

## HOW LEADERSHIP AND TRUST IN LEADERS FOSTER EMPLOYEES' BEHAVIOR TOWARD KNOWLEDGE SHARING

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We explored the effect of transformational leadership and trust in leaders on knowledge collecting and knowledge donating, the 2 components of knowledge sharing, with data from 368 employees at 63 Chinese firms. The results showed that trust in leaders mediated the relationship between transformational leadership and knowledge sharing. In addition, transformational leadership had a greater effect than did trust in leaders on knowledge donating, and aspects of trust in leaders had a greater effect than did transformational leadership on knowledge collecting. The findings provide theoretical insights and practical initiatives for knowledge management.

*Keywords:* knowledge management, knowledge sharing, knowledge collecting, knowledge donating, transformational leadership, trust in leaders.

*Knowledge management* is a primary source for organizations to develop core competencies, improve performance (Sheng, Chang, Teo, & Lin, 2013), create value, and attain a competitive advantage (Rahimli, 2012). *Knowledge sharing* (KS) is an important component of knowledge management (Du, Ai, & Ren, 2007). It is the process of individuals exchanging knowledge to create

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new and useful knowledge (van den Hooff & de Ridder, 2004). The success of a knowledge management initiative depends on the extent of KS in an organization (S. Wang & Noe, 2010). KS provides a complete set of essential skills and knowledge for individuals to work or achieve goals more efficiently. It not only becomes a key resource for them to learn new techniques, solve problems, generate core competencies, and achieve continuous innovation (Liao, Fei, & Chen, 2007), but also plays an important role in building a competitive advantage for firms (J. Chen, Jiao, & Zhao, 2016). However, few researchers have studied KS in a Chinese context (Ma, Qi, & Wang, 2008). Therefore, it is necessary to identify the factors that promote KS among employees in Chinese firms.

Leadership has a crucial role in the success or failure of an organization (Huang, Hsu, & Chiau, 2011). Each leadership style has a significant impact on employees' attitude and work motivation as well as their KS behavior (de Vries, Bakker-Pieper, & Oostenveld, 2010). *Transformational leadership* (TL) is the leadership style that not only heightens individuals' awareness of organizational benefits, but also helps them to attain these benefits (Bass & Avolio, 2000). Thomson, Rawson, Slade, and Bledsoe (2016) found that TL was one of the most effective leadership styles. It is associated with positive outcomes as well as with KS (Li, Shang, Liu, & Xi, 2014), as transformational leaders consider employees to be a valuable resource. Theories of TL emphasize the important role of emotions and values, and leadership oriented toward encouraging positive and creative behavior in employees (Bass & Avolio, 2000; García-Morales, Matías-Reche, & Hurtado-Torres, 2008). Transformational leaders inspire their followers to gain the highest level of achievement for managerial performance (Nguyen, Mia, Winata, & Chong, 2017). Thus, TL has attracted much attention from researchers and become a dominant leadership theory (Mhatre & Riggio, 2014).

Although TL is a pertinent leadership style for effectively managing KS (Birasnav, Rangnekar, & Dalpati, 2011), there is little research on the relationship between TL and KS (Han, Seo, Yoon, & Yoon, 2016; S. Wang & Noe, 2010). S. Wang and Noe (2010) suggested that further research is needed on the influence of leadership characteristics on KS in relation to employees' trust in leaders, as a mediating variable. Han et al. (2016) identified a need for more research on the mechanisms and processes through which TL has an impact on the motivation and attitudes of employees toward KS. Therefore, on the basis of these researchers' and Ma et al.'s (2008) suggestions, we explored the impact of TL on KS in the Chinese context via the mediating role of trust in leaders (see Figure 1). We asked the following research questions: Does TL have a significant influence on KS? How different are the various aspects of trust's influence on KS? Do aspects of trust in leaders have a mediating role between TL and KS?

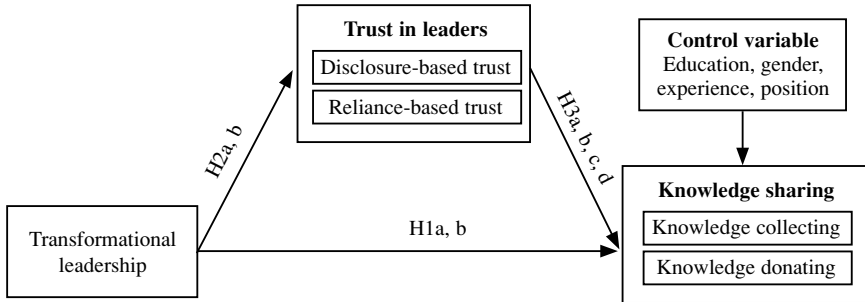


Figure 1. Conceptual model.

## Literature Review and Development of Hypotheses

### Transformational Leadership and Knowledge Sharing

KS is closely related to the long-term performance and competitiveness of a firm (Du et al., 2007). There are two processes in KS: *knowledge donating*, which involves individuals actively communicating or supplying personal intellectual capital to colleagues, and *knowledge collecting*, which involves individuals actively consulting colleagues to learn skills and information from them (van den Hooff & de Ridder, 2014). This valuable classification reflects two sets of individuals' behavior in KS. Individuals' behavior and attitude toward KS are decisive factors in the success of KS (Bock, Zmud, Kim, & Lee, 2005).

TL is a strategic factor in increasing KS (Li et al., 2014). Transformational leaders can motivate employees to execute their work beyond their expectations and help them reach their full potential in the organization. TL consists of four factors: inspirational motivation, intellectual stimulation, individualized consideration, and idealized influence (Bass, 1985). *Inspirational motivation* reflects the ability of a leader to motivate followers largely through communication of a strong sense of purpose and confidence in the organization's mission. *Intellectual stimulation* refers to a leader's willingness to promote followers' intelligence, knowledge, and learning, which helps them to have innovative problem-solving skills. *Individualized consideration* is characterized by a leader's transparency, support, respect, and appreciation for followers' contribution to organizational achievement. *Idealized influence* creates the necessary pride and respect for, and trust in, the leader, who is an inspiration for followers to act ethically.

In this study, we used four items from a scale designed by Podsakoff, MacKenzie, and Bommer (1996) to measure the different aspects of TL (García-Morales et al., 2008). They characterize transformational leaders as those who are capable of motivating and guiding their followers, emphasizing clarity in their communication about organizational goals, acting as the organization's leading force, promoting new skill development among their followers, and

continually seeking new opportunities for their organization's development (García-Morales et al., 2008; Podsakoff et al., 1996).

TL is one of the most pertinent leadership styles for promoting KS (Birasnav et al., 2011). Transformational leaders set up a knowledgeable and supportive culture that shapes employees' attitude toward KS by developing a set of values, assumptions, and beliefs related to knowledge. This culture has a significant impact on KS among employees (Zhu, Chew, & Spangler, 2005). For example, Al-Husseini and Elbeltagi (2012) found that the four components of TL had a positive impact on individuals' KS in Iraqi higher education institutions. Akpotu and Tamunosiki-Amadi (2013) also reported that the four TL components significantly affected KS in Nigerian firms, and Li et al. (2014) found that TL had a positive impact on KS at both individual and group levels. In addition, Rawung, Wuryaningrat, and Elvinita (2015) found that two TL components, namely, inspirational motivation and intellectual stimulation, had a positive impact on individuals' KS in Indonesian small and medium firms. Han et al. (2016) recently stated that transformational leaders not only paid attention to continually learning, but also encouraged people to share knowledge for mutual development. Han et al. found that TL had a positive indirect effect on KS via employees' organizational commitment and organizational citizenship behavior. Thus, our aim was to further explain the effect of TL on knowledge collecting and knowledge donating. We proposed the following hypotheses:

**Hypothesis 1a:** Transformational leadership will have a positive impact on knowledge collecting.

**Hypothesis 1b:** Transformational leadership will have a positive impact on knowledge donating.

### **Transformational Leadership and Trust in Leaders**

*Trust* manifests as the degree of confidence that one individual has in another's competence and that he or she will always act in a fair, ethical, and predictable manner (Nyhan, 2000). Joseph and Winston (2005) listed different types of trust, namely, interpersonal trust, interorganizational trust, political trust, societal trust, peer trust in the workplace, organizational trust, and *trust in leaders*, which is the result of successful leadership. Trust in leaders is based on employees' perceptions of the leader's character, such as competency, integrity, and care and concern for others (Dirks & Ferrin, 2002). Schoorman, Mayer, and Davis (2007) stated that trust in leaders is the employee's willingness to be vulnerable to the leader's actions, on the basis of a positive expectation of the leader's intentions. There are two types of trust in leaders: *reliance-based trust*, which is defined as an individual's readiness to place reliance on work-related skills, abilities, and knowledge of another, and *disclosure-based trust*, which is described as an individual's willingness to disclose work-related sensitive aspects or personal opinions and information to another (Gillespie, 2003; Zand, 1972). We used

these concepts to measure trust in leaders, because they acknowledge the need to reduce the vulnerability and risk that is inherent in trust (Rousseau, Sitkin, Burt, & Camerer, 1998; Zand, 1972), and were specifically designed to measure trust in leadership (Dietz & Den Hartog, 2006).

Previous researchers have supported the correlation between leadership style and trust in leaders. For example, Robbins (2002) posited that when followers have trust in a leader, they are confident that their rights and interests will not be misused. Agote, Aramburu, and Lines (2016) demonstrated that authentic leadership had a direct positive impact on followers' trust in the leader. Bedi, Alpaslan, and Green (2016) found that ethical leadership was significantly related to the level of an employee's trust in the leader, as it positively influenced both cognitive and affective trust in the leader. In particular, Dirks and Ferrin (2002) indicated that TL was positively related to trust in leaders. B. Wang et al. (2016) stated recently that trust reflected the quality of the leader–individual exchange relationship, and they described a strong and significant relationship between TL and trust in the leader in their study.

However, as few researchers have specifically explored the effect of TL on trust in leaders (Lee, Gillespie, Mann, & Wearing, 2010), this limits understanding of the different mechanisms that leaders may use to establish employees' trust. Therefore, we proposed the following hypotheses:

**Hypothesis 2a:** Transformational leadership will have a positive effect on disclosure-based trust in leaders.

**Hypothesis 2b:** Transformational leadership will have a positive effect on reliance-based trust in leaders.

### **Trust in Leaders and Knowledge Sharing**

Although previous researchers have paid little attention to the correlation between trust and KS, Davenport and Prusak (1998) posited that trust acts as an antecedent to, and is at the center of, KS. If individuals trust their leaders and colleagues, they show more intention to actively participate in KS and are more willing to provide useful knowledge (Cheng, Yeh, & Tu, 2008; Zand, 1972).

Trust in leaders has an indirect influence on KS via employees' perceptions of fairness, because it reflects their perceptions of being treated at an expected level of fairness and ethics, and the perception of fairness is essential for facilitating KS in an organization (Ibragimova, 2006). According to Renzl (2008), trust in leaders increases KS via an employee's willingness to document knowledge. In their meta-analysis, Dirks and Ferrin (2002) proposed that individuals' trust in their leaders is positively related to information exchange. In addition, Lee et al. (2010) found that trust in a leader had a direct positive influence on KS, and played a mediating role in the relationship between leadership and KS. Therefore, when employees have a high level of trust in their leaders' fairness and ethics,

they are ready and able to share their expertise and skill with colleagues to further their own and the organization's interests.

In summary, except for Lee et al. (2010), previous researchers have not paid attention to the impact of disclosure-based and reliance-based trust in leaders on KS. Thus, we proposed the following hypotheses:

**Hypothesis 3a:** Disclosure-based trust in leaders will have a positive impact on knowledge collecting.

**Hypothesis 3b:** Disclosure-based trust in leaders will have a positive impact on knowledge donating.

**Hypothesis 3c:** Reliance-based trust in leaders will have a positive impact on knowledge collecting.

**Hypothesis 3d:** Reliance-based trust in leaders will have a positive impact on knowledge donating.

On the basis of our discussion of the relationship between TL, trust in leaders, and KS, we, therefore, proposed the following hypothesis:

**Hypothesis 4:** Trust in leaders will play a mediating role between transformational leadership and knowledge sharing.

## Method

### Participants and Procedure

We collected empirical data through a survey of leaders and staff of 63 large Chinese manufacturing and service firms in Hunan, Beijing, and Guangdong. We contacted representatives of these companies to ask for their help in distributing and collecting the surveys. We chose participants who were employees (deputy directors, heads of departments, team leaders, and staff) in administration, operations, accounting, marketing, and sales departments. This ensured that participants had an understanding of the firm and knowledge of the operating environment of the organization, as well as the ability to frequently take part in information exchange.

The surveys were sent to 700 employees and we received back 556, of which 368 (52.5%) were valid. Of the 368 participants, 233 (63.3%) were men and 135 (36.7%) were women. We followed Armstrong and Overton's (1977) procedure to reduce nonresponse bias. We used chi-square ( $\chi^2$ ) and independent sample *t* tests to compare the first 80 and the last 80 participants, based on the demographic variables of age, gender, and education level. The results showed no significant differences between the two groups ( $p > .05$ ).

### Measures

We evaluated the measurement items using a 5-point Likert-type scale ranging from either 1 = *strongly disagree* to 5 = *strongly agree*, or 1 = *strongly unwilling* to 5 = *strongly willing*.

**Transformational leadership.** We followed the procedures of Coad and Berry (1998) and García-Morales et al. (2008) to measure employees' perceptions of their leader's TL style, with four items designed by Podsakoff et al. (1996). Sample items are "The organization has leaders who are capable of motivating and guiding their colleagues on the job" and "The firm's leader always acts as the organization's leading force." We conducted confirmatory factor analysis (CFA) to validate the items,  $\chi^2 = 3.62$ , degrees of freedom ( $df$ ) = 2, root mean square error of approximation (RMSEA) = .047, goodness-of-fit index (GFI) = .99, comparative fit index (CFI) = .99, normed fit index (NFI) = .99, Tucker-Lewis index (TLI) = .99, incremental fit index (IFI) = .99.

**Trust in leaders.** To measure trust in leaders, we used Gillespie's (2003) 10-item Behavioral Trust Inventory, with five items each for the two types of trust in leaders, namely, reliance and disclosure. A sample item for reliance is "How willing are you to depend on your leader to back you up in difficult situations?" A sample item for disclosure is "How willing are you to share your personal feelings with your leader?" We performed CFA to check the validity of the items for reliance,  $\chi^2 = 5.35$ ,  $df = 3$ , RMSEA = .046, GFI = .99, CFI = .99, NFI = .99, TLI = .99, IFI = .99, and for disclosure,  $\chi^2 = 9.03$ ,  $df = 4$ , RMSEA = .059, GFI = .99, CFI = .99, NFI = .99, TLI = .99, IFI = .99.

**Knowledge collecting and knowledge donating.** We used 10 items adapted from van den Hooff and de Leeuw van Weenen (2004) and Liao et al. (2007) to measure KS, with five items each for the two types of KS: knowledge collecting and knowledge donating. A sample item for knowledge collecting is "My colleagues often share with me the working skills they know when I ask them." A sample item for knowledge donating is "I often share with my colleagues the new working skills that I learn." We conducted CFA to validate the items for knowledge collecting,  $\chi^2 = 16.81$ ,  $df = 5$ , RMSEA = .07, GFI = .98, CFI = .99, NFI = .99, TLI = .98, IFI = .99, and for knowledge donating,  $\chi^2 = 8.98$ ,  $df = 4$ , RMSEA = .074, GFI = .99, CFI = .99, NFI = .99, TLI = .99, IFI = .99. In general, every scale was unidimensional and had high reliability (Cronbach's  $\alpha > .80$ ).

**Control variables.** We controlled for the demographic variables of education level, gender, workplace position, and workplace experience, to account for differences among firms and their potential impact on KS. This is consistent with previous researchers.

## Results

### Measurement Model

We first examined the internal reliability of the scales using Cronbach's  $\alpha$ , with the results ranging from .81 to .95, which all exceeded the .70 threshold suggested by Nunnally and Bernstein (1994). We then carried out CFA to assess the measurement model in terms of convergent and discriminant validity.

We tested convergent validity in terms of factor loadings and average variance extracted (AVE). According to Fornell and Larcker (1981), factor loadings should be significant and exceed .50, composite reliability should exceed .60, and the average variance extracted (AVE) should be greater than .50 for all constructs. The results showed that our model satisfied the convergent validity criteria (see Table 1).

Table 1. *Convergent Validity and Reliability Results*

Construct	<i>M</i>	<i>SD</i>	Item	Loading	AVE	CR	$\alpha$
TL	3.50	0.49	TL1	.74***	.53	.81	.81
			TL2	.75***			
			TL3	.64***			
			TL4	.76***			
LD	3.50	0.58	LD1	.90***	.70	.92	.92
			LD2	.83***			
			LD3	.73***			
			LD4	.91***			
			LD5	.81***			
LR	3.62	0.56	LR1	.80***	.74	.93	.93
			LR2	.96***			
			LR3	.95***			
			LR4	.69***			
			LR5	.86***			
KC	3.72	0.60	KC1	.85***	.79	.95	.95
			KC2	.80***			
			KC3	.97***			
			KC4	.83***			
			KC5	.96***			
KD	3.79	0.55	KD1	.83***	.72	.92	.93
			KD2	.86***			
			KD3	.87***			
			KD4	.82***			
			KD5	.85***			
WE	2.35	0.97	WE		1	1	
PG	1.36	0.48	PG		1	1	
WP	3.12	0.98	WP		1	1	
PE	2.13	0.58	PE		1	1	

*Note.* AVE = average variance extracted  $\geq .50$ , CR = composite reliability  $\geq .70$ , Cronbach's  $\alpha \geq .70$ , TL = transformational leadership, LD = disclosure-based trust in leaders, LR = reliance-based trust in leaders, KC = knowledge collecting, KD = knowledge donating, WE = workplace experience, PG = participants' gender, WP = workplace position, PE = participants' education level. \*\*\*  $p < .001$ .

Discriminant validity is satisfied if the square root of the AVE for each construct is greater than the correlation between the construct and any other construct (Fornell & Larcker, 1981). As the results showed that the square root



of AVE was greater than the correlations between the constructs, discriminant validity was demonstrated (see Table 2).

Table 2. *Construct Correlations and Average Variance Extracted*

Construct	TL	LD	LR	KC	KD	WE	PG	WP	PE
TL	<b>.73</b>								
LD	.54	<b>.84</b>							
LR	.52	.51	<b>.86</b>						
KC	.61	.59	.61	<b>.91</b>					
KD	.67	.63	.61	.62	<b>.92</b>				
WE	.40	.33	.33	.59	.48	<b>1</b>			
PG	.03	-.01	-.03	-.06	-.01	-.07	<b>1</b>		
WP	-.03	.01	-.01	-.01	.01	-.03	-.01	<b>1</b>	
PE	.48	.51	.52	.65	.72	.45	.01	.06	<b>1</b>

Note. The square root of average variance extracted (AVE) is in bold on the diagonal. Off-diagonal elements are the correlations among constructs. TL = transformational leadership, LD = disclosure-based trust in leaders, LR = reliance-based trust in leaders, KC = knowledge collecting, KD = knowledge donating, WE = workplace experience, PG = participants' gender, WP = workplace position, PE = participants' education level.

The fit indices of the measurement model are shown in Table 3. As all fit indices were at a satisfactory level, the model fit the data.

Table 3. *Overall Fit Index of the Confirmatory Factor Analysis Model*

Fix index	Score	Recommended threshold value
Absolute fit measure		
CMIN/df	1.492	$\leq 2^a, \leq 5^b$
GFI	.918	$\geq .90^a, \geq .80^b$
RMSEA	.037	$\leq .08^a, \leq .10^b$
Incremental fit measure		
NFI	.950	$\geq .90^a$
AGFI	.895	$\geq .90^a, \geq .80^b$
CFI	.983	$\geq .90^a$

Note. <sup>a</sup> Acceptability = acceptable, <sup>b</sup> Acceptability = marginal. CMIN/df = minimum discrepancy, GFI = goodness of fit index, RMSEA = root mean square error of approximation, NFI = normed fit index, AGFI = adjusted goodness of fit index, CFI = comparative fit index.

### Testing of Hypotheses

We performed a series of separate regression analyses to test the hypotheses (see Table 4).

**Direct effects analysis.** All path coefficients for direct effects were significant and in line with the hypotheses (see Table 4). Models 1 and 2 show that TL had a significant positive effect on disclosure-based trust ( $\beta = .318, p < .001$ ) and

Table 4. Regression Analysis Results

Variable	Trust in leaders		Knowledge sharing		Mediating effect			
	LD	LR	KD	KC	KC	KD		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Control variable								
WE	.058	.124**	.312***	.113**	.308***	.115**	.307***	.088**
PG	-.006	-.039	-.036	-.025	-.021	-.006	-.030	-.019
WP	-.008	-.055	.008	-.007	.018	-.001	.021	.003
Education level	.332***	.342***	.396***	.480***	.290***	.397***	.289***	.386***
Independent variable								
TL	.318***	.285***	.261***	.340***			.159***	.251***
Mediators								
LD					.223***	.242***	.196***	.190***
LR					.222***	.211***	.199***	.164***
R <sup>2</sup>	.336	.365	.598	.578	.639	.586	.607	.583

Note. WE = workplace experience, PG = participants' gender, WP = workplace position, TL = transformational leadership, LD = disclosure-based trust in leaders, LR = reliance-based trust in leaders, KC = knowledge collecting, KD = knowledge donating. \*\*  $p < .05$ , \*\*\*  $p < .001$ .

reliance-based trust in leaders ( $\beta = .285, p < .001$ ). Hypotheses 2a and 2b were therefore supported. Models 3 and 4 show that TL was positively correlated with knowledge collecting ( $\beta = .261, p < .001$ ) and knowledge donating ( $\beta = .340, p < .001$ ). Hypotheses 1a and 1b were therefore supported. Model 5 shows that both disclosure-based and reliance-based trust in leaders had a significant positive impact on knowledge collecting ( $\beta = .222$  and  $.223$ , respectively,  $p < .001$ ). Hypotheses 3a and 3b were thus supported. As Model 6 shows that disclosure-based and reliance-based trust in leaders were positively correlated with knowledge donating ( $\beta = .211$  and  $.242$ , respectively,  $p < .001$ ), Hypotheses 3c and 3d were supported.

We examined the control role of demographic variables for dependent factors in the eight models (see Table 4). The results showed that the coefficient for experience was significant at  $p < .05$  in all models, excluding Model 1. This showed that (a) individuals with more experience were more willing to share their knowledge, (b) as the coefficient for gender and position was insignificant in all models, these variables had no controlling role for trust in leaders and KS, and (c) the coefficient for education level was significant ( $p < .01$ ) in all models. Thus, employees with more work experience and a higher level of education were more willing to share their knowledge, and their trust in leaders was higher than those with less work experience and a lower level of education.

**Test of the mediating effect.** We added employees' trust in leaders as a mediator between TL and knowledge collecting (Model 7) and between TL and knowledge donating (Model 8). In comparison with Model 3 and Model 4, the direct effect of TL on knowledge collecting decreased from  $.261$  ( $p < .001$ ) to  $.159$  ( $p < .001$ ), and on knowledge donating decreased from  $.340$  ( $p < .001$ ) to  $.251$  ( $p < .001$ ). Thus, disclosure-based and reliance-based trust in leaders partially mediated the effect of TL on knowledge collecting and knowledge donating.

To provide evidence for the mediating role of trust in leaders in the relationship between TL and KS, we undertook further analysis to verify the magnitude and statistical significance of the indirect effects. For statistical inference, as suggested by Preacher and Hayes (2008), we used bootstrap resampling (5,000 iterations) to generate confidence intervals to test the significance of indirect effects.

Table 5 shows that the indirect effect of TL on knowledge collecting ( $\beta = .190, p < .001$ ) had a confidence interval range that did not include zero [0.128, 0.250]. The indirect effect of TL on knowledge donating ( $\beta = .170, p < .001$ ) also had a confidence interval range that did not include zero [0.118, 0.225]. Thus, the mediating role of disclosure-based and reliance-based trust in leaders in the relationship between TL and KS was supported.

Table 5. *Direct and Indirect Effects Analysis*

Path relationship	Direct effects	Indirect effects	Total effects	Bias-corrected	
				95% confidence intervals	
				Lower limit	Upper limit
TL→Trust→KC	.159***	.190***	.349***	0.128	0.250
TL→Trust→KD	.251***	.170***	.421***	0.118	0.225

Note. TL = transformational leadership, KC = knowledge collecting, KD = knowledge donating.  
 \*\*\*  $p < .001$ .

## Discussion

As KS is a crucial component of knowledge management, it is vital for the success of an organization (Mueller, 2014). However, it is not easy to promote organizational KS, because either individuals may fear being taken advantage of, or they want to attain or preserve an advantage from the knowledge they possess (Song, Park, & Kang, 2015). Moreover, C.-C. Chen (2011) argued that the reluctance to share knowledge makes individuals' knowledge unavailable for transmission and thus difficult for it to become valuable organizational knowledge. Therefore, it is essential to identify factors that have a significant and positive effect on KS, especially in a Chinese context (Ma et al., 2008). Our findings make a significant contribution to the field of knowledge management in the Chinese context in three ways.

First, our results increase understanding of the correlation between TL and KS through a review of the TL literature, which indicates TL's important role in the relationship with KS. Our findings confirm that TL has a significant influence on employees' KS. The main reason for this may be that TL is one of the most effective leadership styles (Thomson et al., 2016). In particular, our findings highlight the important role of TL in promoting knowledge donating compared with knowledge collecting. This may be because transformational leaders treat employees as a valuable organizational resource, and emphasize the important role of emotions, values, and ethics (Avolio, Bass, & Jung, 1999; Bass & Avolio, 2000). As a result, employees voluntarily and actively share their personal intellectual capital with colleagues for the benefit and development of the organization.

Second, as we assessed the influence of TL and trust in leaders on both aspects of KS, our results make a considerable contribution to the development of knowledge management initiatives. As knowledge collecting and knowledge donating form the two types of behavioral tendencies toward an individual's KS, this fuller understanding creates favorable conditions for KS, because its success depends on employees' behavior and attitude toward KS (Brock et al., 2005).

Further, following the recommendations of previous researchers (Dietz & Den Hartog, 2006; Rousseau et al., 1998), to better understand ways to reduce the vulnerability and risk inherent in trust, we examined both aspects of TL's influence on trust in leaders. The results show that TL has a greater impact on disclosure-based than on reliance-based trust in leaders. This finding shows that the positive characteristics of TL have a considerable impact on followers' willingness to disclose work-related sensitive aspects or personal opinions. This is useful for leaders making decisions related to the shared work of the firm. Moreover, the findings also show that TL has a greater effect on knowledge donating than on knowledge collecting, and aspects of trust in leaders have a greater effect on knowledge collecting than on knowledge donating. The identification of relationships among structures provides valuable and specific guidance for directors and managers to have the desired effect on both aspects of KS. Specifically, if leaders wish to stimulate employees to voluntarily and actively engage in KS, they should pay more attention to TL; if leaders wish to increase the willingness of employees to share skills and information as their colleagues need it, they should increase awareness of the importance of building trust among employees, particularly employees' trust in leaders (Lee et al., 2010).

Third, per S. Wang and Noe's (2010) ideas for future research, Ma et al.'s (2008) recommendation to investigate aspects of KS in a Chinese context, and Han et al.'s (2016) proposal to assess the mechanisms and processes that explain TL's impact on employees' attitude toward KS, our results have helped to fill theoretical gaps by connecting TL, trust in leaders, and KS in one model. Our findings have verified the mediating role of both aspects of trust in leaders and highlight that TL helps to create a significant impact on KS directly or indirectly through building employees' trust in their leaders. Moreover, through our examination of the influence of control variables, our findings show that education level and workplace experience have a considerable impact on KS.

The important practical implications of our findings are that leaders should strengthen training and retraining activities to create conditions for improving KS, and focus attention on the point of view, ideas, and importance of the role, of experienced employees, and those with higher levels of education.

There are some limitations in this study. First, the study data are cross-sectional. This hinders a longitudinal examination of the conceptual framework, which is important given that an individual's emotions and trust level may change over time (Smollan, 2013). Therefore, to confirm our results, it is necessary to conduct longitudinal studies. Second, the results and benchmarks in this study are suitable only in a Chinese context. Future researchers may provide a clearer picture in terms of the relationships among the constructs, in other contexts. Third, we did not examine the correlation between latent factors influencing moderators, such as education or workplace experience. As they can have a considerable influence

on KS (S. Wang & Noe, 2010), it is necessary for further researchers to explore more deeply the relationship between TL and KS by assessing the moderating roles of education and workplace experience. Nevertheless, our findings contribute to theoretical initiatives in the field of knowledge management, and can be used to analyze TL relationships, aspects of trust in leaders, and KS.

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