderates the relationship between TL and innovation behavior. From the analysis, we find that employees feel to get enough support from the organization. In addition, TL practice is fully employee oriented and leader’s support moral building. Moreover, prior analysis proved that TL has significant effect on innovation behavior.
and POS can enhance the level of innovation behavior among the employees. Results suggested that employee innovative behavior practice is a long term work and need external support to make it effective. In this sense, employees might need financial or non-financial support and POS can help in this juncture. Finally, we understand from our analysis that POS will encourage employees to continue their innovation behavior practice.

From the managerial point, we suggest several implications based on our empirical findings. Firstly, managers should be employee or follower oriented. In collective cultures, still subordinates respect the organizational hierarchy but transformational leadership can make a breakthrough in these societies as the leadership foundation based on value system. Leaders should discuss more about the advantages of TL and offer flexibility and mutual cooperation in the workplace. Moreover, they should promote organizational learning system and thus knowledge sharing will be promoted. Managers also can offer financial and non-financial benefits for new idea generation. Besides that, organizational biasness should be avoided by the managers and thus TL can flourish innovation behavior among the employees. Secondly, employee training and seminars should be arranged to develop a knowledge based organizational culture. Managers should prioritize new ideas based on scientific evidences. Also they can promote a shared culture of knowledge which will ensure knowledge sharing process. Thirdly, above all activities need organizational support. Managers should give priority on new idea generation and pilot implementation. To support the new ideas, employees need financial and logistic support. Also employees need motivational support. All sorts of support should be provided by the organizations and managers should ensure that types of facilities.

**Limitations:**

This study is not without its limitations. Firstly, the data was collected from single industry in South Korea. South Korean culture is based on collectivism but there were more countries those who follow collectivist culture like China, Japan, Taiwan and Malaysia. Therefore we suggest collecting data from different collectivist countries in future. Also we suggest including some individualistic and developing nations’ data for future research.

Secondly, we measured the mediating role of knowledge sharing but two of its’ main antecedents such as communication climate and employee affective commitment (Van den Hooff & Van Weenen, 2004) were not tested at all. In this regard, we suggest to search and include some key antecedents of knowledge sharing for future research. Furthermore, climate maturity (Lee et al.,
2006) affects on knowledge sharing process and future studies need to consider it. Thirdly, current study measured the effect of TL based on individual ratings but team level analysis is also important. Therefore, we suggest collecting data based on working team and measure dyadic relationship in future. Fourthly, our study did not identify cross level effect of leadership styles, group characteristics, motivational norms or group norms. To understand better, we suggest considering above issues for further study.

**Conclusion:**

Our study contributes to existing literature by revealing some aspects of TL and innovation behavior. The evidences of this study will help managers to understand more deeply about the relationship of TL, knowledge sharing and innovation behavior. Moreover, our study contributes to the existing literature by proving the mediating and moderating role of knowledge sharing and POS. In summary, we believe that the current study will help researchers to follow some key aspects for further investigations in this field of study.

**References:**


Brislin, R. W. (1980). Translation and content analysis of oral and written materials. In H. C. Triandis, & J. W. Berry (Eds.), *Handbook of cross-cultural psychology* (pp. 389-


field study of employees. *The Leadership Quarterly, 18* (1), 49-68.


Figure 1 Research model

![Diagram of research model]

Table 1 Comparison of measurement models

<table>
<thead>
<tr>
<th>Models and structure</th>
<th>$\chi^2$</th>
<th>d.f.</th>
<th>$\Delta\chi^2$</th>
<th>TLI</th>
<th>CFI</th>
<th>RMR</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Hypothesized 4 factor model</td>
<td>87.38</td>
<td>56</td>
<td></td>
<td>.97</td>
<td>.98</td>
<td>.05</td>
<td>.05</td>
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<tr>
<td>2: 3 factor model: Transformational Leadership, knowledge sharing merged</td>
<td>515.30</td>
<td>67</td>
<td>427.92</td>
<td>.70</td>
<td>.78</td>
<td>.23</td>
<td>.16</td>
</tr>
<tr>
<td>3: 2 factor model: Transformational Leadership, knowledge sharing and POS merged</td>
<td>1171.5</td>
<td>76</td>
<td>656.25</td>
<td>.35</td>
<td>.45</td>
<td>.26</td>
<td>.21</td>
</tr>
</tbody>
</table>

Note. TL= Tucker-Lewis Index; CFI= Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; RMR = Root Mean Square Residual. All chi-square difference significant at $p<.001$; $\chi^2$ is in relation to model 1.
Table 2: Scale means, standard deviations and correlations

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>S.D</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<tbody>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Age</td>
<td>38.25</td>
<td>4.44</td>
<td>-.01</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Education</td>
<td>1.54</td>
<td>.54</td>
<td>.15**</td>
<td>.32**</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Organizational Tenure</td>
<td>5.99</td>
<td>4.47</td>
<td>.06</td>
<td>.49</td>
<td>.30**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Transformational leadership</td>
<td>5.55</td>
<td>.50</td>
<td>.03</td>
<td>.08</td>
<td>.01</td>
<td>.05</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. knowledge sharing</td>
<td>5.24</td>
<td>.52</td>
<td>.04</td>
<td>.03**</td>
<td>.32**</td>
<td>.17**</td>
<td>1</td>
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<tr>
<td>7. Perceived organization Support</td>
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<td>.51</td>
<td>.06</td>
<td>.00</td>
<td>.02</td>
<td>-.00</td>
<td>.13**</td>
<td>-.03</td>
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<tr>
<td>8. Innovative behaviour</td>
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<td>.48</td>
<td>.09</td>
<td>.16**</td>
<td>-.00</td>
<td>.16**</td>
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<td>.48**</td>
<td>-.04</td>
<td>1</td>
</tr>
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</table>

Note: N=356; *p < .05; **p < .01(two-tailed)

Table 3: Regression Analysis for Knowledge Sharing (H1)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Knowledge Sharing</th>
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<tr>
<td>Step 1</td>
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</tr>
<tr>
<td>Age</td>
<td>.50</td>
</tr>
<tr>
<td>Gender</td>
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<tr>
<td>Education</td>
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</tr>
<tr>
<td>Organizational Tenure</td>
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</tr>
<tr>
<td>Step 2</td>
<td></td>
</tr>
<tr>
<td>Transformational Leadership.</td>
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</tr>
<tr>
<td>R²</td>
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<td>R² change</td>
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Note: N=356; * p < 0.1, **p < 0.05, ***p < 0.01 (two-tailed tests); standardized coefficients are reported
Table 4: Regression Analysis of Mediation for Innovation Behavior (H2-4)

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<thead>
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<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.16***</td>
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<tr>
<td>Gender</td>
<td>.10**</td>
</tr>
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<td>Education</td>
<td>-.08</td>
</tr>
<tr>
<td>Organizational Tenure</td>
<td>.03</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>.38***</td>
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<tr>
<td>$R^2$</td>
<td>.04</td>
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<td>$R^2$ change</td>
<td>.04</td>
</tr>
<tr>
<td>F</td>
<td>3.78***</td>
</tr>
</tbody>
</table>

Note: N=356; * p < 0.1, **p < 0.05, ***p < 0.01 (two-tailed tests); standardized coefficients are reported

Table 5: Regression Analysis of Moderation for Innovation Behavior (H5)

<table>
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<tr>
<th>Variables</th>
<th>Innovative Behaviour</th>
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</thead>
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<td><strong>Step 1</strong></td>
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<tr>
<td>Age</td>
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<tr>
<td>Gender</td>
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<td>Education</td>
<td>-.08</td>
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<tr>
<td>Organizational Tenure</td>
<td>.03</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td>Transformational Leadership(TL)</td>
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<tr>
<td>Perceived Organizational Support(POS)</td>
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<td><strong>Step 3</strong></td>
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<tr>
<td>TL x POS</td>
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<td>$R^2$</td>
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<td>F</td>
<td>3.78***</td>
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</table>

Note: N=356; * p < 0.1, **p < 0.05, ***p < 0.01 (two-tailed tests); standardized coefficients are reported