Journal of Workplace Learning

Article information:

Users who downloaded this article also downloaded:

For Authors

About Emerald www.emeraldinsight.com

Transformational leadership and knowledge sharing

Mediating roles of employee's empowerment, commitment, and citizenship behaviors

Seung Hyun Han
Wright State University, Dayton, Ohio, USA

Gaeun Seo
University of Illinois at Urbana-Champaign, Urbana, Illinois, USA

Seung Won Yoon
Texas A&M University, Commerce, Texas, USA, and

Dong-Yeol Yoon
University of Ulsan, Ulsan, South Korea

Abstract

Purpose – The purpose of this paper is to empirically examine the fundamental process through which transformational leaders play a significant role in employees' knowledge sharing by investigating mediating roles of individual affects, particularly psychological empowerment, organizational commitment and organizational citizenship behavior (OCB).

Design/methodology/approach – Structural equation modeling, including confirmatory factor and path analysis, is conducted to test proposed hypothesis.

Findings – The results of this study indicate significant direct effects of transformational leadership on psychological empowerment, organizational commitment and OCB. Moreover, transformational leadership also shows an indirect effect on employees' OCB, which, in turn, is identified as the primary factor that influences knowledge sharing. However, organizational commitment does not provide a significant influence on knowledge sharing. These findings highlight the importance of mediating roles, particularly OCB, to predict employees' knowledge-sharing intention.

Originality/value – Identifying structural determinants of knowledge sharing is an important scholarly agenda. In particular, the mechanisms and processes by which leadership exerts influence to motivate employees to share knowledge deserve scholarly inquiry, and there, is a need for more research to understand the mechanisms and processes through which leadership influences individual motivation and attitudes toward pro-social behaviors, such as knowledge sharing.

Keywords Leadership, Employees attitudes, Knowledge sharing

Paper type Research paper

Introduction

Knowledge is considered as the primary source of today's organizational competeness (Chen *et al.*, 2009a, 2009b; Nonaka and Toyama, 2003). The nature of firm competition and the sources of competitive advantage are heavily dependent on how well knowledge is shared between individuals, teams and organizations (Argote *et al.*, 2003). Knowledge sharing also provides opportunities for mutual learning between individuals in the

workplace (Li *et al.*, 2009; Grant, 1996). Workplace learning through knowledge sharing is, therefore, inherent and fundamental aspects of the firm's competitive advantage (Chan *et al.*, 2002).

Knowledge sharing can be seen as a combination of cognitive, structural and relational social capital (Nahapiet and Ghoshal, 1998). Organizational knowledge has received much attention in the management and information systems literature, and a recent review of the literature shows that individual (e.g. attitudes and motivation) and organizational characteristics (e.g. culture and support) were the characteristics most frequently examined to understand the extent of knowledge sharing (Wang and Noe, 2010). People share information about what they know when they desire recognition, expect reciprocal returns or feel altruistic (Bartol and Srivastava, 2002). Despite an apparent connection between knowledge sharing and interpersonal relationships, relational dimensions as a motivator of knowledge sharing received the least amount of attention in the literature.

Over the past three decades, the influence of transformational leadership on employees' work-related attitudes and behaviors has been actively supported in the management and the organization studies. Many studies reported positive impacts of transformational leaders on employees, particularly in areas of employee satisfaction, commitment and achievement (Piccolo and Colquitt, 2006; Seibert *et al.*, 2011). Particularly, transformational leaders are those who also learn continuously from others and encourage people to share for the purpose of mutual improvements, modeling desirable behaviors such as organizational citizenship behavior (OCB; Kim, 2014). Several studies reported positive impacts of such leaders on employees' knowledge sharing (Srivastava *et al.*, 2006; Xue *et al.*, 2011).

Identifying structural determinants of knowledge sharing is an important scholarly agenda. In particular, the mechanisms and processes by which leadership exerts influence to motivate employees to share knowledge deserve scholarly inquiry, and there is a need for more research to understand the mechanisms and processes through which leadership influences individual motivation and attitudes toward workplace learning through knowledge sharing. In response, the present study attempts to explore the underlying process through which transformational leaders influence employees' knowledge sharing by examining the mediating roles of individual affects, particularly psychological empowerment, organizational commitment and OCB.

Research model
For this study, we have adopted the concept of social capital as a theoretical foundation, focusing on the relational dimension of knowledge sharing. Simply put, social capital is a concept of "who you know", and that impacts what you do and have. People engage in knowledge sharing to create values with an expectation of immediate or long-term returning values (this is true even in the open-source community – contributors eagerly seek future invitation or collaboration). Nahapiet and Ghoshal (1998) proposed that social capital is an integrative framework consisting of structural (e.g. network structure or position), relational (e.g. group identification) and cognitive (e.g. shared culture or language) features that are essential for understanding the creation and sharing of knowledge in organizations. We find that the concept subsumes elements of social exchange theory, which explains pro-social behaviors based on expected values outweighing associated costs.

Wang and Noe's (2010) recent review of knowledge-sharing literature found that knowledge sharing is influenced by multiple factors at the following levels:

- organizational level (e.g. organizational culture and climate, management support, rewards and incentives and organizational structure);
- individual level (e.g. individual attitudes, perceived benefits and costs and feeling of ownership); and
- the team level (e.g. network position and team characteristics including member diversity and trust).

They also found that about 20 per cent of all empirical research did not use any theory, and among those that did, the most commonly used perspectives were the theory of reasoned action (TRA), social exchange theory and social capital and network theories. Similar to our observation, Wang and Noe recognized relational dimensions, such as leader–member exchanges and team characteristics, as needing further examination, especially for their mediating potentials. We find that TRA is a logical choice when knowledge sharing focuses on adoption or cognition – determining to act based on attitudes or behavioral intentions. When benefits and costs for determining sharing are important, social exchange theory makes sense. However, few studies incorporated motivational, relational and pro-social perspectives together for knowledge-sharing research.

Leaders are in a position to drive employees' self-motivation as well as positive attitudes toward the organization because they must initiate and lead the accomplishment of organizational goals by encouraging and mobilizing the followers. When confident, competent and conscientious individuals are committed to the organization and engage in pro-social actions, behaviors that are not explicitly rewarded, such as knowledge sharing or acting on behalf of the organization, will expand. In view of these conceptual connections, the research framework of this study is as follows (Figure 1).

Literature review
Transformational leadership and knowledge sharing
Transformational leadership is defined as a process by which leaders inspire their followers to perform at a higher level than expected and to potentially exceed the followers' own self interests for a high-level of shared vision (Bass, 1999). As a result, followers in the condition of transformational leadership are able to maximize their subordinate's performance and increase the degree of their feelings of motivation, organizational commitment, satisfaction, trust and work engagement (Bono and Judge, 2003; Podsakoff et al., 1996). Also, transformational leaders promote an organizational culture that motivates employees to participate in organizational development (Avolio and Yammarino, 2013). Transformational leadership encourages employees to feel empowered, which improves employees' engagement (Dvir et al., 2002). Such leadership behaviors consist of four distinct aspects: inspiration, intellectual stimulation, individualized consideration and idealized influence (Bass, 1999).

Along with transformational leadership, many contemporary organizations have taken an active interest in knowledge management to enhance employee productivity and performance through more effective knowledge capturing and sharing (Argote et al., 2003). Knowledge sharing among employees has long been considered one of the
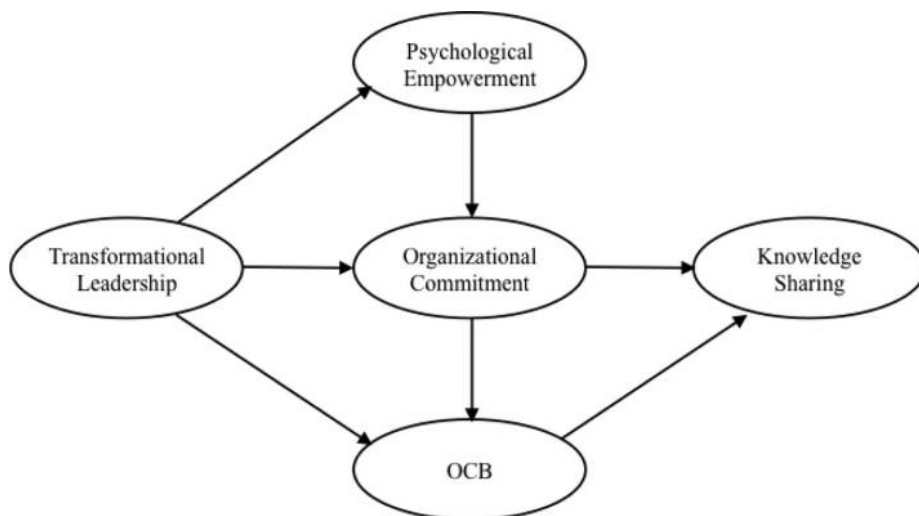
Figure 1.
Research framework

most important "success factors" in knowledge management (Carmeli *et al.*, 2011; Mueller, 2014). Owing to this importance, many scholars have conducted empirical studies on knowledge-sharing behaviors and found that employees' intention to share knowledge can be used as an indicator for their actual knowledge-sharing behaviors (Chen *et al.*, 2009a, 2009b; Lin and Lee, 2004; Reychav and Weisberg, 2010). Through the empirical research with a sample of 278 employees, Reychav and Weisberg (2010) identified that employees' knowledge-sharing intention directly and indirectly influenced employees' actual knowledge-sharing behaviors.

Psychological empowerment
Psychological empowerment has been viewed as an important variable in terms of employees' job attitudes and behaviors (Dust *et al.*, 2014). Conger and Kanungo (1988) defined psychological empowerment as a process of increasing a sense of self-efficacy. Over the years, its scope broadened to a set of enhanced and innate task motivations, reflecting individual attitude with regard to work, career and life goal (Thomas and Velthouse, 1990). According to Spreitzer (1995), psychological empowerment is multifaceted, and composed of four cognitive factors: competence, meaning, self-determination and impact. *Competence* refers to an individual's beliefs in his or her capacity to successfully conduct the assigned task (Spreitzer, 1995). *Meaning* represents the personal value and standard that individuals place on the demand of a given job (Thomas and Velthouse, 1990). *Self-determination*, or *choice*, involves an individual sense of having autonomy to initiate and manage actions at work. *Impact* refers to the degree to which an individual's work-related behaviors makes a difference to organizational outcomes (Thomas and Velthouse, 1990).

   Leadership and empowerment. Bass and Steidlmeier (1999) emphasized theoretically the empowering impact of transformational leadership behaviors, especially through inspirational motivation. Epitropaki and Martin (2005) also noted that transformational leaders are able to empower their followers to develop a belief that individuals are being

taken seriously as a valuable asset to the organization. Seibert *et al.* (2011) meta-analysis found that leadership has a significant effect on psychological empowerment. To date, several studies reported strong positive correlations between transformational leadership and psychological empowerment (Avolio *et al.*, 2004; Dust *et al.*, 2014; Pieterse *et al.*, 2010). Kark *et al.* (2003) reported that transformational leaders directly provided their followers with an empowering effect through the followers' social identification with the group. Building on emerging evidence of significant empowering effect of transformational leadership on employees, the following hypothesis was formed:

H1. Transformational leadership behaviors will be positively related to psychological empowerment.

Organizational commitment
Organizational commitment is defined as the comparable level of an individual psychological attachment and involvement that an employee has to a particular organization (Mowday *et al.*, 1979). When an employee is engaged in organizational responsibilities, she or he must believe and comply with organizational objectives and values. As such, organizational commitment has to do with exerting substantial efforts for the benefit of his or her organization (Burud and Tumolo, 2004). Organizational commitment is also related to dedication to one's team, supervisors, profession, career and union (Bartlett, 2001).

Organizational commitment is conceptually divided into three dimensions:

(1) a strong faith in and compliance with the organization's mission and values, which is called *attachment commitment*;

(2) a feeling of obligation to spend substantial time and effort for the benefit of the organization, which is known as *normative commitment*; and

(3) a firm desire to continue working in the organization, which is referred to as *continuance commitment* (Mathieu and Zajac, 1990; Mowday *et al.*, 1979).

Leadership and commitment. Bycio *et al.* (1995) studied 1,376 nurses in several US health organizations using a direct effect approach. They found that attachment commitment showed the strongest positive relationship with transformational leadership compared to two other dimensions (normative and continuance). Transformational leadership behaviors encouraged followers to seek new approaches to challenges and to be more engaged with their work (within their organizations) by considering each follower's needs. Those leader behaviors resulted in a higher level of organizational commitment from their followers. Transformational leaders establish an environment where followers are more likely to commit to their organization. Many studies also reported a positive effect of transformational leadership on employees' organizational commitment (Avolio *et al.*, 2004; Ismaila *et al.*, 2011). As previous studies continuously proved its positive effect between transformational leadership and employees' organizational commitment, this study expected the following:

H2. Transformational leadership behaviors will be positively related to organizational commitment.

Organizational citizenship behavior
Organ (1988, p. 4) defines OCB as follows: "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization. By discretionary, we mean that the behavior is not an enforceable requirement of the role or the job description; the behavior is rather a matter of personal choice, such that its omission is not generally understood as punishable".

As Organ (1988) defines it, OCB indicates employees' discretionary behaviors that go beyond their assigned duties and are not influenced by an organizational formal reward system (Konovsky and Pugh, 1994; Shore and Wayne, 1993). In other words, OCBs are patterns of behaviors that are different from the required technical skills of the job (Lin and Hsiao, 2014).

Leadership and organizational citizenship behavior. Transformational leadership behaviors received increased attention in terms of its relationship with the OCB of followers. Transformational leadership encourages OCBs that are voluntary and not directly connected to an organizational rewarding system, but that contribute to improving organizational effectiveness and climate (Kim, 2014; Piccolo and Colquitt, 2006). Scholars found a positive impact of transformational leadership on OCB – especially with regard to helping behaviors and organizational compliance (Leithwood and Jantzi, 2000) and helping behavior, organizational compliance and civic virtue (Kim, 2014).

When transformational leaders serve as role models and give special attention to each follower's needs and shared goals, their behaviors encourage followers to engage in self-sacrificial behaviors in the way of OCB (Kim, 2014; Lin and Hsiao, 2014). Some study found only the direct effect between transformational leadership behaviors and OCB (Maharani *et al.*, 2013), while other studies reported indirect effects between the same variables (Kim, 2014; Lin and Hsiao, 2014). Given the inconsistent results, more research is needed to investigate the relationship between transformational leadership behaviors and OCB. The hypothesis associated with transformational leadership behaviors and OCB are as follows:

H3. Transformational leadership behaviors will be positively related to OCB.

Empowerment, commitment and organizational citizenship behavior
Empowered followers are more likely to have greater latitude to make decisions as well as feel given more responsibility, which, in turn, improves their level of commitment to their organizations (Thomas and Velthouse, 1990; Wayne *et al.*, 2000). Psychologically empowered individuals tend to believe that they are making a difference in meaningful ways, which results in performance for the sake of their organization and at higher levels of organizational commitment (Avolio *et al.*, 2004; Spreitzer, 1995; Wayne *et al.*, 2000).

Avolio *et al.* (2004) and Ismaila *et al.* (2011) found the direct and indirect impacts of transformational leadership on organizational commitment through psychological empowerment. The majority of research participants perceived that their commitments were enhanced by transformational leadership itself and by a partial mediating effect of empowerment. Followers with greater psychological empowerment believe that there are more opportunities for self-decision-making and authority, contributing to followers' higher level of commitment (Wayne *et al.*, 2000). Lavelle *et al.* (2007) also reported that commitment

is positively associated with OCB. Although the aforementioned research has investigated relationship between psychological empowerment and organizational commitment, and between organizational commitment and OCB, the effect of the full range of psychological empowerment, organizational commitment and OCB is not known. Relationships among these three variables would be empirically identified through the following hypotheses:

H4. Psychological empowerment will be positively related to organizational commitment.

H5. Employees' organizational commitment will be positively related to OCB.

Commitment, organizational citizenship behavior and knowledge sharing
There are a growing number of studies supporting the positive relationship between organizational commitment and knowledge sharing (Cabrera *et al.*, 2006; Jo and Joo, 2011). Because of a feeling of unity, employees with higher emotional attachment to their organization tend to perceive more similarities to one another (Kramer *et al.*, 1996, cited by Jo and Joo, 2011). Individuals who are more psychologically bonded with their organization are more likely to interact with members from the same organization. Such bonding leads employees to share knowledge (Jo and Joo, 2011). Cabrera *et al.* (2006) also found a positive relationship between organizational commitment and knowledge sharing by analyzing 372 employees from a large multinational organization. Cabrera *et al.* (2006) stated that highly attached employees were more likely to share knowledge because highly bonded employees believe that their organization provides quality information and support, which encourage them, in turn, to share knowledge. Their direct and indirect effects will be examined in this study as follows:

H6. Employees' organizational commitment will be positively related to knowledge sharing.

There is emerging evidence indicating that individuals with higher levels of OCB are more likely to share their knowledge (Lin and Hsiao, 2014). Jo and Joo (2011) confirmed that OCBs play a strategic role in inspiring employees to voluntarily share knowledge in their organizations because their discretionary behaviors contribute to creating a better environment for knowledge sharing in organizations. In this sense, knowledge-sharing behaviors can be seen as a result of OCB, which leads to the following:

H7. OCB will be positively related to knowledge sharing.

Methods
Sample and data collection
Data were collected from a self-report questionnaire that was randomly distributed to employees selected from five large companies in South Korea. These companies were purposefully selected based on multiple factors. First, these organizations have a strong presence of knowledge management systems, sharing skills, knowledge and know-how. Second, the subjects in this study are members of such systems. Human resource managers at each company collected the surveys over a period of one month.

A total of 600 employees from various ranks were invited to complete the questionnaire. Participation in the survey was voluntary, and no financial rewards were given. All survey procedures and data were assured for confidentiality. The collected surveys had 395 usable responses after 26 incomplete responses were eliminated. The

effective response rate is 65.8 per cent. The sample consisted of 267 males (67.6 per cent), and a significant difference in knowledge sharing was found between both genders (t = 3.77). That is, male employees (M = 3.90, SD = 0.65) are more likely to share their knowledge than female employees (M = 3.63, SD = 0.59). About half of them (42.8 per cent) were in the position of entry level and the majority (59 per cent) were between the ages of 31 and 40 years. Participants with less than ten years' experience with the current employer accounted for 89.9 per cent. No significant differences in knowledge sharing were found in groups (F = 0.96 for age; F = 0.96 for seniority).

Measures

All questionnaire items were translated into Korean based on translation and back-translation methods, administered by two linguistics professionals. Also, a whole set of the questionnaire was refined by a panel of several experts who majored in management and had extensive work experience; they ensured the content validity of the measurements.

Transformational leadership. To assess transformational leadership, 20 items from the multifactor leadership questionnaire Form 5X developed by Bass and Avolio (1997) were used. This measurement has four sub-constructs: idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. The Cronbach's alpha for this measure was 0.96. An example of the questions in this measurement is "Leaders help us find meaning in our work."

Psychological empowerment. To measure psychological empowerment, we used a 12-item scale developed by Spreitzer (1995) to assess psychological empowerment: competence, impact, meaning and self-determination. In the existing literature, acceptable estimates of reliability have been shown (Avolio *et al.*, 2004; Dust *et al.*, 2014; Ismaila *et al.*, 2011). A five-point Likert scale (1 = strongly disagree, 5 = strongly agree) anchored the items. In this study, the reliability coefficient was 0.89. An example of the questions in this measurement is "I have significant autonomy in determining how I do my job."

Organizational commitment. To measure organizational commitment, the six-item scale developed by Meyer *et al.* (1993) was used in this study. Among the three dimensions of organizational commitment, we selected affective commitment in view of our goal to examine its role for OCB and knowledge sharing. In previous studies, internal consistency for this measure (Cronbach's alpha) ranged from 0.84 to 0.86 (Feather and Rauter, 2004). This study's reliability coefficient was 0.94. An example of the questions in this measurement is "I would be very happy to spend the rest of my career with this organization."

Organizational citizenship behavior. This measure, developed by Podsakoff *et al.* (1990), uses 16 items to describe four dimensions of OCB: conscientiousness, sportsmanship, civic virtue and courtesy. In previous studies, internal consistency for the single OCB scale was consistently high (α = 0.94) (van Yperen *et al.*, 1999). In this study, the reliability coefficient was 0.83. A sample question included "I read and keep up with my organization's announcement, memos, and so on."

Knowledge-sharing intention. Knowledge sharing refers to the extent that individuals share strategic knowledge with their colleagues (Bartol and Srivastava, 2002). Given empirical evidence, employees' intention for knowledge sharing was used to predict knowledge-sharing behaviors in this study. Five items from Bock *et al.* (2005)

were used to measure employees' intention for knowledge sharing. This measure consisted of five items with sub-constructs: tacit and explicit knowledge sharing. An example of the questions in this measurement is "I always provide my manuals, methodologies, and models for members of my organization." In this study, Cronbach's alphas of both categories ranged from 0.92 to 0.93 (Bock *et al.*, 2005). A five-point Liker scale was used in this study (1 = strongly disagree, 5 = strongly agree), and the reliability coefficient was 0.87.

Results
Measurement model
According to the measurement of psychometric properties, basic assumptions of reliability and validity issues were examined by inter-variable correlation coefficient estimates, Cronbach's alpha coefficient and factor loadings of a confirmatory factor analysis (CFA) to test whether the hypothesized latent variables could be identified empirically and to assess the construct validity of the measures. Table I shows inter-construct correlations and item internal consistency estimates (Cronbach' alpha coefficient) along with descriptive analysis results. Commonly recommended model-fit indices were used to assess the model's overall goodness of fit (Bollen, 1989): the ratio of χ^2 to degrees of freedom (df), goodness-of-fit index (GFI), comparative fit index (CFI), normalized fit index (NFI), incremental fit index (IFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA). All the model-fit indices exceeded their respective common acceptance levels suggested by previous research, thus demonstrating that the measurement model showed a good fit with the data collected: χ^2 = 417.21; df = 208; CFI = 0.97; NFI = 0.96; IFI = 0.97, TLI = 0.96, RMSEA = 0.05.

Construct validity
This study also examined construct validity before conducting its main analyses to attenuate potential inflation of scores associated with common method variance. First, all individual items were loaded to one general factor, and the analytical results for fitness included, χ^2 = 2,035.8; df = 170; CFI = 0.66; GFI = 0.57; TLI = 0.64. RMSEA = 0.17, suggesting that the fitness of the one-factor analytical model was poor. Second, all items were measured according to the proposed model, as described above, indicating that the

Variable	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.
1. Gender	1.32	0.47	1.00							
2. Age	1.81	0.63	−0.35**	1.00						
3. Seniority	4.73	4.43	−0.13*	0.57**	1.00					
4. Leadership	3.51	0.60	−0.20**	0.16**	0.18**	(0.96)				
5. Empowerment	3.14	0.84	−0.18**	0.41**	0.37**	0.40**	(0.89)			
6. Commitment	3.26	0.88	−0.22**	0.18**	0.21**	0.62**	0.48**	(0.94)		
7. OCB	3.86	0.51	−0.22*	0.25**	0.22**	0.49**	0.50**	0.56**	(0.83)	
8. Knowledge sharing	3.81	0.64	−0.19**	0.12*	0.09	0.30**	0.34**	0.42**	0.52**	(0.87)

Table I.
Descriptive statistics and correlations matrix

Notes: n = 395; *p < 0.05; **p < 0.01; coefficient alpha reliability estimates are reported in the main diagonal

fitness of the five-factor model was sufficient. Additionally, an alternative model that tested the direct influence of transformational leadership and knowledge sharing was examined for verifying theoretical cohesion.

Beyond using the Cronbach's alpha, which concentrates on individual item reliability, this study examined the composite reliability of the construct that measures the internal consistency within and across the constructs (Bollen, 1989). In the measurement model, composite reliability was above 0.80 and exhibited a variance in that indicator which was not accounted for by measurement error (Table II). The average variances extracted (AVE) were all higher than the 0.50 level recommended by Fornell and Larcker (1981), which means that the variance observed in the items was accounted for by their hypothesized factors. In addition, the standardized λ and T value of latent variables reached the significant level of 0.01, indicating that every construct has convergent validity (Table III). As for discriminant validity, this study further employed the matrix Φ (phi) to understand the extent to which a construct is truly differentiated from other constructs. Jöreskog and Sörbom (1981) suggest that two constructs that are conceptually similar are distinct if Φ ± 1.96 standardized errors excluded 1. Phi in Table II showed that the discriminate validity existed among constructs.

Structure model and hypotheses testing
Next in structural equation modeling structural equation modeling (SEM), path models were fitted to the data to test the proposed model. Overall, the structural model provided an adequate fit to the data. As a follow-up step, collective associations among the variables that are exogenous and endogenous, path coefficient estimates for all relations and standardized path coefficient estimates were considered to find out the influential effect sizes of each relation (Hair *et al.*, 2006). All path coefficients were illustrated in Figure 2. As the standard determinant for the statistical significance of standardized path coefficients, the cut-off *t*-value (*t*-value > |1.96|) was used.

The patterns of direct effects of the exogenous variable (transformational leadership) revealed by the path model provide evidence to support of the first three hypotheses. Based on *H1*, we expected a significantly positive relationship between transformational leadership and psychological empowerment ($\gamma = 0.47, p < 0.01$). In an organization, transformational leaders appeal to their followers' aspirations, identities, needs, preferences and values such that followers are able to reach their full potential. Our expected result from the path model ($\gamma = 0.50, p < 0.01$), outlined in *H2*, also supported a significant positive effect of transformational leadership on employees'

Constructs	CR	AVE	1.	2.	3.	4.	5.
1. Leadership	0.93	0.78	0.66 (11.01)				
2. Empowerment	0.81	0.51	0.20 (6.60)	0.26 (10.10)			
3. Commitment	0.94	0.72	0.42 (9.30)	0.22 (7.15)	0.63 (9.08)		
4. OCB	0.84	0.57	0.18 (7.91)	0.13 (7.35)	0.21 (8.42)	0.17 (7.72)	
5. Knowledge sharing	0.88	0.59	0.17 (5.37)	0.14 (5.72)	0.23 (6.85)	0.16 (7.77)	0.41 (8.30)

Notes: CR = composite reliability; AVE = average variance extracted; phi = *t*-value

Table II.
Composite reliability,
AVE, phi and *t*-value

Constructs	Indicators	Standardized λ	T
1. Leadership	TL_II	0.88	N/A
	TI_M	0.95	29.12
	TL_IS	0.81	21.37
	TL_IC	0.89	25.51
2. Empowerment	PE_M	0.60	N/A
	PE_C	0.62	9.14
	PE_SD	0.78	10.19
	PE_I	0.66	9.45
3. Commitment	AOC1	0.78	N/A
	AOC2	0.80	17.23
	AOC3	0.90	20.34
	AOC4	0.91	20.65
	AOC5	0.88	19.54
	AOC6	0.82	17.99
4. OCB	OCB_CS	0.71	N/A
	OCB_S	0.74	13.31
	OCB_CV	0.82	14.51
	OCV_C	0.67	12.09
5. Knowledge sharing	KS1	0.75	N/A
	KS2	0.81	15.52
	KS3	0.81	15.52
	KS4	0.68	12.98
	KS5	0.76	14.59

Table III.
Standardized λ and
T value
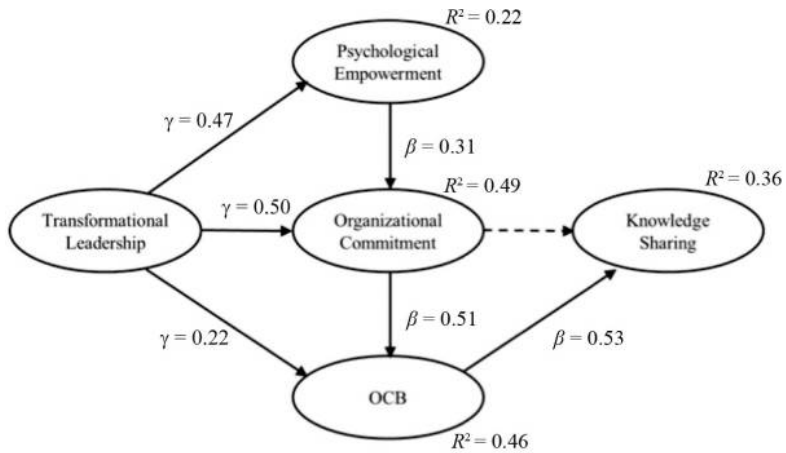
Figure 2.
Path model for
relations among
latent variables

Notes: ⟶ Significant; - -▶ non-significant ($p < 0.05$)

commitment to organizations (*H2*). The hypothesized positive impact of transformation leadership on OCB was also supported (*H3*, $\gamma = 0.22$, $p < 0.01$).

In addition to a direct effect of transformational leadership on organizational commitment and OCB, based on the literature review, we expected a mediating effect of

psychological empowerment on organizational commitment (*H4*). The result from the path model (β = 0.31, p < 0.01) supported this hypothesis. Generally speaking, empowered employees will see themselves as more capable and will be able to influence their job and organizations in meaningful ways, leading to a high degree of commitment to their organization (Spreitzer, 1995). The result from the path model (β = 0.55, p < 0.01) also supported a positive path from OC to OCB (*H6*).

Finally, we hypothesized that knowledge sharing will be promoted based on pro-social concepts, particularly OC (*H6*) and OCB (*H7*). The result from the path model (β = 0.53, p < 0.01) strongly supported the mediating role of OCB toward employees' knowledge-sharing intentions. However, organizational commitment did not have a significant effect on knowledge sharing. We also examined the direct, indirect and the total effect of the proposed constructs to further understand the magnitude of the prediction among all constructs (Table V). Our results showed that the overall model accounted for 36 per cent of variance in employees' knowledge-sharing intention (R^2 = 0.36). OCB, the primary influencer of knowledge sharing, made a greater impact on employees' knowledge sharing when compared with leadership in terms of the total effect and, more importantly, leadership directly and indirectly impacted employees' OCB (Table IV).

Against the baseline model, we tested various nested and alternative models. In Model 2, we added to a direct path from psychological empowerment to knowledge sharing. The results indicated that this path was not significant (β = −0.03, p > 0.10). All other paths remained significant as in the Model 1. In Model 3, another additional path was specified from transformational leadership to knowledge sharing. Neither this path was significant (γ = −0.07, p > 0.10). Model 4 is alternative model that is not nested within the above-mentioned models. This model illustrated the different direction of mediating influence of OCB on OC and the influence of OC on empowerment. The results indicated that none of the paths were significant (p > 0.10). The model showed a good, but relative to the baseline model, poorer fit with the data (GFI = 0.87; NFI = 0.89; CFI = 0.93; TLI = 0.92; RMSEA = 0.07) (Table V).

Considering that none of the nested models compared to baseline model revealed any additional significant paths, this study adopted Model 1 as the parsimonious model (Bollen, 1989). In addition, the fit indices in the alternative model with different directions of mediators showed marginal and poorer than the baseline model's. Therefore, discussion of this study on hypotheses is based on Model 1.

| | Effects | | |
	Direct effect	Indirect effect	Total effect
Exogenous → Endogenous			
Leadership → Empowerment	0.47**	n/a	0.47**
Leadership → Commitment	0.51**	0.14**	0.65**
Leadership → OCB	0.22**	0.34**	0.56**
Leadership → Knowledge sharing	n/a	0.36**	0.36**
OCB → Knowledge sharing	0.53**	n/a	0.53**

Note: **p < 0.01

Table IV.
Direct and indirect effects in structural model

Model and structure	χ^2	df	CFI	TLI	RMSEA
1. TL → PE + OC + OCB and PE → OC and OC → OCB + KS and OCB → KS [a]	417.21	208	0.97	0.96	0.05
2. TL → PE + OC + OCB and PE → OC + KS and OC → OCB + KS and OCB → KS	417.16	207	0.97	0.96	0.05
3. TL → PE + OC + OCB + KS and PE → OC and OC → OCB + KS and OCB → KS	415.30	206	0.97	0.96	0.05
4. TL → PE + OC + OCB and OC → PE + KS and OCB → OC + KS and PE → KS	438.99	207	0.93	0.92	0.07

Table V.
Comparison of
structural equation
models

Notes: TL = transformational leadership; PE = psychological empowerment; OC = organization commitment; OCB = organizational citizenship behavior; KS = knowledge sharing; [a]baseline model

Discussion

This study attempted to contribute to the literature on leadership and knowledge sharing. Using a sample of employees in South Korea, this study sought to disentangle the complex process of leadership influence on facilitating knowledge sharing in the workplace. The results of this study showed that transformational leadership made a significant impact on OCB directly as well as indirectly (through empowerment and commitment, $R^2 = 0.46$), and OCB, in turn, was found to be a significant predictor of employees' knowledge-sharing intention. Taken together, the variables of leadership, empowerment, OC and OCB accounted for 36 per cent of the total variance in employees' knowledge-sharing intention. When we tested an alternative model that included a direct path from the transformational leadership to employees' knowledge-sharing intention, the path came out as insignificant (t-value < |1.96|). These results support the earlier studies reporting positive impacts of transformational leadership on employees' attitudes (Avolio *et al.*, 2004; Epitropaki and Martin, 2005; Ismaila *et al.*, 2011) as well as knowledge sharing (Carmeli *et al.*, 2011; Chen and Barnes, 2006, Li *et al.*, 2009; Lin and Hsiao, 2014).

This study offers important contributions to the literature of leadership and knowledge sharing by connecting the concept of transformational leadership to the mediating roles of individual motivation, commitment and extra-role behaviors. Understanding the mechanisms and processes through which leadership influences work-related attitudes and behaviors is a research area that needs more scholars' attention. Relational and interpersonal dimensions are certainly a less examined area of research in the knowledge-sharing literature (Wang and Noe, 2010).

Results from this study support that transformational leaders motivate their followers to become more engaged in their work (through psychological empowerment), committed to their organization and participate in discretionary behaviors on behalf of the organization. The partial mediation of empowerment supports that cognitively inspiring and emotionally supporting leader behaviors encourage the followers to think critically by using fresh approaches that involve them in decision-making processes and, thus, inspiringly loyalty (Ismaila *et al.*, 2011). When transformational leaders guide their followers by recognizing and appreciating the different needs of each follower for developing personal potential, followers will consequently feel a sense of responsibility toward their job and the collective goals the leader promotes (Avolio *et al.*, 2004; Seibert

et al., 2011). Providing followers with more opportunities for decision-making, responsibility and self-determination will lead to a higher level of commitment as well as engagement in helping behaviors, organizational compliance, individual initiatives and self-development; these represent desirable psychological and pro-social behaviors as potential antecedents of knowledge sharing (Guzman, 2008).

Our findings draw attention to the important role of mediating variables, particularly OCB (Ismaila *et al.*, 2011; Jo and Joo, 2011). Past studies reported mixed results regarding the role of organizational commitment to knowledge sharing. Cabrera *et al.*'s (2006) study reported a positive effect of OC on knowledge sharing (their study did not include OCB). Results in this study supported results reported by Jo and Joo (2011), which showed that between OC and OCB, only the latter made a significant (and also the strongest) impact on knowledge sharing. Overall, our findings imply that OCB is a key variable predicting employees' knowledge-sharing intention, and it is more effective when leaders empower individual employees and motivate OC to further increase OCB.

Theoretical and practical implications
The design and findings from this study present several points of discussion for research and practice. Wang and Noe's (2010) analysis of empirical research on organizational knowledge sharing found that we now have a list of set of individual- and group-level (team or organizational characteristics) variables that affect the employees' knowledge sharing. Within organizational contexts, Wang and Noe (2010) identified organizational culture and climate, reward systems and organizational structure as influential antecedents, and they noted that organizational culture is an under-researched area to be examined more in the future. In response, two recent studies examined the learning organization as an organizational culture variable while examining the mediating role of learning goal orientation (Yoon and Park, 2013), OC and OCB (Jo and Joo, 2011). Wang and Noe (2010) also noted that organizational knowledge sharing largely takes place in a psychosocial context, and the relational dimension has received less attention in the past.

Several theoretical contributions in this study should be highlighted. First, this study addresses Wang and Noe's (2010) call to empirically investigate the influence of leadership in motivating employees to share knowledge in organizations. The results of this study confirm the propositions of their study. For example, research evidence indicates that transformational leadership is important to enable knowledge sharing between employees. Further, this study has also shown that OCB is a key to promote knowledge sharing by mediating the relationship between leadership, empowerment, OC and knowledge sharing. This study is unique in its attempt to capture mechanism as a significant identification in the complex process by which leadership facilitates knowledge sharing in organizations.

In addition, this study expands on previous research that hypothesizes a direct relationship between transformational leadership and knowledge sharing. This study adds specificity by describing mechanisms by which transformational leaders promote knowledge sharing by engendering employee's psychological empowerment, organizational commitment and OCB.

The significant impact of leader behaviors on employees' knowledge sharing via mediating roles of empowerment and pro-social attitude (OC) and behaviors (OCB) supports that theories of leadership present a cohesive and promising framework for

examining mental changes or processes that emerge through human interactions. Concepts, such as transformational leadership, empowering leadership and self-leadership, try to improve in-role as well as extra-role behaviors to balance performance and development. Therefore, leadership occupies an important antecedent position in the knowledge sharing literature to be further examined alone or alongside other organizational variables.

In terms of practice, constructs examined in this study, namely, leadership, empowerment, organizational commitment and OCB, directly fall under the core practices of organization learning. Knowledge sharing is often considered as the specialty domain of workplace learning and development professionals; thus, for employees' knowledge sharing, individuals with training or adult learning expertise are often invited to promote knowledge-sharing practices. Findings from this study highlight the importance of OCB as well as influential roles of leaders who demonstrate transformational leadership behaviors. Although organizational culture or climate are frequently examined as antecedents of knowledge sharing, such concepts are broader and complex to make a targeted improvement for knowledge sharing. Practitioners who want to enhance the employees' knowledge sharing can communicate important role of OCB and leader behaviors and also highlight the positive impact of transformational leadership on the empowerment of the employees.

Limitations and recommendations for future research
There are several limitations we would like to note regarding methodology. Survey research is particularly limited in generalizability when non-probabilistic sampling and cross-sectional design are used. Experimental conditions are nearly impossible to create in organizational settings, but this study can be improved by other alternative research design such as a longitudinal survey. Especially a longitudinal design research with both qualitative and quantitative approaches enables to provide a more comprehensive of the underlying process through which transformational leaders influence employees' knowledge sharing. Although this study obtained an ample size of participants from multiple organizations that focus on knowledge sharing, the participating firms were entirely composed of extremely large companies with a high concentration of male populations. Owing to the size of the sample used in the study and based on the results from other group comparison tests (e.g. functions, age and tenure), CFA was not performed separately for male and female employees. We recommend that future studies also control the influence of demographic variables or compare group means in SEM when sample size is sufficiently large.

Further, this study addressed the potential bias of common method variance based on a single-source survey by examining Harman's single-factor test, checking both discriminant and convergent validity, and testing an alternative model. However, cross-section design suffers in robustness and objectivity when compared to other design, such as multi-source rating or longitudinal research. In addition, there is another concern as a result of using self-reported measures. This study cannot avoid the possibility that participants of this study might have responded to survey questions in a socially desirable manner. Therefore, future researchers may need to consider using several sources besides survey responses to support findings of the study.

Finally, the nature of this study's sample in private sector in South Korea is considered another limitation. Owing to this, national and leadership cultures where

participants of this study were affiliated can be different from previous studies. Thus, more cross-cultural and national comparison research by using systematic sampling strategies is recommended. Moreover, any generalized interpretation of the findings of the study to other settings should be proceeded with caution.

References

Argote, L., McEvily, B. and Reagans, R. (2003), "Managing knowledge in organizations: an integrative framework and review of emerging themes", *Management Science*, Vol. 49 No. 4, pp. 571-582, available at: http://dx.doi.org/10.1287/mnsc.49.4.571.14424

Avolio, B.J. and Yammarino, F.J. (2013), *Transformational and Charismatic Leadership: The Road Ahead*, Emerald Group Publishing, Bradford.

Avolio, B.J., Zhu, W., Koh, W. and Bhatia, P. (2004), "Transformational leadership and organizational commitment: mediating role of psychological empowerment and moderating role of structural distance", *Journal of Organizational Behavior*, Vol. 25, pp. 951-968, available at: http://dx.doi.org/10.1002/job.283

Bartlett, K.R. (2001), "The relationship between training and organizational commitment: a study in the health care field", *Human Resource Development Quarterly*, Vol. 12 No. 4, pp. 335-352.

Bartol, K.M. and Srivastava, A. (2002), "Encouraging knowledge sharing: the role of organizational reward systems", *Journal of Leadership and Organizational Studies*, Vol. 9 No. 1, pp. 64-76, available at: http://dx.doi.org/10.1177/107179190200900105

Bass, B.M. (1999), "On the taming of charisma: a reply to Janice Beyer", *Leadership Quarterly*, Vol. 10 No. 4, pp. 541-553, available at: http://dx.doi.org/10.1016/S1048-9843(99)00030-2

Bass, B.M. and Avolio, B.J. (1997), *Full range of leadership: Manual for the Multi-factor Leadership Questionnaire*, Mind Garden, Palto Alto, CA.

Bass, B.M. and Steidlmeier, P. (1999), "Ethics, character, and authentic transformational leadership behavior", *Leadership Quarterly*, Vol. 10 No. 2, pp. 181-217, available at: http://dx.doi.org/10.1016/S1048-9843(99)00016-8

Bock, G.W., Zmud, R.W., Kim, Y.G. and Lee, J.N. (2005), "Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organizational climate", *MIS quarterly*, Vol. 29 No. 1, pp. 87-111, available at: http://dx.doi.org/ 10.2307/25148669

Bollen, K.A. (1989), *Structural Equations with Latent Variables*, John Wiley and Sons, New York.

Bono, J. and Judge, T. (2003), "Self-concordance at work: toward understanding the motivational effects of transformational leadership", *Academy of Management Journal*, Vol. 46 No. 5, pp. 554-571, available at: http://dx.doi.org/10.2307/30040649

Burud, S. and Tumolo, M. (2004), *Leveraging the New Human Capital*, Davies-Black, Mountain View, CA.

Bycio, P., Hackett, R.D. and Allen, J.S. (1995), "Further assessments of Bass's (1985) conceptualization of transactional and transformational Leadership", *Journal of Applied Psychology*, Vol. 80 No. 4, pp. 468-478, available at: http://dx.doi.org/10.1037/0021-9010.80.4.468

Cabrera, A., Collins, W. and Salgado, J. (2006), "Determinants of individual engagement in knowledge sharing", *International Journal of Human Resource Management*, Vol. 17 No. 2, pp. 245-264, available at: http://dx.doi.org/10.1080/09585190500404614

Carmeli, A., Atwater, L. and Levi, A. (2011), "How leadership enhances employees' knowledge sharing: the intervening roles of relational and organizational identification", *The Journal*

of Technology Transfer, Vol. 36 No. 3, pp. 257-274, available at: http://dx.doi.org/10.1007/s10961-010-9154-y

Chan, V.S., Zannes, E. and Pace, W. (2002), "The contributions of knowledge management to workplace learning", *Journal of Workplace Learning*, Vol. 14 No 4, pp. 138-147, available at: http://dx.doi.org/10.1108/13665620210427267

Chen, I.Y.L., Chen, N.S. and Kinshuk (2009a), "Examining the factors influencing participants' knowledge sharing behavior in virtual learning communities", *Educational Technology & Society*, Vol. 12 No. 1, pp. 134-148.

Chen, L.Y. and Barnes, F.B. (2006), "Leadership behaviors and knowledge sharing in professional service firms engaged in strategic alliances", *Journal of Applied Management and Entrepreneurship*, Vol. 11 No. 2, pp. 51-69, available at: http://dx.doi.org/10.1108/13665620910934825

Chen, W.L., Sandhu, M.S. and Jain, K.K. (2009b), "Knowledge sharing in an American multinational company based in Malaysia", *Journal of Workplace Learning*, Vol. 21 No. 2, pp. 125-142, available at: http://dx.doi.org/10.1108/13665620910934825

Conger, J. and Kanungo, R.N. (1988), "The empowerment process- integrating theory and practice", *Academy of Management Review*, Vol. 13 No. 3, pp. 471-482, available at: http://dx.doi.org/10.5465/AMR.1988.4306983

Dust, S.B., Resick, C.J. and Mawritz, M.B. (2014), "Transformational leadership, psychological empowerment, and the moderating role of mechanistic–organic contexts", *Journal of Organizational Behavior*, Vol. 25 No. 3, pp. 413-433, available at: http://dx.doi.org/10.1002/job.1904

Dvir, T., Eden, D., Avolio, B. and Shamir, B. (2002), "Impact of transformational leadership on follower development and performance: a field experiment", *Academy of Management Journal*, Vol. 45 No. 4, pp. 735-744, available at: http://dx.doi.org/10.2307/3069307

Epitropaki, O. and Martin, R. (2005), "The moderating role of individual differences in the relation between transformational/transactional leadership perceptions and organizational identification", *The Leadership Quarterly*, Vol. 16 No. 4, pp. 569-589, available at: http://dx.doi.org/10.1016/j.leaqua.2005.06.005

Feather, N.T. and Rauter, K.A. (2004), "Organizational citizenship behaviours in relation to job status, job insecurity, organizational commitment and identification, job satisfaction and work values", *Journal of Occupational and Organizational Psychology*, Vol. 77 No. 1, pp. 81-94. http://dx.doi.org/10.1348/096317904322915928

Fornell, C. and Larcker, D.F. (1981), "Structural equation models with unobservable variables and measurement error: Algebra and statistics", *Journal of Marketing Research*, Vol. 18 No. 3, pp. 382-388, available at: http://dx.doi.org/10.2307/3150980

Grant, R.M. (1996), "Toward a knowledge-based view of the firm", *Strategic Management Journal*, Vol. 36 No. 5, pp. 921-950, available at: http://dx.doi.org/10.1002/smj.4250171110

Guzman, G. (2008), "Sharing practical knowledge in hostile environments: a case study", *Journal of Workplace Learning*, Vol. 20 No. 3, pp. 195-212, available at: http://dx.doi.org/10.1108/13665620810860495

Hair, J.F., Tatham, R.L., Anderson, R.E. and Black, W. (2006), *Multivariate Data Analysis*, Vol. 6, Pearson Prentice Hall, Upper Saddle River, NJ.

Ismaila, A., Mohamedb, H.A., Sulaimanc, A.Z., Mohamadd, M.H. and Yusufe, M.H. (2011), "An empirical study of the relationship between transformational leadership, empowerment and organizational commitment", *Business and Economics Research Journal*, Vol. 2 No. 1, pp. 89-107.

Jo, S. and Joo, B. (2011), "Knowledge sharing: the influences of learning organization culture, organizational commitment, and organizational citizenship behaviors", *Journal of Leadership and Organizational Studies*, Vol. 18 No. 3, pp. 353-364, available at: http://dx. doi.org/10.1177/1548051811405208

Jöreskog, K.G. and Sörbom, D. (1981), *LISREL 5: Analysis of Linear Structural Relationships by Maximum Likelihood and Least Squares Methods: User'S Guide*, University of Uppsala, Uppsala.

Kark, R., Shamir, B. and Chen, G. (2003), "The two faces of transformational leadership: empowerment and dependency", *Journal of Applied Psychology*, Vol. 88 No. 2, pp. 246-255, available at: http://dx.doi.org/10.1037/0021-9010.88.2.246

Kim, H. (2014), "Transformational leadership, organizational clan culture, organizational affective commitment, and organizational citizenship behavior: a case of South Korea's public sector", *Public Organization Review*, Vol. 14 No. 3, pp. 397-417, available at: http://dx.doi. org/10.1007/s11115-013-0225-z

Konovsky, M.A. and Pugh, S.D. (1994), "Citizenship behavior and social exchange", *Academy of Management Journal*, Vol. 37 No. 3, pp. 656-669, available at: http://dx.doi.org/10.2 307/256704

Kramer, R.M., Brewer, M.B. and Hanna, B.A. (1996), "Collective trust and collective action: the decision to trust as a social decision", in Kramer, R.M. and Tyler, T.M. (Eds), *Trust in Organizations: Frontiers of Theory and Research*, Sage, Thousand Oaks, CA, pp. 114-139, available at: http://dx.doi.org/10.4135/9781452243610.n17

Lavelle, J.J., Rupp, D.E. and Brockner, J. (2007), "Taking a multifoci approach to the study of justice, social exchange, and citizenship behavior: the target similarity model", *Journal of Management*, Vol. 33 No. 6, pp. 841-866, available at: http://dx.doi.org/10.1 177/0149206307307635

Leithwood, K. and Jantzi, D. (2000), "The effects of transformational leadership on organizational conditions and student engagement with school", *Journal of Educational Administration*, Vol. 38 No. 2, pp. 112-129, available at: http://dx.doi.org/10.1108/09578230010320064

Li, J., Brake, G., Champion, A., Fuller, T., Gabel, S. and Hatcher-Busch, L. (2009), "Workplace learning: the roles of knowledge accessibility and management", *Journal of Workplace Learning*, Vol. 21 No. 4, pp. 347-364, available at: http://dx.doi.org/10.1108/13665620910954238

Lin, H.F. and Lee, G.G. (2004), "Perceptions of senior managers toward knowledge-sharing behaviors", *Management Decision*, Vol. 42 No. 1, pp. 108-125, available at: http://dx.doi.org/ 10.1108/00251740410510181

Lin, R.S. and Hsiao, J. (2014), "The relationships between transformational leadership, knowledge sharing, trust and organizational citizenship behavior", *International Journal of Innovation, Management and Technology*, Vol. 5 No. 3, pp. 171-174, available at: http://dx. doi.org/10.7763/ijimt.2014.v5.508

Maharani, V., Troena, E.A. and Noermijati (2013), "Organizational citizenship behavior role in mediating the effect of transformational leadership, job satisfaction on employee performance: studies in PT bank syariah mandiri malang east java", *International Journal of Business and Management*, Vol. 18 No. 17, pp. 1-12.

Mathieu, J.E. and Zajac, D.M. (1990), "A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment", *Psychological Bulletin*, Vol. 108 No. 2, pp. 171-194, available at: http://dx.doi.org/10.1037/0033-2909.108.2.171

Meyer, J.P., Allen, N.J. and Smith, C.A. (1993), "Commitment to organizations and occupations: extension and test of a three-component conceptualization", *Journal of Applied Psychology*, Vol. 78 No. 4, pp. 538-546, available at: http://dx.doi.org/10.1037/0021-9010.78.4.538

Mowday, R.T., Steer, R.M. and Porter, L.W. (1979), "The measurement of organizational commitment", *Journal of Vocational Behavior*, Vol. 14 No. 2, pp. 224-247, available at: http://dx.doi.org/10.1016/0001-8791(79)90072-1

Mueller, J. (2014), "A specific knowledge culture: cultural antecedents for knowledge sharing between project teams", *European Management Journal*, Vol. 32 No. 2, pp. 190-202, available at: http://dx.doi.org/10.1016/j.emj.2013.05.006

Nahapiet, J. and Ghoshal, S. (1998), "Social capital, intellectual capital, and the organizational advantage", *Academy of Management Review*, Vol. 23 No. 2, pp. 242-266.

Nonaka, I. and Toyama, R. (2003), "The knowledge-creating theory revisited: knowledge creation as a synthesizing process", *Knowledge Management Research & Practice*, Vol. 1 No. 1, pp. 2-10, available at: http://dx.doi.org/10.1057/palgrave.kmrp.8500001

Organ, D.W. (1988), *Organizational Citizenship Behavior: The Good Soldier Syndrome*, Lexington Books, Lexington, MA.

Piccolo, R.F. and Colquitt, J.A. (2006), "Transformational leadership and job behaviors: the mediating role of core job characteristics", *Academy of Management Journal*, Vol. 49 No. 2, pp. 327-340, available at: http://dx.doi.org/10.5465/AMJ.2006.20786079

Pieterse, A.N., Knippenberg, D.V., Schippers, M. and Stam, D. (2010), "Transformational and transactional leadership and innovative behavior: the moderating role of psychological empowerment", *Journal of Organizational Behavior*, Vol. 31 No. 4, pp. 609-623, available at: http://dx.doi.org/10.1002/job.650

Podsakoff, P.M., MacKenzie, S.B. and Bommer, W.H. (1996), "Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and organizational citizenship behaviors", *Journal of Management*, Vol. 22 No. 2, pp. 259-298, available at: http://dx.doi.org/10.1177/014920639602200204

Podsakoff, P.M., MacKenzie, S.B., Moorman, R.H. and Fetter, R. (1990), "Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors", *The Leadership Quarterly*, Vol. 1 No. 2, pp. 107-142, available at: http://dx.doi.org/10.1016/1048-9843(90)90009-7

Reychav, I. and Weisberg, J. (2010), "Bridging intention and behavior of knowledge sharing", *Journal of Knowledge Management*, Vol. 14 No. 2, pp. 285-300, available at: http://dx.doi.org/10.1108/13673271011032418

Seibert, S.E., Wang, G. and Courtright, S.H. (2011), "Antecedents and consequences of psychological and team empowerment in organizations: a meta-analytic review", *Journal of Applied Psychology*, Vol. 96 No. 5, pp. 981-1003, available at: http://dx.doi.org/10.1037/a0022676

Shore, L.M. and Wayne, S.J. (1993), "Commitment and employee behavior: comparison of affective commitment and continuance commitment with perceived organizational support", *Journal of Applied Psychology*, Vol. 78 No. 5, pp. 774-780, available at: http://dx.doi.org/10.1037/0021-9010.78.5.774

Spreitzer, G.M. (1995), "Psychological empowerment in the workplace: dimensions, measurement and validation", *Academy of Management Journal*, Vol. 38 No. 5, pp. 1442-1465, available at: http://dx.doi.org/10.2307/256865

Srivastava, A., Bartol, K.M. and Locke, E.A. (2006), "Empowering leadership in management teams: effects on knowledge sharing, efficacy, and performance", *Academy of Management Journal*, Vol. 49 No. 6, pp. 1239-1251, available at: http://dx.doi.org/10.5465/AMJ.2006.23478718

Thomas, K.W. and Velthouse, B.A. (1990), "Cognitive elements of empowerment: an 'interpretive' model of intrinsic task motivation", *Academy of Management Review*, Vol. 15 No. 4, pp. 666-681, available at: http://dx.doi.org/10.5465/AMR.1990.4310926

van Yperen, N.W., Berg, A.E. and Willering, M.C. (1999), "Towards a better understanding of the link between participation in decision-making and organizational citizenship behaviour: a multilevel analysis", *Journal of Occupational and Organizational Psychology*, Vol. 72 No. 3, pp. 377-392, available at: http://dx.doi.org/10.1348/096317999166734

Wang, S. and Noe, R.A. (2010), "Knowledge sharing: A review and directions for future research", *Human Resource Management Review*, Vol. 20 No. 2, pp. 115-131, available at: http://dx.doi.org/10.1016/j.hrmr.2009.10.001

Wayne, S., Liden, R. and Sparrowe, R. (2000), "An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, work outcomes", *Journal of Applied Psychology*, Vol. 85 No. 3, pp. 407-416, available at: http://dx.doi.org/10.1037/0021-9010.85.3.407

Xue, Y., Bradley, J. and Liang, H. (2011), "Team climate, empowering leadership, and knowledge sharing", *Journal of Knowledge Management*, Vol. 15 No. 2, pp. 299-312, available at: http://dx.doi.org/10.1108/13673271111119709

Yoon, S.W. and Park, J. (2013), "Knowledge sharing: the impact of learning organization culture and learning goal orientation", paper presented at the 2014 AHRD International Conference in the Americas, Houston, TX.

Corresponding author
Seung Hyun Han can be contacted at: caleb1250@gmail.com

This article has been cited by:

1. HusseinAlShaima Taleb Taleb AlShaima Taleb Taleb Hussein shemooo1892@yahoo.com SinghSanjay Kumar Sanjay Kumar Singh sanjay.singh@adu.ac.ae FaroukSherine Sherine Farouk sherine.farouk@adu.ac.ae SohalAmrik S. Amrik S. Sohal amrik.sohal@monash.edu College of Business Administration, Abu Dhabi University, Khalifa City, Abu Dhabi, United Arab Emirates Department of Management, Monash University, Caulfield East, Australia . 2016. Knowledge sharing enablers, processes and firm innovation capability. *Journal of Workplace Learning* **28**:8, 484-495. [Abstract] [Full Text] [PDF]

2. SinhaShruti Shruti Sinha shruti.snh@gmail.com PriyadarshiPushpendra Pushpendra Priyadarshi pushpendra@iiml.ac.in KumarPankaj Pankaj Kumar pankaj@iiml.ac.in School of Management, Jagran Lakecity University, Bhopal, India Human Resource Management, Indian Institute of Management Lucknow, Lucknow, India . 2016. Organizational culture, innovative behaviour and work related attitude. *Journal of Workplace Learning* **28**:8, 519-535. [Abstract] [Full Text] [PDF]

3. UpadhyayParijat Parijat Upadhyay parijat.upadhyay@gmail.com KunduAmit Amit Kundu amit.kundu74@gmail.com NairSreethi Sreethi Nair sreethi.nair@adu.ac.ae Institute of Management Technology, Ghaziabad, India Techno India Group, School of Management Studies, Kolkata, India Abu Dhabi University, University College, Abu Dhabi, United Arab Emirates . 2016. On managing business, organization climate and enterprise system implementation. *Journal of Workplace Learning* **28**:8, 472-483. [Abstract] [Full Text] [PDF]