



**Benefits and Drawbacks of Communication Visibility: From Vicarious Learning and Supplemental Work to Knowledge Reuse and Overload**

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## ABSTRACT

**Purpose** – This study examines some of the benefits and drawbacks of communication visibility. Specifically, building on communication visibility theory, we study how and why message transparency and network translucence may increase knowledge reuse and perceived overload through behavioral responses of vicarious learning and technology-assisted supplemental work.

**Design/Methodology/Approach** – Drawing on survey data obtained from 1,127 employees of a global company operating in the industrial machinery sector, we used structural equation modelling to test our hypothesized model.

**Findings** – The results demonstrate that the two aspects of communication visibility yield somewhat differential benefits and drawbacks in terms of knowledge reuse and communication overload, through vicarious learning and supplemental work practices.

**Implications** – The results demonstrate the relationship between different aspects of communication visibility and knowledge reuse, specifically through vicarious learning. Furthermore, the findings highlight a potential drawback of visibility – communication overload – specifically through technology-assisted supplemental work. Overall, network translucence seems more beneficial compared to message transparency in terms of knowledge reuse and communication overload.

**Originality/Value** – The study connects with recent work on communication visibility by distinguishing differential direct and indirect effects of message transparency and network translucence. It also extends this work by testing relationships between communication visibility and a potential drawback of visibility – communication overload – specifically through technology-assisted supplemental work.

**Keywords:** *communication overload, knowledge reuse, message transparency, network translucence, technology-assisted supplemental work, vicarious learning*

## Benefits and Drawbacks of Communication Visibility: From Vicarious Learning and Supplemental Work to Knowledge Reuse and Overload

Knowledge is perhaps one of the most important competitive advantages organizations seek to cultivate in our information society (Arend *et al.*, 2014; Nag and Gioia, 2012). However, knowledge is increasingly distributed across organizational members often operating in different teams, departments, locations, time zones, cultures, and nations (Kim *et al.*, 2019; Tsoukas, 1996). Hence, leveraging knowledge to obtain better employee performance and organizational competitive advantage is not an easy task.

Leonardi (2014, 2015) and Treem *et al.* (2020) have developed a theory of communication visibility to help understand these processes. Broadly, communication visibility can be defined to the extent to which users can make their behavior, knowledge, and network connections visible to others in the organizations (Treem and Leonardi, 2013). The nascent theory of communication visibility suggests that once invisible communication between others in the organization can become visible to third parties, who can benefit from this visibility (Leonardi, 2014). The theory articulates how communication visibility in an organization may improve understanding of who knows what (through *message transparency*) and who knows whom (through *network translucence*) (Leonardi, 2015), which may result in “more innovative products and services and less knowledge duplication if staff learn to work in new ways” (Leonardi, 2014, p. 811).

Increased visibility of organizational communication thus can provide substantial benefits. Communication visibility is a crucial requirement for the effective coordination and transfer of distributed knowledge, as this may improve organizational members’ awareness of others’ knowledge and even existence (Evans and Foster, 2011; Leonardi, 2015) and afford more efficient and effective ways of learning and working (Leonardi, 2014). Such metaknowledge and vicarious learning makes it easier for employees to make use of their

## Communication Visibility: Benefits and Drawbacks – 2

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3 coworkers' expertise because they become aware of what others know, who those others are,  
4 and how others are connected (Engelbrecht *et al.*, 2019; Lewis and Herndon, 2011; Leonardi,  
5 2014). Indeed, research demonstrates the beneficial implications of communication visibility  
6 for the availability and accuracy of meta-knowledge (Engelbrecht *et al.*, 2019), knowledge  
7 brokering activities (van Zoonen and Sivunen, 2020), or individual or organizational level  
8 innovation (Leonardi, 2014; Liang *et al.*, 2021). Furthermore, in the context of gamification  
9 of enterprise systems, the visibility of individual achievements can increase the quality and  
10 quantity of knowledge contributions (Suh and Wagner, 2017).  
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21 Organizational information and communication technologies (ICTs) in general and  
22 enterprise social media (ESM) in particular may be associated with various levels of  
23 communication visibility (Leonardi, 2014; Liang *et al.*, 2021; Rice *et al.*, 2017; Treem *et al.*,  
24 2020). For example, research has investigated the ways in which social media technologies  
25 may create resources for improved team and employee performance (Song *et al.*, 2019) and  
26 how (enterprise) social media use can facilitate knowledge sharing, vicarious learning,  
27 knowledge reuse, and work improvements through improved visibility – i.e., message  
28 transparency and network translucence (Yang *et al.*, 2021). However, this study does not  
29 focus on any specific organizational ICTs (e.g., knowledge management platforms, enterprise  
30 social media, or email); rather we are interested in the implications of the communication  
31 visibility afforded by organizational ICTs more generally (Rice *et al.*, 2017).  
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47 However, as with organizational knowledge sharing in general (Rice *et al.*, 2019),  
48 communication visibility may also be associated with or generate drawbacks. The increased  
49 availability and visibility of information and communication exert pressure to respond to and  
50 act upon that information (Mazmanian *et al.*, 2013; Stephens *et al.*, 2017), such as engaging  
51 in additional work through ICTs, possibly leading to communication overload. Overload  
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## Communication Visibility: Benefits and Drawbacks – 3

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3 seems to become a growing concern in society (and organizations) as we operate “under a  
4 more-faster-better philosophy” (Levy, 2009, p. 512).

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8 This study informs theorizing on communication visibility via ICTs in organizational  
9 contexts in several ways. First, generally we foster a greater understanding of how the  
10 increasingly visible nature of communication through ICTs may influence ways in which  
11 people work, and implications of that work. Second, this study heeds the call to refine the  
12 theory of communication visibility (Leonardi, 2014) by examining the two dimensions of  
13 communication visibility. Third, we assess their distinct direct influence on two mediators,  
14 vicarious learning, and technology-assisted supplemental work (TASW), and test their  
15 differential influences directly and indirectly on two outcomes, knowledge reuse and  
16 communication overload. Fourth, considering recent calls to further explore the dark sides of  
17 communication visibility (Chen *et al.*, 2020), we also seek to examine how the two  
18 dimensions of communication visibility in organizations may generate both direct and  
19 indirect benefits *and* drawbacks. Thus, we include both vicarious learning and knowledge  
20 reuse as potential benefits, and communication overload as a potential drawback (as mediated  
21 by TASW).

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### Theoretical Framework

This study builds on communication visibility theory to investigate several implications of message transparency and network translucence. Communication visibility theory proposes that when organizational ICTs make content and networks become more visible, observers can increase the amount and accuracy of their knowledge of who knows what (*message transparency*), and who knows whom (*network translucence*), respectively (e.g., Chen *et al.*, 2020; Engelbrecht *et al.*, 2019; Leonardi, 2014, 2015; Leonardi and Meyer, 2015). This improved individual knowledge represents a set of communication processes used to coordinate learning, retrieval, and application of knowledge (Mell *et al.*, 2014).

## Communication Visibility: Benefits and Drawbacks – 4

Specifically, message transparency may help organizational members learn from their coworkers' expertise and experience, while network translucence can help to promptly identify relevant contacts when solutions are required (Leonardi, 2015). In other words, communication visibility allows organizational members to use others' information and expertise by being able to be exposed to and become aware of it, and to locate and solicit it (Faraj and Sproull, 2000). However, communication visibility may have benefits and drawbacks, and operate both directly and indirectly through behavioral responses.

*Communication Visibility and Knowledge Reuse*

Leonardi (2014) argued that communication visibility may have benefits for organizational learning and performance. For instance, visibility may allow employees to avoid delays in work processes or prevent inaccurate decisions due to access to and reuse of existing knowledge, including knowledge generated in other contexts. Overall, the visibility of messages and connections creates access to an informal repository of existing knowledge and solutions that can be applied to prevent and solve both existing and new problems (Durcikova *et al.*, 2011). The ways in which existing knowledge or solutions are reused and brought to bear to the problem at hand is known as *knowledge reuse* (Choi *et al.* 2010; Durcikova *et al.*, 2011; Markus, 2001). Importantly, Chhim *et al.* (2017) differentiate knowledge reuse from similar terms like knowledge sharing and knowledge transfer by suggesting that knowledge reuse is about the application of existing knowledge, while 'knowledge transfer and knowledge sharing emphasize the movement of knowledge' (p. 742). Hence, knowledge reuse is about the process by which an entity can locate and apply existing knowledge (Chhim *et al.*, 2017; Markus, 2001).

Research has considered positive consequences of visibility, such as greater interpersonal trust (Cramton *et al.*, 2007), improved knowledge sharing (van Zoonen and Sivunen, 2020), and recombinant innovation (Leonardi, 2014), with sometimes inconsistent

## Communication Visibility: Benefits and Drawbacks – 5

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3 results. For instance, Zhao *et al.* (2020) studied ambient awareness, demonstrating that  
4 awareness of content (i.e., message transparency) was positively associated with improved  
5 knowledge sharing, while awareness of connections (i.e., network translucence) was not.  
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7 However, Chen *et al.* (2020) demonstrated that both message transparency and network  
8 translucence were positively related to knowledge sharing. Furthermore, they found that  
9 network translucence may have adverse effects indicated by a positive relationship with  
10 knowledge hiding, while this negative impact was not found for message transparency. Yang  
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12 *et al.* (2021) investigated how dimensions of communication visibility underlie work  
13 efficiency. In line with Zhao *et al.* (2020), they found differing effects of message  
14 transparency and network translucence, such that message transparency was a significant  
15 predictor of work efficiency, while network translucence was not. These studies have  
16 highlighted the ways in which communication visibility can be influenced by the  
17 transparency of messages sent, exchanged, retrieved, or observed within social systems  
18 (Jensen *et al.*, 2016), and provided insights into the implications of different dimensions of  
19 communication visibility.  
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38 However, evidence for a differential impact of transparency and translucence on  
39 knowledge reuse is more limited. In particular, studies have recognized the importance of  
40 communication visibility (without using that term) in fostering knowledge reuse (Choi *et al.*;  
41 2010; Majchrzak *et al.*, 2004). Knowledge reuse can lead to recombinant innovation, the  
42 combining of past knowledge in new ways (Hargadon, 2002; Leonardi, 2014). While Markus  
43 (2001) focuses primarily on knowledge producers and intermediaries making organizational  
44 knowledge available through knowledge repositories, her explication of the concept does  
45 explain how it involves both recall (source or access), and recognition (potential value of the  
46 information and how to apply it). However, typically few knowledge producers or  
47 intermediaries have sufficient incentives or resources to store or repurpose knowledge, and  
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## Communication Visibility: Benefits and Drawbacks – 6

intermediaries and secondary users may have problems in contextualizing and knowing how to adapt prior knowledge. While typically knowledge brokers (both formal and informal, whether individuals, groups, or organizations) are needed to help foster knowledge reuse for learning and innovation, communication visibility through ICTs can provide more opportunities for awareness of, access to, bridging domains of, learning how to apply, linking current problems to, and building new organizational networks benefitting from, such knowledge (Hargadon, 2002). Communication visibility provides one powerful way to overcome traditional impediments to innovation of interpersonal communication and knowledge of who knows what in large organizations.

Hence, we propose that knowledge reuse – i.e., adapting existing ideas and solutions to solve existing problems as well as new problems in a different context (e.g., Durcikova *et al.*, 2011; Hargadon, 2005; Markus, 2001) – is an important potential benefit of both transparency and translucence visibility. Thus,

**H1:** *a) Message transparency and b) network translucence are positively associated with knowledge reuse.*

### *Communication Visibility and Communication Overload*

Some researchers have started to explore dark sides of communication visibility, such as knowledge hiding (Chen *et al.*, 2020; Wei *et al.*, 2020), or strategic invisibility and ambiguity – for instance by setting your status to busy or offline, while you are actually not, or selectively sharing information (Gibbs *et al.*, 2013; Leonardi and Treem, 2012). Wei *et al.* (2020) suggested that communication visibility plays a “double edge role,” as it may both foster innovation and performance, as well as create overload and stifle performance. As the visibility of communication increases, more content and participant relationships (transparency and translucence) become available. Hence, organizational members may not only be exposed to much more information, but they also have more, and more immediate,

## Communication Visibility: Benefits and Drawbacks – 7

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3 obligations to respond to others, and process and provide information to others. In addition,  
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5 the transparency of others' communication and a more thorough understanding of  
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7 organizational networks may provide employees greater opportunities to both observe and  
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9 engage in such behavior. Thus, both message transparency and network translucence may  
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11 lead to communication overload in part because it creates a pressure to both process and act  
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13 upon that knowledge and engage in more connections (implications of new organizational  
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15 ICTs in general; Mazmanian *et al.*, 2013). Communication overload is defined by the rate and  
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17 complexity of communication inputs to an individual (Farace *et al.*, 1977). More specifically,  
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19 communication overload refers to the extent to which an employee perceives more quantity,  
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21 complexity, and/or equivocality in communication than the individual desires, needs, or can  
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23 handle at a given time (Cho *et al.*, 2011).  
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29 Stephens *et al.*'s communication overload model labels this the availability-  
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31 expectation-pressure pattern (2017, p. 269). In the context of hospital workers, Barrett *et al.*  
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33 (2021) found that awareness of others' communication increased perceptions of  
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35 communication overload. The authors suggested that the availability of knowledge and  
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37 information also comes with the expectations and pressure to reciprocate on that availability  
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39 by keeping one's knowledge of what others know up to date and maintaining their  
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41 organizational communication networks.  
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45 For instance, research suggests that access to others' knowledge and connections may  
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47 become so complex and diverse that it presents barriers to collaborate, and even generate  
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49 unproductive organizational behavior (Chen and Wei, 2019). From an information theory  
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51 perspective (Shannon and Weaver, 1949), information overload is seen as "a state induced by  
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53 a level of information exceeding the ability of an individual to assimilate or process during a  
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55 given unit of time" (Hunter, 2005, p. 91; Barrett *et al.*, 2021). The complexity and amount of  
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57 information may further lead employees to feel overloaded as those may exceed employees'  
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3 capacity to process and keep up with mounting information and communication streams  
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5 (Zhang *et al.*, 2016). Indeed, Leonardi (2014) also reported that “the sustained attention  
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7 necessary to cull information from coworkers’ communications required effort and control”  
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9 (p. 810). Based on an affordance perspective, others have offered similar conclusions about  
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11 the potential for information and communication overload (Islam *et al.*, 2020; Sun *et al.*,  
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13 2019).  
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17 Simply put, as much more content and connections become visible over time,  
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19 organizational members become exposed to more information (Chen and Wei, 2019), often  
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21 accompanied by stronger expectations and obligations to process and provide information  
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23 (Perlow, 2012). Accessibility creates a pressure to respond (Mazmanian *et al.*, 2013), and  
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25 increases a fear of missing out (Przybylski *et al.*, 2013), thus presenting more potential for  
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27 feeling overloaded.  
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31 **H2:** a) Message transparency and b) network translucence are positively related to  
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33 communication overload.  
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## 35 Behavioral Responses to Communication Visibility

### 36 Vicarious Learning and Knowledge Reuse

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38 The relationship between communication visibility and the reuse of knowledge might  
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40 not be straightforward for all organizational members, however. For instance, Leonardi  
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42 (2014) argued that communication visibility was particularly helpful to organizational  
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44 members who shifted their approach to learning from experiential learning to vicarious  
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46 learning. Vicarious learning entails learning from others’ experiences, as opposed to learning  
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48 through one’s own experiences. Vicarious learning allows employees to learn from the  
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50 successes and failures of others (Kc *et al.*, 2013), contributes to a faster learning curve,  
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52 reduces inefficiency, improves quality (Bledow *et al.*, 2017; Sun *et al.*, 2020), and facilitates  
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54 recombinant innovation (Leonardi, 2014). Sun *et al.* (2020) explain that metaknowledge (cf.  
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## Communication Visibility: Benefits and Drawbacks – 9

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3 communication visibility) affects the relevant subprocesses of vicarious learning – i.e.,  
4 attention, retention, production, and motivation. Through being more able to observe  
5 information by third parties (for example, written messages and shared media) and  
6 communicate with experts in the organization (for example, through a better understanding of  
7 communication networks in the organization), employees can learn, which may allow them to  
8 avoid the costs of prior mistakes, and reuse valuable knowledge and solutions (Markus,  
9 2001).

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Indeed, vicarious learning has long been considered a valuable process for innovation and performance (Manz and Sims, 1981; Myers, 2020). Following similar reasoning, we suggest that organizational members could learn vicariously from others by observing their knowledge and networks (Leonardi, 2014), consequentially enabling knowledge and solutions to be reused across problems and contexts. Hence:

**H3:** *The positive relationships between a) message transparency and b) network translucence with knowledge reuse are positively mediated by vicarious learning.*

### *Technology-Assisted Supplemental Work and Communication Overload*

The extent to which communication visibility may increase overload is also likely to depend on how employees use ICTs to act upon increasingly visible messages and networks. Research has repeatedly demonstrated that organizational ICTs may strengthen expectations for accessibility and response time (Mazmanian *et al.*, 2013), pressures to process and act upon the communication that is made visible (Stephens *et al.*, 2017), technostress (Khan and Mahapatra, 2017), telepressure (Barber *et al.*, 2015), and communication overload (Chen and Wei, 2019; Sun *et al.*, 2020). Stich *et al.* (2015) analysed four categories of demands associated with ICTs: expectations for rapid response, ongoing availability, greater workload, and less effective communication. They showed how each of the four demands was

## Communication Visibility: Benefits and Drawbacks – 10

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3 associated with various outcomes, both positive and negative; for example, greater response  
4 expectations may increase pressure but also improve performance outcomes.  
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8 Several studies have demonstrated that (enterprise) social media could lead to various  
9 types of overload including system feature overload, information overload, and social  
10 overload (Guo *et al.*, 2020; Karr-Wisniewski and Lu, 2010; Zhang *et al.*, 2016). Similar to  
11 information overload research in general, in the context of social media use and information  
12 overload, Fu *et al.* (2020) demonstrated that user performance first seems to increase, but  
13 then decreases as the amount of available information increases. In addition, Sun *et al.* (2020)  
14 note that communication visibility may lead to excessive uses of enterprise social software.  
15 The authors argue that communication visibility increases the social, information, and  
16 hedonic value of the platform, leading users to excessively engage with the platform at work.  
17 Building on these findings, we suggest that the availability of knowledge may lead to  
18 communication overload, through the intervening need by workers to increase their efforts of  
19 keeping up with the complexity and volume of information through ICTs.  
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35 More specifically, the availability of information and ICTs increases the likelihood of  
36 technology-assisted supplemental work (TASW) (Rice, 2017; Venkatesh and Vitalari, 1992).  
37 TASW refers to distributed work conducted outside regular work times and locations through  
38 organizational ICTs (Fenner and Renn, 2010). Specifically, TASW involves performing “role  
39 prescribed tasks at home after regular work hours with the aid of technological tools” (Fenner  
40 and Renn, 2010, p. 63). Research on TASW has suggested that the number of employees  
41 engaging in TASW is steadily increasing as technologies increase the temporal and spatial  
42 flexibilities of work (e.g., Eisenberger *et al.*, 2021; 2022)  
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54 There are several reasons for this assumption. First, there is a need to proactively  
55 engage with the visible information as the complexity and volume of knowledge and  
56 information requires workers to expand more resources (e.g., time and effort [possibly  
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## Communication Visibility: Benefits and Drawbacks – 11

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3 through supplemental work]) to make sense of, and act on, this knowledge. Leonardi (2014)  
4 argued that communication visibility may trigger behavioral changes including proactive  
5 behaviors. Organizational members may feel a responsibility to keep up with the  
6 communication that is made visible to an extent that it may incentivize employees to extend  
7 their work practices after hours. Second, communication visibility creates opportunity. More  
8 communication visibility may make it easier to determine how to interact with other  
9 knowledge seekers and providers in the organization (Chen *et al.*, 2020). This could enable  
10 organizational members to engage in supplemental work practices outside regular work times  
11 and spaces.  
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24 Finally, the availability of information and communication may create pressure from  
25 an internal role modeling and competition standpoint. Duranova and Ohly (2015) suggested  
26 that organizational ICTs may also contribute to TASW because organizational members may  
27 *see* similar behaviors by important social referents. Seeing the knowledge and networks of  
28 others may incentivize an organizational member to increase their knowledge and network  
29 base as well. Al-Madi *et al.* (2017) described this motivational factor using a sport analogy:  
30 “where people running together will run faster than when running alone or running without  
31 the awareness of the pace of other runners.” Hence, we suggest that the assumed relationship  
32 between communication visibility and communication overload is partly obtained by the  
33 extent to which dimensions of communication visibility lead to TASW. Hence,  
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46 **H4:** *The positive relationships between a) message transparency and b) network*  
47 *translucence with communication overload are positively mediated by technology-assisted*  
48 *supplemental work.*  
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54 Figure I portrays the hypothesized model.

55 --Figure I--  
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58 **Methods**  
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### *Sample and Procedure*

Data were collected at a global company operating in the industrial machinery sector. The company operates in over one hundred countries worldwide and supports their clients in optimizing cargo flows. They do so specifically by integrating intelligence and supporting digital transformations to better collaborate in daily operations and remotely support various cargo flows at sea, in ports, and on roads. Employees rely on various ICTs to communicate and coordinate work across spatial and temporal boundaries. The company was approached by the researchers because the global nature of their operations and their recent investments in ICTs to support work process were particularly interesting to our investigation into issues related communication visibility.

By the end of 2019 the company, headquartered in one of the Nordic countries, employed approximately 12,500 employees of which 8834 were office (white collar) workers. This includes software developers, project managers, finance experts, information management, and (sales) consultants. Since their work might be especially affected by varying degrees of communication visibility, these workers were approached to participate. The study was announced through internal communication channels, but respondents were invited through individual emails sent by the authors of the study. No compensation was offered for participating in the study. A total of 1456 employees participated in the study, but after removing incomplete surveys and respondents that failed at least one of the attention checks the final sample size was 1127. This gives a response rate of 12.8%.

The average age of the respondents was 43.9 years old ( $SD = 10.22$ ) and the majority of the respondents were male 71.7% ( $n = 808$ ) against 28.3% female respondents ( $n = 319$ ). The respondents worked 39.35 hours on average per week ( $SD = 11.05$ ) divided over 4.48 workdays. The average organizational tenure was 7.58 ( $SD = 8.57$ ). Subsequently, potential differences between the employees in our sample ( $N=1127$ ) and those who were not

## Communication Visibility: Benefits and Drawbacks – 13

(N=7708) were investigated using the company's human resource data. Employees in the sample were slightly older compared to the non-respondents ( $M = 43.94$   $SD = 10.22$  vs.  $M = 41.35$ ,  $SD = 10.90$ ;  $t = -7.881$ ,  $p < .001$ ). Respondents did not differ from the sample in terms of organizational tenure ( $M_{\text{respondent}} = 7.58$   $SD = 8.57$ ;  $M_{\text{non-respondents}} = 7.55$ ,  $SD = 8.17$ ;  $t = -0.088$ ,  $p = .930$ ) and average work hours per week ( $M_{\text{respondent}} = 39.35$   $SD = 11.05$ ;  $M_{\text{non-respondents}} = 39.51$ ,  $SD = 9.50$ ;  $t = 0.531$ ,  $p = .595$ ). Gender distributions (Male 71.7% and Female 28.3% vs. Male 77.5% and Female 22.5%;  $\chi^2 = 18.69$ ,  $p < .001$ ) indicate some difference.

### Measures

Table I provides an overview of all measurement items and the corresponding means, standard deviations, factor loadings, explained variances, and standard errors.

--Table I--

### Explanatory

Communication visibility refers to perceived message transparency and network translucence facilitated by organizational ICTs (Leonardi, 2014, 2015). *Message transparency* was measured using three items adopted from van Zoonen and Sivunen (2020). A sample item is "I see what others are working on based on the information they exchange."

*Network translucence* was also measured using three items derived from van Zoonen and Sivunen (2020). Sample items include, "I can see who my colleagues are connected with based on the information they share." Response options were anchored with (1) strongly disagree to (7) strongly agree.

### Behavioral Mediators

*Vicarious learning* is broadly defined as learning from the experience of others, as distinct from learning through one's own experience (experiential learning). Hence, vicarious learning refers to a process of individual belief and behavior change that occurs through

## Communication Visibility: Benefits and Drawbacks – 14

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3 being exposed (via observing or hearing) to, and making meaning of, another's experience  
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5 (Myers, 2018). We adopted five items from Bresman (2010, 2013) to measure vicarious  
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7 learning activities. Sample items include "I observe the work of others to extract lessons to be  
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9 applied to the task." Responses were anchored with (1) strongly disagree to (7) strongly  
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11 agree.  
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15 *Technology-assisted supplemental work (TASW)* was measured adopting the TASW  
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17 measure from Fenner and Renn (2010). TASW refers to the extent to which employees  
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19 engage in the completion of substantial work tasks through ICTs outside their regular work  
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21 hours, such as on evenings or weekends, or locations, such as at home. Sample items include:  
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23 "I feel organizational ICTs are helpful in enabling me to work at home at nights or on  
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25 weekends." Respondents were asked to indicate the frequency with which they engaged in  
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27 these work practices, ranging from (1) never to (5) always.  
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### 30 *Work Outcomes*

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33 *Knowledge reuse* refers to the ways in "which existing knowledge is brought to bear  
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35 on the problem at hand" (Choi *et al.*, 2010, p. 858; Durcikova *et al.*, 2011). Knowledge  
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37 application requires knowledge to be adapted and previously developed solutions to be  
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39 applied (Durcikova *et al.* 2011). We measured knowledge reuse using five items adopted  
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41 from Choi *et al.* (2010) (representing what they called "knowledge application") and  
42  
43 Durcikova *et al.* (2011) (representing what they called "solution reuse"). Sample items  
44  
45 include "I apply knowledge I previously acquired through observation of others' online  
46  
47 messages to solve new problems" and "When I solve problems I often rely on existing  
48  
49 solutions." Responses were anchored with (1) strongly disagree to (7) strongly agree.  
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54 *Communication overload* refers to the extent to which the amount of communication  
55  
56 becomes overwhelming. We adopted the four-item scale from Karr-Wisniewski and Lu  
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58 (2010). Sample items include: "I often find myself overwhelmed because technology has  
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## Communication Visibility: Benefits and Drawbacks – 15

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3 allowed too many others to have access to my time.” Responses were anchored with (1)  
4  
5 strongly disagree to (5) strongly agree.  
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*Analysis*

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10 Structural equation modelling (SEM) was used to test the hypothesized model. To  
11 gauge model fit, several fit indices were assessed. Two incremental fit indices are used: The  
12 Tucker-Lewis Index (TLI) and the Comparative Fit Index (CFI). Model fit indices of  $> .95$   
13 indicate good model fit. Two absolute fit indices are examined: a standardized version of the  
14 root mean squared residual (SRMR) and the root mean square of approximation (RMSEA),  
15 with cut-off values of  $\leq 0.08$  and  $\leq 0.05$ , respectively, which indicate a close model fit (Hu  
16 and Bentler, 2009). In addition, the  $\chi^2$  statistic is reported. To estimate model parameters and  
17 corresponding confidence intervals 5,000 bootstrap samples were extracted from the data.  
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28 We note the potential threat of common method variance due to the single sourced  
29 data, however, Harman’s Single Factor test indicated that one factor explained only 24.5% of  
30 the total variance. Furthermore, we examined the shared variance among observed variables  
31 using a common latent factor analysis. This test indicated that the squared unstandardized  
32 factor loading (.256) of the common latent factor is .066. Hence, common method variance is  
33 not a major issue in our data.  
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**Results***Measurement Model*

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46 A confirmatory factor analysis was conducted to assess validity and reliability of the  
47 measurement model. The model fitted the data well:  $\chi^2(234) = 731.78$ ; CFI = .98; TLI = .97;  
48 SRMR = .04, PClose = .999, and RMSEA = .043 (CI: .040, .047). The composite reliabilities  
49 (CR: ranging between .85 and .93) and the maximum reliability (MaxR[H]: ranging between  
50 .86 and .97) are all above the suggested threshold of .70 (Hair *et al.*, 2010). Validity was  
51 assessed by examining the average variance extracted (AVE) and the maximum shared  
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variance (MSV) between constructs. The AVE's ranged between .59 and .74, all above the suggested .50 threshold. Discriminant validity is indicated when the square root of the AVE is greater than the inter-construct correlations (MSV); here the MSV ranged between .03 and .36 (see Table II). Hence, the measurement model demonstrates adequate reliability and validity, thus justifying further inspection of the structural model.

--Table II--

### *Structural Model*

In the analysis we controlled for age, gender, work hours and organizational tenure. Including these variables demonstrated that age was significantly and positively related to TASW ( $B = .010$ ,  $SE = .003$   $p = .002$ ). In addition, gender demonstrated a negative relationship with knowledge reuse ( $B = -.261$ ,  $SE = .071$   $p < .001$ ) suggesting female respondents were more likely to engage in knowledge reuse. Finally, organizational tenure was positively related to communication overload ( $B = .012$ ,  $SE = .003$   $p < .001$ ). Work hours was not significantly related to any of the variables in the model. Notably, the inclusion of these variables did not affect the relationships in the model. The results below are drawn from the model without the control variables as a) there is no strong theoretical basis for the inclusion of these variables (Spector and Brannick, 2011) and b) the model without these variables is a more parsimonious model.

The retained structural model fitted well to the data:  $\chi^2 (235) = 757.95$ ;  $CFI = .97$ ;  $TLI = .97$ ;  $SRMR = .04$ ,  $PClose, .995$ , and  $RMSEA = .044$  (CI: .041, .048). Table III provides standardized and unstandardized coefficients of hypothesis testing; the text below reports unstandardized coefficients. Figure II provides the standardized solutions for the hypothesized model.

--Table III--

--Figure II--

## Communication Visibility: Benefits and Drawbacks – 17

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*Direct Effects (H1, H2).* H1 proposed that improved communication visibility (H1a transparency and H2b translucence) is positively related to knowledge reuse. While message transparency is not directly related to knowledge reuse ( $B = .070$  CI95% [-.035; .183],  $p = .194$ ), network translucence is significantly and positively related to knowledge reuse ( $B = .422$  CI95% [.312; .529],  $p = .001$ ).

H2 proposed that improved communication visibility is positively related to communication overload. While message transparency is directly related to overload ( $B = .077$  CI95% [.002; .159],  $p = .042$ ) (H2a), network translucence is also significantly related to communication overload ( $B = -.127$  CI95% [-.204; -.049],  $p = .001$ ) but in the opposite direction as hypothesized (H2b).

*Indirect Effects (H3, H4).* Message transparency is significantly and positively related to vicarious learning ( $B = .134$  CI95% [.016; .258],  $p = .023$ ); however, network translucence is not ( $B = .023$  CI95% [-.096; .143],  $p = .667$ ). Furthermore, vicarious learning is positively related to knowledge reuse ( $B = .134$  CI95% [.072; .196],  $p < .001$ ). Hence, there is a significant positive indirect relationship between message transparency and knowledge reuse through vicarious learning ( $B = .018$  CI95% [.003; .040],  $p = .015$ ). However, the indirect effect of network translucence on knowledge reuse through vicarious learning is not significant ( $B = .003$  CI95% [-.002; .021],  $p = .639$ ). These findings support the reasoning reflected in H3a, but not H3b.

H4 suggests that improved communication visibility may be related to communication overload through TASW. Message transparency is significantly and positively related to TASW ( $B = .142$  CI95% [.047; .237],  $p = .006$ ), but network translucence is not ( $B = .025$  CI95% [-.074; .126],  $p = .650$ ). TASW, in turn, is positively related to communication overload ( $B = .174$  CI95% [.121; .228],  $p < .001$ ). This implies a significant positive indirect effect for message transparency on communication overload

## Communication Visibility: Benefits and Drawbacks – 18

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3 through TASW ( $B = .025$  CI95% [.008; .045],  $p = .005$ ), but not for network translucence ( $B$   
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for hypothesis 4b.

### Discussion

The results demonstrate that different aspects of communication visibility (transparency and translucence) yield benefits and drawbacks in terms of knowledge reuse and communication overload, through vicarious learning and supplemental work practices. These findings are important because they further inform and refine emergent theorizing on communication visibility. The findings demonstrate that message transparency is primarily indirectly related to knowledge reuse and overload to the extent that message transparency facilitates, or promotes, vicarious learning and TASW. Network translucence directly impacts knowledge reuse and communication overload, but does not trigger vicarious learning or TASW. Though much research on communication visibility chronicles the potential benefits of such visibility (Liang *et al.*, 2020; van Zoonen and Sivunen, 2020), these findings remind us that message transparency and network translucence are not uniformly beneficial as they may promote supplemental work processes and could contribute to communication overload (Chen and Wei, 2019).

#### *Theoretical Implications*

We seek to make several contributions to the burgeoning research on communication visibility in organizations by examining the benefits and drawbacks of communication visibility (message transparency and network translucence). By quantitatively confirming some of the tenets of the emerging theory of communication visibility (Leonardi, 2014, 2015), this study demonstrates that the relationship between message transparency and knowledge reuse is partially mediated through vicarious learning. These findings are in line with the notion that improved metaknowledge may lead to knowledge reuse at an

## Communication Visibility: Benefits and Drawbacks – 19

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2  
3 organizational level. Our findings demonstrate that individual level manifestations of  
4  
5 knowledge and solution reuse can be ascribed directly to network translucence and both  
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7 directly and indirectly to message transparency through vicarious learning. These findings  
8  
9 provide a refined understanding of the implications of communication visibility for potential  
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11 knowledge application and (re)use in organizations.  
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15 Interestingly, knowledge of organizational communication networks – i.e., network  
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17 translucence – is directly related to knowledge reuse, without mediation by vicarious  
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19 learning. Knowing how organizational members are interlinked (network translucence) could  
20  
21 help one understand through whom (including cross-boundary relationships) diverse and  
22  
23 even peripheral knowledge is available. Thus, one might become more aware of the potential  
24  
25 for re-using and adapting ideas and solutions from contexts outside one's own. Further,  
26  
27 network translucence could facilitate following up on those interrelated paths, by means of  
28  
29 providing initial “social lubrication” (Leonardi and Meyer 2015), which makes it easier for  
30  
31 one to contact otherwise unknown others for suggestions and resources. These findings  
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33 highlight the importance of distinguishing between different aspects of communication  
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35 visibility.  
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41 We also contribute to recent efforts by scholars to develop a greater understanding of  
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43 the potential drawbacks of communication visibility (Chen *et al.*, 2020), such as increased  
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45 supplemental work through technology, and communication overload (Chen *et al.*, 2020; Sun  
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47 *et al.*, 2020). Our study generates a greater understanding of the mechanisms through which  
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49 message transparency and network translucence may increase overload. We demonstrated  
50  
51 that message transparency triggers overload in part to the extent that it first triggers TASW.  
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53 Although supplemental work is not inherently good or bad, these work practices triggered  
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55 especially by message transparency may in turn contribute to communication overload.  
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58 Hence, we suggest that being able to see others' communication creates both a need and an  
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## Communication Visibility: Benefits and Drawbacks – 20

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3 opportunity to extend work practices after hours and outside the office as the visibility of this  
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5 communication may facilitate competitive motivations, but also increases the criteria for  
6  
7 satisfactory performance and responsiveness, both to co-workers and to clients (Mazmanian  
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9 *et al.*, 2013). Seeing the expertise and knowledge of others, as well as the activities other  
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11 organizational members are engaging in, may motivate one to do the same, in particular  
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13 through TASW. Thus, the findings confirm the availability-pressure hypothesis proposed by  
14  
15 Stephens *et al.* (2017) for message transparency, albeit not for network translucence.  
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19         Interestingly, the translucence of networks seems to *reduce* communication overload.  
20  
21 Arguably, knowing how organizational communication networks are organized may help  
22  
23 employees to exchange information more efficiently, thereby reducing perceptions of  
24  
25 overload rather than increasing them. It may also be the case that knowing who else may  
26  
27 have necessary resources could reduce the pressure on one to seek out those resources  
28  
29 themselves, a central argument in transactive memory systems theory (Ren and Argote,  
30  
31 2011). This suggests that a better understanding of organizational communication networks  
32  
33 may counteract the direct and indirect impact of message transparency on perceived  
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35 communication overload.  
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40         In summary, the results indicate that the transparency of messages may have less  
41  
42 unequivocal consequences depending on the extent to which it triggers vicarious learning and  
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44 TASW. Interestingly, again in contrast to earlier findings by Zhao *et al.* (2020) and Yang *et*  
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46 *al.* (2021), the direct influence of message transparency on both knowledge reuse and  
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48 overload is less than the direct influence of network translucence. Furthermore, the results  
49  
50 demonstrate that network translucence has primarily direct consequences (irrespective of  
51  
52 vicarious learning and TASW) by way of the above direct negative impact on overload as  
53  
54 well as a direct positive impact on knowledge reuse. These findings are especially interesting  
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## Communication Visibility: Benefits and Drawbacks – 21

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3 considering that recent studies were unable to confirm a positive impact of network  
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5 translucence on knowledge sharing (Zhao *et al.*, 2020) or work efficiency (Yang *et al.*, 2021).  
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7  
8 *Practical Implications*  
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10 From a pragmatic perspective the findings have several implications. Our results  
11  
12 partially challenge organizational efforts to push for improved communication visibility in  
13  
14 anticipation of uniformly beneficial outcomes.  
15

16  
17 First, we provide a more nuanced understanding of the implications of the two  
18  
19 dimensions of communication visibility for outcomes. Organizations seeking to enhance  
20  
21 communication visibility to contribute to organizational learning and performance objectives  
22  
23 should be wary of potential drawbacks of improved communication visibility, due partially to  
24  
25 escalating pressure for continual and rapid engagement (Chen and Wei, 2019; Mazmanian *et*  
26  
27 *al.*, 2013). Our study adds that these drawbacks are mostly associated with message  
28  
29 transparency. It may not, in the long run, be completely beneficial to expose everyone to  
30  
31 everyone else's work content and progress.  
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34  
35 In contrast, network translucence seems to have mostly positive consequences,  
36  
37 increasing knowledge reuse while reducing overload. As such, organizations adopting  
38  
39 strategies to facilitate communication visibility should focus on enhancing organizational  
40  
41 members' understanding of the relevant communication networks in the organizations and  
42  
43 expand efforts to mitigate the potentially negative impact of increased message transparency.  
44  
45 Acknowledging the potential pitfalls of increased visibility may prove to be a valuable  
46  
47 intervention to reduce the drawbacks of visibility as it may help in developing a norm to  
48  
49 break availability-expectation-pressure patterns (Mazmanian *et al.*, 2013; Stephens *et al.*,  
50  
51 2017). Many of the organizational ICTs that facilitate communication visibility, including  
52  
53 enterprise social media, also afford ways to manage and limit different aspects of visibility  
54  
55 while emphasizing others. For instance, notifications could be set to focus on communicating  
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## Communication Visibility: Benefits and Drawbacks – 22

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3 who interacted with whom, rather than what was communicated between users. Online  
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5 communities can provide quick overviews of active members without a need to make all  
6  
7 communication within the community visible. Content moderation on knowledge sharing  
8  
9 platforms or social media can contribute to mitigating the potential for information to become  
10  
11 overwhelming by pinning certain contributions or solution, archiving and organizing content.  
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14  
15 Second, this study has demonstrated two important behavioral responses to  
16  
17 communication visibility that partly or fully explain the implications for knowledge reuse and  
18  
19 overload: vicarious learning and TASW. Interestingly, these changes are triggered by  
20  
21 transparency, but not by translucence (as translucence directly impacts knowledge reuse and  
22  
23 while directly reducing overload). Hence, facilitating an understanding of others' knowledge  
24  
25 in organizations might trigger both benefits and drawbacks. Of increasing importance in  
26  
27 organizations is to help employees manage their connectivity behaviors. With increased  
28  
29 flexibility over work times, global work contexts, remote work, and social distancing,  
30  
31 employees may find themselves in a difficult position of trying to maintain sufficient and  
32  
33 expected connection with their coworkers and organizations while trying to avoid  
34  
35 supplemental work and overload. The visibility of others' knowledge may further exacerbate  
36  
37 employees' efforts in an attempt to make their work and knowledge visible to others  
38  
39 potentially at the cost of increased supplemental work and consequentially increased  
40  
41 communication overload. In turn, improved translucence contributes to a better  
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43 understanding of where and how to solicit help from coworkers, contributing to a better  
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45 organizational support system.  
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#### 50 51 *Limitations and Future Research*

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53 Several limitations of the study need to be acknowledged. First, the cross-sectional  
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55 and single sourced data limits our opportunities to draw stronger causal conclusions. Future  
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57 research may address this limitation by drawing on longitudinal research designs and using  
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## Communication Visibility: Benefits and Drawbacks – 23

behavioral trace data to explore what communication has become visible in which ways.

Additionally, such a research design might provide greater insights into the conditions under which communication visibility and organizational ICT use might lead to TASW and communication overload.

Second, we measured the extent to which others' knowledge and connections were visible to our respondents. Future research could also include measures to evaluate the accuracy or usefulness of the knowledge employees may perceive through or obtain from visible communication. Arguably, the value of knowledge is more important to organizational learning outcomes than is its visibility per se. However, knowledge must be visible before it can be evaluated. Further, visibility, availability, and the pace of information might more strongly affect perceptions of overload than would accuracy of that information. The value of that shared knowledge can also be affected by recipient's perceived novelty of and confidence in the shared knowledge (Nair *et al.*, 2021).

Third, of course, the extent and implications of knowledge sharing are affected by a wide variety of other factors (Rice *et al.*, 2019). Two examples include the social context (e.g., support or conflict) with one's co-workers (Kim, 2020), or the sphere of visibility; Sedighi *et al.* (2018) reported that group-level sharing facilitated greater quality and quantity of knowledge sharing than at private or public organizational levels.

Finally, although this study contributes to communication visibility theory, "a good deal of work is needed to refine this theory" (Leonardi, 2014, p. 814). The findings confirm some of the positive implications of communication visibility for organizational learning and knowledge reuse but also point to drawbacks of visibility such as communication overload. Such drawbacks warrant further attention. For instance, we acknowledge that some researchers have explored dark sides of communication visibility suggesting that employees may choose to actively hide knowledge. Indeed, several studies on organizational innovation

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2  
3 have pointed to the importance of secrecy and ‘bootlegging’ for the generation and  
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5 development of creativity and innovation (Criscuolo, et al., 2014; Donada, et al., 2021;  
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7 Globocnik and Salomo, 2015). Individuals exploring uncharted territories in their attempt  
8  
9 to come up with creative ideas or innovative solutions benefit from keeping their initial  
10  
11 efforts under the radar as this could delay scrutiny and assessment of embryonic ideas and  
12  
13 allow them to develop in ‘secrecy’ (Criscuolo, et al., 2014). This would suggest that in the  
14  
15 context of innovation future work could further explore the dark sides of communication  
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17 visibility for creative performance and innovation in organizations.  
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### 21 *Conclusion*

22  
23 The findings of this study provide novel and important insights in the ways in which  
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25 communication visibility may have consequences for the ways in which work is conducted,  
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27 and outcomes associated with that work in highly visible work environments. Hence, the  
28  
29 study provides important refinements of the proposed theory of communication visibility  
30  
31 (Leonardi, 2014) and generates actionable insights for organizations that seek to streamline  
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33 the application of organizational ICTs aimed at improving communication visibility. This  
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35 study underscores both benefits and drawbacks of message transparency and network  
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37 translucence.  
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## Benefits and Drawbacks of Communication Visibility– 25

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## Benefits and Drawbacks of Communication Visibility– 35

**Table I**  
*Measurement Model*

Item	M (SE)	R <sup>2</sup>	St. Factor loading	Unst. Factor loading <sup>a</sup>	Se
<b>Message transparency</b>					
<i>I can see content that is shared among my colleagues even though I am not the designated recipient</i>	2.79 (1.17)	.66	.815	1.000 <sup>b</sup>	--
<i>I can see the content of messages that are shared amongst others</i>	2.69 (1.19)	.78	.885	1.104	.04
<i>I can see what others are working on based on the information they exchange on ESM</i>	2.83 (1.13)	.50	.704	0.834	.03
<b>Network translucence</b>					
<i>I can see who my colleagues are connected to on ESM</i>	2.35 (1.15)	.66	.815	1.000 <sup>b</sup>	--
<i>I can see who my colleagues are connected to, based on who they mention in online interactions</i>	2.49 (1.14)	.87	.933	1.135	.03
<i>I can see who others know based on the information they share</i>	2.63 (1.11)	.70	.839	0.962	.03
<b>Vicarious Learning</b>					
<i>I go out to gather information regarding who to contact for advice about how to complete the task</i>	5.03 (1.43)	.25	.499	1.000 <sup>b</sup>	--
<i>I observe the work of others to extract lessons to be applied to the task</i>	5.15 (1.33)	.30	.547	1.016	.05
<i>I invite people, beyond my direct colleagues, to discuss how to avoid repeating past mistakes</i>	4.91 (1.51)	.77	.880	1.861	.11
<i>I talk to people, beyond my direct colleagues, about past failures to determine ways of improving the work process</i>	4.90 (1.55)	.87	.934	2.026	.11
<i>I reflect on what has worked in the past together with other people, beyond my direct colleagues, who have experience from similar tasks</i>	5.11 (1.40)	.75	.863	1.1683	.10
<b>Technology-assisted supplemental work</b>					
<i>When I fall behind in my work during the day, I work hard at home at night or on weekends to catch up by using my smartphone or computer</i>	2.47 (1.16)	.79	.890	1.000 <sup>b</sup>	--
<i>I perform job-related tasks at home at night or on weekends using my smartphone or computer</i>	2.58 (1.23)	.85	.922	1.094	.03
<i>I feel my smartphone or computer is helpful in enabling me to work at home at nights or on weekends</i>	3.01 (1.42)	.62	.785	1.079	.03
<i>When there is an urgent issue or deadline at work, I tend to perform work-related tasks at home during the night or on weekends using my smartphone or computer</i>	2.68 (1.29)	.74	.859	1.065	.04
<b>Knowledge reuse</b>					
<i>The majority of problems I deal with can be solved by applying previously developed solutions I read about on ESM<sup>c</sup></i>	3.74 (1.48)	.60	.777	1.000 <sup>b</sup>	--
<i>I apply knowledge obtained from observations on ESM<sup>d</sup></i>	3.40 (1.67)	.68	.826	1.198	.04
<i>I use knowledge I previously acquired through observation of others' conversations on ESM to solve new problems<sup>d</sup></i>	3.33 (1.60)	.90	.947	1.339	.04
<i>I apply knowledge I previously acquired through observation of others' messages on ESM to solve new problems<sup>d</sup></i>	2.82 (1.49)	.94	.968	1.344	.04
<i>When I solve problems, I often rely on existing solutions I read about on ESM<sup>c</sup></i>	3.49 (0.07)	.59	.767	0.994	.02
<b>Communication overload</b>					
<i>I feel that in a less connected environment, my attention would be less divided allowing me to be more productive</i>	3.15 (1.12)	.53	.729	1.000 <sup>b</sup>	--
<i>I often find myself overwhelmed because technology has allowed too many other people to have access to my time</i>	3.03 (1.17)	.74	.858	1.221	.05
<i>I waste a lot of my time responding to work-related messages that are not directly related to what I need to get done</i>	3.03 (1.23)	.57	.757	1.136	.05
<i>The availability of electronic communication has created more of an interruption than it has improved communications</i>	2.65 (1.16)	.52	.721	1.022	.05

<sup>a</sup> All factor loadings are significant at  $p < .05$  <sup>b</sup> Unit loading indicator constrained to 1 <sup>c</sup> Items adopted from Durcikova *et al.* (2011); original items are intended to measure "solution reuse." <sup>d</sup> Items adapted from Choi *et al.* (2010); original items are intended to measure knowledge application within teams.

**Table II**  
*Descriptive Statistics and Factor Correlation Matrix with Validity Statistics*

Variable	M (SD)	CR	AVE	MSV	Max R(H)	Max											
						1	2	3	4	5	6	7	8	9			
1 Message transparency	2.77 (1.01)	.85	.65	.36	.87	<b>.81</b>											
2 Network translucence	2.49 (1.03)	.90	.75	.36	.92	.60	<b>.86</b>										
3 Vicarious learning	5.02 (1.18)	.87	.59	.03	.93	.11	.08	<b>.77</b>									
4 TASW	2.69 (1.15)	.92	.75	.05	.93	.14	.10	.18	<b>.87</b>								
5 Knowledge reuse	3.24 (1.41)	.93	.74	.15	.97	.28	.38	.18	.10	<b>.86</b>							
6 Communication overload	2.97 (0.97)	.85	.59	.05	.86	.04	-.07	.03	.22	-.12	<b>.77</b>						
7 Age	43.94 (10.22)	-	-	-	-	-.08	-.17	-.03	.07	-.10	.08	-					
8 Tenure	8.46 (8.81)	-	-	-	-	-.02	-.09	-.06	.03	-.08	.13	.49	-				
9 Gender <sup>a</sup>	0.72 (0.45)	-	-	-	-	.01	-.05	.02	.02	-.11	.07	.15	.18	-			
10 Work hours	39.35 (11.05)	-	-	-	-	.02	.03	-.02	-.01	.01	-.04	-.06	-.01	.02			

Notes: CR = Composite Reliability; AVE = Average Variance Extracted; MSV = Maximum Shared Variance; MaxR(H) = Maximum Reliability. Square Root of the AVE is reported on the diagonal. <sup>a</sup> gender was coded (0) female (1) male.

Journal of Knowledge Management

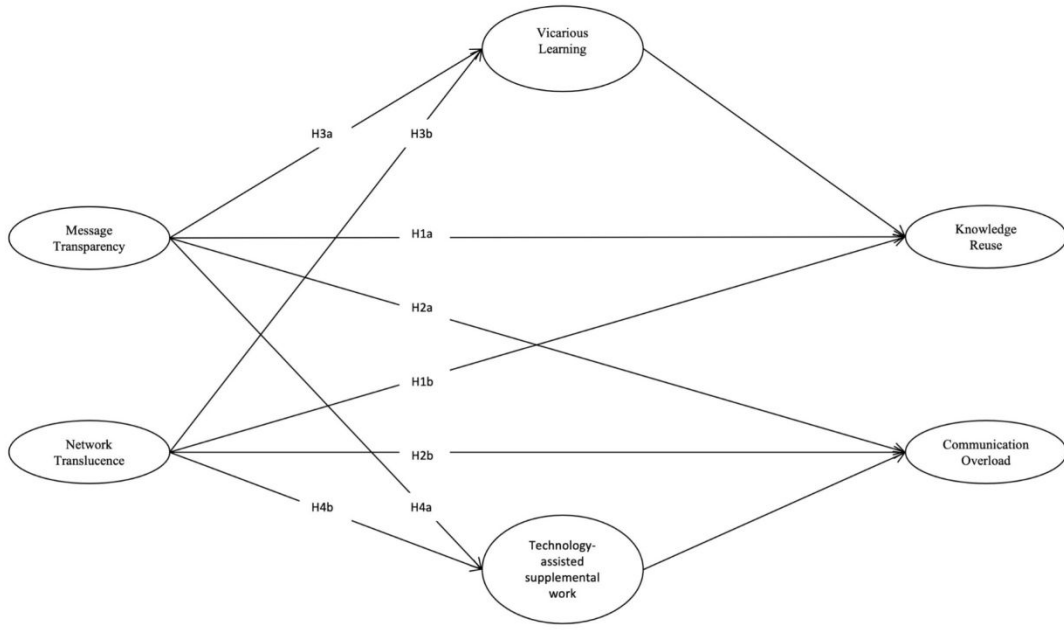
## Communication Visibility: Benefits and Drawbacks – 37

**Table III**  
*Standardized and Unstandardized Coefficients for Regression Model*

		BC 95% CI					
		<i>Beta</i>	<i>SE</i>	<i>B</i>	<i>Lower</i>	<i>Upper</i>	<i>p</i>
<i>Direct effects</i>							
<i>H1a</i>	Message transparency → knowledge reuse	.058	.046	.070	-.035	.183	.194
<i>H1b</i>	Network translucence → knowledge reuse	.331	.040	.422	.312	.529	.001
<i>H2a</i>	Message transparency → communication overload	.090	.043	.077	.002	.159	.042
<i>H2b</i>	Network translucence → communication overload	-.140	.045	-.127	-.204	-.049	.001
<i>Indirect effects</i>							
<i>H3a</i>	Message transparency → vicarious learning → knowledge reuse	.014	.007	.018	.003	.040	.015
<i>H3b</i>	Network translucence → vicarious learning → knowledge reuse	.002	.006	.003	-.002	.021	.639
<i>H4a</i>	Message transparency → TASW → communication overload	.023	.009	.025	.008	.045	.005
<i>H4b</i>	Network translucence → TASW → communication overload	.004	.008	.004	-.013	.023	.633

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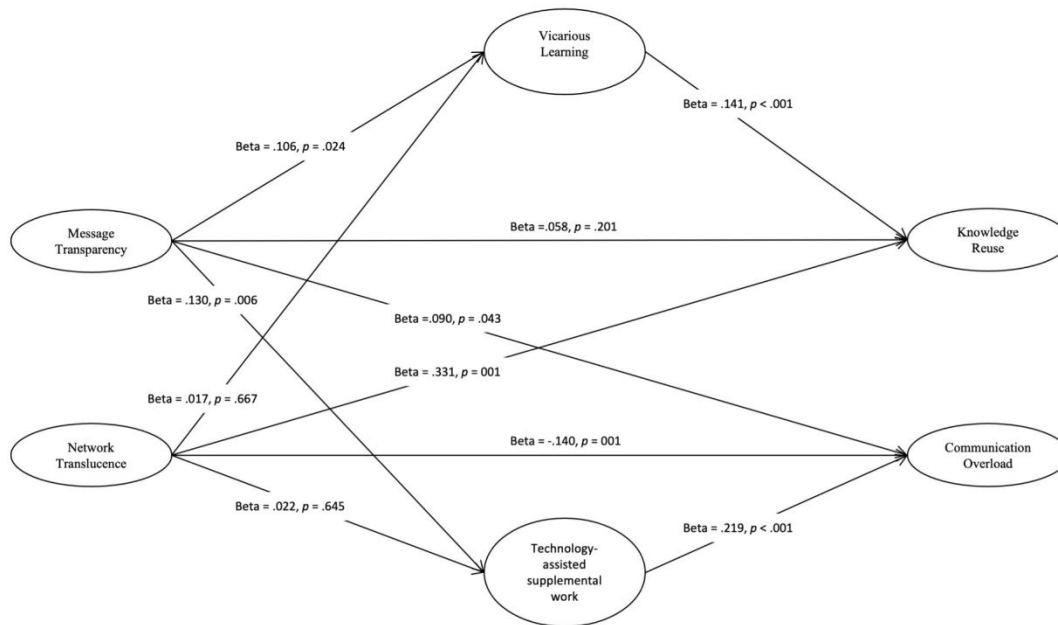
**Figure I**  
*Hypothesized Model*



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## Communication Visibility: Benefits and Drawbacks – 39

**Figure II**  
*Hypothesized Model with Standardized Solution*



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