Organizational conditions associated with the sharing of tacit and explicit knowledge in the financial sector in Colombia

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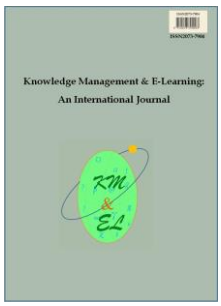

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Abstract: Knowledge sharing is the social interaction through which individuals exchange their tacit and explicit knowledge with others. Tacit knowledge comes from experience, talent, and reflection and is difficult to formalize, transfer, and communicate to others. Conversely, explicit knowledge is formalized, codified, and easier to transmit. The study focused on four organizational conditions associated with knowledge sharing: culture, training, strategic clarity, and information technology support. Although the relationship between organizational conditions and knowledge sharing has been investigated, few studies have examined whether organizational conditions impact tacit and explicit knowledge sharing. In this research, 270 participants were surveyed, belonging to companies in the financial sector in Colombia. It was found that explicit knowledge had a significant positive relationship with strategic clarity, organizational culture, training, and information technology support. Tacit knowledge correlated significantly only with organizational culture and was unrelated to strategic clarity, training, and information technology support. Based on the results, a model that includes these four organizational conditions is a good predictor of the two types of knowledge sharing: tacit and explicit. Additional research on information technologies that facilitate the sharing of tacit knowledge is recommended. Studies are also suggested on which strategy elements can be considered tacit and the mechanisms to facilitate their successful sharing.

Keywords: Knowledge management; Knowledge sharing; Tacit knowledge; Explicit knowledge; Organizational conditions

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1. Introduction

The knowledge-based view of the firm considers that knowledge is the most strategic resource of an organization (Grant, 1996). Knowledge offers the foundation for long-term and sustainable differentiation that is difficult to imitate or copy (Erena et al., 2023). Knowledge focuses on the firm's resources and capacities to explain an organization's value (Makhija, 2003). This conceptual view states that competitive advantage comes from developing tacit and explicit knowledge through organizational activities and experiences (Ray et al., 2023). The capacity of a company to achieve desired outcomes flows from the leverage of knowledge, not from the possession of conventional resources per se (Teece, 2014). Knowledge is a proven tool to foster organizational performance (Umer et al., 2023). The knowledge-based view of the firm refers to a set of ideas about the role of knowledge in the firm's existence, development, and management (Grant & Phene, 2022). This view considers knowledge an important strategic resource for enterprise capability improvement and product and service development (Liu et al., 2023). Knowledge is an organizational resource, and knowledge sharing is a capacity. However, although this theory highlights the value of knowledge to achieve a competitive advantage, there needs to be a consensus about applying this view to explain individual behaviors, as is the case of knowledge sharing. For this reason, this paper will include the knowledge creation theory (Nonaka & Takeuchi, 1995) as an explanatory framework.

Knowledge sharing is the exchange of knowledge among individuals. Through social interaction, individuals exchange tacit and explicit knowledge with others (Nonaka & Takeuchi, 1995). Individual knowledge becomes organizational to achieve objectives and obtain results (Foss et al., 2010). Knowledge sharing facilitates rapid decision-making (Buhagiar & Anand, 2023) and is a powerful tool that leaders manage to accelerate organizational performance (Liu et al., 2022).

Knowledge sharing is a central process of knowledge management because this is the collective mechanism by which organizational knowledge is created and applied. The lack of knowledge sharing is a major obstacle to effective knowledge management (Davenport & Prusak, 1998). There is evidence of the influence of knowledge sharing on different organizational processes and results, for example, innovation (Sigala & Chalkiti, 2005) and performance (Navimipour & Charband, 2016).

Multiple publications discuss the relationship between personal and organizational conditions and knowledge-sharing behavior. For example, Arif et al. (2022) in Pakistan found that perceived reciprocal benefits and technological support facilitated knowledge-sharing behavior. Henttonen et al. (2016) identified some knowledge-sharing enablers: organizational culture, technology, and rewards. In the opposite direction, some authors have studied blockers of knowledge sharing like abusive supervision style and lack of management support (Kim & Yun, 2015).

This study focused on four organizational conditions associated with knowledge sharing: culture, training, strategic clarity, and information technology support. Some authors have reinforced the hypothesis that organizational culture affects knowledge sharing (Kucharska, 2017; McDermott & O'Dell, 2001). In addition, some studies link training and knowledge sharing (Al Saifi et al., 2016). There is also a connection between knowing the organizational strategy and the quality of shared knowledge (Ling et al., 2009). It is also evidence that technology infrastructure, which is part of information technology support, facilitates knowledge sharing (King & Marks, 2008). In the same direction, information technology systems support organizational knowledge sharing (Del Giudice & Della Peruta, 2016).

Although the relationship between organizational conditions and knowledge sharing has been investigated, few studies have examined whether organizational conditions influence tacit and explicit knowledge sharing differently. In a systematic review, Ahmad and Karim (2019) found limited research on the differential impacts of sharing various types of knowledge and proposed further research on this topic. This research contributes to reducing the gap, investigating if the chosen organizational conditions equally influence the tacit and explicit knowledge that individuals share.

2. Literature review

2.1. Knowledge sharing

In today's information age, knowledge is the most valuable asset for achieving organizational goals. It is an interactive activity that involves exchanging information and know-how to help individuals work together to solve problems and develop new ideas (Cummings, 2004). In the same direction, Camelo-Ordaz et al. (2011) described knowledge sharing as making individual knowledge available to others within an organization to be assimilated and used. Witherspoon et al. (2013) defined knowledge sharing as a process of knowledge management used to create, harvest, and sustain business processes. Knowledge sharing has been conceptualized as converting an individual's knowledge to a form understandable and usable by others (Mishra & Pandey, 2018),

2.2. Tacit and explicit knowledge sharing

Polanyi (1962) defined two types of knowledge: tacit and explicit. The differentiation between explicit and tacit knowledge has been fundamental to understanding knowledge assets in organizations (Kucharska & Erickson, 2023). Nonaka and Takeuchi (1995) developed a theory of knowledge creation based on these types of knowledge. According to this theory, knowledge creation takes place via two processes. The first one is the continuous interaction between tacit and explicit knowledge, called the conversion of knowledge. The second one is the social interaction among actors. Although individual knowledge is fundamental to knowledge creation, the organization is a key mediator. This argument is why this paper evaluated some organizational conditions as facilitators of tacit and explicit knowledge sharing. Creating new knowledge means re-creating the company and everyone in it in a nonstop process of personal and organizational self-renewal. Therefore, making personal knowledge available to others is the central activity of the knowledge-creating company (Nonaka, 1991).

Tacit knowledge is difficult to formalize, transfer, and communicate with others (Nonaka, 1991). This knowledge results from experience, talent, and the reflection of individuals (Haldin-Herrgard, 2000). It is also part of tacit knowledge values, individuals' beliefs, and perspectives (Nonaka & Takeuchi, 1995), hunches, intuitions, and insights that are hard to express (Becerra-Fernandez & Sabherwal, 2001). This knowledge is easy to lose in organizational turnover (Nonaka & Van Krogh, 2009). Some authors have identified techniques to demonstrate tacit knowledge: brainstorming, thinking aloud, storytelling, concept mapping, and opinion-giving (El-Den & Sriratanaviriyakul, 2019; Hao et al., 2017).

Conversely, explicit knowledge is codified and easier to transmit. This knowledge is organized information adjusted to tangible forms such as databases or documents (Thomas & Gupta, 2021). In summary, the characteristics of explicit knowledge are formal, codified, technical, and written, while the features of tacit knowledge are informal, personal, contextual, and experiential.

Knowledge sharing is fundamental in the exchange of tacit and explicit knowledge. Van den Hooff and de Ridder (2004) defined knowledge sharing as exchanging tacit and explicit knowledge. According to Nguyen (2021), transferring explicit knowledge does not lead to the loss of privileged status in an organization, but transferring tacit knowledge may do. Therefore, employees are more willing to share explicit than tacit knowledge. Ma et al. (2008) found that explicit knowledge was positively associated with online knowledge sharing, whereas the relationship with tacit knowledge was negative. Tacit knowledge, which is difficult to describe, can only be observed through its application and acquired through knowledge sharing (Lopez-Cabarcos et al., 2020). Malik (2021) stated that emotional intelligence has a stronger positive effect on tacit than explicit knowledge sharing. Wang et al. (2022) showed that virtual rewards have a significantly positive linear relationship with explicit knowledge sharing and an inverse U-shape relationship with tacit knowledge sharing. There needs to be more research delineating tacit from explicit knowledge (Gubbins & Doley, 2021) and even fewer research results on the impact of organizational conditions on tacit and explicit knowledge. This paper contributes to narrowing the gap in the field.

2.3. Tacit and explicit knowledge sharing and organizational conditions

Tacit and explicit knowledge differ in nature. Tacit knowledge is stickier than explicit knowledge (Von Hippel, 1994). According to Reychav and Weisberg (2010), explicit knowledge has less economic value because it is easier to transfer to others. Becerra et al. (2008) suggested that both bits of knowledge have distinct trust and risk profiles. Trust is a mediator in tacit knowledge sharing (Lin, 2007). Tacit knowledge is more linked to innovation than explicit knowledge due to being rare and costly to imitate (Grant, 1996).

Some studies compare the effectiveness of some variables on tacit and explicit knowledge. Hau et al. (2013) found that organizational rewards negatively affect employees' tacit knowledge intention but positively influence explicit knowledge-sharing intention. Huang et al. (2011) findings indicate that while cognition-based trust has no significant effect on the intention to share either tacit or explicit knowledge, affect-based trust has a significant effect on both.

Behaviors of workers are facilitated or blocked by organizational conditions. However, there is little evidence on which of them are the most important facilitators of knowledge sharing and if those conditions influence tacit and explicit knowledge similarly.

This research evaluated four organizational conditions: culture, training, organizational clarity, and information technology.

Literature on the direct link between organizational culture and tacit and explicit knowledge still needs to be improved (Le et al., 2020; Yang et al., 2018). This statement is also valid for organizational conditions like training and strategic clarity.

Organizational culture is one of the foundations of corporate life (Castaneda, 2015). It serves as a guide to help individuals know which values, beliefs, and practices are desirable in the organization. A friendly organizational context facilitates a culture oriented to knowledge sharing (Zheng et al., 2010). According to Schein (1985), organizational culture influences behavior because it is a social control system based on shared norms and values. In this framework, reciprocity and interaction are crucial determinants of knowledge sharing (Nguyen, 2021). Trust is another cultural value that positively influences knowledge sharing (Andrews & Delahaye, 2000). De Long and Fahey (2000) expressed that trust and cooperation contribute to employees' willingness to share knowledge as part of the organizational culture. Kucharska and Kowalczyk (2016) pointed out the relationship between collaborative culture and knowledge sharing. Based on the above, the following hypothesis is proposed:

> ***H1:*** Organizational culture significantly influences individuals' tacit and explicit knowledge.

Investment in training enhances individuals' capital (Malik, 2021), which facilitates sharing knowledge and not ignorance (Castaneda & Duran, 2018). A learning environment is required for effective knowledge sharing (Dong et al., 2016). Training equips workers with new knowledge, improved skills, and positive attitudes to sharing knowledge. Organizational training occurs through courses and work activities (Watkins & Kim, 2017). Knowledge-sharing individuals expect to attain learning and expertise (Zaqout and Abbas (2012). In a complementary way, training enables individuals to share up-to-date knowledge. However, since explicit knowledge is documented and is easily or freely accessible in the organization, it is likely that if this knowledge is acquired through training, it will be shared by workers. The new labor dynamics focussed on efficiency have led organizations to promote short or task-based contracts for their workers. In this context, tacit knowledge is an asset that the worker must push a renewal of the labor contract. Training that strengthens skills and cognitive processes, that is, tacit knowledge, is likely to be shared only sometimes. Ma et al. (2008) stated that there is a greater commitment to sharing explicit knowledge than tacit. Eaves et al. (2018) found positive and significant correlations between organizational culture and tacit and explicit knowledge. Muhamad et al. (2023) showed that training motivation is an essential mediating variable in the relationship between the training environment and tacit knowledge transfer.

Based on the previous analysis, the following hypothesis is proposed:

> ***H2:*** Organizational training significantly influences the explicit knowledge that individuals share, not tacit knowledge.

Critical knowledge is only valuable to the organization if the employees know it (Ling et al., 2009). Strategical clarity means that workers know the mission, vision, and objectives, especially the strategic ones, which are types of explicit knowledge. Mohammed and Ismael (2021) defined organizational clarity as an employee's comprehension of the organization's strategy, challenges, and priorities. To the extent that workers have strategic clarity, the probability of sharing valuable knowledge increases, facilitating the completion

of tasks successfully and contributing to achieving the first-level organizational objectives. Organizational knowledge resides in individual interactions, forming the basis of competitive advantage (Argote & Ingram, 2000). Riege (2005) found that one of the main barriers to sharing knowledge needs to be clarified integration between knowledge management initiatives and organizational goals. Bakonyi (2018) found an interrelation between knowledge-sharing failures and corporate ignorance. Israilidis et al. (2021) defined organizational ignorance as a lack of employees' awareness of organizational characteristics. This factor affects the type and quality of knowledge that workers share. Based on the previous literature, it is hypothesized:

> ***H3:*** Organizational clarity significantly influences the explicit knowledge that individuals share, not tacit knowledge

Perceived organizational support is an antecedent for knowledge sharing (Ali et al., 2019). Organizational support is a facilitator of online learning (Ogbodoakum et al., 2022). One of the main organizational tools to support knowledge sharing is information technology. Information technology has been considered a way to increase employee knowledge sharing (Leonardi et al., 2013) and a powerful tool in virtual communities (Fauzi, 2022). Information technologies are enablers of explicit knowledge providing dissemination and sharing of repositories (Voelpel et al., 2005).

However, knowledge needs to be codified to be shared, and technology helps to share mainly explicit knowledge (Inkinen et al., 2015). Chugh (2019) found a need for more use of information technologies to transfer tacit knowledge. Hermawan and Suharnomo (2020) stated that information technologies generate explicit knowledge easily while transferring tacit knowledge through information technologies requires trust. Information technology is a tool for the process of knowledge codification. Koriat and Gelbard (2014) claimed that exchanging tacit knowledge using information technologies is challenging because it is difficult to formalize. Articulating tacit knowledge is difficult and can create problems in achieving knowledge transfer through information technologies (García & Sosa, 2020). Social media technologies impact knowledge sharing, especially tacit knowledge, which is shared through social interactions (Ali et al., 2019). Perceived ease of use also facilitates applying information technology in knowledge sharing (Chang et al., 2013). Stenmark (2000) suggested that information technologies can leverage tacit knowledge. However, the starting point was Web documents, which are explicit knowledge. Castaneda and Toulson (2021) found that not all information and communication technologies let tacit knowledge be shared, but those that facilitate dialogue, for example, text messaging and video conferences. From the above, there is strong evidence to hypothesize that information technologies influence explicit knowledge and some budding research to relate information technologies and tacit knowledge:

> ***H4:*** Information technology support significantly influences an individual's tacit and explicit knowledge sharing.

3. Method

3.1. Participants

In total, 297 participants were surveyed, belonging to companies in the financial sector in Colombia. Twenty-seven participants did not answer all the questions, for which they were

excluded from the sample. The final number of participants for this research was 270. Table 1 shows their demographic characteristics.

Table 1
Demographic characteristics of the participants

Characteristics	Number	Percentage (%)
Gender		
Male	152	56.30%
Female	118	43.70%
Position		
Director	55	20.37%
Adviser	105	38.89%
Professional	84	31.11%
Administrative	26	9.63%
Educational level		
Graduate	94	34.81%
Undergraduate	110	40.74%
Technical	66	24.44%
Time of experience in the company in months		
0-12	134	49.6%
13-24	42	15.6%
25-36	24	8.9%
37-54	20	7.4%
Over 54	50	18.5%
Time of experience in the position in months		
0-12	159	58.9%
13-24	39	14.4%
25-36	25	9.3%
37-54	24	8.9%
Over 54	23	8.5%

3.2. Instruments

The instrument used in this study for measuring tacit and explicit knowledge that workers share was designed by Castaneda et al. (2015). The tool measures perceived evaluations of workers using a Likert scale with five levels of response and has 12 items. The validation of this instrument obtained a Cronbach's alpha reliability score of 0.94. The instrument to evaluate organizational conditions was published by Castaneda (2015). The instrument consists of 16 items: four measure organizational culture, four training, four strategic clarity, and four information technology support. The tool uses a Likert scale with five levels of response. The validation of this instrument obtained a Cronbach's alpha reliability score of 0.92.

4. Results

A Pearson correlation was run to assess whether the type of knowledge shared is related to the organizational conditions of this study. The means, standard deviation, and correlations of the variables are included in Table 2.

Table 2
Means, standard deviation, and correlations of the variables

	M (Sd)	Strategic clarity	Organizational culture	Training	Information technology support
Strategic clarity	3.641(0.776)	-			
Organizational culture	2.869(0.835)	.312**	-		
Training	3.675(0.767)	.660**	.299**	-	
Information technology support	3.549(0.737)	.543**	.429**	.610**	-

Note. * Significant correlation $p < 0.05$ (bilateral); ** Significant correlation $p < 0.01$ (bilateral).

As shown in Table 3, tacit knowledge correlated significantly only with organizational culture ($r = 0.342$, $p = 0.000$). This knowledge was not related to strategic clarity ($r = –0.102$, $p = 0.080$), training ($r = –0.079$, $p = 0.175$), or information technology support ($r = –0.025$, $p = 0.667$). Explicit knowledge had a significant positive relationship with strategic clarity ($r = 0.208$, $p = 0.000$), organizational culture ($r = 0.278$, $p = 0.000$), training ($r = 0.119$, $p = 0.04$), and information technology support ($r = 0.156$, $p = 0.007$). Based on the results, there is full support for hypotheses 1, 2, and 3, and partial support for hypothesis 4.

Table 3
Correlations between types of shared knowledge and organizational conditions

Organizational Conditions	Type of knowledge: Tacit	Type of knowledge: Explicit
Strategic clarity	–0.102	0.208**
Organizational culture	0.342**	0.278**
Training	–0.079	0.119*
Information technology support	–0.025	0.156**

Then, linear regressions were run, one for each type of knowledge, serving as an independent variable for each of the two types of knowledge sharing (tacit and explicit) shown in Table 4. In the case of tacit knowledge, a negative relationship was found with strategic clarity, training, and technological support, although none were significant. In turn, the best predictor of tacit knowledge was organizational culture. These results were consistent with the shown correlations. In the case of explicit knowledge, a positive relationship was found between strategic clarity and organizational culture.

Table 4
Lineal regression between types of knowledge and organizational conditions

Organizational conditions	Type of knowledge: Tacit		Type of knowledge: Explicit	
	B	SD	B	SD
(Constant)	2.946**	0.189	1.980**	0.195
Strategic clarity	-0.078	0.058	0.144*	0.06
Organizational culture	0.265**	0.043	0.1665**	0.045
Training	-0.010	0.062	-0.036	0.064
Information technology support	-0.120	0.060	-0.033	0.062

Then, measurements were performed with structural models. The study examined Cronbach's Alpha, composite reliability, and average extracted variance. The level of reliability of the measurement items was examined using CR. Besides, convergent validity

was assessed by reviewing the AVE. Table 5 summarizes the values obtained. The results obtained for all constructs' CR values exceeded the threshold value of 0.7. The values of the AVE for the constructs of "*Type of knowledge: Explicit*," "*Training*," and "*Information technology support*" were lower than expected, considering the cut-off value of 0.50 (Hair et al., 2019).

Table 5
Construct reliability and validity

Constructs	Number of items	Cronbach's Alpha	Composite reliability	Average variance extracted
Type of knowledge: Tacit	6	0.717	0.855	0.499
Type of knowledge: Explicit	6	0.673	0.725	0.335
Strategic clarity	4	0.877	0.837	0.563
Organizational culture	4	0.808	0.812	0.521
Training	4	0.730	0.724	0.405
Information technology support	4	0.794	0.764	0.455

After that, a model was made on the four organizational conditions under the condition that these four dimensions are exogenous constructs and correlate. Each construct has four items. The lowest items in each construct were eliminated from the analysis by analyzing the factor loadings of each of the items of the four constructs. The model is visually represented in Fig. 1, and the model fit is presented in Table 6. Coefficients showed adequate levels (Hair et al., 2019).

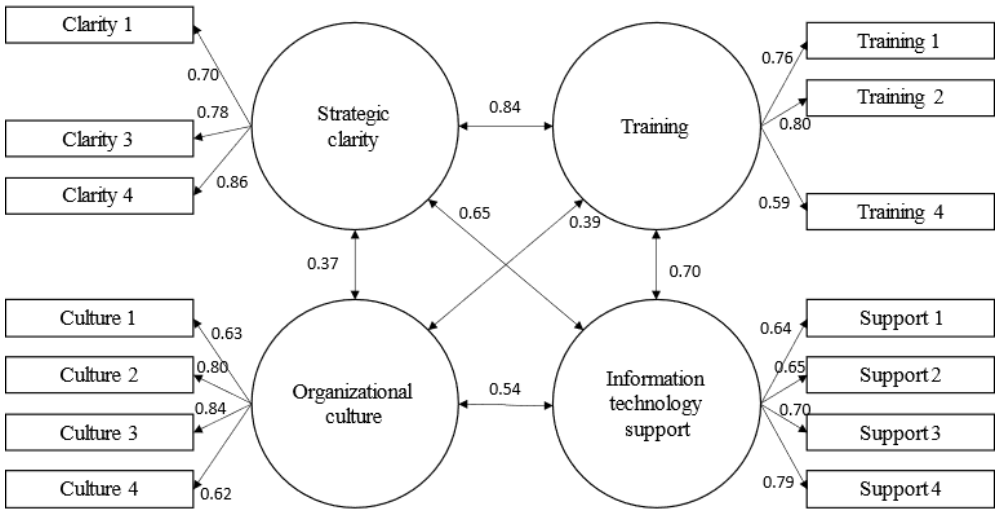

Fig. 1. Path model for the four organizational conditions

Table 6
Measurement model validity for the four organizational conditions

Coefficients	
NFI	0.906
RFI	0.861
IFI	0.946
TLI	0.918
CFI	0.945

After finding an adequate fit with the exogenous variables, a theoretical model of the relationship between the study's exogenous and endogenous variables was proposed, shown in a visual representation in Fig. 2. The fit of the proposed model is shown in Table 7. The model is not adequately complete because some fit indices as Normed Fit Index (NFI), Incremental Fit Index (IFI), and Comparative Fit Index (CFI), showed greater values (> .85). Other indicators as Relative Fit Index (RFI) and Tucker Lewis Index (TLI) showed low values (< .85) (Hair et al., 2019), which could indicate that the proposed theoretical model is not fully adequate in the relationship between organizational conditions and types of knowledge.

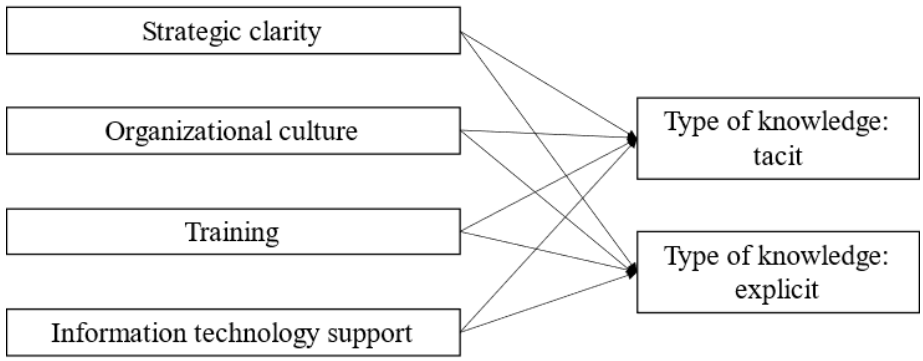

Fig. 2. A proposed theoretical model for the four organizational conditions and two types of knowledge to be tested

Table 7
Measurement model validity for the model between organizational conditions and types of knowledge

Coefficients	
NFI	0.962
RFI	0.424
IFI	0.964
TLI	0.440
CFI	0.963

5. Discussion

The theory of knowledge creation of Nonaka and Takeuchi (1995) states that knowledge creation occurs via two processes: the continuous interaction between tacit and explicit knowledge and the social interaction among actors. Knowledge sharing is the central activity of the knowledge-creating company (Nonaka, 1991).

Organizational conditions can facilitate knowledge sharing. This article evaluated four of them: culture, training, organizational clarity, and information technology support. Based on the results, a model that includes these four organizational conditions is a good predictor of the two types of knowledge sharing: tacit and explicit.

According to the results, explicit knowledge had a significant positive relationship with strategic clarity, organizational culture, training, and information technology support. Meanwhile, tacit knowledge correlated significantly only with organizational culture and was not related to strategic clarity, training, and information technology support.

Culture is a powerful variable in guiding behavior. Culture is built on values, which are deep beliefs that allow the worker to do some behaviors and not do others. When the worker believes knowledge sharing is necessary, it may be applied to tacit and explicit knowledge. However, based on Nguyen (2021), workers seem more willing to share explicit than tacit knowledge. Therefore, an organizational culture that strongly promotes values and practices to exchange knowledge will facilitate workers to share tacit and explicit knowledge without fear of losing privileges, competitiveness, or job stability. There is evidence of the positive influence of trust in knowledge sharing (Andrews & Delahaye, 2000). As a core value of the culture, trust reinforces workers' belief that sharing tacit and explicit knowledge is considered valuable and desirable in the organization.

Training is the process of equipping workers with new knowledge, better levels of skills, and positive attitudes to improve performance. Organizational training occurs through courses and work activities (Watkins & Kim, 2017). This research found a relationship between explicit knowledge and knowledge sharing but a lack of relationship between tacit knowledge and knowledge sharing. A possible explanation is that since explicit knowledge is documented and is easily or freely accessible in the organization, workers are willing to share it if it is necessary. However, a reality in the world of work is that contracts tend to be short-term. In these circumstances, tacit knowledge, which can only be shared through dialogue and observation, is a competitive advantage for a worker and, therefore, an asset that facilitates obtaining a new contract. Tacit knowledge is likely to be shared only sometimes. This finding is coherent with what Ma et al. (2008) stated, who found a greater commitment to sharing explicit knowledge than tacit knowledge.

Strategic clarity is one of the least studied variables concerning explicit and tacit knowledge. The strategy is mainly explicit knowledge embodied in the mission, vision, and strategic objectives, which are written. However, the strategy is also the way to conceive the business, the DNA of the operation, intuitions, and expertise, which are in the heads of leaders and owners. This reason is why this research hypothesized that strategy could be shared as explicit knowledge, while tacit knowledge associated with the strategy could be difficult to share. Results confirmed the hypothesis related to strategic clarity.

Finally, it was raised as hypothesis 4 that information technology support, constituted mainly by information and communication technologies, could be associated with both tacit and explicit knowledge types. Results supported the second type of knowledge but not the first. Findings were consistent with Inkinen et al. (2015), who stated

that knowledge needs to be codified to be shared, so technology helps to share explicit knowledge (Inkinen et al., 2015). However, Castaneda and Toulson (2021) formulated an exception, supported by findings, and this is the case where information and communication technologies let tacit knowledge be shared using dialogue, for example, text messaging and video conferences. Results from this research do not support this hypothesis. Additional research is required to clarify whether information technologies can facilitate the sharing of tacit knowledge and, if so, what information technology tools are pertinent to make it possible.

6. Conclusions and recommendations

Culture, training, strategic clarity, and information technology support are organizational conditions that influence the explicit knowledge shared. Likewise, culture is an organizational condition that influences the tacit knowledge shared.

Additional research on information technologies that facilitate the sharing of tacit knowledge is recommended, as well as exploration of other types of administrative support besides technology. New studies may suggest which strategy elements can be considered tacit and the mechanisms to facilitate successful sharing.

A limitation of this study is that it used only a sample of workers from the financial sector in a Latin American country. Therefore, the scope of findings is restricted.

Author Statement

The authors declare that there is no conflict of interest.

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References

Ahmad, F., & Karim, M. (2019). Impacts of knowledge sharing: A review and directions for further research. *Journal of Workplace Learning*, *31*(3), 207–230. https://doi.org/10.1108/JWL-07-2018-0096

Al Saifi, S., Dillon, S., & McQueen, R. (2016). The relationship between management support and knowledge sharing: An exploratory study of manufacturing firms. *Knowledge and Process Management*, *23*(2), 124–135. https://doi.org/10.1002/kpm.1506

Ali, A., Selvam, D., Paris, L., & Gunasekeran, A. (2019). Key factors influencing knowledge sharing practices and its relationship with organizational performance

within the oil and gas industry. *Journal of Knowledge Management, 23*(9), 1806–1837. https://doi.org/10.1108/JKM-06-2018-0394

Andrews, K., & Delahaye, B. (2000). Influences on knowledge processes in organizational learning: The psychosocial filter. *Journal of Management Studies, 37*(6), 797–810. https://doi.org/10.1111/1467-6486.00204

Arif, M., Qaisar, N., & Kanwal, S. (2022). Factors affecting students 'knowledge sharing over social media and individual creativity: An empirical investigation in Pakistan. *The International Journal of Management Education, 20*(1): 100598. https://doi.org/10.1016/j.ijme.2021.100598

Argote, L., & Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes, 82*(1), 150–69. https://doi.org/10.1006/obhd.2000.2893

Bakonyi, J. (2018). Seeing like bureaucracies: Rearranging knowledge and ignorance in Somalia. *International Political Sociology, 12*(3), 256–273. https://doi.org/10.1093/ips/oly010

Becerra, M., Lunnan, R., & Huemer, L. (2008). Trustworthiness, risk, and the transfer of tacit and explicit knowledge between alliance partners. *Journal of Management Studies, 45*(4), 691–731. https://doi.org/10.1111/j.1467-6486.2008.00766.x

Becerra-Fernandez, I., & Sabherwal, R. (2001). Organisational knowledge management: A contingency perspective. *Journal of Management Information Systems, 18*(1), 23–55. https://doi.org/10.1080/07421222.2001.11045676

Buhagiar, K., & Anand, A., (2023). Synergistic triad of crisis management: Leadership, knowledge management and organizational learning. *International Journal of Organizational Analysis, 31*(2), 412–429. https://doi.org/10.1108/IJOA-03-2021-2672

Camelo-Ordaz, C., García-Cruz, J., Sousa-Ginel, E., & Valle-Cabrera, R. (2011). The influence of human resource management on knowledge sharing and innovation in Spain: the mediating role of affective commitment. *The International Journal of Human Resource Management, 22*(7), 1442–1463. https://doi.org/10.1080/09585192.2011.561960

Castaneda, D. I. (2015). Condiciones para el aprendizaje organizacional. *Estudios Gerenciales, 31*(134), 62–67. https://doi.org/10.1016/j.estger.2014.09.003

Castaneda, D. I., & Durán, W. (2018). Knowledge sharing in organizations: Roles of beliefs, training and perceived organizational support. *Knowledge Management & E-Learning, 10*(2), 148–162. https://doi.org/10.34105/j.kmel.2018.10.010

Castaneda, D. I., Pardo, C., & Toulson, P. (2015). A Spanish knowledge sharing instrument validation. *Electronic Journal of Knowledge Management, 13*(1), 3–12. Retrieved from https://psycnet.apa.org/record/2015-28483-001

Castaneda, D. I., & Toulson, P. (2021). Is it possible to share tacit knowledge using information and communication technology tools? *Global Knowledge, Memory, and Communication, 70*(8/9), 673–683. https://doi.org/10.1108/GKMC-07-2020-0102

Chang, C., Liang, C., Yan, C., & Tseng, J. (2013). The impact of college students' intrinsic and extrinsic motivation on continuance intention to use English mobile learning systems. *The Asia-Pacific Education Researcher, 22*(2), 181–192. https://doi.org/10.1007/s40299-012-0011-7

Chugh, R. (2019, September). Tacit knowledge transfer: Information technology usage in universities. In *Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K 2019)* (pp. 349–355). Springer. https://doi.org/10.5220/0008355603490355

Cummings, J. (2004). Work groups, structural diversity, and knowledge sharing in a global

organization. *Management Science*, *50*(3), 352–364. https://doi.org/10.1287/mnsc.1030.0134

Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business Press.

De Long, D., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *Academy of Management Perspectives*, *14*(4), 113–127. https://doi.org/10.5465/ame.2000.3979820

Del Giudice, M., & Della Peruta, M. R. (2016). The impact of IT-based knowledge management systems on internal venturing and innovation: A structural equation modelling approach to corporate performance. *Journal of Knowledge Management, 20*(3), 484–498, https://doi.org/10.1108/JKM-07-2015-0257

Dong, T. P., Hung, C. L., & Cheng, N. C. (2016). Enhancing knowledge sharing intention through the satisfactory context of continual service of knowledge management systems. *Information Technology & People*, *29*(4), 807–829. https://doi.org/10.1108/ITP-09-2014-0195

Eaves, S., Kumar, V., White, G., & Looman, J. (2018). Making it happen: The pivotal role of knowledge sharing for information technology deployment success during joint venture change. *Strategic Change, 27*(3), 245–255. https://doi.org/10.1002/jsc.2198

El-Den, J., & Sriratanaviriyakul, N. (2019). The role of opinions and ideas as types of tacit knowledge. *Procedia Computer Science*, *161*, 23–31. https://doi.org/10.1016/j.procs.2019.11.095

Erena, O., Kalko, M., & Debele, S. (2023). Organizational factors, knowledge management and innovation: Empirical evidence from medium and large-scale manufacturing firms in Ethiopia. *Journal of Knowledge Management, 27*(4), 1165–1207. https://doi.org/10.1108/JKM-11-2021-0861

Fauzi, M. A. (2022). Partial least square structural equation modelling (PLS-SEM) in knowledge management studies: Knowledge sharing in virtual communities. *Knowledge Management & E-Learning*, *14*(1), 103–124. https://doi.org/10.34105/j.kmel.2022.14.007

Foss, N. J., Husted, K., & Michailova, S. (2010). Governing knowledge sharing in organizations: Levels of analysis, governance mechanisms, and research directions. *Journal of Management Studies*, *47*(3), 455–482. https://doi.org/10.1111/j.1467-6486.2009.00870.x

García, S., & Sosa, J. (2020). Knowledge management: What are the challenges for achieving organizational success? *International Journal of Business and Public-Administration, 17*(2), 15–27. Retrieved from https://www.iabpad.com/knowledge-management-what-are-the-challenges-for-achieving-organizational-success/

Grant, R. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, *17*(S2), 109–122. https://doi.org/10.1002/smj.4250171110

Grant, R., & Phene, A. (2022). The knowledge-based view and global strategy: Past impact and future potential. *Global Strategy Journal*, *12*(1), 3–30. https://doi.org/10.1002/gsj.1399

Gubbins, C., & Doley, L. (2021). Delineating the tacit knowledge-seeking phase of knowledge sharing: The influence of relational social capital components. *Human Resource Development Quarterly, 32*(3), 319–348. https://doi.org/10.1002/hrdq.21423

Hair, J. F., Babin, B. J., Black, W. C., & Anderson, R. E. (2019). *Multivariate data analysis.* Cengage Learning.

Haldin-Herrgard, T. (2000). Difficulties in diffusion of tacit knowledge in organizations. *Journal of Intellectual Capital*, *1*(4), 357–365. https://doi.org/10.1108/14691930010359252

Hao, J., Zaho, Q., Yan, Y., & Wang, G. (2017). A review of tacit knowledge: Current situation and the direction to go. *International Journal of Software Engineering and Knowledge Engineering, 27*(5), 727–748. https://doi.org/10.1142/S0218194017500279

Hau, Y., Kim, B., Lee, H., & Kim, Y. (2013). The effects of individual motivations and social capital on employees' tacit and explicit knowledge sharing intentions. *International Journal of Information Management, 33*(2), 356–366. https://doi.org/10.1016/j.ijinfomgt.2012.10.009

Henttonen, K., Kianto, A., & Ritala, P. (2016). Knowledge sharing and individual work performance: An empirical study of a public sector organisation. *Journal of Knowledge Management, 20*(4), 749–768. https://doi.org/10.1108/JKM-10-2015-0414

Hermawan, I., & Suharnomo, S. (2020). The role of trust-based active participation as a learning mediation concept for leveraging the impact of information technology on creative performance. *Market-Tržište, 32*(2), 221–235. https://doi.org/10.22598/mt/2020.32.2.221

Huang, Q., Davison, R., & Gu, J. (2011). The impact of trust, guanxi orientation and face on the intention of Chinese employees and managers to engage in peer-to-peer tacit and explicit knowledge sharing. *Information Systems Journal, 21*(6), 557–577. https://doi.org/10.1111/j.1365-2575.2010.00361.x

Inkinen, H., Kianto, A., & Vanhala, M. (2015). Knowledge management practices and innovation performance in Finland. *Baltic Journal of Management, 10*(4), 432–455. https://doi.org/10.1108/BJM-10-2014-0178

Israilidis, J., Siachou, E., & Kelly, S. (2021). Why organizations fail to share knowledge: An empirical investigation and opportunities for improvement. *Information Technology & People, 34*(5), 1513–1539. https://doi.org/10.1108/ITP-02-2019-0058

Kim, S., & Yun, S. (2015). The effect of co-worker knowledge sharing on performance and its boundary conditions: An interactional perspective. *Journal of Applied Psychology, 100*(2), 575–582. https://doi.org/10.1037/a0037834

King, W. R., & Marks, P. V. (2008). Motivating knowledge sharing through a knowledge management system. *Omega, 36*(1), 131–146. https://doi.org/10.1016/j.omega.2005.10.006

Koriat, N., & Gelbard, R. (2014). Knowledge sharing motivation among IT personnel: Integrated model and implications of employment contracts. *International Journal of Information Management, 34*(5), 577–591. https://doi.org/10.1016/j.ijinfomgt.2014.04.009

Kucharska, W. (2017). Relationships between trust and collaborative culture in the context of tacit knowledge sharing. *Journal of Entrepreneurship, Management and Innovation, 13*(4), 61–78. https://doi.org/10.7341/20171344

Kucharska, W., & Erickson, G. S. (2023). Tacit knowledge acquisition & sharing, and its influence on innovation: A Polish/US cross-country study. *International Journal of Information Management, 71*: 102647. https://doi.org/10.1016/j.ijinfomgt.2023.102647

Kucharska, W., & Kowalczyk, R. (2016, October). Trust, collaborative culture and tacit knowledge sharing in project management – A relationship model. In *Proceedings of the 13th International Conference on Intellectual Capital, Knowledge Management & Organisational Learning (ICICKM 2016)* (pp. 159–166). Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2855322#

Le, P., Lei, H., Le, T., & Ha, A. (2020). Developing a collaborative culture for radical and incremental innovation: The mediating roles of tacit and explicit knowledge sharing.

Chinese Management Studies, *14*(4), 957–975. https://doi.org/10.1108/CMS-04-2019-0151

Leonardi, P., Huysman, M., & Steinfield, C. (2013). Enterprise social media: Definition, history, and prospects for the study of social technologies in organizations. *Journal of Computer-Mediated Communication*, *19*(1), 1–19. https://doi.org/10.1111/jcc4.12029

Lin, C. (2007). To share or not to share: Modeling tacit knowledge sharing, its mediators and antecedents. *Journal of Business Ethics*, *70*(4), 411–428. https://doi.org/10.1007/s10551-006-9119-0

Ling, C., Sandhu, M., & Jain, K. (2009). Knowledge sharing in an American company based in Malaysia. *Journal of Workplace Learning*, *21*(2), 125–142. https://doi.org/10.1108/13665620910934825

Liu, M., Hu, Y., Li, C., & Wang, S. (2023). The influence of financial knowledge on the credit behavior of small and micro enterprises: The knowledge-based view. *Journal of Knowledge Management*, *27*(1), 208–229. https://doi.org/10.1108/JKM-12-2021-0934

Liu, Y., Zheng, Y., Ghosh, K., Zheng, Y., & Liu, C. (2022). The impacts of knowledge-oriented leadership on employees' knowledge management behaviors in Chinese based organizations: A qualitative study. *Leadership & Organization Development Journal*, *43*(7), 1028–1046. https://doi.org/10.1108/LODJ-01-2022-0012

Lopez-Cabarcos, M. Á., Srinivasan, S., & Vázquez-Rodríguez, P. (2020). The role of product innovation and customer centricity in transforming tacit and explicit knowledge into profitability. *Journal of Knowledge Management*, *24*(5), 1037–1057. https://doi.org/10.1108/JKM-02-2020-0087

Ma, Z., Qi, L., & Wang, K. (2008). Knowledge sharing in Chinese construction project teams and its affecting factors: an empirical study. *Chinese Management Studies*, *2*(2), 97–108. https://doi.org/10.1108/17506140810882234

Makhija, M. (2003). Comparing the resource-based and the market-based views of the firm: Empirical evidence from the Czech privatisation. *Strategic Management Journal*, *24*(5), 433–451. https://doi.org/10.1002/smj.304

Malik, S. (2021). The nexus between emotional intelligence and types of knowledge sharing: Does work experience matter? *Journal of Workplace Learning*, *33*(8), 619–634. https://doi.org/10.1108/JWL-10-2020-0170

McDermott, R., & O'Dell, C. (2001). Overcoming cultural barriers to sharing knowledge. *Journal of Knowledge Management*, *5*(1), 76–85. https://doi.org/10.1108/13673270110384428

Mishra, M., & Pandey, A. (2018). The impact of leadership styles on knowledge sharing behavior: A review of the literature. *Development and Learning in Organizations*, *33*(1), 16–19. https://doi.org/10.1108/DLO-06-2018-0067

Mohammed, D. Y., & Ismael, H. K.H. (2021). Information and communication technology as a moderator of the relationship between organizational clarity and knowledge sharing behavior. *International Journal of Innovation, Creativity and Change*, *15*(3), 773–789. Retrieved from https://www.ijicc.net/images/Vol_15/Iss_3/15366_Ismael_2021_E1_R.pdf

Muhamad, N., Özdemir, S., Mokhtar, A., & Hasan, H. (2023). Training environment and tacit knowledge transfer: The mediating role of training motivation. *Management Research and Practice*, *15*(1), 18–33. Retrieved from https://www.proquest.com/docview/2786943964?sourcetype=Scholarly%20Journals

Navimipour, N. J., & Charband, Y. (2016). Knowledge sharing mechanisms and techniques in project teams: Literature review, classification, and current trends. *Computers in Human Behavior*, *62*, 730–742. https://doi.org/10.1016/j.chb.2016.05.003

Nguyen, T. (2021). Four-dimensional model: A literature review in online organizational knowledge sharing. *VINE Journal of Information and Knowledge Management Systems, 51*(1), 109–138. https://doi.org/10.1108/VJIKMS-05-2019-0077

Nonaka, I. (1991). *The knowledge creating company*. Harvard Business Review. Retrieved from https://hbr.org/2007/07/the-knowledge-creating-company

Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. Oxford University Press.

Nonaka, I., & Von Krogh, G. (2009). Perspective – Tacit knowledge and knowledge conversion: Controversy and advancement in organisational knowledge creation theory. *Organization Science, 20*(3), 635–652. https://doi.org/10.1287/orsc.1080.0412

Ogbodoakum, N., Ayub, A. F. M., & Abiddin, N. Z. (2022). The influence of individual and organizational factors on readiness to accept online learning among higher education lecturers in Nigeria. *Knowledge Management & E-Learning, 14*(3), 304–328. https://doi.org/10.34105/j.kmel.2022.14.017

Polanyi, M. (1962). *Personal knowledge: Towards a post-critical philosophy*. The University of Chicago Press.

Ray, P., Ray, S., & Kumar, V. (2023). A knowledge-based view of emerging market firm internationalization: The case of the Indian IT industry. *Journal of Knowledge Management, 27*(4), 1086–1108. https://doi.org/10.1108/JKM-08-2021-0660

Riege, A. (2005). Three-dozen knowledge-sharing barriers managers must consider. *Journal of Knowledge Management, 9*(3), 19–33. https://doi.org/10.1108/13673270510602746

Reychav, I., & Weisberg, J. (2010). Bridging intention and behavior of knowledge sharing. *Journal of Knowledge Management, 14*(2), 285–300. https://doi.org/10.1108/13673271011032418

Schein, E. A. (1985). *Organizational culture and leadership*. Jossey-Bass.

Sigala, M., & Chalkiti, K. (2015). Knowledge management, social media, and employee creativity. *International Journal of Hospitality Management, 45*, 44–58. https://doi.org/10.1016/j.ijhm.2014.11.003

Stenmark, D, (2000). Leveraging tacit organizational knowledge. *Journal of Management Information Systems, 17*(3), 9–24. https://doi.org/10.1080/07421222.2000.11045655

Teece, D. (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of International Business Studies, 45*, 8–37. http://doi.org/10.1057/jibs.2013.54

Thomas, A., & Gupta, V. (2021). The role of motivation theories in knowledge sharing: An integrative theoretical reviews and future research agenda. *Kybernetes, 51*(1), 116–140. Retrieved from https://www.emerald.com/insight/content/doi/10.1108/K-07-2020-0465/full/html

Umer, M., Nawaz, F., & Ali, M. (2023). Reconciling the impact of knowledge management processes on knowledge worker productivity. *Knowledge Management & E-Learning, 15*(2), 269–286. https://doi.org/10.34105/j.kmel.2023.15.015

Van den Hooff, B., & de Ridder, J. (2004). Knowledge sharing in context: The influence of organizational commitment, communication climate and CMC use on knowledge sharing. *Journal of Knowledge Management, 8*(6), 117–130. https://doi.org/10.1108/13673270410567675

Voelpel, S., Dous, M., & Davenport, T. (2005). Five steps to creating a global knowledge-sharing system: Siemens' ShareNet. *Academy of Management Executive, 19*(2), 9−23. https://doi.org/10.5465/ame.2005.16962590

Von Hippel, E. (1994). "Sticky information" and the locus of problem solving:

Implications for innovation. Management Science, 40(4), 429–439. https://doi.org/10.1287/mnsc.40.4.429

Wang, N., Yin, J., Ma, Z., & Liao, M. (2022). The influence mechanism of rewards on knowledge sharing behaviors in virtual communities. *Journal of Knowledge Management, 26(3), 485–505. https://doi.org/10.1108/JKM-07-2020-0530*

Watkins, K., & Kim, K. (2017). Current status and promising directions for research on the learning organization. *Human Resource Development Quarterly*, *29*(1), 15–29. https://doi.org/10.1002/hrdq.21293

Witherspoon, L., Bergner, J., Cockrell, C., & Stone, D. (2013). Antecedents of business knowledge sharing: A meta-analysis and critique. *Journal of Knowledge Management, 17*(2), 250–277. https://doi.org/10.1108/13673271311315204

Yang, Z., Nguyen, V., & Le, P. (2018). Knowledge sharing serves as a mediator between collaborative culture and innovation capability: Empirical research. *Journal of Business and Industrial Marketing*, *33*(7), 958–969. https://doi.org/10.1108/JBIM-10-2017-0245

Zaqout, F., & Abbas, M. (2012). Towards a model for understanding the influence of the factors that stimulate university students' engagement and performance in knowledge sharing. *Library Review*, *61*(5), 345–361. https://doi.org/10.1108/00242531211280478

Zheng, W., Yang, B., & McLean, G. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *Journal of Business Research*, *63*(7), 763–771. https://doi.org/10.1016/j.jbusres.2009.06.005