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1 Introduction

The literature of knowledge management (KM) was mainly developed in the last decades of the twentieth century, focusing primarily on the ability to process information and data (Nieves & Osorio, 2013). Several approaches have been identified to improve knowledge sharing within companies, which today are more distributed. Indeed, many present-day large firms are networked and need a KM technology to improve participation and facilitate knowledge flows between inter-dependent groups. In contrast to the first wave of KM which highlighted the role of IT, the second wave of KM has substantially changed KM mechanisms in the first decades of the twenty-first century, placing more emphasis on social interactions among participants, in which KM designers have a peripheral role in creating opportunities for participation (Huysman & Wit, 2004). Certainly, knowledge exchange is not limited to explicit knowledge, and social interactions are regarded as a more efficient mechanism than conventional KM approaches for sharing and creating tacit knowledge in organizations (Brzozowski, Sandholm, & Hogg, 2009; Sedighi, van Splunter, Zand, & Brazier, 2015).

The limited success of conventional KM systems created an incentive to use social media technologies as a potential solution for the challenge of participation in KM. Social media have significantly transformed the opportunities and dynamics of knowledge exchange within organizations, providing an infrastructure that promotes unconstrained communications by eliminating limitations of time and space.

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Enterprise social media (ESM) use web 2.0 technologies to promote free interactions through network connections (McAfee, 2009). Academic studies conflate use of the term *"social media"* with the term *"social network"* to describe collaborative organizational systems that use web 2.0 technologies within organizations (Behrendt, Richter, & Trier, 2014; Leonardi, Huysman, & Steinfield, 2013). *"Enterprise social media"* (ESM) have been defined as integrated contemporary platforms that support employees 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). ESM can be used for knowledge exchange within companies. Although traditional technologies such as e-mail allow users to communicate with other employees, integrated ESM combine all four parts of the definition above.

An integrated ESM system includes various social media platforms such as weblogs, wikis, social networking platforms, social networks of practices, micro blogs, social bookmarking, and social tagging tools (Behrendt et al., 2014; Kane, Alavi, Labianca, & Borgatti, 2014; Liu & Rau, 2014). These technologies have unique impacts on organizational communications by facilitate interactions among employees by providing social media tools in desktop computers, tablets, or smart phones at a time and place that are convenient to them (Li & Ma, 2014). Companies that are using social media technologies have greatly increased in number in recent years. Overby (2012) showed that four out of five firms in 2012 were using social media technologies to facilitate participation and knowledge sharing. Besides, Gartner Company predicted that 50% of large enterprises would be using ESM platforms by 2016 (Stamford, 2013). These studies bring us to the central question of this chapter: What incentives induce participants to engage in knowledge exchange in the organizational social media environment?

Several studies in the KM literature have considered the motivations for knowledge sharing (Chang & Chuang, 2011; Hau, Kim, Lee, & Kim, 2013; Hsu & Lin, 2008; Javernick-Will, 2011). Moreover, research shows that promoting motivations for sustainable participation is an important challenge for many organizations (Chiu, Hsu, & Wang, 2006). Social media technologies have transformed KM, not least by their impact on knowledge sharing motivations. ESM provide sustainable participation environments by addressing accurate motivation to post documents, status, and knowledge within firms. These platforms have reduced conventional KM systems barriers such as centralized, formal, and intermittent communications, thanks to social media technologies that support continuous communication, dynamic participation, and emergent connections' structure (Faraj & Johnson, 2011; Majchrzak, Faraj, Kane, & Azad, 2013). Employees may become more highly motivated to participate in ESM as a result of both better perceived benefits and lower perceived costs (Liu & Rau, 2014).

Although firms are increasingly experimenting with ESM as the means of improving participation in knowledge sharing, motivation in ESM environments

is not yet well understood. In order to explore the role of social media in knowledge exchange, this chapter reviews studies on the properties of social media technologies that have a bearing on the perceived benefits and costs of knowledge sharing and thus influence participation through ESM. First, we explore the literature on social media technologies for knowledge exchange within organizations. Second, we clarify different motivations and barriers of knowledge exchange in organizations. Third, we explore the entirety, visibility, and informality (EVI) properties of social media technologies. Finally, we use EVI model to explain how benefits and costs are influenced by ESM platforms attributes.

2 Knowledge Sharing Through ESM

Knowledge sharing is a vital mechanism that supports organizational innovation and organizational competitive advantage (Jackson, Chuang, Harden, & Jiang, 2006). Knowledge sharing between employees and across teams allows firms to exploit and capitalize on knowledge-based resources (Cabrera & Cabrera, 2005). Research has shown that the knowledge sharing process has a positive effect by reducing production costs, improving efficiency, faster completion of new product development projects, firm innovation capabilities, and enhancing work quality (Haas, 2006; Lin, 2007a; Mesmer-Magnus & DeChurch, 2009; Wang & Noe, 2010).

Individual knowledge sharing in organizations is defined as individual behaviors in which an employee voluntarily provides other employees of the firm with access to his or her knowledge and experience (Cyr & Choo, 2010). Knowledge sharing is largely voluntary and volitional, and one focus of past research has been on the individual's willingness and propensity to share knowledge. Increasing research on the social perspective of knowledge sharing has been conducted recently as part of the second wave of KM (Huysman & Wit, 2004). Organizational knowledge exchange is affected by the social nature of the knowledge sharing process (van den Hooff & Huysman, 2009). This social process generates a paradigm of KM in which participants often feel the need for socialization in situations where this would help others work better, with more professionalism, and with more satisfaction.

Lately, companies have been using social media technologies to connect and share organizational knowledge by linking participants and knowledge content (Fulk & Yuan, 2013). Such systems improve participation by supporting flexibility, adaptability, and boundary-spanning features in enterprise social media platforms. Ellison found that organizational social media platforms improve the KM process by *(1) creating a public or semi-public profile for each participant in a bounded system, (2) enunciating a list of other knowledge creators with their knowledge connections, and (3) concatenating knowledge content within the system* (Ellison, 2007). Organizational social media platforms enable participants to easily create, share, and assess knowledge by attaching participants to knowledge contents in decentralized networks (Faraj & Azad, 2012). Integrated ESM include wikis,

Table 1 Popular ESM technologies in organizations

ESM technology	Description	Source
Social network sites	A social network site is a web-based service supports participants to (1) build a public or semi-public profile pages in a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their lists of connections and those made by others within the system	(Boyd & Ellison, 2007)
Wikis	A wiki is an electronic collaborative platform that supports peer production. Participants can add, change, remove, and edit content. It can be used to assemble a knowledge resource for a specific professional subject	(Kane, 2011)
Blogs	A blog is a self-publishing tool that helps participants keep track of their own content. Bloggers can subscribe blogs, remark on content, share links, and post comments in a collaborative environment	(Hsu & Lin, 2008)
Electronic network of practices (ENoP)	An ENoP is an organizational self-organized computer-mediated communication technology where participants share their knowledge about practice or common interests	(Wasko, Teigland, & Faraj, 2009)

tagging systems, social bookmarking systems, blogs, and social media sites (Fulk & Yuan, 2013). Social media platforms empower participants to design public profile and knowledge links in a transparent KM platform within organizations that directly address knowledge needs. Moreover, ESM support knowledge sharing for common interests and offer a social-based platform for participants to cooperate with one another, socialize, and share ideas (Chen, 2013). Knowledge sharing through ESM is thus a form of generalized social exchange where more than two employees participate in a unique process and gain benefits from participation in networks (Cook, Cheshire, Rice, & Nakagawa, 2013).

Thus, ESM facilitate knowledge sharing by eliminating barriers to interactions between participants. Thanks to ESM, participants are enabled to make their opinions, perceptions, and knowledge public within organizations, which is impossible using conventional KM technologies. This helps participants to find internal experts who have common interests or the same problems (Treem, Dailey, Pierce, & Leonardi, 2015).

Integrated ESM systems include various communication and exchange systems to support online and distributed collaborations for specific organizational functions (Behrendt et al., 2014; Zyl, 2009). Table 1 summarizes the more popular ESM systems used within organizations for online collaboration and knowledge sharing, mentioning some important tools that can serve as a starting point for investigating other ESM technologies.

3 Perceived Benefits and Costs of Knowledge Management

Both researchers and practitioners are interested in better understanding the factors that predict members' participation in the KM process. Motivation is a key determinant of participation behaviors and the main trigger for knowledge exchange (Osterloh & Frey, 2000). Participation has been found to be related to a spectrum of motivations, such as individual satisfaction, reciprocal knowledge gains from the networks, reputation, and personal and professional advancement (Lin, 2007a). Social exchange theory has been used in KM studies to explain how participants perceive the benefits and costs of knowledge sharing in making decisions (Blau, 1964). Knowledge sharing propensity depends greatly on the participants' cost-benefit analysis that compares the expected benefits with the expected costs (Cyr & Choo, 2010). From a socioeconomic viewpoint, knowledge exchange will occur if the expected perceived benefits are equal to or exceed the expected perceived costs (Hall, 2001).

Motivations can be divided into intrinsic and extrinsic (Ryan & Deci, 2000). Intrinsic motivation is a cluster of motives that represents self-rewarding incentives, while extrinsic motivation is a cluster of incentives to do something for a set of external rewards, regulations, and sanctions. For instance, participants can be satisfied by intrinsic rewards such as enhancing knowledge self-efficacy or confidence in their ability for creating and sharing valuable knowledge. Collective reputations and recognition in network environments and generalized reciprocity are two main examples of extrinsic motivations. The KM literature largely emphasizes incentives that are psychosocial and intangible. This is consistent with social exchange theory, which postulates that employees engage in the knowledge sharing process based on an expectation that it will lead in some way to social rewards (Wasko & Faraj, 2005). The participant's perception about contribution costs is another part of his or her individual assessment of the complex interdependencies of knowledge exchange. The hidden cost elements such as reputational risk have a negative influence on the employee's knowledge sharing behaviors. Time, mental effort, and the risks of losing power are further costs of knowledge exchange. Inevitably, participants do not share knowledge if the cost of so doing outweighs the expected benefits. Thus, the higher the perceived costs, the less willing participants are to share knowledge voluntarily.

4 Methodology

This study undertakes a narrative review of the literature to link conceptual attributes in a theoretical framework. First, the major attributes of social media platforms identified by practical and theoretical studies have been determined by a systematic review of enterprise social media literature, using the content analysis method. Next, selected attributes of ESM technologies have been investigated and set out in relation to the perceived benefits and costs of knowledge sharing. Finally, a theoretical model has been evolved to illuminate the attributes of ESM that influence willingness to participate in the light of benefits and costs.

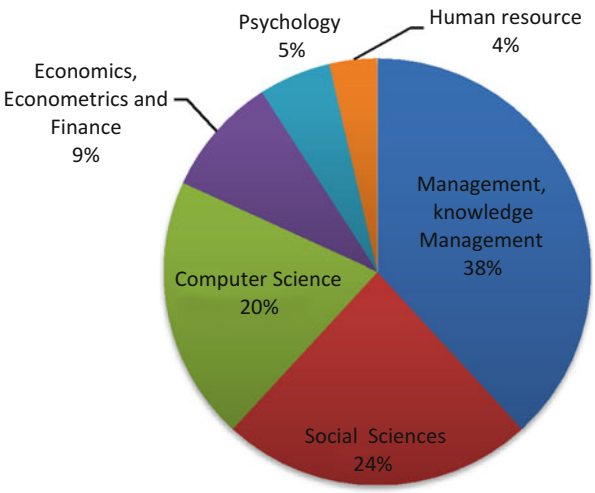

Fig. 1 Search results in different subject areas

To explore the attributes of social media platforms, key words ("enterprise social media", "enterprise social network" and their variations) were searched in reliable scientific databases such as Emerald, Web of Science, Google Scholar, and ScienceDirect, without time or geographical restrictions. Studies were selected from academic journals, and chapter books in knowledge management, business management, human resource development, and information systems. Studies published in working papers and conference proceedings were excluded from our research review scope. Overall 66 articles were found for the content analysis, of which fifty-five (54 articles and one book chapter) were connected to our research methodology scope. All selected documents were published in academic journals and chapter books since 2007 to early 2015. Figure 1 represents the analyzed search results by subject area. Although a number of attributes of ESM were identified in the selected studies, the focus of this study was on identifying the subset of attributes which address participants' benefits and costs. Initial reviews revealed that 27% of the selected articles directly addressed ESM attributes in relation to participants' behaviors and these were chosen for the final assessment phase. All attributes were identified based on the authors' investigation on the selected articles with discussion and consensus. The purpose of this study was not to argue in detail the level of importance or accuracy of these attributes, but rather to classify the main attributes that are promoted by ESM to increase participants' perceived benefits or diminish participants' perceived costs of knowledge sharing.

5 Social Media Attributes

Social media platforms constitute new environments for knowledge sharing, and hence promote new aspects of KM motivation. It is important to understand the characteristics of social media that determine how participants perceive the benefits

Table 2 ESM attributes that influence participants' perceptions of benefits and costs

ESM attributes	Description	Source
Entirety	Developing entire integrated communication channels, communication intervals, professional data and their expertise in ESM	(Paul Jones, Martin Beckinsale, Durkin, McGowan, & McKeown, 2013)
Visibility	Ensuring transparent communications between ESM members to make them aware of available content and people expertise	(Ellison, Gibbs, & Weber, 2014; Leonardi, 2014; Majchrzak et al., 2013)
Informality	Creating an informal communication environment for unstructured, unplanned, and brief conversations among participants in ESM	(Leonardi et al., 2013)

and costs of knowledge sharing and how they therefore behave. Although social media use numerous techniques to improve user engagement, this section focuses on those aspects that have the potential to promote perceived benefits and diminish perceived costs. Content analysis of relevant studies reveals three such attributes of social media technologies within organizations. These are entirety, visibility, and informality. Details of these attributes are presented in Table 2.

The entirety, visibility, and informality aspects of ESM clearly have an impact on knowledge sharing behaviors. This study develops an "EVI" model, which illuminates these three properties of social media (see Fig. 2). Although visibility, informality, and entirety are interrelated in ESM platforms, the nature and scope of their interrelation are beyond the scope of this chapter.

5.1 Entirety

Social media in organizations use Web 2.0 technologies to develop online collaboration, participation, and sharing of participant-generated content. The entirety can be defined as an aspect of ESM, which develops emergent connections, by different communication channels, synchronous and asynchronous communication tools for sharing different types of knowledge contents and experts' information. Indeed, ESM support individual interactions by suggesting presumptive relationships and promoting communications to restructure potential links into weak and strong links (Zyl, 2009). As can be seen in Fig. 3, the entirety aspect of ESM includes three different dimensions: communication channels, communication intervals, and communication natures.

Different types of communication channels, structured in integrated social media platforms, are developed by ESM to support two-way conversations in organizations (Ellison, 2007; Zyl, 2009). Table 3 illustrates these different communication channels.

Fig. 2 *EVI* model

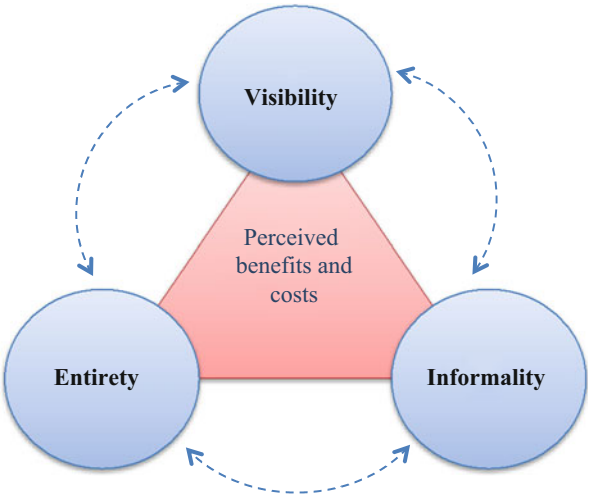

Fig. 3 Entirety dimensions

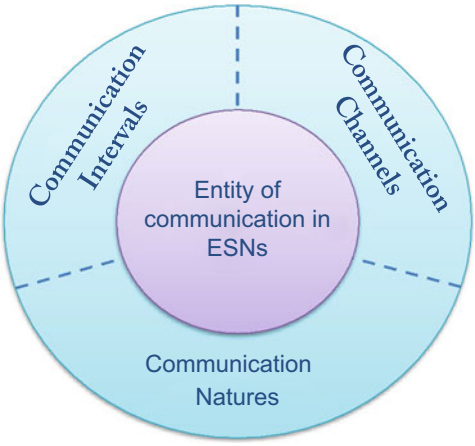

Table 3 Communication channels in ESM platforms

Communication channels	Features of ESM
One-on-one	Instant messaging/online chats
One-to-few/one-to-many	Blogs/web pages
Few-to-few/many-to-many	ENoP/wikis

This entirety attribute supports users' participation by giving them the autonomy to choose appropriate communication channels for sharing knowledge. ESM provide opportunities for sharing knowledge by means of different types of formats and structures, such as images, instant messages, clips, worksheets, and presentations. Integration of different types of communication features into one

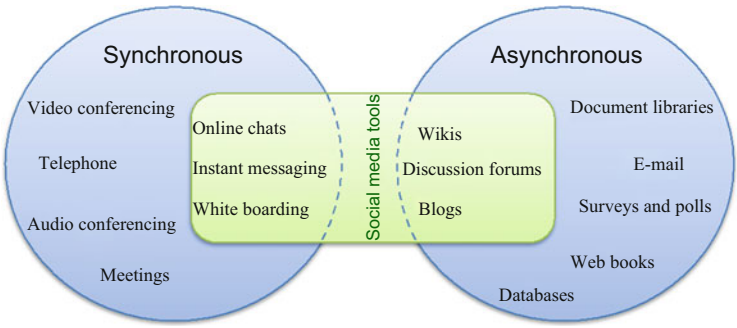

Fig. 4 Synchronous and asynchronous communication technologies

entire communication system empowers participants to select the right channels for sharing valuable knowledge content.

The second dimension of the entirety aspect emphasizes the intervals between communications within ESM. Social media platforms prepare different synchronous and asynchronous communication tools for connecting participants at regular or irregular intervals. Traditional synchronous communications systems (such as telephone calls and face-to-face meetings) are limited by time and location, whereas asynchronous traditional communications system (such as e-mail) are often overloaded (Reinke & Chamorro-Premuzic, 2014). ESM use the dynamic participation approach by integrating synchronous and asynchronous communications in a unique platform to reduce disruptive communication (Faraj & Johnson, 2011). Asynchronous communication systems (such as blogs and wikis) and synchronous communication systems (such as online chats and instant messaging) facilitate knowledge sharing and reduce barriers to participation. Figure 4 illustrates the various synchronous and asynchronous communication tools. The area of overlap between the circles shows tools that are available on social media.

The third dimension of the entirety attribute concerns the nature of communication through social media technologies. ESM provide a platform that integrates social connection data and expertise data (Fulk & Yuan, 2013). This combination helps participants to find not only knowledge content but also internal experts. ESM support ad-hoc social network formation by bringing together several participants with diverse expertise and interests. Social interactions play an important role in constructing social capital between participants that can facilitate knowledge sharing within an organization (Chang & Chuang, 2011). Indeed, participants can improve the quality, scope, and efficiency of organizational knowledge exchange with strong social interactions. Social interactions can be supported by interpersonal trust among participants, which can improve the intensity, quantity, and quality of the knowledge sharing (Hau et al., 2013). Conversely, knowledge exchange also helps preserve social relations.

5.2 Visibility

Using Web 2.0 technologies within an organization improves the transparency of communications between employees. These technologies empower participants to make their knowledge, behaviors, favorites, and connections visible to other users (Treem & Leonardi, 2012). The visibility aspect is construed as a property of the ESM that enable members to observe profiles, contents, activities and connections. Though, participants have autonomy to delineate their visibility in ESM. Transparent systems help participants to find knowledge contents and experts, thus saving time. In conventional and centralized KM systems, visibility is limited, whereas ESM tend to let knowledge networks grow in a transparent manner. Moreover, participants have the autonomy to control the visibility of their knowledge content and their profile information (Aris & Shneiderman, 2007). Visibility includes transparency of knowledge content, priority of interesting topics, users' expertise, and personal information. ESM also empower users to create open or closed communities for common interests where participants can share their knowledge and communicate in secure areas.

Transparent platforms for knowledge sharing offer visibility for both participants' behaviors and knowledge content, which can create critical advantages for the KM process (Zyl, 2009). Conventional KM systems such as e-mail or knowledge repositories transfer knowledge between participants, but have no mechanisms by which to make visible knowledge connections and participants' behaviors (Leonardi, 2014). The visibility of communications permits potential knowledge recipients to receive content, even after the knowledge senders have signed off the ESM (Treem, 2014). Table 4 summarizes social media technologies and features that can improve the visibility of communications.

Several studies have emphasized that users' participation is improved by the visibility of interactions through enterprise social media. Thom-Santelli, Muller, and Millen (2008) reported on 33 interviews in a large corporation, which showed that the visibility of the tagging system supported users in the sharing of ideas and opinions. Moreover, Farrell, Kellogg, and Thomas (2008) argued that visibility of the blogs, wikis, social tagging systems, and social networking websites in firms can improve interpersonal trust between participants. Another study showed that use of ESM features such as mutual content profiling and mutual viewing of profiles positively impact participants' emotional closeness and can improve content recommendations and also participants' contributions (Wu, DiMicco, & Millen, 2010). Furthermore, Leonardi (2014) showed that communication visibility in ESM can improve participants' knowledge of *"who knows what and who knows whom"* within companies.

5.3 Informality

The informality aspect is identified as a property of ESM that enables unofficial, unstructured, intimate, and brief conversations between members. Informal

Table 4 Social media features supporting visibility of knowledge sharing

ESM systems	Features supporting visibility	Sources
Social network sites	• Status knowledge updates • Representing knowledge connections • Knowledge content map • Knowledge workers' profiles (experiences and interests) • Visible rating and reviews of knowledge objects and comments • Visible comments on knowledge content	(Treem & Leonardi, 2012) (Chen, 2013) (Fulk & Yuan, 2013)
Wikis	• Display content and user profiles • History of knowledge editing • Notification of knowledge changing	(Treem & Leonardi, 2012) (Majchrzak et al., 2013)
Blogs	• Knowledge workers' profiles (experiences and interests) • Knowledge publishing consisting of text, video, or audio • Visible comments on knowledge content	(Chai, Das, & Rao, 2011) (Treem & Leonardi, 2012)
Electronic network of practices	• Representing knowledge connections • Experts' profiles (experiences and interests) • Visible rating of experiences by knowledge recipients • Visible comments on knowledge contents	(Wasko et al., 2009)

communication technologies such as online forums, blogs, and wikis play important roles in collaboration, sharing knowledge, and organizational innovation (Wagner & Bolloju, 2004). Some social theories suggest ways of increasing the level of informal communications in organizations. For instance, the media richness theory advocates using richer formal and informal communication systems to handle transfer of information in computer mediated systems. This is supported by new technologies such as Web 2.0, which facilitates the sharing of resources in an enriched environment and the categorizing of data in an informal folksonomy. Folksonomy is a context-based mechanism and language that allows users to engage in social interactions, share personal experiences, and organize them in their own way (Dabbagh & Kitsantas, 2012).

Thanks to the emergence of Web 2.0 technologies, KM systems have evolved from formal systems to informal systems for supporting informal communications (Davison, Ou, & Martinsons, 2013). Contemporary KM systems foster environments in which participants are able to send more personal feedback and comments in informal language in order to acquire genuine and valuable experience and knowledge. The increasing popularity of ESM for knowledge sharing has stimulated new investments in the features that improve informal communications. Table 5 summarizes the social media technologies and features that support informal conversations in organizations.

Table 5 Social media features supporting informality of knowledge sharing

ESM systems	Features supporting informality	Sources
Social network sites	• Real-time text transmission • Informal comments on knowledge content • Informal notifications message for new knowledge contents or new comments • Using informal emoticons feature for preparing information/feedback	(Treem & Leonardi, 2012) (Chen, 2013) (Fulk & Yuan, 2013)
Wikis	• Informal notifications of new knowledge content • Informal discussion page for consensus about knowledge • Informal notification of knowledge changes	(Treem & Leonardi, 2012) (Majchrzak et al., 2013)
Blogs	• Informal communication through blogs • Informal notifications of new knowledge content • Using informal emoticons feature for preparing information • Informal notification of knowledge changes	(Chai et al., 2011) (Treem & Leonardi, 2012)
Electronic network of practices	• Using informal emoticons feature for preparing information • Informal notification of knowledge changes	(Wasko et al., 2009)

Specific types of characteristics in social network content, such as lack of punctuation, loss of formatting, colloquialisms, typos, or emoticons, are evidence of the informal nature of ESM. Other informal features such as votes and recommendations have been designed to combine social connections with information sharing and the transfer of valuable experience. The informal nature of social connections and information sharing can reduce the cost of codification. In summary, ESM encourage real-time informal and social communication better than other KM systems.

6 Perceived Benefits and Costs of ESM

ESM promote two-way communications within organizations. Employees' motivations to participate in KM systems, being related to personal outcome expectations, have been identified as a major challenge at organizational level (Chiu et al., 2006). Both knowledge seekers and contributors need to be motivated to participate in ESM platforms. The use of ESM platforms can reduce some of the participants' costs while also providing them with benefits.

6.1 Entirety and Perceived Benefits and Costs

The entirety aspect of social media influences participants' perceived benefits in various ways. Studies show that different communication channels offer individuals the opportunity to send their knowledge or comments to specific

organizational audiences (Thom-Santelli et al., 2008). Moreover, wiki pages as an open-source communication environment use the wisdom of the crowd to solve users' problems. Providing an entire knowledge exchange platform thus facilitates selective knowledge sharing between trusted members at less cost than that of a conventional knowledge repository (Fulk & Yuan, 2013).

Social media spaces also enhance perceived benefits by integrating social and knowledge relations in an entire networked system. Participants feel a greater sense of commitment and belonging to the firm when they use social networks to communicate (Leidner, Koch, & Gonzalez, 2010). Lack of effective organizational commitment has been identified as a main perceived cost of voluntary knowledge sharing (Casimir, Lee, & Loon, 2012). Commitment is powered by values within knowledge networks. Values are ingrained beliefs acquired through upbringing, personal experiences, and cultural groups, and ESM help participants to act in accordance with their values. Wu et al. (2010) found that mutual viewing of profiles in ESM significantly improves trust, emotional closeness, and a sense of belonging, which improves network performance. Moreover, a range of synchronous and asynchronous tools in ESM facilitate sustainable and flexible knowledge accumulation (Lin, 2007b), improving the density of the network and allowing users to combine different types of interactions to increase sociability, social control, and social interaction throughout the organizational network (Matzat, 2010).

6.2 Visibility and Perceived Benefits and Costs

The visibility of ESM promotes participants' perceived benefits, providing a transparent platform for knowledge exchange and enhancing recognition within organizations (Kane et al., 2014). Participants gain social recognition by sharing knowledge in ESM, and lack of a recognition system discourages employees' sustainable contribution (Treem & Leonardi, 2012). Peer-recognition systems promote knowledge sharing behaviors, from which participants derive reputational benefits (Javernick-Will, 2011; Kumaraswamy & Chitale, 2012). Recognition of users' contributions and expertise can stimulate their participation in expert teams such as ENoP. This is also consistent with social exchange theory, which holds that participants engage in knowledge exchange in the expectation of receiving social rewards (Paroutis & Al Saleh, 2009). A social reward may take several forms, such as status, number of "likes", and positive feedback. For instance, Danis and Singer (2008) found that participants can enhance their reputation in organizational wiki pages in industrial research organizations. Further, Brzozowski et al. (2009) showed that the number of comments is a visible factor that has a positive relationship with the quantity of knowledge sharing, whereas the number of bloggers visiting is an invisible factor that has no effect on the quantity of publishing.

The visibility of ESM also promotes generalized reciprocity within organizations by offering several environments such as wikis and blogs to support collective knowledge. ESM participants expect to receive knowledge in future, not only from fellow employees who have access to the same sources as they do, but

also from networks that reflect generalized reciprocity (Wasko & Faraj, 2005). Kosonen and Kianto (2009) observed that participants are stimulated to contribute in visible ESM because visible systems eliminate individual restrictions by making opportunities for all members to share their ideas and reducing participants' search costs. Also, the visibility of ESM reduces free-riding costs by creating a transparent platform for all participants and, hence, reducing fraudulent behavior (Fulk & Yuan, 2013).

The ability to track colleagues' activities and achievements through ESM also encourages people to contribute actively to knowledge exchange. Visible comments, feedback, and incentives systems enable employees to see coworkers' activities, what feedback they have received and from whom, and, in some cases, how much they earn. A practical study shows that users of ESM monitor and compare their performance relative to colleagues, which visibility allows them to do (Farzan et al., 2008). In addition, participants have the autonomy to control their visibility in order to reduce the risk of acquiring a bad reputation. Sometimes new knowledge seekers ask questions anonymously or using a pseudonym to overcome their fear of starting a discussion (Lee, Choi, Kim, & Lee, 2014). ESM can handle these social anxieties and help users to overcome them.

6.3 Informality and Perceived Benefits and Costs

Informal online communications through ESM reduce the costs of knowledge codification for employees (Majchrzak et al., 2013). For instance, Yammer, Tibbr, Zincro, and JIVE foster informal environments in which participants can pose the question, *"Does anyone know how to use a specific technical module for calculating project risks?"* Such informal questions can get several answers from different points of view, customized for knowledge seekers (Fulk & Yuan, 2013). Informal communications thus help participants to better express problems, seek solutions, and create customized knowledge, which reduces the perceived costs of obtaining appropriate solutions for personal work goals.

ESM are also structured to support widespread informal conversations, even between participants who are not familiar with one another (Zhao & Rosson, 2009). The informal nature of this communication reduces the social barriers that are erected by organizational structure and boundaries between business units. Such communication can create knowledge relationships between colleagues from different organizational departments, which may assist participants in receiving new knowledge from different perspectives, as well as discovering new collaboration opportunities. For example, Zhao and Rosson (2009) conducted several semi-structured interviews with micro bloggers in a large IT company and found that the informal nature of communications in ESM maintained participation and relationships by increasing social exchanges and promoting interpersonal trust, without which knowledge exchange is unlikely to occur (Chang & Chuang, 2011). Truthful communications between participants develop norms, obligations, and collective goals (Chow & Chan, 2008). Moreover, costs incurred by receiving

Table 6 Summary table

EVI model's dimensions	Impacts on participants' perceived benefits and costs
Entirety	• Selecting relevant knowledge recipients
	• Supporting wisdom of crowds
	• Promoting trust through network of participants
	• Supporting organizational commitments
	• Improving emotional closeness between participants
	• Providing flexible (time and space) communications
Visibility	• Supporting peer-recognition systems
	• Structuring social rewards
	• Promoting generalized reciprocity
	• Reducing free-riding costs
	• Reducing search costs
Informality	• Reducing codification costs
	•Reducing bad reputation costs
	• Reducing social barrier costs
	• Promoting interpersonal trust
	• Reducing low-quality knowledge risks

low-quality knowledge also decrease, because knowledge possessors are more willing to share valuable knowledge with recipients.

To sum up, the visibility, informality, and entirety of ESM improve some members' perceived benefits and diminish some perceived costs. Indeed, ESM create appropriate environments for knowledge exchange by breaking down barriers and by enhancing the motivation of participants. Table 6 represents summary of the EVI model's dimensions impacts on participants' perceived benefits and costs.

7 Discussion and Conclusion

Our purpose in this chapter was to clarify how social media can affect participants' perceived benefits and costs of ESM. Studies in the literature indicate that three aspects of ESM, namely entirety, visibility, and informality (EVI), increase these perceived benefits and reduce the costs, thereby encouraging sustainable participation. This study explored in detail the effects of these three aspects. Sustained participation is a crucial issue for companies to implement a successful KM process and keep their competitive advantage in the market. The growing use of ESM technologies has brought calls for understanding why participants use these systems, how they influence motivation, and how they can break down barriers to knowledge exchange in organizations.

ESM technologies as an entire system are able to maximize participation in the organization by presenting different communication channels, intervals, and natures. As these systems mature and are more widely implemented, opportunities

for communication promote knowledge exchange because members have the means to select a trusted group of knowledge recipients. Furthermore, integrating knowledge exchange technologies can help ESM designers develop and refine appropriate technologies.

Visibility in the context of knowledge sharing behavior consists of the visibility of knowledge content and of the connections that mutually foster knowledge exchange. A communal knowledge repository is supported by the phenomenon of the wisdom of the crowd, facilitated by tools such as the wiki page. Moreover, visibility entails the capacity to recognize experts' positions in knowledge networks. Informal interactions foster the exchange of customized knowledge aligned with knowledge seekers' needs and with their own individual scopes, lenses, and perspectives for documenting expertise. Thus, knowledge sharing is a dynamic process that is formed and reconstructed by participants' interpretations.

In summary, organizational social media significantly influence motivation for knowledge sharing. All knowledge management systems both benefit from and are enhanced by the motivations of participants; specifically by making participants' behaviors more visible, creating opportunities for informal interactions, and integrating all knowledge communication technologies in a unique system. Moreover, social media platforms can offer several features that can influence other knowledge sharing factors, although the EVI model does not have the scope to encompass all the attributes that can influence knowledge sharing through organizations. Fulk and Yuan's article (Fulk & Yuan, 2013) contains more in-depth information about EVI. The present chapter presents a model of social media aspects that it is hoped will stimulate KM designers and researchers to take greater account of features of ESM that can affect perceived benefits and costs.

This study suggests potential opportunities for future research. One such opportunity would be to explore the interrelations between different attributes of ESM and their effects. A comprehensive framework might be developed to show how ESM attributes form or influence other aspects of networks. Second, this study has developed a literature-based conceptual model of ESM attributes. Future work is needed to test this conceptual model in various organizational contexts, in order to extend our understanding of how ESM attributes shift knowledge sharing behaviors within organizations.

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