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Transformational Leadership and Innovation Capability: Roles of Knowledge-centered Culture and Knowledge Sharing*

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Abstract

Given the gaps in the link between leadership, knowledge resource, and innovation capability, this study aims to examine the potential mediating role of knowledge sharing and moderating role of knowledge-centered culture in the relationship between transformational leadership and a firm's capability for innovation. This study applied the Structural Equation Modeling to try out proposal hypotheses in the research model through a questionnaire survey from a sample of 301 participators in 115 small and medium firms in the field of tourism and hotel. The findings disclosed that knowledge-sharing behaviors significantly mediate the transformational leadership-innovation relationship. It highlights the significant impact of explicit knowledge sharing in comparison with the influence of tacit knowledge sharing on innovation capability. The paper also reveals the crucial role of knowledge-centered culture in boosting the knowledge-sharing-innovation relationship. By exploring the mediating role of knowledge sharing and the moderator of knowledge-centered culture, the paper significantly brings insight into different mediating and moderating mechanisms to improve innovation capability. The paper significantly fills up the gaps and provides valuable initiatives on the mechanism of how transformational leadership and specific forms of knowledge-sharing behaviors positively affect innovation capability under the moderating role of knowledge-centered culture.

Keywords: Transformational Leadership, Tacit Knowledge Sharing, Explicit Knowledge Sharing, Knowledge-Centered Culture, Innovation Capability

JEL Classification Code: M10, M14, M19

1. Introduction

Innovation capability is a dynamic competence allowing firms to develop, adjust and promote their product and services aimed at meeting customers' needs (Kartono et al., 2021; Gui et al., 2022). Accordingly, firms are attempting to improve their innovation capability to overcome the external turbulences that would have affected their performances negatively (Edeh et al., 2022). The literature emphasizes innovation capability as a fundamental driver to develop the economy and achieve competitive advantage for both firms and nations (Hogan & Coote, 2014; Le & Lei, 2018; Sijabat et al., 2022). However, it is a challenge for firms in emerging and developing markets to become real innovators rather than imitators due to majority of them are medium and small size, with the lack of capital and resources for innovation (Le, 2021; Gui et al., 2022; Lin, 2007). Such a situation has led researchers and practitioners to devote more effort to detecting the finer antecedents and new solutions to improve innovation capability for firms in these nations (Hoang & Ngoc, 2019; Le, 2021; Geldes et al., 2017; Than et al., 2022).

Transformational leadership (TL) and knowledge sharing (KS) are possibly the most important factors in promoting innovation capability (Zuraik & Kelly, 2019; Chong & Yuen, 2022; Gui et al., 2022). Indeed, among different leadership styles, TL is regarded as one of the most powerful leadership styles to increase innovation capability through encouraging openness, stimulating intellectual, and motivating employees' behaviors for innovation (Choi et al., 2016; Nguyen et al., 2021). In the same vein, Le (2021) indicated that successful

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KS processes enable firms to expand knowledge capital and exploit and convert all available resources into dynamic competences such as innovation. Accordingly, this study will attempt to enrich the understanding of the pathway that drives innovation by examining the role of TL as well as mediating mechanisms of KS processes. The research topic is new, interesting and crucial for firms to pursuit innovation for many reasons.

First, KS behaviors is supposed positively predicting firms' innovation capability (Tran, 2021; Than et al., 2022). Yet, some forms of KS may not result in innovation because they sometime are disrupted by situational factors for transforming into innovation (Pian et al., 2019). In addition, distinct types of KS behaviors might induce divergent impacts on a firm's capability for innovation (Le & Lei, 2018; Tran, 2021). Consequently, it creates a motive for scholars to inspect certain forms of KS by which firms can focus on it to improve innovation capability. Hence, the first question that needs to be clarified is: *Do tacit and explicit KS induce significant effects on innovation capability?*

Second, TL and KS are generally evaluated as the key antecedents for firms to pursue innovation, lack of empirical work has investigated the mediating role of specific forms of KS behaviors like explicit and tacit KS in the TL-innovation relationship (Le & Lei, 2018; Lei et al., 2021). This limits scholars and leaders' understanding of the mediating mechanisms by which they can focus the efforts on that to open up opportunities for firms to innovate (Nguyen et al., 2021; Nemanich & Keller, 2007). Accordingly, this study is implemented to bridge such theoretical gaps by examining the second research question: *Do tacit and explicit KS behaviors mediate the TL-innovation relationship?*

Finally, in the knowledge-based era, the innovation capability of a firm is mainly affected by intellectual resources like management know-how and knowledge resource rather than physical ones such as facilities, capital, and assets (Le, 2021; Than et al., 2022). Previous academic works stressed the important role of establishing an appropriate culture to foster the effect of KS activities on innovative initiatives (Le, 2021; Gui et al., 2022). Especially, the dissimilarity of cultural factors may bring about variance in providing opportunities, using sources, and creating motivations for knowledge sharing and innovation (Aman et al., 2018; Chang et al., 2017). Due to the growing role of knowledge-oriented culture (KC) as a catalyst for innovation, this study will clarify the potential role of KC as a moderator by posing the third research question: *Does KC enhance or inhibit the influence of KS behaviors on innovation capability?*

To shed light on the above research questions, Structural Equation Modeling (SEM) is applied to examine the correlation among the latent variables using a survey of 301 participators from 115 small and medium enterprises operating in tourism and hotel in Vietnam. The paper is anticipated to nourish theoretical initiatives and practical implications to successfully foster their innovation capability.

2. Literature Review and Hypotheses

2.1. Influence of Transformational Leadership on Innovation Capability

Innovation capability is defined as the capabilities of development and implementation of new ideas or behavior relating to a system, policy, program, device, process, product, or service by people who engage in transactions over time with others within an organization (Yang et al., 2018; Lathong et al., 2021; Jia et al., 2018). It has long been regarded as the crucial driver for firms to build and sustain competitive advantage, especially in the context of emerging and developing markets (Hoang & Ngoc, 2019; Gui et al., 2022). The ultimate goal of innovation management is to seek and create novel initiatives acting as the key solutions for firms to successfully innovate and develop (Gui et al., 2022; Sijabat et al., 2022).

Among distinct antecedents affecting a firm's innovation capability, TL is identified as a decisive one in fostering innovation competence due to its positive role in creating an appropriate condition and favorable climate for the promotion of employee abilities and organizational practices to innovate (Hyypiä & Parjanen, 2013; Kartono et al., 2021; Nguyen et al., 2021). TL has been generally admitted as an inspirational style that is positively associated with desired attitudes and behaviors of individuals in organizations (Yin et al., 2020; Gui et al., 2022). Literature depicted TL with four attributes namely idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. These characteristics are the key roots contributing to a firm's innovation capability. Specifically, under the idealized influence of transformational leaders, employees become more engaged, proactive, and motivated to implement new initiatives and effective ways of doing things that help firms increase their innovation capability to adapt and grow (Le, 2021); Intellectual stimulation enables TL to encourage employees to think, have new ideas and effective action for innovation (Le & Lei, 2018); inspirational motivation allows transformational leaders to create confidence and hope among employees in the process of generating new ideas and solutions for organizational innovation (Gumusluoğlu & Ilsev, 2009; Lei et al., 2021); and individualized consideration ''serves as a carrot'' for handling employees' personal needs. It directly arouses and motivates greater affection and efforts of employees toward creativity and innovation (Le & Lei, 2018). In addition, many prior studies have provided evidence of the positive effects of TL on innovation capability (Khalili, 2016; Almaskari et al., 2021; Gui et al., 2022). These arguments

support the positive impacts of TL on innovation capability. So following hypothesis is posed:

H1: *TL positively predicts innovation capability.*

2.2. Knowledge Sharing Mediates the Relationship Between TL and Innovation Capability

KS is defined as the process of exchanging knowledge, and jointly creating new knowledge among employees in the organization (Van den Hooff & De Ridder, 2004; Le & Lei, 2019). In other words, it is the process of exchanging data, information, know-how, skills, feedback, and expertise among individuals to accomplish their duties and organizational goals (Wang et al., 2016; Le & Lei, 2018). Current literature focuses on two dimensions of KS namely tacit and explicit KS due to its crucial influences on key organizational outcomes such as firm performance, organizational productivity, and absorptive and innovation capacity (Shao et al., 2015; Lei et al., 2021). Tacit KS refers to the process in which individuals share their knowledge such as experiences and expertise, uncommon understandings, insights, and intuitions (Peet, 2012; Wang et al., 2016; Vera & Crossan, 2004); while, explicit KS is the individuals' process of sharing codified knowledge and formal information within an organization such as documents and reports, procedures and policies, or handbooks (Wang et al., 2016; Lei et al., 2019).

The literature stresses the significant impact of TL on employees' KS processes. Specifically, according to Manafi and Subramaniam (2015), transformational leaders can encourage KS processes by transforming employees' positive attitudes and behaviors toward KS in the organization. Masa'deh et al. (2016) showed that TL practice is a key to developing a positive atmosphere conducive to KS processes based on encouraging employees' intellectual capital, providing vision and a sense of mission, and obtaining followers' respect and trust. In the same vein, Xiao et al. (2017) affirmed that transformational leaders can create an appropriate climate for cultivating employees' knowledge and skills and encouraging them to share a lot of knowledge and expertise with colleagues. Le and Lei (2018) showed direct and indirect effects of TL on employees' KS processes based on its positive impact on employee trust in leadership. Their findings verified that TL significantly affects aspects of KS behaviors such as knowledge donating and collecting. Lei et al. (2019) showed that under leadership by transformational leaders, employees are more willing to share their personal knowledge and expertise with others due to collaborative motivation for a common goal and the belief that a leader and colleagues are worth trusting. Most recently, scholars considered TL as one of the most appropriate leadership styles for creating an atmosphere of trust and collaborative climate to foster the willingness of employees for sharing both tacit and explicit knowledge within the organization (Le & Lei, 2018; Nguyen et al., 2021).

The above arguments showed the positive influences of TL on KS behaviors. To examine the impacts of TL on tacit and explicit KS, we pose the following hypotheses:

H2a: *TL positively predicts tacit KS.*
H2b: *TL positively predicts explicit KS.*

With regard to the KS-innovation relationship, Sáenz et al. (2012) supposed that the employees' KS mechanisms (e.g., communities of practice, coaching and/or mentoring, and employee functional rotation) are the key means of increasing and exerting a positive influence on innovation capability in Spanish and Colombian high-tech firms. According to Choi et al. (2016), the process of sharing task-related skills and expertise among employees might create a lot of opportunities to generate new ideas and enhance a firm's innovation capabilities. Naqshbandi and Jasimuddin (2018) highlighted the effects of acquisition and transfer of knowledge on enriching inflows of knowledge within the firm for increasing firms' open innovation capability. Recently, Nguyen et al. (2021) indicated that fostering the willingness of employees in sharing key information and knowledge resources is an important basis and prerequisite for increasing creative ideas and innovation capabilities. Especially, tacit and explicit KS activities help employees to increase their ability for learning and combining again all kinds of knowledge, and become more capable of translating new ideas into innovations (Elrehail et al., 2018; Bass, 1999). Based on these discussions, we propose the following hypotheses:

H3a: *Tacit KS is positively associated with innovation capability.*
H3b: *Explicit KS is positively associated with innovation capability.*

The above arguments provide support for the mediating roles of KS behaviors between TL and innovation capability. Prior studies also showed evidence of the positive role of TL as the antecedent to foster individuals sharing their key knowledge (Choi et al., 2016; Xiao et al., 2017), which is the source and basic driver of improving a firm's innovation capability (Wu et al., 2015; Wang et al., 2017). Choi et al. (2017) indicated that a firm's ability to acquire and apply knowledge plays mediating role in the relationship between TL and innovation behavior. Recently, Le and Lei (2018) revealed that by practicing TL style, leaders could develop an appropriate climate beneficial to foster KS activity which, in turn, significantly enhances the firm's innovation capability for product and process. Based on the above argument, we assert that TL can create an atmosphere of trust and collaboration among employees and positively stimulate them to share more key information,

knowledge, and resources which are the important basis and prerequisite for increasing firms' innovation capabilities. The following hypotheses, therefore, are posed:

H4: *Tacit and explicit KS mediate the relationship between TL and innovation capability.*

2.3. The Moderating Role of Knowledge-centered Culture

Knowledge-centered culture is defined as a set of core beliefs and values, norms, and social rules serving as a common vision and orient for employees to create, share and apply knowledge resources in an organization (Ferreira Peralta & Francisca Saldanha, 2014; Lei et al., 2021). The previous study revealed the significant moderating role of the cultural values of a firm in fostering the influences of KS on innovation capability. For example, Fierro Moreno et al. (2013) stressed that KC significantly affects employees' KS willingness for enhancing organizational innovation. Durmusoglu et al. (2014) investigated the moderating role of organizational culture in stimulating the KS process and reported that the stronger the KC, the stronger the influence of organizational rewards on knowledge gaining. According to Lei et al. (2019), under a climate of KC, employees' mindsets are motivated to acquire new information, knowledge, and resources. This helps employees to identify and solve problems in more creative ways for improving various types of innovation such as product and process innovation. In particular notes, Gui et al. (2022) argued that under the positive effects of KC, employees become more active and proactive in the process of knowledge collecting and donating, in other words, KC may create a favorable environment to promote the effects of KS behaviors on innovation capability. So, the following hypotheses are posed:

H5a: *KC positively moderates the effect of tacit KS on innovation capability.*

H5b: *KC positively moderates the effect of explicit KS on innovation capability.*

3. Data and Methodology

3.1. Sample and Data Collection

The data were collected from August to December 2021 through a survey of 115 Vietnamese small and medium firms operating in the field of tourism and hotel. To meet research needs, we contacted respondents who are employees at departments of administration, operation, accounting, marketing, and sales to ensure the necessary understanding of their organizational culture, frequently exchanging key knowledge information, and the current state of innovation capability. We communicated with the representatives of these firms by phone and/or by making personal visits to explain the purpose of the research and ask for their assistance in collecting the questionnaires. This study issues 500 questionnaires and receives 328 in the formal data collection, among which 301 are valid, with a 60.2% valid rate. Potential non-response bias was assessed by following the method proposed by Armstrong and Overton (1977). Chi-square and independent sample *t*-tests were used to compare the earlier 80 respondents and the last 80 based on demographic variables, including gender and age. The results demonstrated that there were no significant differences between the two groups of responses ($p > 0.05$). Of a total of 301 respondents, 158 (52.5%) are male and 143 (47.5%) are female.

3.2. Measurements

All measures used in this study were tested and validated in previous research. We measured all items via five-point Likert-type scales ranging from "1" (strongly disagree) to "5" (strongly agree); or from "1" (strongly unwilling to) to "5" (strongly willing to).

Transformational leadership. This study acknowledged participants' perceptions of their leader about TL behavior with eight items adapted from Le and Lei (2018). This study applied Cronbach's alpha (Cα) to assess the internal consistency reliability, showing a high value (Cα = 0.92). An item is "Our leaders can understand employees' situation and give them encouragement and assistance". *KS behaviors*. This study used 13 items adapted from the study of Lei et al. (2019) to measure tacit and explicit KS. In, tacit KS is measured by seven items, a sample item is "we frequently share knowledge based on their experience"; and explicit KS is measured by six items, a sample item is "we frequently share existing reports and official documents with members of my organization." Reliability test shows the high value for the measures of tacit KS (Cα = 0.93) and explicit KS (Cα = 0.93). *Innovation capability*. This study used six items from the work of Lin (2007) to measure the innovation capability of firms. A sample item is: "Our firm is frequently the first to market new products and services". The reliability test shows a high value for the measures of innovation capability (Cα = 0.95). *Knowledge-centered culture*. This study used seven items derived from the research of Donate and Guadamillas (2011) to reflect the cultural values that significantly support and promote knowledge management activities. A sample item is "Our company has a common language to support knowledge exchange and sharing between employees and departments". The reliability test shows a high value for the measures of KC (Cα = 0.96).

Control variables. Given the potential effect of demographic variables on innovation capability, this study examines the control roles of firm size and firm age to account for differences in innovation capability among firms.

4. Results

4.1. Measurement Model

We first tested the reliability of the measures of the constructs by examining the individual Cronbach's alpha (Cα) coefficients. Table 1 showed they ranged from 0.92 to 0.96 and are higher than the recommended level of 0.7 (Nunnally & Bernstein, 1994).

We then performed confirmatory factor analysis (CFA) to assess the convergent and discriminant validity of the overall measurement model.

Table 1: Standardize Loadings and Reliabilities for the Measurement Model

Construct	Item	Loading	AVE	CR	Cα
Transformational leadership (TL)	TL1	0.773***	0.62	0.92	0.92
	TL2	0.830***			
	TL3	0.723***			
	TL4	0.714***			
	TL5	0.822***			
	TL6	0.823***			
	TL7	0.807***			
	TL8	0.787***			
Tacit knowledge sharing (TK)	TK1	0.842***	0.67	0.93	0.93
	TK2	0.792***			
	TK3	0.790***			
	TK4	0.859***			
	TK5	0.826***			
	TK6	0.844***			
	TK7	0.805***			
Explicit knowledge sharing (EK)	EK1	0.815***	0.71	0.93	0.93
	EK2	0.845***			
	EK3	0.876***			
	EK4	0.822***			
	EK5	0.845***			
	EK6	0.863***			
Knowledge-oriented culture (KC)	KC1	0.975***	0.78	0.96	0.96
	KC2	0.742***			
	KC3	0.766***			
	KC4	0.970***			
	KC5	0.936***			
	KC6	0.809***			
	KC7	0.950***			
Innovation capability (IC)	IC1	0.894***	0.77	0.95	0.95
	IC2	0.884***			
	IC3	0.852***			
	IC4	0.892***			
	IC5	0.853***			
	IC6	0.888***			

Cα ≥ 0.7; composite reliability ≥ 0.7; average variances extracted ≥ 0.5; ***p-value < 0.001.

Table 2: Descriptive Statistics and Average Variance Extracted from Constructs

Construct	Mean	SD	TL	TK	EK	KC	IC
Transformational leadership (TL)	3.33	0.53	**0.79**				
Tacit knowledge sharing (TK)	3.59	0.55	0.65	**0.82**			
Explicit knowledge sharing (EK)	3.42	0.58	0.63	0.76	**0.84**		
Knowledge-centered culture (KC)	3.50	0.55	0.42	0.52	0.49	**0.88**	
Innovation capability (IC)	3.84	0.58	0.71	0.81	0.80	0.57	**0.87**

C$\alpha \geq 0.7$; CR ≥ 0.7; AVE ≥ 0.5; SD: standard deviation. Diagonal elements (in bold) are the square root of the AVE; Off-diagonal elements are the correlations among constructs.

Convergent validity is evaluated as recommended by Hair et al. (2006). The results in Table 1 show the model met the Hair et al.'s (2006) convergent validity criteria because (1) all factor loadings range from 0.714 to 0.975 (*all larger than* 0.6*;* $p < 0.001$); (2) CR values range from 0.92 to 0.96 (*all higher than* 0.7); and (3) the AVE values range from 0.62 to 0.78 (*all greater than* 0.5).

Discriminant validity is assessed by using the measure of AVEs (Fornell & Larcker, 1981). The discriminant validity of the research instrument was assessed by comparing the square root of the AVE with the correlations among the latent variables. Table 2 shows that the square root of AVE for each construct (diagonal elements in bold) is greater than the correlations among constructs in the model. It, therefore, provided strong support for the construct reliability, as well as for the convergent and discriminant validity of the scales.

Regarding the satisfaction of the measurement model, Table 3 shows that all fit indices of the measurement model were satisfactory; thus, the model fits the data.

Table 3: Overall Fit Index of the CFA Model

Fit Index	Scores	Recommended Threshold Value
Absolute fit measures		
CMIN/df	1.872	≤2[a]; ≤5[b]
GFI	0.848	≥0.90[a]; ≥0.80[b]
RMSEA	0.054	≤0.08[a]; ≤0.10[b]
Incremental fit measures		
NFI	0.913	≥0.90[a];
AGFI	0.824	≥0.90[a]; ≥0.80[b]
CFI	0.957	≥0.90[a];

An Acceptability: acceptable; [b]Acceptability: marginal; RMSEA: root mean square error of approximation; GFI: goodness of fit index; CFI: comparative fit index; NFI: normed fit index; AGFI: adjusted goodness of fit index.

4.2. Structural Model

A prior study indicated that the structural equation model (SEM) method is widely used due to its ability to demonstrate versatile regression correlations on a single model and test (Kline, 2015). It is also appropriate and practical to investigate the interaction and mediation effects (e.g., Le & Lei, 2019). So, this study used SEM with maximum likelihood estimation procedures to test the proposed hypotheses. Figure 1 and Table 4 show the main results for the hypotheses.

We perform privately three models to clarify the direct effects of TL and KS behaviors on innovation capability, as well as test the mediating roles of KS behaviors and the moderating role of knowledge-centered culture.

Test Direct Effects

Findings in Table 4 and Figure 1 show that all the standardized path coefficients of direct effects are found to be significant and in line with the stated hypothesis. Specifically:

Hypothesis H1 relating to the relationship between TL and innovation capability, Table 4 indicated that TL is significantly and positively related to innovation capability ($\beta = 0.223$; $p < 0.001$) Thus, H1 is supported.

Regarding the relationship between TL and KS behaviors, results in Table 4 support the positive effects of TL on tacit KS ($\beta = 0.694$; $p < 0.001$), and explicit KS ($\beta = 0.677$; $p < 0.001$). Thus, Hypotheses H2a and H2b are supported.

Relating to the relationship between aspects of KS behaviors and innovation capability, the findings have confirmed the positive effects of tacit KS ($\beta = 0.350$; $p < 0.001$) and explicit KS ($\beta = 0.367$; $p < 0.001$) on innovation capability. Thus, hypotheses H3a and H3b are supported.

This study also examines the control role of firm age and firm size to account for differences in the innovation capabilities of firms. The results did not support the significant effect of these. So, firm age and firm size

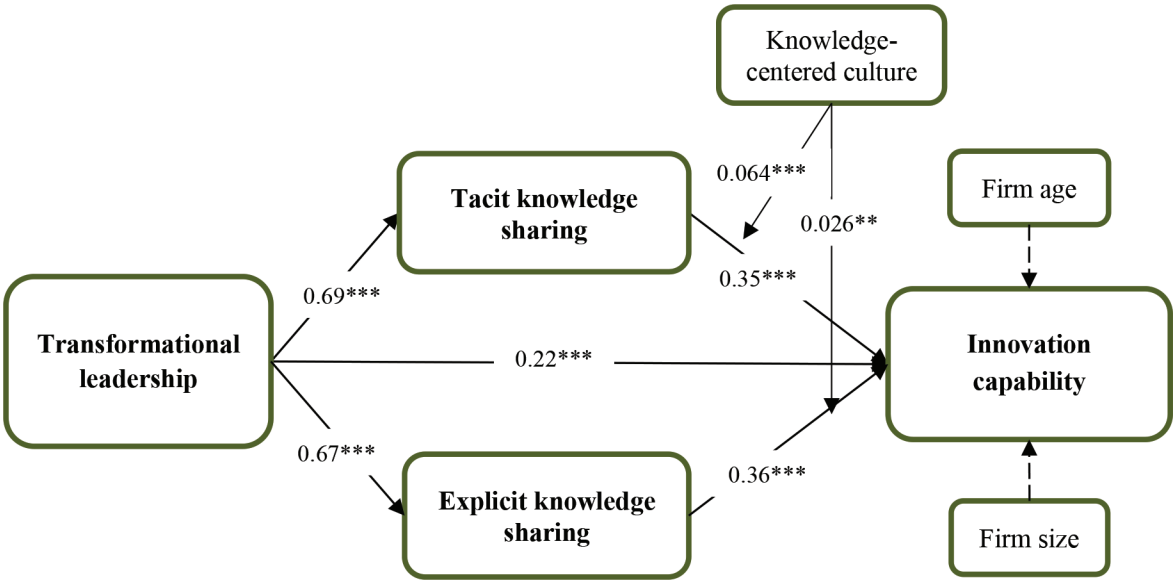

Figure 1: Path Coefficients of the Structural Model

Note: ****p*-value < 0.001 level; ***p*-value < 0.05 level; ----- Non-significant paths.

Table 4: Results of the Direct Relationships and Moderation

Model	Relationship	Beta	Standard Error	*t*-value	Results
Model 1	TL → Innovation capability	0.223***	0.064	3.408	Supported
Model 1	TL → Tacit knowledge sharing	0.694***	0.054	11.70	Supported
Model 1	TL → Explicit knowledge sharing	0.677***	0.059	11.11	Supported
Model 1	TK → Innovation capability	0.350***	0.055	6.828	Supported
Model 1	EK → Innovation capability	0.367***	0.051	7.203	Supported
Model 1	KC → Innovation capability	0.149***	0.035	3.964	Supported
Model 1	Firm size → Innovation capability	0.018	0.019	0.544	Not Supported
Model 1	Firm age → Innovation capability	0.034	0.030	1.045	Not Supported
Model 2	KC * TK → Innovation capability	0.064***	0.015	4.283	Supported
Model 3	KC * EK → Innovation capability	0.026**	0.013	1.960	Supported

***, ****p*-value < 0.001 level; **, ***p*-value < 0.05 level.

do not reflect the differences in innovation capability among firms.

Test Mediating Effects

To test and provide evidence of the mediating roles of KS behaviors in the relationship between TL and innovation capability, this study applied the bootstrap confidence intervals method with 5,000 iterations as the suggestion of Preacher and Hayes (2008) to verify the magnitude and statistical significance of the indirect effects (see Table 5).

The results in Table 5 indicated that the indirect TL on innovation capability (β = 0.482; p < 0.001) is significant within the range of confidence intervals (from 0.472 to 0.575). In general, this finding provides evidence to confirm the mediating role of KS behaviors in the effects of TL on innovation capability.

Test Moderating Effects

Models 2 and Model 3 were used to test the moderating effect of knowledge-centered culture in the relationship between two forms of KS behaviors and innovation

Table 5: Confidence Intervals of the Indirect Effects

Model	Path	Direct Effects	Indirect Effects	Total Effects	Bias-Corrected Confidence Intervals	
					Lower Confidence Level	Upper Confidence Level
Model 1	TL → KS behaviors → IC	0.223***	0.482***	0.715***	0.427	0.575

***p-value < 0.001.

capability. The results in Model 1 support the significant influence of KC on innovation capability (β = 0.149; $p < 0.001$). In addition, Model 2 showed that the effect of KC * TK interaction on innovation capability (β = 0.064; $p < 0.001$) is statistically significant. Thus, hypothesis H5a is supported. Similarly, Model 3 supports the influence of KC*EK interaction on innovation capability (β = 0.026; $p < 0.05$), accordingly, hypothesis H5b is also supported. It reveals that KC positively enhances the effects of tacit and explicit KS on innovation capability.

5. Discussion

Leadership has evolved over the last few decades. A model of effective leadership focuses not only on followers but also on the work environment and the organizational culture. By investigating the effects of TL on KS behaviors and innovation capability with moderating effects of KC, the hypotheses developed in this study significantly contributes to expanding the theoretical and practical insights of leadership, knowledge management, and innovation in the following ways.

First, this study significantly contributes to bringing a deeper insight into how TL affects specific aspects of KS behaviors. The findings of this study reveal that TL estimates a greater influence on tacit KS compared with its effects on explicit KS. These findings are very meaningful for organizational leaders to pursue KS-developed strategies because it is not easy to foster employees' behavior by sharing their own knowledge and expertise with these others (Wang & Noe, 2010; Le & Lei, 2018). This implied that TL leadership practices can bring considerable effects for positively altering employee behavior toward KS activities, especially in terms of tacit KS.

Second, this study has significantly contributed to advancing the theory of innovation by investigating the mediating role of KS behaviors in linking TL and innovation capability. The empirical findings have verified the mediating role of KS in the TL's effects on radical and incremental innovation. The findings reveal that TL practice will significantly affect innovation capability directly or indirectly by stimulating employees to share tacit and explicit KS. Generally, the paper punctuates the important roles of TL and KS activities as the main motivation to successfully improve innovation capability for tourism and hotel firms in emerging and developing countries like Vietnam.

Third, due to the increasingly important role of organizational culture in creating favorable conditions to successfully innovate, Lei et al. (2019) called future studies for examining the interaction between knowledge-focused culture and managerial factors to maximize the benefits of organizational knowledge capital in generating key organizational outcomes. Literature also suggests the need of exploring possible moderating mechanisms of cultural traits on the relationship between organizational variables and innovation activities (Durmusoglu et al., 2014; Aman et al., 2018; Lei et al., 2019). Accordingly, this study has significantly pushed the theory of leadership, knowledge management, and innovation forward by introducing KC as an important situational factor that interacts with KS activities for enhancing the firm's innovation capability. The paper implied that the relationship between KS and innovation capability may increase depending on the potency level of knowledge culture in organizations. In other words, tourism and hotel firms need to pay much attention to building and establishing values, beliefs, norms, and social rules to provide orient and stimulate employees to create, share and apply knowledge resources in an organization.

Finally, most tourism and hotel firms in emerging and developing countries like Vietnam are small and medium-sized with a lack of capital and resources, so they often face many difficulties, and infeasible to improve their innovation capacity through huge investments in technological innovation (Pikkemaat, 2008; Tejada & Moreno, 2013; Than et al., 2022). These conditions produce a greater motive to explore less costly factors that can successfully influence the innovation of firms in developing and emerging countries compared with those in developed nations. The findings of this study imply that fostering KS processes might be a basic and effective strategy for leaders and managers in this knowledge-intensive era to help the firm achieve the fruits of innovation and build blocks for organizational success. Prior studies affirmed that the sources of competitive advantage and organizational innovation are mainly depended on how well knowledge is managed and shared between employees in an organization (Bavik et al., 2018; Purwanto et al., 2021). Consequently, focusing on TL practices and KC development

to foster tacit and explicit KS of employees seems to be one of the most optimal and least expensive strategies for Vietnamese firms in the field of tourism and hotel.

6. Conclusion and Limitations

The contributions of the research should also be elucidated in light of some limitations. First, using a cross-sectional design to investigate the correlation among the constructs may appear ability that causal relationships may change in the long term. A longitudinal study would overcome this limitation and consolidate the results. Second, as the data of this study came from Vietnamese firms characterized by collective culture, this may affect the outcomes of interactions between latent constructs in the research model. More studies with more contexts are necessary to extend and consolidate our findings. Finally, a firm's innovation capability might be affected by both individual and organizational factors. Accordingly, future research should investigate how leadership styles affect individual variables such as intrinsic motivation, self-efficacy, and trust (Wang & Noe, 2010; Le & Lei, 2018) and organizational contexts such as organizational culture and organizational supports (Lei et al., 2019; Le & Lei, 2018) to bring deeper understanding on the specific conditions and pathways fostering innovation of firms.

Overall, the findings of this study differ from previous work by deepening the understanding of effective pathways and conditions to improve the innovation capability of small and medium firms. This study significantly advances leadership and innovation theory by examining the different mediating and moderating mechanisms and highlights the important roles of TL and knowledge-centered culture in providing employees a common vision and clear orientation by which encouraging them actively participate in the KS process for the goals of fostering the firm's innovation capability.

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