



# Investigating visibility affordance, knowledge transfer and employee agility performance. A study of enterprise social media

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## ABSTRACT

The research analyzes the associations between enterprise social media (ESM) visibility affordance (i.e., message transparency and network translucence) and employee agility performance through knowledge transfer (knowledge acquisition and knowledge provision) in organizations that have applied ESM. Utilizing the communication visibility theory, this study further examines the moderating role of task interdependence in strengthening the interactions between knowledge transfer and employee agility performance. We conducted two studies, one in China (347 samples) and the other in the United States (335 samples) to cross-culturally test our research model. Our results indicate that message transparency and network translucence have significant positive associations with employee agility performance in both studies. The findings also show that knowledge provision mediates the relationships between ESM visibility affordance and employee agility performance in both samples, while knowledge acquisition mediates the association between ESM visibility affordance and employee agility performance in the Chinese sample but not in the U.S. sample. Further, task interdependence moderates the link between knowledge acquisition and employee agility performance in China and the United States. However, task interdependence moderates the relationship between knowledge provision and employee agility performance in China but not in the United States. The implications for theory and management are also discussed.

## 1. Introduction

Employee agility is recognized as an essential ability that enables workers to respond to unexpected changes and to benefit from market opportunities (Alavi, 2016; Pitafi et al., 2020; Sherehiy, 2008). Both scholars and practitioners have begun to pay greater attention to agility performance, which is defined as workers' capacity to act and adjust to unexpected environmental changes more quickly and adequately (Alavi and Wahab, 2013; Sherehiy and Karwowski, 2014). Scholars argue that agile workers are more flexible in understanding and responding to environmental changes, thereby contributing to organizational development (Pitafi et al., 2019). As a result, employee agility performance is recognized as one of the most significant attributes that workers possess in today's work environment (Pitafi and Ren, 2021; Sumukadas and

Sawhney, 2004).

Extant literature on employee agility reflects that this skill is influenced by factors such as the psychological environment (Nadhira Putri and Mangundjaya, 2020), workplace conflicts (Pitafi et al., 2018), and employee training (Alavi et al., 2014). However, our review of prior studies reveals that the role of knowledge transfer through the use of enterprise social media (ESM) on agility performance has obtained relatively little attention and produced inconsistent findings. For instance, some researchers have found that ESM may be used as a tool to promote knowledge sharing and problem solving in the workplace (Cao et al., 2016; Ding et al., 2019; Pitafi et al., 2018); however, others are of the view that ESM usage can hinder employee performance due to its misuse in the workplace (Cao and Yu, 2019). Given these inconsistent findings in research and the limited number of previous studies, we

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intend to analyze the connection between ESM affordance and employee agility performance through knowledge transfer in organizations. We argue that this investigation is important in the literature on ESM to validate whether the use of ESM is beneficial or harmful at workplaces.

ESM is considered beneficial for reacting to unexpected environmental changes since it supports individuals learning from workmates through knowledge transfer (Cai et al., 2018; Treem, Leonardi, & van den Hooff, 2020). Scholars believe that individuals should have adequate information sources and the capacity to process different information effectively in order to promptly perceive and react to environmental changes (Bathaei et al., 2019). The use of ESM enhances the frequency and volume of information sharing, allowing deeper debates and assessments of alternative solutions, which results in improved decision-making (Cao and Yu, 2019; Treem et al., 2020). Nowadays, ESM includes an important feature of visibility affordance (Treem and Leonardi, 2013), wherein employees who are not even involved in the discussion can also view the content of their fellow workers' chat (a phenomenon called message transparency), and they can also know the network groups among employees (i.e., with whom employees usually exchange content—a feature called network translucence). Employees who use ESM are exposed to a variety of communication sources, which results in diversifying knowledge and ideas that may lead to innovative interactions and divergent learning. Message transparency and network translucence allow employees to easily recognize the details of communication and links among their colleagues.

ESM visibility affordance provides the opportunity to understand the processes through which knowledge transfer—in the form of knowledge acquisition and knowledge provision—affects the agility performance of workers. Thus, we argue that ESM visibility affordance is related to employee agility performance through knowledge transfer. Knowledge transfer is believed to be an important factor that influences employee work performance (Sun et al., 2019). ESM can facilitate the flow of knowledge among employees of an organization through message transparency and network translucence (Engelbrecht et al., 2019). Previous research has shown that ESM, due to its different functionalities, may serve as a social platform and can resolve the problems of information sharing in the workplace (Leonardi, 2017; Leonardi and Meyer, 2015). A wider pool of work-related information promotes employees' critical thinking (Gu et al., 2016), which assists them in problem-solving and, consequently, strengthens employee agility performance. According to previous studies, knowledge transfer may allow more extensive evaluation of alternative solutions, resulting in better decision-making (Cao et al., 2016). Our assumptions are consistent with the Communication visibility theory (Leonardi, 2014) which implies that the communication between two parties known to the third party shall increase the knowledge of the third party.

Although knowledge transfer may benefit employee agility performance, we argue that task interdependence may further leverage this process. Task interdependence is a phenomenon wherein employees work on shared goals/tasks and help each other on the tasks which are collectively assigned to them and assist one another in resolving work-related issues (Ali, Wang, Khan, Pitafi and Amin, 2018). In a task interdependence environment, employees support each other to resolve work-related issues and attain common goals (Zhu et al., 2021). We argue that task interdependence may help individuals in resolving issues caused by environmental changes by obtaining work-related assistance from their coworkers. A greater task interdependence can improve task coordination and interaction among employees, thereby improving employees' agility performance (Pitafi et al., 2020). Therefore, we argue that in our model, task interdependence can work as a moderator on the connection between knowledge acquisition, knowledge provision, and employee agility performance such that the higher the task interdependence, the stronger these relationships will be. Further, it has been observed that most prior ESM literature has concentrated on employees from a single country (Pitafi et al., 2018; Pitafi et al., 2019; Pitafi et al., 2020; Pitafi et al., 2020), due to which we lack understanding about the

applicability of these findings in the cross-cultural context. Recent literature has emphasized that organizational behavior research variables and related associations should be tested through cross-cultural research designs (Yousaf et al., 2022). Consequently, we suggest the necessity for utilizing cross-cultural research designs while testing the aforementioned associations related to ESM's impact on the workplace.

The discussion above helps us to draw the following research questions (RQs): **RQ1**. How is ESM visibility affordance related to employee agility performance? **RQ2**. When does task interdependence moderate the associations between knowledge transfer and employee agility performance in organizations? **RQ3**. Do the results related to the outcomes of ESM visibility affordance differ across cultures? To address these RQs, we theorize and empirically test a research model across two distinct cultures (i.e., China, a collectivistic culture, and the United States, an individualistic culture). Our research offers substantial contributions; for instance, it is one of the first attempts to investigate the consequences of ESM visibility affordance. Meanwhile, existing research has reported inconsistent findings related to the benefits of ESM in organizations (Cao et al., 2016; Ding et al., 2019; Pitafi et al., 2018). As a result, this study fills an essential research gap by extensively assessing the results of ESM affordance, including knowledge transfer and staff agility performance. In addition, because we test our model across cultures, our research is expected to generate significant cross-cultural findings as indicated by prior literature (e.g., Johns, 2006; Rasheed et al., 2023; Yousaf et al., 2022).

The remainder of the paper is such that the second section discusses theory and literature for our proposed model. The third section describes method in detail for two studies. Fourth section comprises analyses and results with the presentation of results in tables and diagrams. The final section provides discussion of results, theoretical implications, practical implications, limitations and future research directions.

## 2. Theory and literature

### 2.1. Communication visibility theory

Communication visibility theory (Leonardi, 2014) suggests that when an invisible communication between two parties of an organization becomes visible to a third party, the knowledge of the third party is improved, and this knowledge is referred to as metaknowledge, meaning, "knowledge of who knows what and who knows who." The knowledge of who knows what and who knows who is of great importance in organizations. With the increasing use of ESM in organizations, the fundamental objective of ESM usage (communication ease) and the outcomes related to the use of ESM have helped researchers to conceive the theory of communication visibility (Leonardi and Meyer, 2015; Pitafi et al., 2020). This theory implies that the improved metaknowledge gained through the visibility of communication may result in several positive employee outcomes (Leonardi, 2014).

Communication visibility is recognized as one of the basic and most necessary features of ESM. According to Leonardi (2015), ESM makes individual communication visible to a larger corporate audience and facilitates employee collaboration and knowledge exchange (Leonardi and Meyer, 2015). ESM promotes better awareness of colleagues' communications among employees—including the content, connections, and networks (Treem and Leonardi, 2013). The difference between ESM and previous communication technologies is that ESM enables an individual to observe communicative behavior among colleagues even though that individual is not personally engaged in the conversation (Pitafi and Ren, 2021). Communication visibility signifies the capacity to visualize communication that was typically impossible to view for private entities in previous tools used for organizational communication.

Before the launch of ESM, workplace communication among employees was rather private (Leonardi and Meyer, 2015). The unique visibility feature of ESM enables people to view their fellow workers'

communications in real time, even when they are not part of this communication (Leonardi and Meyer, 2015). ESM, therefore, makes it possible for people to disclose their knowledge and expertise in their organization (Trem and Leonardi, 2013). This process not only enhances knowledge sharing in organizations (Leonardi and Meyer, 2015) but also results in improved employee performance (Pitafi et al., 2018).

Message transparency and network translucence are the two basic features of ESM that make communication visible and improve the metaknowledge of user employees (Leonardi, 2014). Message transparency makes the contents of the communication visible, which means it enhances the knowledge of *what*, and network translucence makes the employee's network within the organization visible, which means it enhances the knowledge of *who knows whom* (Leonardi, 2014, 2015). Some recent research studies have empirically tested communication visibility theory and found positive employee outcomes as a result of ESM usage, which includes employee performance (Pitafi et al., 2018), employee agility (Pitafi et al., 2020), knowledge sharing (Oostervink et al., 2016), and knowledge management (Archer-Brown and Kietzmann, 2018).

## 2.2. ESM visibility affordance and employee agility performance

ESM is a network technology developed to promote employee collaboration and knowledge exchange (Leonardi and Meyer, 2015). ESM makes workers aware of the actions, communication, and friendships among employees of an organization (Trem and Leonardi, 2013). The difference between ESM and previous intraorganizational communication technologies is that ESM enables individuals to observe the communications of their fellow workers even when they are not personally engaged in the exchange (Pitafi and Ren, 2021). The communication visibility feature of ESM (aka ESM visibility affordance) is considered one of the most critical and beneficial in modern working environments (Jarrahi and Sawyer, 2013). ESM visibility affordance facilitates knowledge transfer and the establishment of individuals' social networks in organizations (Leonardi et al., 2013; Sun et al., 2020).

ESM visibility is comprised of two dimensions: (a) message openness/transparency and (b) network translucence, both of which capture a distinct element of communication visibility (Leonardi and Meyer, 2015). Message transparency strengthens the accessibility of content and facilitates employees' knowledge acquisition (Sun et al., 2020). Work-related communication among individuals, including task reports and details about work assignments, benefits not only the individuals engaged in the chat but also the absent parties (Leonardi, 2015). Therefore, ESM visibility affordance, suggested as the most fundamental utility of ESM, allows workers to benefit from the content of other individuals' communications and the networks among employees.

Communication visibility signifies the capacity to observe communication that is typically impossible to be viewed by third parties. Individuals cannot be knowledgeable of every kind of communication that happens in an organization in the absence of ESM-like tools. However, the communication visibility features of ESM facilitate and make virtually all communication available to all workers in an organization. Recently, studies have widely explored the communication visibility theory in different contexts (Engelbrecht et al., 2019; Yang et al., 2021). Engelbrecht et al. (2019) described how the visibility affordance of social media improves meta-knowledge. Similarly, Yang et al. (2021) found that communication visibility and knowledge sharing may improve individuals' work efficiency. The current study utilizes communication visibility theory to understand how communication visibility affordance shapes its impact on employee agility performance.

Message transparency is the extent to which individuals become aware of and observe the content of others' information exchanges on social media (Leonardi, 2015; Yang et al., 2021). Network translucence is described as the degree to which a third party is aware of the presence of and tracks other people's interpersonal communication by watching their interactions (X. Chen et al., 2020). ESM technology includes

several functions, such as information and link exchange, workplace calls, and posting on and liking colleagues' ESM postings, all of which promote network translucence (Sun et al., 2020). Work-related content and expertise shared on ESM, such as market information, workflows, task statuses, challenges, and solutions, are accessible to other participants immediately (Leonardi et al., 2013). Using ESM for disseminating work-related information to a specific group of recipients saves time and effort, making it a convenient means for employees to interact with coworkers (Pitafi et al., 2018), and, therefore, it may leverage their agility performance.

Employee agility is described as the capability to respond to unexpected circumstances in a timely and effective manner (Pitafi et al., 2019). Past research has shown that individuals with high agility performance can quickly adapt to new environments and novel technologies through constant learning and commitment. Sherehiy (2008) categorized employee agility performance into proactivity, adaptability, and resilience. The proactivity component signifies an individual's attempt to take different actions to resolve issues about external changes and increase job performance; adaptability relates to an individual's capacity to adjust, improve, or modify personal behaviors to easily adopt new situations; resilience refers to an individual's capability to perform effectively in high-stress scenarios. Scholars have proposed that employee agility performance is essential for organizational performance and self-growth (Pitafi and Ren, 2021).

Scholars have also reported several antecedents of employee agility performance, including training, the working environment, knowledge sharing, and management support (Pitafi and Ren, 2021; Sumukadas and Sawhney, 2004). Accordingly, Alavi et al. (2014) reported that the learning environment may efficiently improve employee agility performance in organizations. Cai et al. (2018) observed that ESM can promote employee agility through psychological conditions. Similarly, Pitafi and Ren (2021) have documented that communication quality and visibility may enhance employee agility performance. Our review of the previous literature reveals that workers' agility can be achieved in an organizational structure where information and expertise flow smoothly among workers. Nevertheless, limited attention has been given to the role of ESM visibility affordance and employee agility performance in past research. As such, an investigation of the connection between ESM visibility affordance and employee agility can provide an in-depth analysis of the elements influencing employee agility. Here we theorized the following hypotheses;

**H1a.** *ESM visibility affordance in the form of message transparency has a positive association with employee agility performance.*

**H1b.** *ESM visibility affordance in the form of network translucence has a positive association with employee agility performance.*

## 2.3. Mediating role of knowledge transfer

Knowledge transfer is described as "the way of exchanging information between two parties" (Francesco, 2017; Kim et al., 2011). Sun et al. (2020) categorize knowledge transfer phenomena into two dimensions—knowledge acquisition and knowledge provision. The process of searching for and gathering information within an organization is known as knowledge acquisition (Di Fatta, Caputo and Dominici, 2018; Esmaeelnezhad and Afrazeh, 2018) whereas knowledge provision is described as the process of transmitting knowledge to coworkers or documenting and processing current knowledge into collective knowledge (Foos et al., 2006; He and Wei, 2009). Scholars propose that knowledge acquisition and knowledge provision enhance the knowledge transfer rate in organizations (Cao et al., 2016; Soda et al., 2019). Scholars have further described knowledge transfer as having several aspects (Garavelli et al., 2002). It is a method of transmitting novel ideas, concepts, and work-related information between individuals or organizations. In general, knowledge transfer is referred to as the dissemination of expertise both internally and externally.



Scholars have suggested various technological factors as antecedents of knowledge transfer (Leonardi, 2014, 2015b; Nokes, 2009). Numerous knowledge management systems (KMSs), including bulletin boards and search engines, have been implemented to encourage knowledge transfer both inside and outside of enterprises. Leonardi (2017) reported that these KMSs require individuals to actively document knowledge through them as well as put effort into transferring knowledge. In addition, communication through social networks such as ESM is the most powerful way of exchanging knowledge (Huysman and Wulf, 2006) because conventional KMSs cannot account for individual experiences. Recently, ESM technology has emerged as a widely used tool for employees to promote knowledge transfer. Scholars have argued that organizations should utilize ESM technology to facilitate knowledge transfer and social engagement (Ellison et al., 2015; Pitafi et al., 2019), which may subsequently enhance employee agility performance by fostering a collaborative working environment where individuals interact, cooperate, and share knowledge regularly (Pitafi and Ren, 2021).

Pitafi et al. (2018) contend that access to accurate and up-to-date information is crucial for individuals reacting to changing environments (agility performance). The important information and knowledge received from workmates increase the productivity and expertise of employees, which leads to higher agility performance. Moreover, when individuals have access to a variety of information and knowledge channels and can generate new ideas (Pitafi et al., 2020), they are likely to show better agility performance. In addition, by contributing information, employees may acquire appreciation and support from managers (Cao et al., 2016; Perry-Smith, 2006); such positive social connections may provide employees greater social support and alternative solutions to a problem. Hence, we hypothesized the following:

**H2a.** *There is a mediating role of knowledge acquisition in the association between message transparency and agility performance.*

**H2b.** *There is a mediating role of knowledge provision in the association between message transparency and agility performance.*

**H3a.** *Knowledge acquisition mediates the link between message transparency and workers' agility performance.*

**H3b.** *Knowledge acquisition mediates the link between network translucence and workers' agility performance.*

#### 2.4. The moderating role of task interdependence

The degree to which individuals interact with others to perform job-related activities is referred to as task interdependence (Pitafi et al., 2020; Stark et al., 2014). Scholars have argued that task interdependence is connected to the experience, skills, and information of employees (Ali et al., 2019; Fu et al., 2019). Research suggests that in an environment with a significant degree of task interdependence, people rely on the information, resources, skills, and mutual experience of their coworkers to effectively accomplish their tasks (Gu et al., 2016; Wage-man, 1995). Several studies have indicated that task interdependence is strongly linked to employee information sharing, communication, and cooperation (Maruping and Magni, 2014; Pitafi et al., 2020a; Wang et al., 2011). For example, Pitafi et al. (2018) reported that task interdependence using ESM has a positive impact on job performance. Similarly, Fu et al. (2019) discovered that the interdependence of tasks with ESM-fit has a substantial impact on the ESM usage of workers. Existing literature indicates that task interdependence assists employees in obtaining necessary assistance through cooperation, coordination, and knowledge sharing among employees (Pitafi et al., 2018), leading to enhanced performance. Although these findings offer theoretical support for understanding how task interdependence fosters employee agility, other studies propose that a greater degree of task interdependence may reduce employees' work efficiency due to stress (Zhu et al., 2021), implying that task interdependence may also affect employee

agility negatively.

Through task interdependence, employees are more likely to work together and share expertise or heterogeneous knowledge (Deng et al., 2020), which can also stimulate deeper knowledge acquisition. Specifically, distinct information augments individuals' opinions of changing environments (Pitafi et al., 2018), and specialized expertise allows individuals to react to market changes efficiently. Furthermore, task interdependence enhances collaboration and coordination among employees (L. Chen et al., 2020; Zhu et al., 2021), encouraging individuals to manage their stress and show flexible behavior when resolving challenges. Previous research has shown that employees who have access to knowledge and the encouragement of their coworkers may resolve various problems caused by environmental changes more effectively (Chuang, 2020; Pitafi et al., 2020). Task interdependence also promotes a high frequency of social communication among employees (Deng et al., 2020), which results in a diversity of innovative ideas for employees, strengthening their capacity to solve other challenges independently and effectively. Here we hypothesized that;

**H4a.** *Task interdependence strengthens the link between knowledge acquisition and employee agility performance such that the higher the task interdependence, the stronger the relationship between knowledge acquisition and employee agility performance will be.*

**H4b.** *Task interdependence strengthens the link between knowledge provision and employee agility performance such that the higher the task interdependence, the stronger the relationship between knowledge provision and employee agility performance will be.*

Our conceptual model is depicted in Fig. 1.

### 3. Research methodology

For empirically testing our model, we performed two studies, one in China and the other in the United States. Researchers have argued that there is a substantial effect of context and culture on social science research containing variables of organizational behavior (Johns, 2006; Yousaf et al., 2022), especially when it contains variables of organizational behavior. As our study includes constructs of organizational behavior such as knowledge transfer, employee performance, and task interdependence, it is valuable to conduct this investigation across cultures.

#### 3.1. Study 1

For Study 1, we obtained data from China, wherein we designed a survey questionnaire to gather data from Chinese workers. To reach our respondents, we contacted executive MBA (EMBA) students enrolled in a Chinese university who were also full-time employees working in different organizations and industries. Before starting the survey, participants were instructed that the survey was for only employees who regularly use ESM technology at their workplace. We delivered 650 paper-and-pencil questionnaires and received 541 responses (with a response rate of 83.23%). We deleted 194 responses from the final dataset since they were inaccurately filled in or certain fields were omitted; the remaining 347 valid responses were used for analysis. The demographics of the participants revealed that there were 202 males (58.20%) and 145 females (41.80 percent). Table 1 presents detailed information about the participants. We found that the 347 respondents whose responses have been used in our final analyses work in industries such as banking, insurance, health, electronics manufacturing, and steel fabrication. The variables measured in this study were message transparency, network translucence, knowledge provision, knowledge acquisition, employee agility performance, and task interdependence. Table 1 reports the sample detail of our study 1;

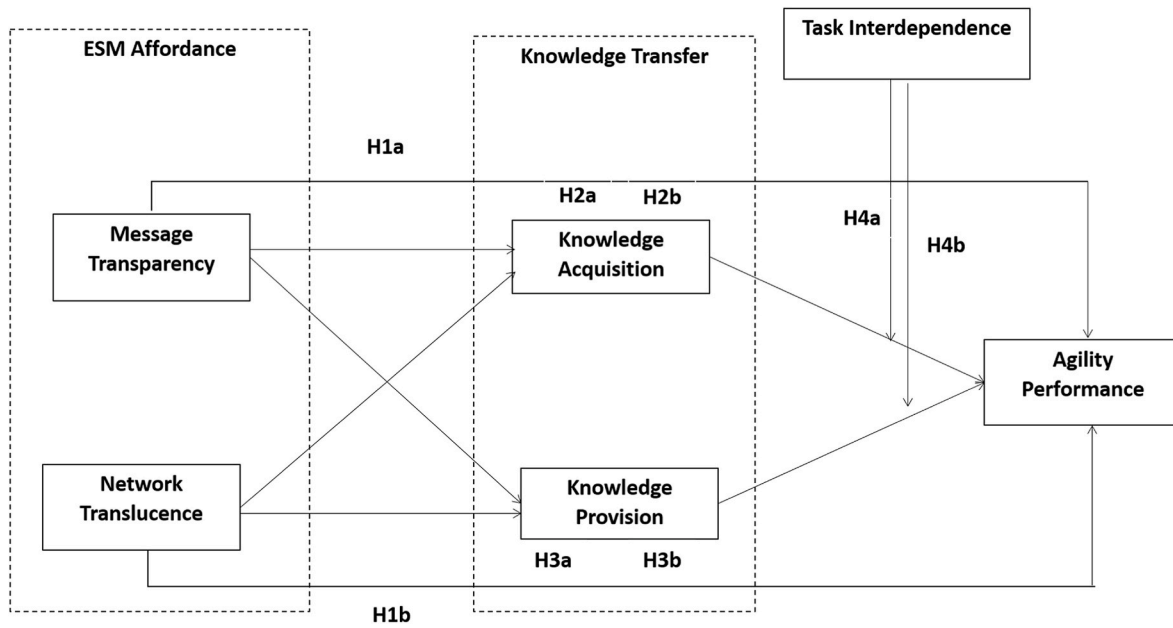


Fig. 1. Conceptual model.

Table 1 Demographic profile of respondents.

Variables	Categories	Percentages (Frequency)	
		Study 1 China	Study 2 U.S.
Gender	Male	58.20 (202)	53.70 (180)
	Female	41.80 (145)	46.30 (155)
Age	Between 21 and 30	34.60 (120)	29.90 (100)
	Between 31 and 40	17.30 (60)	20.90 (70)
	Between 41 and 50	29.40 (102)	25.40 (85)
	> 50 year old	18.70 (65)	23.90 (80)
Qualification	Under-graduate	31.10 (108)	27.50 (92)
	Graduate	34.90 (121)	38.20 (128)
	Master's or Above	34.00 (118)	34.30 (115)
Experience	Less than- 1 year	23.90 (83)	22.70 (76)
	2-3 years	28.20 (98)	27.20 (91)
	4-5 years	30.50 (106)	23.60 (79)
	More than five years	17.30 (60)	26.60 (89)

3.2. Study 2

For Study 2, we obtained data from the United States. To collect data from employees working in the U.S., we performed an online survey through Prolific Academic. Prolific is an online survey platform and is considered reliable for collecting primary data in social sciences. Several studies in past have used Prolific (Rasheed et al., 2023; Rasheed et al., 2023; Yousaf et al., 2022) and validated this method of data collection which brings no such difference from old paper based surveys. The survey was conducted in April 2021, wherein we collected responses from 335 respondents. In this study, we used the same set of measures (including the control variables) as used in Study 1. Detailed information of Study 2 participants is also found in Table 1.

3.3. Measures

The items in the research questionnaire for each variable were taken from the extant literature. However, as the original measures of all our scales were in the English language and our sample in Study 1 was from China, we converted the English language measures into the Chinese language using the back-translation method (Brislin, 1980). All items measured in this study were evaluated using a 5-point Likert scale ranging from 1 = “strongly disagree” to 5 = “strongly agree.” In addition

to the six key variables that were used in this study, we assessed demographic variables such as age, gender, education, and experience as the control variables.

The scales for message transparency and network translucence, each consisting of four items, were taken from Leonardi (2015). The scales for knowledge acquisition and knowledge provision, each consisting of four items, were taken from Sun et al. (2020). The ultimate outcome variable of our model (employee agility performance) was measured through proactivity, adaptability, and resilience. The scales of the proactivity dimension (consisting of eight items), the adaptability dimension (consisting of five items), and the resilience dimension (consisting of four items) were adopted from Alavi et al. (2014) and Pitafi et al. (2018). The scale of task interdependence (consisting of six items) was taken from Pitafi et al. (2020). Since past studies indicated that age, gender, education, and experience may affect knowledge transfer and employee performance (Chen et al., 2020), we included these demographics as control variables in our study.

4. Analysis and results

For data analyses, we screened all the responses on SPSS and observed no incomplete responses or outliers in the final data. We investigated our data for both studies in two phases. In the first phase, we examined the validity, reliability, and factor loadings of all measurement items of the study. In the second phase, we used structural equation modeling to test the hypotheses in our study.

4.1. Validity and reliability

Using SPSS and AMOS software, the suggested research model was statistically analyzed using Cronbach’s alpha (CA), the composite reliability (CR), and the average variance extracted (AVE) as recommended by previous studies (Fornell and Larcker, 1981; Rasheed et al., 2021).

Following the suggestions, CA is adequate when it has values higher than 0.70. Table 2 results specify that all the variables have CA values greater than 0.70. CR is considered good when it has values higher than 0.70; Table 2 findings indicate that all the variables have CR values > 0.70. Similarly, AVE values are considered satisfactory when they are higher than 0.50; Table 2 reports that the AVE scores are higher than 0.50 in both studies. Additionally, we computed the convergent validity

**Table 2**  
Results of measurement analyses.

Study 1. China						Study 2. United States			
Constructs	Items	Factor Loadings	Cronbach $\alpha$	Composite Reliability	AVE	Factor Loading	Cronbach $\alpha$	Composite Reliability	AVE
Knowledge Provision	4	0.718–0.805	0.873	0.888	0.664	0.622–0.814	0.736	0.817	0.530
Knowledge Acquisition	4	0.726–0.848	0.814	0.869	0.625	0.703–0.806	0.777	0.841	0.569
Message Transparency	4	0.745–0.824	0.847	0.865	0.617	0.741–0.826	0.862	0.867	0.619
Network Translucence	4	0.787–0.855	0.795	0.856	0.598	0.602–0.772	0.767	0.832	0.554
Task Interdependence	6	0.678–0.815	0.821	0.860	0.510	0.630–0.765	0.807	0.869	0.527
Proactivity	8	0.655–0.725	0.852	0.892	0.512	0.639–0.780	0.825	0.902	0.534
Adaptability	5	0.646–0.805	0.797	0.850	0.534	0.601–0.775	0.799	0.852	0.537
Resilience	4	0.768–0.818	0.814	0.871	0.630	0.702–0.791	0.768	0.848	0.582

Note: AVE= Average Variance Extracted.

of the proposed model using standard factor loadings. Scholars suggest that the standard factor loadings of all constructs should be greater than 0.60 for appropriate convergent validity (Fornell and Larcker, 1981; Hair et al., 2010; Kanwal et al., 2019). According to Table 2, all the items of all the variables have loadings higher than 0.60. Consequently, our model has an acceptable level of reliability and validity.

We investigated the discriminant validity of the study using the results shown in Tables 3 and 4. According to the procedure of Fornell and Larcker (1981), the values of the AVE square root should be greater than their inter-co-relation values. Following this method, we compared the AVE square root with the inter-co-relation of all the variables and found that all the AVE square roots of all the variables have values higher than the inter-co-relation, indicating an acceptable level of discriminant validity in the suggested research model (Fornell and Larcker, 1981). Therefore, the findings of Table 2, Table 3, and Table 4 demonstrate that the proposed research model possesses an applicable level of convergent validity, reliability, and discriminant validity and is thus adequate for further analysis.

Furthermore, considering the nature of survey data, scholars recommend several strategies to address the likelihood of common method bias (CMB) (Pavlou and El Sawy, 2006; Podsakoff et al., 2012). As a result, we first used certain technical remedies, such as response secrecy, to address the possible issue of CMB. For example, past researchers have proposed that ensuring the confidentiality of responses might support resolving the possibility of the CMB problem (Podsakoff et al., 2012; Rasheed et al., 2020). We, therefore, maintained the secrecy of the participants and the confidentiality of their responses provided. Furthermore, following the guidelines of previous studies, we also used several statistical methods to assess the likelihood of a CMB issue in the dataset. Accordingly, we used the procedure recommended by Liang et al. (2007) for the analysis of the CMB and computed the substantive factor loadings and factor loadings of each construct for both samples. The results revealed that the substantive factor had a value of 66.5% and 68.6% of the variance for China and the United States, respectively, while the method factor had a value of 1.2%, and 1.4% of the variance for China and the United States, respectively, showing that there was no

issue of CMB in either of the samples. In addition, Pavlou and El Sawy (2006) suggested that the correlation values of all the constructs should be less than 0.60; the results reported in Tables 3 and 4 reflect that all the correlation values are <0.60. Finally, we conducted a variance inflation factor (VIF) test, and the findings of both samples indicated that VIF values are less than the specified value of 3.3 (Pitafi et al., 2020a), implying that CMB is not a serious concern in this study. Hence, the combined evidence demonstrates that there was no CMB problem in the current study.

Lastly, Table 5 reports the model fit values of the measurement model of both samples. The results indicated that the measurement model of the Chinese samples ( $CFI = 0.91$ ,  $TLI = 0.92$ ,  $REMSA = 0.059$ ,  $X^2/df = 1285.001/661 = 1.94$ ) are in the suggested range (Hair et al., 2010). Similarly, the results in Table 5 also specify that the model fit values of the measurement model of U.S. samples ( $CFI = 0.91$ ,  $TLI = 0.93$ ,  $REMSA = 0.054$ ,  $X^2/df = 1285.001/661 = 1.94$ ) are in the specified range (Hair et al., 2010). Hence, both findings indicated that the fit values of the measurement model are acceptable.

#### 4.2. SEM-based multi-group analysis

To test our hypothesized model and to analyze our data from the two samples, we applied structured equation modeling (SEM)-based multi-group analysis using AMOS software. Before conducting the analysis, we divided the samples into two groups, namely China and the United States. Studies suggest multi-group analysis as an efficient way to analyze the data and investigate the differences between two groups. As reported in Table 5, structural model fit values ( $CFI$ ,  $TLI$ ,  $RMSEA$ ,  $X^2/df$ ) of the Chinese and the U.S. samples are all in the specified range (Hair et al., 2010). Additionally, Fig. 2 specifies the outcomes of the path analyses of all the proposed hypotheses of both studies. The findings reported in Table 6 indicate that message transparency is significantly related to employee agility performance [China: ( $\beta = 0.15$ ,  $t = 4.02$ ,  $p < 0.001$ ); U.S.: ( $\beta = 0.12$ ,  $t = 2.71$ ,  $p < 0.05$ )], thereby supporting H1a in both the samples. Network translucence has also shown a significant association with employee agility performance [China: ( $\beta = 0.13$ ,  $t =$

**Table 3**  
Mean, standard division, and correlation matrix (Study 1. China).

Construct	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1- Knowledge Provision	3.964	0.670	<b>0.814</b>											
2- Knowledge Acquisition	3.612	0.793	0.015	<b>0.790</b>										
3- Message Transparency	3.696	0.730	0.300**	0.251**	<b>0.785</b>									
4- Network Translucence	3.694	0.670	0.233**	0.201**	0.050	<b>0.773</b>								
5- Task Interdependence	3.386	0.943	0.124*	0.484**	0.366**	0.226**	<b>0.714</b>							
6- Proactivity	3.870	0.766	0.060	0.008	0.003	0.023	0.035	<b>0.715</b>						
7- Adaptability	3.971	0.645	0.294**	0.218**	0.203**	0.097	0.262**	0.026	<b>0.730</b>					
8- Resilience	2.825	0.642	0.072	0.032	0.092	0.043	0.005	0.14	0.130*	<b>0.793</b>				
9- Experience	NA	NA	-0.049	-0.0206	-0.024	-0.071	-0.011	0.055	0.048	0.020	NA			
10- Education	NA	NA	-0.008	-0.012	-0.074	-0.070	-0.101	0.105	0.055	0.058	0.026	NA		
11- Age	NA	NA	0.068	0.082	0.036	-0.020	-0.036	0.0129	0.088	0.121	-0.045	0.023	NA	
12- Gender	NA	NA	-0.016	-0.036	-0.050	-0.085	0.037	-0.010	-0.033	-0.067	-0.016	0.010	0.006	NA

Note: \* $p < 0.05$ , \*\*  $p < 0.01$ .

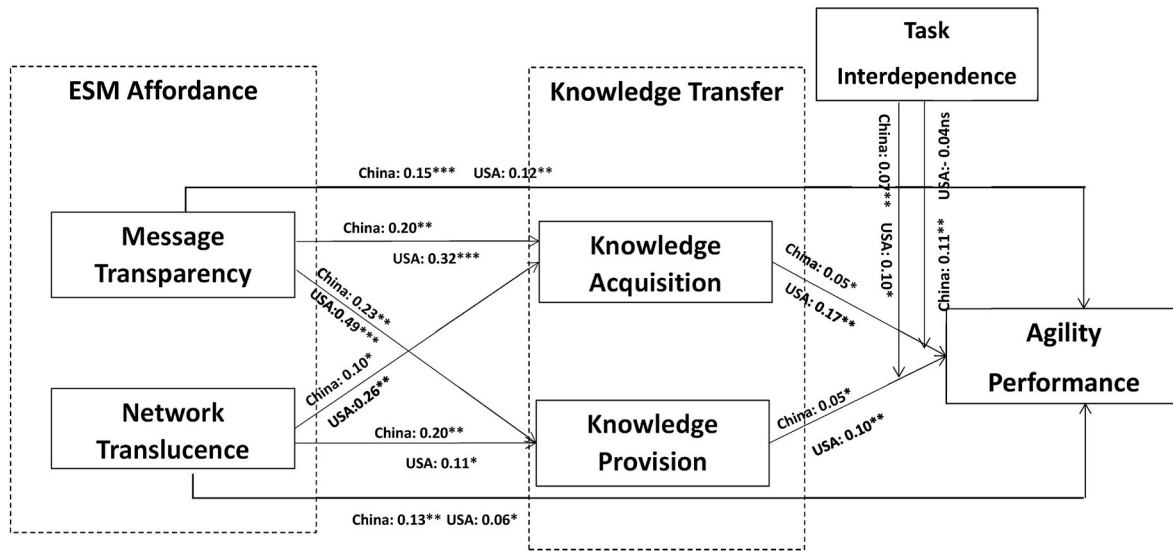
**Table 4**  
Mean, standard deviation, and correlation matrix (Study 2. United States).

Construct	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1- Knowledge Provision	3.77	0.667	<b>0.728</b>											
2- Knowledge Acquisition	3.614	0.803	0.0147	<b>0.754</b>										
3- Message Transparency	3.706	0.728	0.279**	0.251**	<b>0.786</b>									
4- Network Translucence	3.697	0.761	0.215**	0.199**	0.049	<b>0.744</b>								
5- Task Interdependence	3.390	0.953	0.119*	0.485**	0.364**	0.225**	<b>.0.725</b>							
6- Proactivity	3.874	0.754	0.054	0.002	0.003	0.032	0.027	<b>0.730</b>						
7- Adaptability	3.974	0.650	0.294**	0.215**	0.204**	0.090	0.262**	0.031	<b>0.732</b>					
8- Resilience	2.882	0.638	0.079	0.048	0.103	0.050	0.015	0.123*	0.141**	<b>0.762</b>				
9- Experience	NA	NA	-0.044	-0.020	-0.032	-0.078	-0.011	0.066	0.054	-0.008	<b>NA</b>			
10- Education	NA	NA	0.006	-0.013	-0.069	-0.064	-0.102	0.010	0.059	0.063	0.027	<b>NA</b>		
11- Age	NA	NA	0.077	0.085	0.040	-0.015	0.037	0.0129	0.088	0.013	-0.038	0.023	<b>NA</b>	
12- Gender	NA	NA	-0.016	-0.037	-0.038	-0.078	0.044	-0.011	-0.035	-0.069	0.018	0.0111	0.002	<b>NA</b>

Note: \* $p < 0.05$ , \*\* $p < 0.01$ .

**Table 5**  
Model fit results.

	Absolute fit measures				Incremental fit measures		Parsimonious fit measures	
	Model	$\chi^2/df$	SRMR	RMSEA	NFI	PNFI	CFI	TLI
Study 1. China	MM	1.83	0.05	0.06	0.88	0.90	0.90	0.89
	SEM	2.13	0.06	0.05	0.91	0.92	0.91	0.92
Study 2. United States	MM	1.66	0.05	0.05	0.90	0.87	0.90	0.89
	SEM	1.91	0.06	0.05	0.89	0.91	0.91	0.93



**Fig. 2.** Results of structural model  
Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

3.26,  $p < 0.01$ ); U.S.: ( $\beta = 0.06$ ,  $t = 2.14$ ,  $p < 0.05$ )], thereby supporting H1b in both the samples. Results further indicate that message transparency has a significant relationship with knowledge acquisition [China: ( $\beta = 0.20$ ,  $t = 3.87$ ,  $p < 0.01$ ); U.S.: ( $\beta = 0.32$ ,  $t = 4.57$ ,  $p < 0.001$ )] and with knowledge provision [China: ( $\beta = 0.23$ ,  $t = 3.29$ ,  $p < 0.01$ ); U.S.: ( $\beta = 0.49$ ,  $t = 10.57$ ,  $p < 0.001$ )]. Similarly, network translucence has shown a significant relationship with knowledge acquisition [China: ( $\beta = 0.10$ ,  $t = 2.30$ ,  $p < 0.05$ ); U.S.: ( $\beta = 0.26$ ,  $t = 3.25$ ,  $p < 0.01$ )] and with knowledge provision [China: ( $\beta = 0.20$ ,  $t = 3.23$ ,  $p < 0.01$ ); U.S.: ( $\beta = 0.11$ ,  $t = 2.30$ ,  $p < 0.05$ )]. Results also indicate that knowledge acquisition has a significant relationship with employee agility performance [China: ( $\beta = 0.05$ ,  $t = 2.03$ ,  $p < 0.05$ ); U.S.: ( $\beta = 0.17$ ,  $t = 3.34$ ,  $p < 0.01$ )], and knowledge provision also has a significant relationship with employee agility performance [China: ( $\beta = 0.05$ ,  $t = 2.58$ ,  $p < 0.05$ ); U.S.: ( $\beta = 0.10$ ,  $t = 2.62$ ,  $p < 0.05$ )]. SEM results are also

shown in Fig. 2 (see Table 7).

#### 4.3. Mediation analysis

For testing our mediation hypotheses, we used the bootstrapping procedure with a 95% confidence interval as bootstrapping is considered a more sophisticated mediation method than the traditional step-wise Barron and Kenny procedure (Preacher and Hayes, 2008; Rasheed et al., 2020). The results specify that knowledge provision mediates the association between (i) message transparency and employee agility performance [China: (LLCI: 0.001, ULCI: 0.042); U.S.: (LLCI: 0.004, ULCI: 0.039)], supporting H2a, and (ii) network translucence and employee agility performance [China: (LLCI: 0.003, ULCI: 0.036); U.S.: (LLCI: 0.004, ULCI: 0.035)], supporting H2b, in both samples. On the other hand, knowledge acquisition revealed a mediating role between (i)



**Table 6**  
Results of hypotheses testing (Multi Group Analysis).

Relationship	Study 1. China			Study 2. United States		
	$\beta$	SE	t-value	$\beta$	SE	t-value
Message transparency to Employee agility performance (H1a)	0.15***	0.02	4.02	0.12**	0.04	2.71
Network translucence to Employee agility performance (H1b)	0.13**	0.02	3.26	0.06*	0.03	2.14
Message transparency to Knowledge acquisition	0.20**	0.05	3.87	0.32***	0.07	4.57
Network translucence to Knowledge provision	0.20**	0.06	3.23	0.11*	0.05	2.30
Message transparency to Knowledge provision	0.23**	0.07	3.29	0.49***	0.05	10.07
Network translucence to Knowledge acquisition	0.10*	0.04	2.30	0.26**	0.08	3.25
Knowledge acquisition to Employee agility performance	0.05*	0.03	2.03	0.17**	0.05	3.34
Knowledge provision to Employee agility performance	0.05*	0.03	2.58	0.10**	0.04	2.62
Knowledge acquisition*Task interdependence to employee agility (H4a)	0.07**	0.02	2.61	0.10*	0.04	2.19
Knowledge provision*Task interdependence to employee agility (H4b)	0.11**	0.043	2.888	0.04	0.02	1.59

Note: Significance level \* =  $p < 0.05$ , \*\* =  $p < 0.01$ , \*\*\* =  $p < 0.001$ .

message transparency and employee agility performance in the China sample (*LLCI*: 0.003, *ULCI*: 0.032) but not in the U.S. sample (*LLCI*: 0.006, *ULCI*: -0.033), thereby supporting H3a in the China sample only and not in the U.S. sample. Knowledge acquisition further revealed a mediating role between (i) network translucence and employee agility performance in the China sample (*LLCI*: 0.009, *ULCI*: 0.033) and not in the U.S. sample (*LLCI*: -0.001, *ULCI*: 0.029), supporting H3a in the China sample only and not in the U.S. sample.

4.4. Moderation analysis

We further tested our moderation hypotheses. As shown in Table 6, the interaction term (knowledge acquisition \* task interdependence) has a significant association with employee agility performance [China: ( $\beta = 0.07$ ,  $t = 2.61$ ;  $p < 0.01$ ), U.S.: ( $\beta = 0.10$ ,  $t = 2.19$ ;  $p < 0.05$ )] endorsing

**Table 7**  
Bootstrapping mediation results.

Bootstrap results for indirect effects	Study 1. China				Study 2. United States			
	Effect	SE	Lower limit CI	Upper limit CI	Effect	SE	Lower limit CI	Upper limit CI
The indirect effect of message transparency on employee agility performance through knowledge provision (H2a)	0.017	0.01	0.001	0.042	0.0181	0.811	0.004	0.039
The indirect effect of network translucence on employee agility performance through knowledge provision (H2b)	0.015	0.008	0.003	0.036	0.015	0.016	0.004	0.035
The indirect effect of message transparency on employee agility performance through knowledge acquisition (H3a)	0.012	0.009	0.003	0.032	0.126	0.012	0.006	-0.033
The indirect effect of network translucence on employee agility performance through knowledge acquisition (H3b)	0.012	0.007	0.009	0.033	0.012	0.011	-0.001	0.029

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , CI = Confidence Interval; Bootstrap sample size = 10,000 /

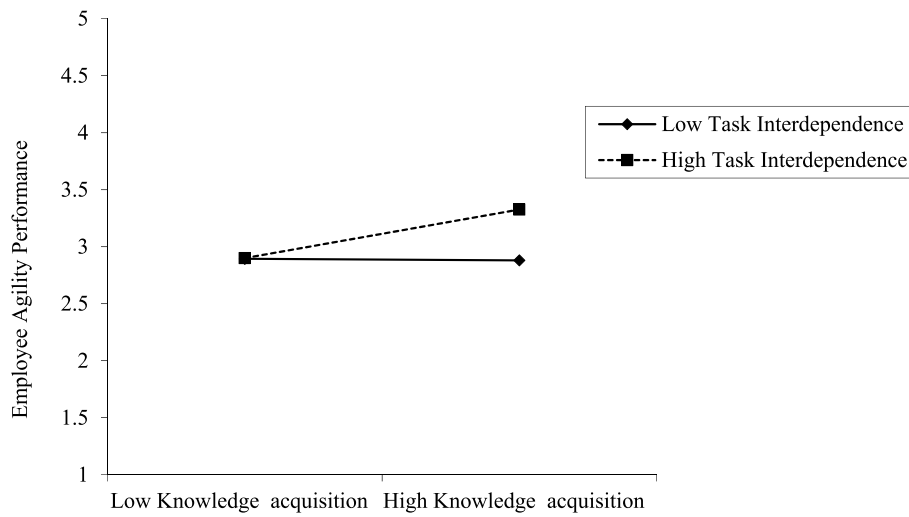
H4a. The interaction term (knowledge provision \* task interdependence) is significant in the Chinese sample ( $\beta = .11$ ,  $t = 2.88$ ;  $p < 0.01$ ) but not in the U.S. sample ( $\beta = -0.04$ ,  $t = 1.159$ ), supporting H4b in the Chinese sample but not in the U.S. sample.

We further plotted a graphical diagram as suggested by previous research (Aiken et al., 1991) to better understand the moderating role of task interdependence in our model. Figs. 3 and 4 indicate that in both the samples (China, U.S.), task interdependence reinforces the connection between knowledge acquisition and employee agility performance as well as knowledge provision and employee agility performance in the U.S. sample. Additionally, Fig. 5 also indicates that task interdependence reinforces the connection between knowledge acquisition and employee agility performance in the Chinese sample.

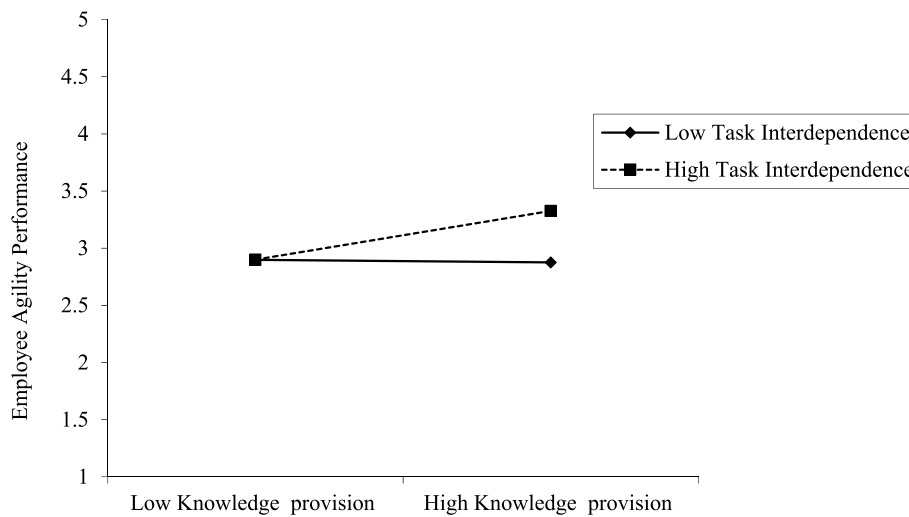
5. Discussion

This study was conducted to examine the connection between ESM visibility affordance (i.e., message transparency and network translucence) and employee agility performance through knowledge transfer (knowledge acquisition and knowledge provision) while considering the boundary condition role of task interdependence. To test the study's conceptual model, we performed two field surveys, one in China (a collectivistic culture) and the other in the United States (an individualistic culture). The study has yielded substantial results. As such, our findings from both studies indicate that knowledge transfer and communication visibility affordance are important predictors of employees' agility performance. The results from both studies revealed that message transparency (H1a) and network translucence (H1b) have significant relationships with employee agility performance in organizations that have adopted ESM in the workplace. Similarly, the results of mediation analyses from both studies have revealed that knowledge provision mediates the relationships between message transparency and employee agility performance (H2a) and network translucence and employee agility performance (H2b), both in the Chinese and the U.S. samples. In comparison, knowledge acquisition mediates the relationships between message transparency and employee agility performance (H3a) and network translucence and employee agility performance (H3b) in the Chinese sample but not in the U.S. sample. Previous studies have similarly indicated that knowledge sharing and knowledge obtaining have a significant effect on individual work performance (Corvino et al., 2019; Jafar et al., 2019). Researchers are of the view that important information and knowledge received from workmates increases the productivity and expertise of employees, which leads to higher agility performance (Papa et al., 2018; Vrontis et al., 2017). Furthermore, when individuals have access to a variety of information and knowledge, they are likely to generate new ideas (Vrontis et al., 2017; Wilkesmann et al., 2009), which leads to better agility performance. The results of our H2a, H2b, H3a, and H3b helped us answer our RQ1: how does ESM visibility affordance relate to employee agility performance? Our results reveal that knowledge transfer in the form of knowledge provision and knowledge acquisition is the underlying

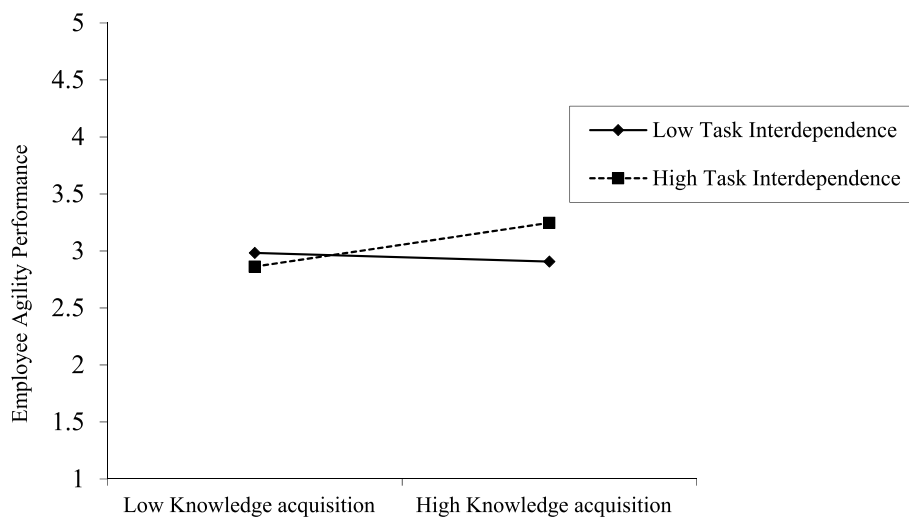




**Fig. 3.** The moderating effect of Task Interdependence on the relationship between Knowledge Acquisition and Employee Agility Performance  
 Note: Study 1. China -Sample.



**Fig. 4.** The moderating effect of Task Interdependence on the relationship between Knowledge Provision and Employee Agility Performance  
 Note: Study 1. China Sample.



**Fig. 5.** The moderating effect of Task Interdependence in the relationship between Knowledge Acquisition and Employee Agility Performance  
 Note: Study 2. U.S. Sample.

psychological reason that links ESM visibility affordance to employee agility performance. Our results also reveal that the mediating role of knowledge transfer in the association between ESM visibility affordance and employee agility performance remains the same across cultures. As such, the findings from both studies have shown the significant indirect effect of knowledge transfer on the association between ESM visibility affordance and employee agility performance.

Study 1 has shown that task interdependence moderates the association between knowledge acquisition and employee agility performance (H4a) and knowledge provision and employee agility performance (H4b). However, although the results from Study 2 supported our hypothesis (H4a), they did not support H4b, which concerned the moderating role of task interdependence on the association between knowledge provision and employee agility performance. Overall our results from both studies, one which was conducted in an individualistic culture and the other in a collectivistic culture, are similar and are all in line with past research insights in the literature on ESM, knowledge transfer, and employee agility performance. For instance, some recent research findings have shown that ESM may help to ease knowledge transfer by minimizing knowledge-sharing complexity (Daña et al., 2020; Francesco, 2017; Leonardi, 2015). Similarly, recent research in the field of ESM has argued for a positive connection between ESM affordance and employee agility performance (Sun et al., 2020). Our findings related to H4a and H4b helped us determine the answer to our RQ2, which was about the moderating role of task interdependence on the associations between knowledge transfer and employee agility performance in organizations. The findings of our moderation analyses, as displayed in Figs. 3 and 4, have revealed that the associations between knowledge transfer and employee agility performance are stronger at the higher levels of task interdependence. Further, our results revealed that knowledge provision mediates the association between ESM visibility affordance and employee agility performance in the Chinese sample but not in the U.S. sample. Similarly, while task interdependence moderates the associations between knowledge acquisition and employee agility performance in both the Chinese and the U.S. sample, the association between knowledge provision and employee agility performance was found in the Chinese sample but not in the U.S. sample. The difference in the results of our investigation across cultures answers our RQ3, which addressed the role of culture in our theorized associations between ESM visibility affordance and employee agility performance.

### 5.1. Theoretical implications

Our findings carry substantial theoretical implications. First, we found that ESM visibility affordance in the shape of message transparency and network translucence is significantly related to employee agility performance through knowledge transfer. This is an important finding that demonstrates the critical role of ESM visibility affordance in organizations. Although a handful of research studies have suggested positive consequences of ESM usage in organizations (Deng et al., 2020; Pitafi et al., 2018; Zhu et al., 2021), our study has highlighted the positive role of a specific feature (visibility affordance) of ESM. Consequently, our research has produced new insights in the literature on ESM, an emerging workplace technology.

Second, our results contribute to communication visibility theory by revealing an association between ESM visibility affordance, knowledge transfer, and employee agility performance. Previous studies have reported that visibility affordance could have a significant impact on knowledge accuracy (Leonardi, 2014), meta-knowledge (Engelbrecht et al., 2019), and knowledge exchange (Sun et al., 2020). Our study extends this line of research by showing a positive association between message transparency, network translucence, and employee agility performance through knowledge acquisition and knowledge provision.

Third, the mediating role of knowledge transfer found in our research is another important theoretical contribution of our research to

the field of ESM visibility affordance and employee performance. Our results show that ESM visibility affordance in the form of message transparency and network translucence helps employees to acquire and provide knowledge within their organizations. This can be explained by the fact that, when employees use ESM, which is built on the features of communication visibility, they can view messages among other colleagues in their organization and ascertain the networks among their colleagues; thus, they become involved in the process of knowledge acquisition and knowledge provision. Message transparency is a feature of ESM technology through which employees can access the messages being exchanged between other employees of the organization, even when they are not involved in the conversation. This includes the exchange of files, important information, achievements, and other discourse. Certainly, the visibility of such information helps other employees who are not part of the conversation to acquire and further distribute knowledge in the workplace. Network translucence is a feature of ESM technology that helps the employees to know the networks and groups that exist among other employees of the organization. Consequently, message transparency helps in knowing the information being exchanged in the workplace, and network translucence helps in seeing who is exchanging information with whom. Both features enhance knowledge transfer in the form of knowledge acquisition and knowledge provision. The mediating role of knowledge transfer found in our research answers our RQ1, that is, why and how ESM visibility affordance is associated with employee agility performance in organizations. Past research in this area has also shown similar results; for instance, Leonardi (2015) argued that knowledge regarding “who knows what” and “who knows whom” may increase employee agility performance (Leonardi and Meyer, 2015). Other studies have also found that knowledge sharing and knowledge obtaining have positive effects on individuals’ work performance (Jafar et al., 2019).

Fourth, our results indicate that task interdependence plays a moderating role in the associations of knowledge transfer and employee agility performance. Study 1 confirms that task interdependence moderates the association between knowledge acquisition and employee agility performance (H4a) as well as knowledge provision and employee agility performance (H4b). However, the results of Study 2 supported H4a but did not support H4b. Overall, the moderating role of task interdependence found in our study is a significant theoretical insight highlighted in our research. As such, this finding shows that for employees who work on interdependent tasks, the association between knowledge transfer and employee agility performance is stronger. This is in line with previous research arguments that task interdependence motivates employees to obtain information, coordinate, and communicate with colleagues (Gu et al., 2016), which in turn has a significant effect on employee agility performance. However, the results of Study 2 have shown that task interdependence did not moderate the relationship between knowledge provision and agility performance; this unexpected outcome may be attributed to the characteristics of the knowledge provided. As such, knowledge provision is an independent act to process current knowledge or exchange knowledge with coworkers. Thus, this process occurs regardless of whether employees are working on interdependent tasks or not; either way would lead to employee agility performance. Our findings have substantially contributed to the body of knowledge management research, which has garnered a lot of attention over the years. This study combines an evolving technology (i.e., ESM) with knowledge management to investigate the relationships between the visibility affordances it provides and knowledge transfer processes aimed at improving employee agility performance.

### 5.2. Managerial implications

The popularity of ESM and its increasing usage in the workplace has created several challenges for managers, organizations, and workers. On the one hand, ESM serves as a virtual portal that enables employees to share, exchange, and obtain knowledge from colleagues (Leonardi,

2017). At the same time, the inappropriate or unnecessary use of ESM may have negative effects in the workplace (Cao and Yu, 2019). In the current research, we conducted an empirical examination to study the impact of ESM visibility affordance on workers' agility performance. The results have important practical implications for organizational leaders.

First, our results indicate that ESM visibility affordance (message transparency and network translucence) has a positive relationship with knowledge transfer. As a result, managers can promote the usage of ESM and encourage employees to utilize ESM platforms in their daily jobs. Managers can encourage coworker communication on the ESM platform and motivate them to take maximum advantage of ESM functionalities that promote knowledge-sharing activities. Similarly, organizations can work to further enhance the visibility features of ESM technology being used at their workplaces. Taking maximum advantage of ESM features may lead to an efficient knowledge-sharing process (Sun et al., 2020), thereby improving employee agility performance. Knowledge transfer and knowledge sharing are essential activities in organizations. Since the results of our study suggest that ESM visibility promotes knowledge transfer in organizations, employees should maximize its use.

Second, our findings indicate that knowledge transfer in the form of knowledge acquisition and provision has a significant association with workers' agility. Considering the significance of knowledge transfer in enhancing employee agility performance, managers must increase the use of ESM technology in their companies as it will assist employees in acquiring additional resources and knowledge needed to react quickly and efficiently to environmental changes.

Third, our findings have shown that task interdependence moderates the relationships between knowledge transfer and employee agility performance, suggesting that managers should maximize task interdependence among employees in their workplaces.

Fourth, this research suggests that managers should encourage employees to utilize ESM for task-related communication. Accordingly, managers can allow employees to share their experience and skills on ESM homepages, which would enable other employees to utilize ESM visibility to reach colleagues with relevant knowledge while dealing with individual challenges in the workplace.

Fifth, ESM developers may integrate some functionalities that can provide visibility on the ESM platform to improve the opportunities for workers to maintain connections and work-related communication with coworkers when facing changes. We also recommend introducing more visibility features of ESM in organizations looking to take advantage of the benefits of ESM visibility affordance.

Finally, organizations can arrange training and awareness sessions for their workers on how to effectively use ESM in the workplace and how to maximize the benefits of this emerging technology. Developers or training resource personnel can specifically teach the visibility features of ESM to workers using ESM in the workplace.

## 6. Conclusion

The current study examines how ESM visibility affordance (message transparency and network translucence) enhances employee agility performance through knowledge transfer (knowledge acquisition and knowledge provision). The mediating effect of knowledge acquisition and provision and the moderating effect of task interdependence were explored based on the communication visibility theory. The empirical surveys conducted in China and the U.S. have validated most of our assumptions, indicating that employee knowledge acquisition and provision are essential mechanisms in transmitting the value of ESM visibility affordance to employee agility performance. Specifically, our findings indicate that message transparency and network translucence both have a significant impact on knowledge acquisition and knowledge provision.

## 6.1. Limitations and future research directions

Although the current study yields insightful and significant findings, it is essential to note some limitations. First, all the survey items of both studies were self-reported and were obtained from a specific source at a single time point, which could raise the issue of CMB (Podsakoff et al., 2012). Therefore, a longitudinal design is recommended for future research. As the degree of employee agility performance was determined by the employees themselves, the possibility of bias exists. Future studies may therefore obtain the ratings of employee agility from managers. Second, we collected our data from two different countries, China and the United States, which have different cultures; however, it would be interesting to investigate the role of culture more deeply in future models. Third, our study focused on the impact of ESM visibility affordance (message transparency and network translucence) on employee agility performance through knowledge transfer. To get a further understanding of employee agility performance, researchers can investigate other elements that can influence employee agility in organizations. For example, future research can investigate some other ESM affordances, including association, persistence, and editing ability in relation to employee agility performance (Leonardi and Vaast, 2017). Finally, this study focused on knowledge in the work environment and the moderating role of task interdependence; future scholars can investigate other possible alternative mechanisms and boundary conditions beyond our model.

## Data availability

Data will be made available on request.

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