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Research-in-Progress

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Abstract

Prior research has mainly focused on the positive effects of information technology (IT) use. However, emerging research begins to highlight the importance of considering the dark side of IT use. This study examines how enterprise social media (ESM) use (i.e., work- and social-related use) affects employees' perceived overload (i.e., information and social overload). In addition, we propose that communication visibility moderates the nonlinear relationship between ESM use and overload. The theoretical and practical implications are also discussed.

Keywords: Work-related use, social-related use, information overload, social overload, communication visibility

Introduction

Enterprise social media (ESM) has attracted the attention of contemporary organizations (Leonardi 2015; Mäntymäki and Riemer 2016). ESM utilization is commonly restricted to the employees of an organization (Leonardi et al. 2013). The literature on ESM is unequivocal regarding the value of ESM use (Mäntymäki and Riemer 2016; Odoom et al. 2017). For example, ESM scholars have suggested that ESM use can facilitate knowledge sharing among employees (Lu et al. 2015; Treem and Leonardi 2012). However, IS scholars have recently warned us of the presence of the dark side of IT use (Tarafdar et al. 2013). ESM use may, in fact, lead to employee distraction (Ali-Hassan et al. 2015) and poor task execution (Lu et al. 2015). The indiscriminate promotion of ESM use may actually increase employees' perceptions of overload.

We take the ESM literature beyond the dark side of ESM use. Consistent with prior research (e.g., Ali-Hassan et al. 2015; Lee et al. 2016), we accept that ESM use can lead to employee overload, at least initially. Nevertheless, we provide additional theoretical precision to this argument. In fact, information and relationship processing is a dynamically complex procedure that might be influenced by an individual's past experiences (Hsu and Liao 2014). This means that ESM use initially increases

employees' perceived overload because of limited information and relationship processing capacities. However, employees' accumulated use of ESM enhances their experiences, thereby increasing their information and relationship processing capacities. Thus, we suggest that the relationship between ESM use and overload is curvilinear rather than linear.

Compared with most other technologies developed for use in organizations, ESM provides a forum for open communication among employees (Leonardi 2015; McAfee 2009). In particular, ESM enable the communications that occur between two employees to be visible to everyone in the organization (Leonardi 2014; Leonardi 2015). Communication visibility may play double-edge roles in the workplace (Gibbs et al. 2013). On the one hand, communication visibility provides employees with quick opportunity to locate experts in a particular domain and find common interests and hobbies (Ellison et al. 2014). On the other hand, communication visibility promotes employees to access too much information and to give too much social support that are beyond employees' processing capability (Stohl et al. 2016). This suggests that the effect of ESM use on overload is dependent on the critical contextual factor of communication visibility. However, no study examines how communication visibility moderates the relationship between ESM use and overload.

This study addresses the above issues in the literature by investing (1) the inverted U-shaped curve in the relationship between ESM use (work- and social-related use) and overload (information and social overload) and (2) communication visibility that moderates this curvilinear linkage between ESM use and overload.

Literature Review

ESM Use

ESM is defined as "web-based platforms that allow workers to (1) communicate messages with specific coworkers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular coworkers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated, posted, edited, and sorted by anyone else in the organization at any time of their choosing" (Leonardi et al. 2013, p. 2). Compared with conventional collaborative technologies, such as knowledge management systems and USENET, ESM provides new social features in the workplace (Kane et al. 2014).

Lu et al. (2015) argued that ESM allows employees to engage in both work- and nonwork-related activities. Employees can read work-related posts or exchange opinions and advice via ESM (Lu et al. 2015). Employees' work-related activities may positively influence their task execution and performance. While ESM can also be used for building and maintaining relationships with coworkers (Leonardi and Meyer 2014). Employees' nonwork-related activities can sometimes negatively affect their ask execution and performance. On the basis of a case study informed by boundary theory, Koch et al. (2012) divided ESM use into work and social aspects. Thus, in this study, we consider two types of ESM use: work-related use and social-related use.

Perceived Overload on ESM

Overload means an individual's evaluation and perception of the kinds of things that exceed one's ability to handle (Zhang et al. 2016), such as role overload (Tarafdar et al. 2007) and work overload (Ayyagari et al. 2011). With the development of information and computer technology (ICT), researchers have begun to investigate the phenomenon of technology overload, which describes that ICIs force individuals to work faster and longer (Tarafdar et al. 2007; Tarafdar et al. 2010). Technology overload is inversely related to employees' work productivity (Karr-Wisniewski and Lu 2010; Tarafdar et al. 2007).

The proliferation of social media has induced new kinds of overload, including rapid changes in technological features of social media, involuntary extensions of social networking and too much information (Lee et al. 2016). Zhang et al. (2016) identified three dimensions of technology overload

in social networking sites (SNSs) contexts: system feature, information and social overload. Different from public social media, the technological features provided by ESM are not too complex. Thus, this study focuses on two types of overload in the context of ESM: information and social overload. Information overload means the large number of information provided by ESM exceeds individuals' processing capabilities (Lee et al. 2016; Zhang et al. 2016). Social overload is defined as individuals perceive that they are giving too much social support to other coworkers in ESM that out of duty to respond to social support requests (Maier et al. 2015; Zhang et al. 2016).

Communication Visibility Theory

The adoption of ESM makes workplace communication among employees visible to a broader organizational audience (Leonardi 2014; Leonardi 2015). The novelty of ESM from many other preceding communication technologies is that ESM allows an employee to see the communicative activity among their coworkers, even if that employee is not directly involved with that communication (Leonardi and Meyer 2014).

An emerging theory of communication visibility indicates that once invisible communication occurring among coworkers becomes visible for third parties, the third parties can improve their knowledge of "who knows what" and "who knows whom" (Leonardi 2014; Leonardi 2015). Communication visibility theory further suggests that ESM enables communication visibility because "they provide a transparent exchange of messages of people with their communication partners and translucent network connections" (Leonardi 2015, p. 749). Although the theory of communication visibility makes intuitive sense (Flyverbom et al. 2016), relatively few researchers have empirically verified this theory.

Hypotheses Development

The Effect of Work-Related Use on Information and Social Overload

Work-related use initially increases information overload. When employees use ESM for work purposes, they need to share, disseminate and access a large amount of information rapidly (Ali-Hassan et al. 2015; Sun and Shang 2014). The employees cannot process it efficiently and thus may make more decision errors, raising the costs in terms of effort and time. This means that work-related use can lead to information overload because of employees' cognitive limitations.

However, as the extent of work-related use increases, information overload begins to decline because employees are more familiar with using ESM to manage the daily work. Previous studies demonstrated that experienced online uses are more capable of processing information effectively and efficiently with less perceived information overload than those novice users (Dunbar 1992).

Therefore, as work-related use increases, information overload increases initially. However, excessive ESM use could cause a reduction in the level of information overload.

H1. There is an inverted curvilinear relationship between work-related use and information overload.

Similarly, work-related use initially increases social overload. ESM provides a new communication channel for employees in which employees can share information and interact with each other (Treem and Leonardi 2012). When employees encounter problems in their daily work, they need to exchange each other's views and make the correct decisions. Work-related use may, therefore, interrupt employees' daily life. This is because employees have to deal too much with their coworkers' problems and take too much care of their coworkers' well-being on ESM.

However, as the extent of work-related use increases, it can create occasions for social lubricant (Leonardi et al. 2013). Excessive work-related use eases the opportunity to informally contact each other, which lubricates connections and creates a sense of belonging (Leonardi et al. 2013). Employees who feel connected to each other will perceive fewer overloads when receiving social support demands from other coworkers.

H2. There is an inverted curvilinear relationship between work-related use and social overload.

The Effect of Social-Related Use on Information and Social Overload

Social-related use initially increases information overload. Using ESM to build and maintain social relationships facilitates employees to access to a large pool of information (Ali-Hassan et al. 2015; Sun and Shang 2014). Thus, employees need to spend more cognitive effort and time to dealing with irrelevant information. Nevertheless, capability limitations cause information overload, in which employees with too much information become overwhelmed and confused.

However, as the extent of social-related use increases, employees interact more with other coworkers and accumulate experiences, thus enhancing their information processing capacity. In addition, Hsu and Liao (2014) suggested that the extent to which users are involved with topics being communicated may affect the users' information overload perception. When employees are highly involved with using ESM to build and maintain social relationships, they are more likely to be capable to process information.

H3. There is an inverted curvilinear relationship between social-related use and information overload.

Social-related use initially increases social overload. When employees use ESM for social purposes, their daily life will be "invaded" by ESM. Thus, employees are confronted with an increasing number of social requests on ESM that demand social support than ever before. Employees need to pay continuous attention to their coworkers, urge them to be exposed to an overwhelmed volume of social demands. Maier et al. (2015) noted that exposure to social requests is an important precondition of users' perceptions of social overload.

However, as the extent of social-related use increases, employees dynamically interact with other coworkers and accumulate social aspect experiences, thus increasing their relationship processing capacity. In addition, excessive use of ESM to conduct social activities enables employees to disseminate valuable social resources, and to strengthen social interaction ties among them (Sun and Shang 2014), which is vital for reducing social overload.

H4. There is an inverted curvilinear relationship between social-related use and social overload.

Moderating Role of Communication Visibility

High levels of visibility and transparency can produce large quantities of information on ESM (Stohl et al. 2016). Previous research has demonstrated that when too much information is readily available, users might feel that the lower informativeness the site (Hsu and Liao 2014; Park and Kim 2009). In other words, high levels of perceived communication visibility lead to employees' higher perceptions that the ESM technology is not easy to use. Thus, employees need to expand their cognitive effort to process messages and information.

In addition, communication visibility allows employees to see the message exchanged among coworkers (Leonardi 2015). However, the number of messages users receive increases the number of social requests from other people (Maier et al. 2015). Thus, under the condition of high levels of communication visibility, excessive work-related use may cause employees to give too much social support on ESM embedded in their social network.

By contrast, employees in a low communication visibility context are relatively poor at exposing to the contents of many of their coworkers' communications.

H5. Communication visibility moderates the inverted U-shaped relationship between work-related use and information overload.

H6. Communication visibility moderates the inverted U-shaped relationship between work-related use and social overload.

High levels of communication visibility may increase awareness of differences and result in interpersonal conflict (Gibbs et al. 2013). Consequences of such strong sense of differences and conflict make employees feel less belonging and connection. Therefore, employees will unwilling to devote their cognitive effort required to assess a coworker-relevant message or information. When the

level of communication visibility is high, excessive social-related use may cause too much information that surpasses employees' processing capability.

Visibility can also inevitably generate a normative pressure from peers because of employees prone to comply with other coworkers' views (Hester 2010). Communication visibility exposes other coworkers to frequent demand for providing social support from employees on ESM. As a consequence, high levels of communication visibility increases the probability that excessive social-related users feel too much enacted social support is required to offer.

Conversely, when the level of communication visibility is low, employees may feel they are capable of processing information and social relationships on ESM.

H7. Communication visibility moderates the inverted U-shaped relationship between social-related use and information overload.

H8. Communication visibility moderates the inverted U-shaped relationship between social-related use and social overload.

Research Methodology and Analysis

Measurement Development

We will employ a survey method to collect data in order to test the hypotheses. All the measurement items will be adapted from prior related studies. Some items will be minor revised so as to fit our research context more appropriately. Specifically, work-related use was measured using a five-item scale adapted from Ali-Hassan et al. (2015). Example items included "In my organization, I use enterprise social media to share content about work projects with coworkers". Social-related use was assessed with a five-item scale adapted from Ali-Hassan et al. (2015). Example items included "In my organization, I use enterprise social media create new relationships at work". Information overload was assessed with four items adapted from Zhang et al. (2016). Example items included "I am often distracted by the excessive amount of information available to me on enterprise social media". Social overload was measured using a six-item scale adapted from Zhang et al. (2016). Example items included "I am too often caring for my coworkers on enterprise social media". Communication visibility was measured with a three-item scale adapted from Rice et al. (2017) and Leonardi (2015). Example items included "Enterprise social media enable me to see other coworkers' answers to other coworkers' questions".

We will use five-point Likert scales anchored from 1 ("strongly disagree") to 7 ("strongly agree") to measure the items in the survey. Since the survey sample will be selected from China, all instrument items will be translated from English into Chinese, following the translation committee approach (Van de Vijver and Leung 1997). Moreover, a professional translator, who is unfamiliar with our survey, will be hired to translate the Chinese questionnaire back to English to verify whether there exist semantic discrepancies between the original English questionnaire and the translated version.

Data Collection

To identify appropriate respondents for this research, we will cooperate with a large information technology (IT) software development firm with over 7000 employees headquartered in Southern China. In late 2011, this firm began to develop an ESM technology, called "circle", for internal communication among employees.

Data Analysis

We will use ordinary least squares (OLS) regression to test the hypotheses because this technique allows us to assess the associations for evidence of nonlinearity. To minimize potential multicollinearity, we will follow the suggestions by Friedrich (1982). We first standardize the criterion (work- and social-related use) and the repressor (communication visibility) and then form the cross-product and quadratic terms. To determine the significance of the curvilinear relationships

above and over any linear relationships, we will include the independent and interaction variables in one block and the squared variables in a second block.

Conclusions and Expected Contributions

This research has several important implications for theory. First, previous research has long focused on the positive aspects of ESM use (Mäntymäki and Riemer 2016; Odoom et al. 2017). However, the negative effects of using ESM tend to be ignored. Recently, scholars called for future IS research to explore the dark side of IT use (Tarafdar et al. 2013). This study responses to this call in the IS literature by empirically theorizing and verifying the role of ESM use in influencing employees' perceived overload.

Second, by identifying communication visibility as the moderating factor, we take the specific ESM function characteristic into consideration. Previous studies have considered social interaction factor as the moderator factor influencing the relationship between overload and stickiness in the context of public social media (Hsu and Liao 2014); however, no study recognizes the specific ESM function characteristic factor that moderates the curvilinear linkage between ESM use and overload.

Third, this study offers a novel view of overload. Prior research on overload has focused only on either information overload (Jones et al. 2004) or social overload (Maier et al. 2015). Although Zhang et al. (2016) considered information and social overload in the public social network services context, whether it is important to differentiate information and social overload in the organizational setting (in particular, ESM context) is still unknown. Thus, this study provides a fine-grained understanding of the role of overload in the ESM context by specifying information and social overload.

Finally, as for the practical implications, our study suggests that managers should notice the curvilinear relationship between ESM use and overload.

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