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What is This?

# The Use of Enterprise Social Network Sites for Knowledge Sharing in Distributed Organizations: The Role of Organizational Affordances

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## Abstract

Enterprise social network sites (ESNSs) are increasingly being introduced into large multinational organizations. In this article, we consider their potential for supporting knowledge-sharing practices within the organization. First, we build on prior work on affordances by applying notions of collective affordances and affordances for organizing to the study of social media, and we theorize how ESNSs may provide organizational affordances for knowledge sharing in distributed multinational organizations in particular. Second, we articulate ways in which ESNS affordances may shape knowledge sharing through consideration of social capital dynamics, support for relationships and interactions, context collapse, and network interactions. Finally, and building on these ideas, we propose a research agenda and suggestions for future research on this topic.

## Keywords

social media, distributed organizations, enterprise social network sites, knowledge sharing, affordances

Social network sites (SNSs) such as Facebook are being used by individuals today to accomplish a wide range of goals—asking questions of their network (Gray, Ellison, Vitak, & Lampe, 2013), getting support after losing a job (Burke & Kraut, 2013), even

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grieving for loved ones (Marwick & Ellison, 2012). They are also increasingly adopted to enhance organizational performance, especially in the context of knowledge sharing. Organizations today are increasingly distributed and networked, making it more challenging to share knowledge through time and space (Cross, Parker, Prusak, & Borgatti, 2001). Indeed, many large organizations today are turning to networked forms of organizing as a key organizational structure and relying on technology to facilitate coordination and support interdependent groups (Espinosa, Slaughter, Kraut, & Herbsleb, 2007). In particular, multinational organizations are turning to virtual teams and distributed work arrangements to coordinate and enable knowledge flow; however, team members face challenges when identifying experts in distant parts of the organization (Faraj & Sproull, 2000), developing trusting relationships that encourage information sharing (Gibson & Gibbs, 2006), and sharing knowledge that is situated in local contexts and often taken for granted (Cramton, 2001; Sole & Edmondson, 2002). Employees working in distributed arrangements must negotiate the tensions associated with working across geographic and other structural boundaries (Gibbs, 2009). Enterprise social network sites (ESNSs), a form of SNS used within organizations, can help address these challenges because they provide affordances that enable large-scale knowledge sharing. ESNSs include the foundational features associated with SNSs (see Ellison & boyd, 2013) but are implemented within organizations, are typically formally sanctioned by management, and have the ability to restrict membership or interaction to members of a specific enterprise, thus enabling the flow of information that would be inappropriate for public, commercial social media tools.

Large, distributed multinational organizations have led the adoption of enterprise social network technology, and thus most of the extant research (and our observations here) speaks to this particular type of organization, although ESNSs can also serve an important role for smaller and co-located companies. Large multinational organizations are increasingly dependent on successful knowledge sharing among individuals, teams, and units because of their high degree of geographical dispersion throughout locations and time zones. Prior research from organizational communication and management scholars often treats knowledge sharing as a mechanical process of information transfer or transmission (Argote & Ingram, 2000; Szulanski, 1996, 2000), without adequately considering social dynamics or interpersonal processes. We treat knowledge as distinct from (although encompassing) data or information (Fulk, Monge, & Hollingshead, 2005), and we recognize knowledge sharing as an equivocal communicative process involving sense making and interpretation (Weick, 1995; Zorn & Taylor, 2004). Knowledge sharing may range from dyadic exchanges of information between individuals (Cummings, 2004; Gupta & Govindarajan, 2000), to ongoing problem solving and coordination in formal project teams (Ancona & Caldwell, 1992; Tsai, 2001), to large-scale organizational brainstorming to generate solutions to global challenges (Levin & Cross, 2004).

In large multinational organizations, knowledge sharing is a complex process due to the need to negotiate meaning among diverse individuals as well as larger groups and collectives. Distributed organizations face challenges above and beyond those that are co-located: Knowledge sharing may be stymied by the fact that employees may not

recognize who has relevant expertise (Farak & Sproull, 2001), may be reluctant to request or share information with strangers in other organizational units or job functions, may not be motivated or incentivized to contribute more than task-related information, or may be uncomfortable asking questions publicly. Thus, we define *organizational knowledge sharing* as the process of providing and receiving information, advice, or feedback (Cummings, 2004; Hansen, 1999), acknowledging that individuals will interpret and process knowledge to co-create individual and shared meanings (Weick, 1995; Zorn & Taylor, 2004).

With the growth of virtual teams and distributed work arrangements, ESNSs are increasingly being adopted for internal knowledge sharing in large distributed organizations (Treem & Leonardi, 2012). Previous research has demonstrated that collaborative technology may enable knowledge sharing within and among organizational teams (Cummings & Kiesler, 2005; Hinds & Kiesler, 2002), but it has not yet considered the unique affordances of ESNSs in this process. In addition, prior work has often emphasized the task-related dimensions of knowledge sharing as a process of information transfer (e.g., Hansen, 1999; Szulanski, 2000) without fully accounting for social dynamics at the interpersonal and organizational levels.

In addition to organizational theory and research on ESNSs, in this article we turn to the scholarship on SNSs to inform our understanding of the ways in which ESNSs may support social relationships and knowledge-sharing practices. Ellison and boyd (2013) articulated three key features in their bounded definition of SNSs:

> A social network site is a networked communication platform in which participants (1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-provided data; (2) can publicly articulate connections that can be viewed and traversed by others; and (3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site. (p. 158)

These technical characteristics shape the interactions that occur on these sites, in conjunction with user goals, perceptions, and other social factors, and they provide a basis for understanding these tools in the context of organizations. In nonorganizational contexts, SNS scholarship suggests that sites like Facebook provide social and technical affordances that enable individual users to access resources embedded in their social networks; for instance, Facebook use has been linked to increases in perceived social capital (Burke, Kraut, & Marlow, 2011; Ellison, Gray, Vitak, Lampe, & Fiore, 2013; Ellison, Steinfield, & Lampe, 2007), and individuals use SNSs to broadcast questions to their network (Gray et al., 2013; Morris, Teevan, & Panovich, 2010), presumably as a strategy for accessing the informational resources of their connections.

Although affordances are often considered within the context of individual use, when considering ESNSs, researchers need to examine and theorize their *organizational affordances*—affordances that support the organizing of work and are collectively determined as coworkers negotiate meaning and create new structures for use. Our article contributes to the literature on ESNSs and knowledge sharing by explicating the distinction between individual affordances and organizational affordances for

distributed teams and organizations. This approach acknowledges that ESNS use is shaped by the affordances of the technology (at the individual and organizational levels) and thus considers relevant concepts, such as social capital, from an affordance perspective to explicate collaboration and knowledge production in distributed organizations, integrating our understanding of the social aspects of social media use (boyd & Ellison, 2007; Ellison et al., 2007) with knowledge of organizing processes in virtual teams and networks (Gibbs, 2009; Gibbs, Nekrassova, Grushina, & Abdul Wahab, 2008; Gibson, Gibbs, Stanko, Tesluk, & Cohen, 2011; Weber & Cummings, 2012). To better understand the role of ESNSs in knowledge-sharing practices, we focus on individual and organizational affordances that shape processes of knowledge sharing. In the following sections of this article, we first discuss the affordances of ESNSs in an organizational context and subsequently consider how such affordances shape organizational knowledge-sharing practices within organizations.

## Individual and Organizational Affordances of ESNSs

An affordance-based approach to the study of ESNSs offers a way of theorizing about sociotechnical systems that acknowledges human agency and the materiality of technology without being either technologically or socially deterministic. Originally coined by Gibson (1986) to explain how the same object may be perceived differently by different species of animals, the affordance perspective assumes that objects are not perceived directly but for the activities for which they may be useful. The notion has been extended to the design (and redesign) of everyday objects (Norman, 1988, 1990) and subsequently adopted by human–computer interaction scholars and software designers. The term *affordance* is a relational concept that marries the material features of the technology with the subjective goals and perceptions of its users, such that the same technology may provide different affordances to different users. This aspect of *interpretive flexibility* inherent in technology use (Orlikowski, 1992) helps explain why people use the same technologies in different ways or use different technologies in similar ways (Fulk, 1993; Leonardi, 2011). Importantly, tools are created by their designers with specific purposes in mind, although users can circumvent intended uses or creatively reappropriate them for unintended uses. For instance, text messaging was initially designed to be a simple extension of paging for engineers and on-site technicians to resolve technical issues without the intention of being used by consumers (Ansari & Phillips, 2011). We understand users to be individuals within organizations, although in practice organizational decisions and policies shape the tools and options available to organizational members.

We focus here on the affordances of ESNSs for internal organizational knowledge sharing. ESNSs are SNSs that are implemented within organizations, are formally sanctioned by management, and have the ability to restrict membership or interaction to members of a specific enterprise. Although ESNSs share many of the same technical features as SNSs, such as an articulated list of connections, they are designed for work-related use among organizational members and stakeholders, and are often customized to meet the specific needs of an organization (Weber & Monge, 2011). For

**Table 1.** Key Differences Between SNSs and ESNSs.

| | SNSs | ESNSs |
|---|---|---|
| User Behavior | Influenced by site norms, which may be understood differently among users | Influenced by an explicit set of company user guidelines and/or by informal team or organizational norms |
| Users | Any individual who creates an account and agrees to the site's terms of service and other policies | Employees of an organization; use can be optional, encouraged, or mandated |
| Design | Generally controlled by a parent corporation, but designed to encourage interaction among individual users | Generally controlled by stakeholders within the organization, but designed to encourage interaction among individual, teams, and other units |
| Audience | Can be global, limited to one's entire friend network, or targeted to subsets of one's articulated network | Configured by user or possibly organizational structure (work team, department, and division) |
| Goals for Use | Primarily used for social and interpersonal goals, such as building social capital, maintaining social relationships, and entertainment | Primarily used to accomplish work-related goals, such as knowledge sharing and forming or maintaining connections with professional contacts |

instance, ESNS profiles might include fields that describe one's current project, technical skills, or management chain, and the ESNS itself may pull in or push out content to other organizational tools, such as an intranet or a proprietary messaging system. We assume that actors within organizational settings use ESNSs primarily to accomplish work-related goals and activities in addition to their interpersonal goals. Similarly, users may use SNSs to accomplish tasks such as academic collaboration (Lampe, Wohn, Vitak, Ellison, & Wash, 2011), in addition to social sharing. Although there is blurring in both directions, typically ESNSs are used primarily for work-related goals, whereas SNSs are used primarily for interpersonal goals.

So, assuming that the technical features will overlap, here we focus on the ways in which SNSs and ESNSs differ from one another in terms of goals for use and other factors. Table 1 summarizes some of the important distinctions between SNSs and ESNSs. For instance, user activities in both of these spaces will be governed by their understanding of their audience, motivations for use, and self-presentational goals. ESNS users, however, may also be influenced by formal policies regarding use as well as their understanding of the organizational culture. Overall, both SNSs and ESNSs are governed by individual users' goals, motivations, perceived norms, and other psychological and social factors. With ESNSs, however, an additional set of influences comes into play, consisting of considerations such as organizational and collective norms, legal or policy influences, power dynamics, motivations, uses, professional

self-presentational concerns, and identity issues. This makes it especially important to adopt an affordance perspective when considering knowledge-sharing behaviors in ESNSs, because it enables theorizing at a higher level that transcends these lower level influences.

## An Affordance Perspective on ESNSs and Organizational Knowledge Sharing

Recent research suggests that social media provide affordances for knowledge sharing and other organizational processes (Gibbs, Rozaidi, & Eisenberg, 2013; Majchrzak, Faraj, Kane, & Azad, 2013; Treem & Leonardi, 2012). In addition, some of the affordances useful in more interpersonal contexts are valuable in the organizational setting, such as the ability to find common ground with latent or weak ties. For instance, Ellison, Steinfield and Lampe (2011) argue that "the social and technical affordances of Facebook support the conversion of latent ties to weak ties, in that the site provides identity information, enables communication between parties, and helps bring together those with shared interests" (p. 887). Digital content in networked publics offers the affordances of persistence (being recorded and archived), replicability (ease of duplication), scalability (visibility of content), and searchability (being findable by search) (boyd, 2010). Extending this perspective, Treem and Leonardi (2012) proposed four affordances of social media in organizations specifically: visibility and association (of content and people), and persistence and editability (of content). They argue that although other collaborative technologies such as email, instant messaging, and teleconferencing may score high on one or two of these affordances, overall these earlier technologies provide limited visibility and association, and inconsistent persistence and editability, whereas social media provide high degrees of each of the four affordances. Other work extends this to examine contradictions or tensions among affordances (Gibbs et al., 2013; Majchrzak et al., 2013). Much of this work is still conceptual, however, and there is relatively little empirical work exploring social media use in distributed organizations and teams from an affordance perspective.

Prior scholarship has focused primarily on affordances at the level of the individual. It is generally accepted, however, that processes of social influence affect technology use within organizations (Fulk, 1993). Applying the social influence model to a consideration of affordances would suggest that within group contexts, affordances are shaped in part by a collective understanding of the intended use of a technology. Along these lines, Poole and DeSanctis (1992) demonstrated that individuals negotiate the meaning of a technological artifact before agreeing on a set of rules and principles regarding the use of that technology. To that end, Leonardi (2013) invoked the term "collective affordance" to capture the notion that an affordance may be "collectively created by members of a group, in the aggregate, which allows the group to do something that it could not otherwise accomplish" (p. 752). Leonardi (2013) noted that in group contexts, affordances may be either collective or shared, noting that in the latter all members of a group share the affordance, whereas collective affordances occur when groups work on independent aspects of work and later pool work products to

form a collective output. Zammuto, Griffith, Majchrzak, Dougherty, and Faraj (2007) contributed the notion of "affordances for organizing," recognizing that a constellation of organizational factors shape technological affordances in an organizational context, including the functionality of the technology as well as "the expertise, organizational processes and procedures, controls, boundary-spanning approaches, and other social capacities present in the organization" (p. 752). Although these authors were not theorizing about social media per se, these factors are likely to engender unique organizational affordances of ESNSs—which are negotiated through the interaction of individuals in teams or larger units—that differ from the individual or interpersonal affordances of SNSs.

There are a number of mechanisms by which ESNSs' organizational affordances may support knowledge sharing within the organization. For example, one key difference between enterprise social media platforms such as ESNSs and earlier forms of technology used by organizations (e.g., intranets, instant-messaging clients, and email distribution lists) is the articulated network of contacts (*association* in the framing proposed by Treem & Leonardi, 2012), which are often visible in ESNSs. In addition, they are visible in both directions. In contrast, a blog may list a *blogroll* of similar sites, but these blogs may or may not link back. In SNSs such as Twitter, links between two entities are clearly marked in both directions (i.e., one can have a visible list of "followers" and a separate visible list of those who are being "followed"). Thus, the list of contacts built into SNSs and ESNSs provides greater *network transparency*, meaning that one's list of connections is visible and transparent to others. Scholarship on SNSs has articulated the way in which this articulated network helps people connect to friends of friends (Donath & boyd, 2004), thus encountering the diverse worldviews and novel information associated with bridging social capital (Ellison et al., 2007). Visualization of one's social network may also provide a form of identity warranting (Walther & Parks, 2002; Walther, Van Der Heide, Hamel, & Shulman, 2009) that builds trust and provides signals of credibility. In the organizational setting, knowledge of one's network can help coworkers find common ground (through shared connections), locate experts in a particular domain (by assessing "following" patterns), and leverage knowledge of one's connections to gain a competitive advantage. An empirical study of internal social media participation at a large technology company found that employee contributions to social media were motivated by both visible feedback (in the form of comments to their posts, rather than clicks) and similar visible activity by their managers and coworkers (Brzozowski, Sandholm, & Hogg, 2009), suggesting that network transparency may bring about social pressures and reciprocity norms that may motivate contributions to social media.

In addition, many ESNSs and SNSs aggregate content provided by one's contacts in a media stream, such as the activity feed in IBM Connections, which provides updates about one's network. This feature, also associated with the affordances of greater association (or connection) and visibility, can help provide *context awareness* among distributed colleagues and individuals. These "social awareness streams" (Naaman, Boase, & Lai, 2010) serve as a lightweight way to keep up to date with what colleagues are doing and may smooth interactions. Context awareness for distributed teams is

supported through the use of status updates built into repurposed social media (e.g., the status update in Facebook) or internal social media features (e.g., the activity feed feature in Cisco's WebEx Social provides updates on ongoing projects). These updates, aggregated into media streams for efficient perusal, can provide team members with quick opportunities to communicate both task-related and social information to team members, thus enabling coordination and aiding social interaction. For virtual collaborations spread among cultures and time zones, these tools may be particularly valuable in helping to share "situated" knowledge (Sole & Edmondson, 2002). For example, status updates about when members in another country are out of the office on holiday or at a long lunch can provide signals about the availability of such members, helping with expectations about response time and minimizing the potential for negative attributions that often arise due to the "situational invisibility" that can exist among dispersed coworkers (Cramton, Orvis, & Wilson, 2007). Given the often "invisible" nature of virtual work, context awareness tools may encourage the sharing of knowledge that benefits team collaboration more broadly as well as updates that increase social connection among team members. Social media such as ESNSs may also enable knowledge sharing through their ability to function as "awareness systems" (Hermida, 2010) or systems of "pervasive awareness" (Hampton, Lee, & Her, 2011) on the organizational as well as individual levels, by making it possible to unobtrusively traverse the activities and connections of others through media streams and notifications of user activity.

Although the affordances of visibility and associability are often expected to facilitate knowledge sharing as mentioned above, emerging research acknowledges that social media affordances may serve to both promote and restrict knowledge sharing in organizations (Gibbs et al., 2013; Majchrzak et al., 2013). Increased visibility and association of social media tools may facilitate knowledge sharing by making it easier to identify distributed expertise (Brzozowski, 2009) and forge social ties across boundaries (Gibbs, Eisenberg, Rozaidi, & Gryaznova, 2015), but other affordances such as persistence and editability may result in more selective self-presentation (Walther, 2007), because the documented nature of social media interaction may limit what is shared, and the ability to edit and craft messages may allow for manipulation or selective sharing of information. For example, research has found that employees may use knowledge-sharing technologies strategically to increase perceptions that they are experts in areas in which they wish to gain expertise rather than reporting on their actual expertise (Leonardi & Treem, 2012). In some cases, employees may wish to keep certain skills from being made public, especially in cases when this knowledge might elicit requests to do undesirable tasks (e.g., setting up an email account).

Research has begun to investigate tensions between sharing and restricting knowledge in organizations elicited by social media affordances. For instance, Gibbs et al. (2013) found that employees strategically managed tensions of visibility versus invisibility, engagement versus disengagement, and sharing versus control in social media use in a way that preserved both openness and ambiguity. ESNSs allow for individual invisibility as well as visibility by enabling users to traverse others' information streams unobtrusively, such that they may become passive lurkers rather than active participants. Features such as media streams and articulated networks may allow for

disengagement as well as engagement because employees can monitor ongoing discussions quickly and limit their attention and engagement through sporadic "triggered attending" in which they rely on automatic notifications to limit their engagement to conversations of interest or relevance (Majchrzak et al., 2013). Employees may also exert greater control over what is shared through selective self-presentation (Westerman & Westerman, 2010). In sum, the affordances of ESNSs provide users with the capacity to enhance knowledge sharing by giving individuals greater awareness of others' activity and by providing the ability to visibly articulate connections to others, allowing employees to navigate knowledge resources throughout the organization, as well as affording opportunities to restrict or limit knowledge sharing.

## Organizational Knowledge Sharing and ESNSs

Large multinational organizations are increasingly adopting ESNS applications such as Yammer, Ning, Jive, or Telligent; enterprise social media tools like these may benefit organizational processes because they enable individuals to engage in "sense making" about other employees (DiMicco, Geyer, Millen, Dugan, & Brownholtz, 2009), provide access to new people and expertise (Steinfield, DiMicco, Ellison, & Lampe, 2009), and increase awareness and contact among virtual employees (DiMicco & Millen, 2007). Some empirical work on social media in the organization, however, suggests that these tools are primarily used to connect with customers and other external stakeholders, vet job applicants, and engage in professional networking. A report by Burson-Marsteller, focusing on the use of social media for external communication, found that 79% of Global Fortune 100 companies used Facebook, Twitter, YouTube, or corporate blogs, with 20% using all four platforms (Burson-Marsteller, 2010). Echoing this, a recent study found that most managers (86%) believe that social media will be important to their business in three years, although primarily for external communication (Kiron, Palmer, Phillips & Kruschwitz, 2012). Less work has examined social media (and specifically ESNSs) for internal communication among team members and others in the organization.

ESNSs provide new affordances that can be helpful for broad distribution of information and knowledge, but we believe they are especially powerful because they situate this content within a social context, in which individuals' network and identity information is shared. Social media use both shapes, and is shaped by, social processes, which also affect the ways in which information flows through organizational networks. Below, we describe four factors that are important considerations when examining ESNSs and their role in the knowledge-sharing process. Specifically, ESNSs can constrain, enable, and reshape (1) *social capital dynamics* that govern how and to what end individuals mobilize informational and social support resources embedded within their social networks, (2) the way in which *social relationships* are encouraged through the sharing of *identity information* within organizational contexts, (3) the *context collapse* that can accompany diverse networks, and (4) knowledge sharing, particularly in the context of *networked organizational structures* that drive many large organizations.

*Social capital.* Social capital describes resources embedded in social relationships and interactions within a network (Lin, 2001). Undergraduate students' SNS use has been linked to their perceptions of social capital (Ellison et al., 2007, 2011; Valenzuela, Park, & Kee, 2008); this relationship has also been documented in work that uses server-level data from a general population of Facebook users (Burke, Kraut, & Marlow, 2011; Burke, Marlow, & Lento, 2010). Social media have been found to be especially well suited for accruing *bridging* social capital, which speaks to the benefits associated with weaker, more heterogeneous social ties such as novel information and broadened worldviews (Burke et al., 2011; Ellison et al., 2007, 2011; Granovetter, 1973). Access to individuals outside one's close circle provides access to nonredundant information, resulting in benefits such as employment connections (Granovetter, 1973). Looking specifically at social capital and SNS use among IBM employees, Steinfield et al. (2009) found a positive relationship between intensive use of an internal SNS and measures of social capital, including stronger ties, a greater willingness to contribute, and greater access to new people and expertise. Employees in distributed organizations may find it more difficult to activate social capital because they have fewer opportunities for face-to-face interactions, which are important for sustaining social relationships (Nardi & Whittaker, 2002). Because they lack access to spontaneous place-based interactions, employees are less likely than their co-located peers to benefit from incidental learning (Brown & Duguid, 2000) and to know who holds organizational knowledge or where it is held (Fulk et al., 2005).

*Identity information and relationship formation.* Although organizational intranets usually include work-related information, such as office locations or project histories, profiles on ESNSs can be richer depositories of personal information (DiMicco & Millen, 2008). For instance, IBM's ESNS, Beehive, enabled users to create lists such as "5 technologies I can't live without" (Geyer et al., 2008), and users used this feature to convey personal as well as work-related identity information. Access to personal identity information assists the development of social relationships in the workplace and helps people engage in "people sense-making," which DiMicco et al. (2009) defined as "the process a person goes through to get a general understanding or gist of who someone is" (p. 1). By including diverse identity information, ranging from the personal to the purely work related, information-rich profiles can help individuals locate others in the organization with specific kinds of expertise or skills, thus increasing knowledge transparency and facilitating the formation and maintenance of social capital in distributed organizations. Personal information such as updates about family members or travel plans may spark conversations, replicating the spontaneous exchanges of information associated with proximity (Kraut, Fussell, Brennan, & Siegal, 2002). DiMicco et al. (2009) described the way in which Beehive profile information facilitated interpersonal interactions between employees; participants described how the profile information made them feel "closer" to one another and form more multidimensional impressions of each other, and facilitated greater group cohesion. In a nonorganizational context, examining the use of Facebook among undergraduate students, Ellison, Steinfield, and Lampe (2011) argued that profile information can

serve as a social lubricant, and can enable individuals to find common ground with one another, enhancing mutual understanding and fostering interaction (Lampe, Ellison, & Steinfield, 2007).

When individuals are able to build relationships with others who are physically distributed throughout the organization, wider and more heterogeneous networks are possible—the kinds of "weak tie" networks associated with the diverse perspectives and new information (Granovetter, 1983) that constitute bridging social capital and are especially useful for knowledge sharing among clusters in a network. In addition, individuals may be more likely to contribute content to a site that has social gratifications, compared to a traditional company directory (DiMicco et al., 2009). Identity information may help members of distributed organizations more quickly locate experts in a particular area, and—just as importantly—the inclusion of personal information may make the interaction less artificial and help individuals find common ground, potentially making it more productive as well (Olson & Olson, 2000).

*Context collapse.* Context collapse describes the possible complications associated with online self-presentation and identity management in online contexts in which audiences representing different facets of one's identity co-mingle (boyd, 2010; Marwick & boyd, 2011). Although individuals' offline and online identities are "faceted" and complex (Farnham & Churchill, 2011), some online contexts do not allow for differentiated self-presentation but rather collapse contexts by flattening various connections representing different aspects of one's identity into an unnuanced, one-dimensional group such as "Friends" or "Contacts." In offline contexts, we typically interact with a specific set of people in one particular place or occasion, which enables self-presentation specific to that context. But in the "networked publics" (boyd, 2010) found in social media, it is difficult to segment distinct contexts, and often one's network consists of individuals representing different aspects of one's identity. According to Vitak, Lampe, Gray, and Ellison (2012), professional adult users of Facebook engage in various strategies to manage context collapse, such as keeping professional contacts out of their personal networks, creating multiple accounts, or withholding damaging information. Organizational members must also negotiate self-presentation to different professional audiences such as managers versus peers, colleagues versus clients or business partners, and members of various organizational units and job functions. SNS users who choose not to share information may be potentially limiting their ability to benefit from the informational and social support opportunities associated with SNSs (Stutzman, Vitak, Ellison, Gray, & Lampe, 2012).

*Organizational networks.* As a general trend in the United States and globally, organizations are shifting to networked organizational forms. Networked organizational forms are organizations in which work is distributed among modular components, hierarchical structures are deemphasized, and communication is central to the organization's functioning (Podolny & Page, 1998). Within large multinational organizations, day-to-day work is increasingly accomplished with the help of collaborative technology (Espinosa et al., 2007) due to growth in use of distributed work arrangements and

dispersed structures. Such organizations are often reliant on technology to facilitate information exchange and knowledge sharing, and to provide individuals within the organizations a channel through which connections to others are formed (Fulk & Desanctis, 1995). Knowledge sharing is critical to innovation and collaboration: Knowledge must be able to be shared among contexts through networks, and members must have confidence in the value of that knowledge for achieving the team's objectives (Kanter, 1988). Networks are a central mechanism for knowledge sharing, because a wide range of communication takes place through informal social networks maintained by members of a given organization (Ahuja, 2000; Tsai, 2001). Social networks within an organization are a well-studied organizational feature (Burkhardt & Brass, 1990; Lincoln & Miller, 1979), affecting work produced by teams (Cross et al., 2001; Hansen, Mors, & Lovås, 2005; Tsai, 2001) and well as organizational growth over time (Weber, 2012). ESNSs may help make these seemingly invisible networks of interaction visible through friends lists and activity feeds, in addition to supporting interaction more generally when members comment on each other's posts and tag each other's content.

Organizationally, ESNSs are used for sharing knowledge, engaging in organizational politics, understanding the work environment, and collaborating in the everyday work of teams, among other tasks. ESNSs are also used for social purposes, such as establishing ties, finding common ground, and maintaining relationships with coworkers. Managers may use informal social networks to enable learning and gain access to information about new processes (Hansen, 1999). Furthermore, social cues received from peers and supervisors within a communication network will have a direct effect on how team members respond to new information (Fulk, 1993; Tsai, 2001). Thus, network position will affect a team member's acceptance and use of collaborative technology, and ultimately will affect knowledge-sharing practices.

Employees' relationships with one another—sometimes operationalized as tie strength—also have a direct impact on the ability of organizations to coordinate work and discover new knowledge. When organizations are faced with situations involving complex knowledge, strong ties are needed to facilitate the effective transfer of knowledge (Hansen, 1999). Weak ties, in contrast, may provide an individual with access to nonredundant information sources, bolstering her bridging social capital (Burt, 1992, 2005). ESNSs can support relationship maintenance activities with existing ties—both strong and weak—and can help individuals both identify relevant latent ties with valuable information and determine their shared common ground with them (Ellison et al., 2007). There are limitations, however; Aral and Van Alstyne (2010) noted that gains in network diversity often result in a decrease in the communication bandwidth, and the increased communication flow may limit individuals' ability to locate useful knowledge.

In summary, ESNSs provide affordances that aid in the distribution of information and the sharing of knowledge at the individual and organizational levels. Importantly, ESNSs support the socialization and interpersonal interaction that provide a foundation for many knowledge-sharing processes. Although much of the literature on knowledge sharing has emphasized the task-related dimensions, we hope our discussion here has

highlighted the value of an integrated approach to knowledge sharing in modern organizations that considers both social and task dimensions, especially in relation to the roles played by social capital dynamics, identity information, context collapse, and networked organizational structures in constraining, enabling, and reshaping knowledge sharing within the organization.

## Discussion

To summarize, in this article we describe the potential for ESNSs to support knowledge sharing within the organization, using an affordance approach that acknowledges both the individual and organizational affordances of these tools. This work makes several key contributions to the study of ESNSs for knowledge sharing within the organization. First, we build on prior work on affordances by applying notions of collective affordances (Leonardi, 2011, 2013) and affordances for organizing (Zammuto et al., 2007) to the study of social media, and we theorize what affordances ESNSs may provide for knowledge sharing in distributed multinational organizations, in particular. Second, we articulate ways in which ESNS affordances may shape knowledge sharing through consideration of social capital dynamics, support for relationships and interactions, context collapse, and network interactions. Finally, building on these ideas, below we suggest a research agenda for future research on this topic.

Although organizational members are likely to draw on both individual and organizational affordances in ESNS use, research has not fully explored how individual and organizational affordances interact in regard to knowledge sharing in the organization, and this promises to be a fruitful area for future research. For instance, sharing information needs (asking questions) is an important precursor to knowledge sharing. From the perspective of the organization, one important feature of ESNSs is that they build collective memory by enabling employees to ask questions and archive and distribute the answers to a wide audience for future use, saving time and redundant effort. This example represents the affordances of persistence (the archived nature of the knowledge and information that are being shared) and visibility (the content is more likely to be "found" using search tools, tagging, or other means of increasing the findability of the "answers").

As illustrated by our discussion here, however, employees may not wish to ask questions in a publicly visible and archived forum. They may be concerned that the question makes them appear incompetent or feel that they should already know the answer. One way that SNS users have addressed these concerns is by limiting the audience of their posts, either through friending strategies, carefully managing their privacy settings, using lists that only display content to a subset of their network, or using coded language. Although ESNS users may have these options available, they may be discouraged from using them because the organization benefits when both questions and answers are more widely available. Thus, in the organizational context, self-presentational concerns around asking questions are exacerbated by issues around association: the fact that ESNS users are discouraged from limiting the audience of their questions. Similarly, consider the issue of context collapse in regard to question

asking: To what extent is the original context of a message's production reproduced or made salient to future consumers of that content? For organizational members, the way in which the increased visibility and persistence of ESNS content separate it from the context in which it was created poses an additional concern—a message quickly constructed while trying to meet an impending deadline might be unfairly judged for its typographical errors months later. Of course, the extent to which context and audience are salient barriers to knowledge sharing in this example will differ by organization. In a sales organization in which tight deadlines are common, spelling errors in questions posted to a knowledge-sharing tool may be perfectly acceptable. In another organization or among another functional group such as engineers, this may not be the case. Importantly, this example represents a situation in which organizational and individual goals are in tension, a scenario that has the potential to constrain knowledge sharing using social media tools such as ESNSs. We believe these instances of individual-organizational tension are especially important for organizations to consider because they provide potential insights into the ways in which high-level affordances can enable and constrain knowledge-sharing practices.

Below, we offer some suggestions for future, empirical work that can continue to unpack how these processes unfold in organizations and among individuals. Future work should consider these affordances with more specificity, acknowledging that social media are not monolithic and encompass a range of technologies (Kane, Alavi, Labianca, & Borgatti, 2014), and that various applications (e.g., wikis, ESNSs, social tagging, and rater or recommender tools) may provide different affordances for knowledge sharing. A mixed-methods approach could best identify how the materiality of the specific tool being used and the understandings that evolve around it shape organizational knowledge-sharing processes. Ethnographic work in particular will help researchers identify independent processes that may be obscured by survey data, especially when affordances both constrain and enable knowledge sharing. We caution researchers to describe the sites and services they are studying with as much care and attention as they describe their participant sample (Ellison & boyd, 2013), because although affordances are understood differently by different users, describing the technology as it is being used will enable synthesis among studies. One of the benefits of an affordance approach is that it transcends the specific set of tools, features, and design elements that constitute any particular social media site or service; this is especially important when theorizing technological artifacts that shift quickly and often, such as social media.

One particularly compelling area for future work suggested by our approach is the ways in which personal and professional goals, activities, and motivations are represented in both ESNSs and SNSs. Although social and personal goals will be more salient to individuals in SNSs (and, indeed, many believe that social activities are normative in these contexts), and professional goals (including self-presentational concerns) will be more salient in ESNSs, we acknowledge that there is often blurring of these worlds. The degree to which SNSs and ESNSs are used for task-related versus social purposes is an empirical question for future research to assess. More interesting, perhaps, is the ways in which these domains interact. When does including personal

information in an ESNS help one achieve one's professional goals, such as finding common ground with an expert in a particular domain? And under what circumstances does it hinder professional goals? Are there differences among age, profession, or function? Finally, what design features can enable individuals to successfully engage in either kind of activity, or both? For instance, an employee taking a 5-minute break from a long coding session may welcome the distraction of a funny cat video, whereas her colleague in the next cube over may be under deadline and only interested in finding out how to get in touch with a teammate without having to scroll through unrelated, nonprofessional content.

The introduction of social media into the workplace has important implications for knowledge sharing within organizations, and for organizational members as they attempt to accomplish both professional and personal goals. As ESNSs are introduced into a wider range of organizations, it will become increasingly important to study, theorize, and design for the ways in which use of such tools is transforming knowledge sharing and other organizational practices.

## Declaration of Conflicting Interests

## Funding

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