

MASTER'S THESIS IN LIBRARY AND INFORMATION SCIENCE
FACULTY OF LIBRARIANSHIP, INFORMATION, EDUCATION AND IT

Knowledge sharing on enterprise social media among information professionals

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English title: Knowledge sharing on enterprise social media among information professionals

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Completed: 2021

Abstract: Through a qualitative case study, this study explores why enterprise social media is used for knowledge sharing among information professionals, and what factors drive and hinder sharing knowledge on enterprise social media among information professionals. Data was collected through online semi-structured interviews with seven information professionals based in a Scandinavian country. Qualitative analysis of content was used in this study and the results were analyzed according to the affordances of enterprise social media of visibility, persistence and association, and related to previous research. The study concludes that information professionals use enterprise social media for knowledge sharing to increase their professional development, and there are diverse factors influencing knowledge sharing on enterprise social media. Some significant drivers to knowledge sharing are helping others and develop expertise. Significant barriers are fear of sharing and lack of trust in content. The outcome of this study gives a better understanding of why information professionals use enterprise social media for knowledge sharing and what factors influence their knowledge sharing practices on enterprise social media.

Keywords: Knowledge Sharing, Enterprise Social Media, Information Professionals

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1 Introduction

This first chapter introduces the present study. The chapter begins with the background and research relevance of the topic, next the research problem and research questions are presented.

1.1 Background and research relevance

New social technologies have been developed and adopted in organizations in the last years, and the use of these technologies has a positive effect in the development and sharing of knowledge (Chui et al., 2012; Harandi et al., 2019). Social media tools are technology that enables people to interact and collaborate with each other. Recent research asserts that organizations have increasingly implemented social media tools to enable knowledge sharing (Chen et al., 2020; Ellison et al., 2015; Sun et al., 2019). Enterprise social media serve as social interaction platforms, and knowledge sharing is one of the most significant roles of these tools within organizations (Sun et al., 2019).

Enterprise social media (ESM) are web-based platforms used for social interaction and internal communication within an organization, in these platforms employees can post messages, view others posts and comments, and make connections with others in the organization (Leonardi et al., 2013). The introduction of ESM into organizations has important implications in organizational knowledge sharing, with the use of ESM organizations can enhance knowledge sharing between professionals. As ESM are being implemented in a growing number of organizations, it becomes increasingly important to understand the use of these tools for knowledge sharing within organizations (Ellison et al., 2015). Knowledge sharing in this study is understood as sharing of ideas, experience, expertise, providing and receiving advice and information in the work-related context, as discussed in chapter two.

With the attempt to explore why information professionals share knowledge on ESM, this study is situated in the Library and Information Science (LIS) field. The field has been described as an interdisciplinary domain with connections to other disciplines (Bawden & Robinson, 2012; Buckland, 2012; Estabrook, 2009; Larivière et al., 2012). Some of these domains included in LIS are knowledge management, information management, human-computer interaction, information technology (Bawden & Robinson, 2012), computer science, management studies and communication (Estabrook, 2009; Larivière et al., 2012).

This study is in the disciplinary context of Knowledge Management (KM). Knowledge management is part of LIS, it is an interdisciplinary field that is connected to information management (Bawden & Robinson, 2012; Widén-Wulff et al., 2005; Wilson, 2002). This connection is constituted by for example activities related to content management, information technology and promoting the sharing of knowledge and information (Bawden & Robinson, 2012; Islam & Agarwal, 2021). KM has been done by information professionals and has been part of LIS research for a long time (Gorman, 2004; Koeni & Srikantaiah, 2002; Sarrafzadeh et al., 2006; Zhou et al., 2018).

Information professionals in addition to the librarianship profession includes a variety of other professionals (Wildemuth, 2016), some that can be mentioned are information architect, records manager and information manager (Myburgh, 2005). Mancini (2012) discusses the roles information professionals can have within the organization:

“Information professionals” can be found on the legal, records, and library staff of organizations. They can be found among those whose primary focus is governance – e.g., information architects and managers. Process owners, business analysts, and knowledge managers all have effective information management as a core part of their skill set, as do the new wave of information curators and community managers who currently focus primarily on social systems (p. 7).

The function of information professionals in organizations is related to establishing and assuring information policies, processes and standards for managing organizational data, information and knowledge (Agu, 2017). In this study, information professionals are information managers using ESM for knowledge sharing in a large organization. Exploring knowledge sharing among these professionals is seen as interesting for this study because the study is situated in the LIS field and sharing information and knowledge are part of their profession.

Investigating knowledge sharing on ESM among information professionals is relevant for LIS and KM. Heisig (2009) states that knowledge sharing is one of the core activities of KM and as pointed out by Islam and Afroze (2020) it is seen as a very important process in KM. ESM are digital tools used for knowledge sharing, and knowledge sharing skills, technology skills (Smythe, 1999), and familiarity with knowledge and related technologies are some of the needed information professionals’ competencies (Sarrafzadeh et al., 2006).

1.2 Research problem and research questions

Research has been done to investigate knowledge sharing on ESM platforms in organizations (Chin et al., 2015; Gibbs et al., 2013; Oostervink et al., 2016; Razmerita et al., 2016; Rode, 2016; Vuori & Okkonen, 2012) and the use of social media for work-related knowledge sharing (Etemadi et al., 2020). Research has also been done to discuss the connections between Knowledge Management (KM) and Library and Information Science (LIS) (Husain & Nazim, 2013; Martin et al., 2006; Widén-Wulff et al., 2005; Zhou et al., 2018) and to investigate knowledge sharing among information professionals (Haq & Faridi, 2020; Islam & Afroze, 2020; Tella, 2016).

In the study performed by Islam and Tsuji (2016) they explore information professionals’ knowledge sharing practices on social media. The study does not focus mainly on ESM, but knowledge sharing on social media in organizations and daily work is included. Das and Mahapatra (2018) investigate collaboration and knowledge sharing in library and information science groups on social media, the study is not about ESM in organizations but includes sharing and discussing professional activities.

Through consultation of literature predominantly consisted of scholarly articles and books identified at the databases at the university’s library and available

online, it appears that there has been limited research exploring information professionals use of ESM for knowledge sharing in organizations. Previous research called for the need for additional studies to investigate information professionals' knowledge sharing using social media (Islam & Tsuji, 2016), and to study the use of ESM for knowledge sharing among professionals (Oostervink et al., 2016). Considering the lack of research on exploring information professionals' knowledge sharing on ESM, this study attempts to contribute to the LIS and KM literature on knowledge sharing on ESM. Specifically related to the use of ESM for organizational knowledge sharing among information professionals.

Exploring why information professionals share knowledge on ESM is valuable and necessary because knowledge sharing is important for organizations, since it contributes to improve organizational performance. Sharing knowledge will help employees to gain work related knowledge that may lead to better work performance. Ellison et al. (2015) state that ESM is adopted in organizations to enhance organizational performance, especially in the knowledge sharing context. Through knowledge sharing, information professionals can contribute to the already existing knowledge in the organization (Haq & Faridi, 2020), and their use of ESM for knowledge sharing may improve organizational productivity and efficiency (Oostervink et al., 2016). A better understanding why professionals share knowledge on ESM and what factors influence their knowledge sharing practices will assist understanding how they can be encouraged to share knowledge using ESM. And it will help understanding what organizations must be aware of to establish an organizational culture that facilitates knowledge sharing, generates new knowledge among information professionals and enhance work performance.

Getting insights into the factors that influence knowledge sharing on ESM is important. The factors can be used as point of reference in increasing active participation of professionals in knowledge sharing in these platforms to improve collaboration and productivity among employees (Rode, 2016). The identification of drivers and barriers to knowledge sharing can help organizations on how to motivate employees to share knowledge in the work context to improve work performance (Razmerita et al., 2016).

The purpose of this study is to explore and understand the reasons why enterprise social media is used for knowledge sharing among information professionals and what factors drive and hinder sharing knowledge on enterprise social media among information professionals.

Therefore, the research questions are:

- What factors affect information professionals' knowledge sharing on enterprise social media?
- Why are information professionals using enterprise social media for knowledge sharing?

1.3 Limitations and delimitations

The concept of affordances is used as theoretical framework in this study to explore knowledge sharing on ESM. The concept is often used in knowledge sharing on ESM research (Ellison et al., 2015; Majchrzak et al., 2013; Leonardi et al., 2013; Oostervink et al., 2016; Sun et al., 2019; Treem & Leonardi, 2012). The concept is chosen and considered relevant for this study because it helps understanding the use of ESM for knowledge sharing among members of an organization, by helping explain how the ESM affordances facilitate or hinder knowledge sharing on ESM. The affordances can affect why individuals share knowledge on ESM (Oostervink et al., 2016; Treem & Leonardi, 2012). The concept of affordances will be discussed further in chapter 3 theoretical framework.

However, the social capital theory is another theory used as theoretical framework in some studies that explore knowledge sharing on ESM (Fulk & Yuan, 2013; Kwahk & Park, 2016) and could have been used in this study. Vijayalakshmi and Veeravalli (2019) performed a review of ESM literature and identified what theoretical frameworks are used in ESM research. The literature review reveals that the concept of affordances and the social capital theory are the mostly used theories in the studies approaching knowledge sharing on ESM. Vijayalakshmi and Veeravalli (2019) assert that “The impact of social capital on ESM adoption has been studied to identify a person’s position within the group and the benefits thereof, such as a shared sense of identity, shared norms, shared values, trust, cooperation, and reciprocity” (p. 154).

Moreover, the study included the ESM affordances of *visibility*, *persistence* and *association*, that are affordances often cited and used in the literature that adopt an affordance perspective on ESM and knowledge sharing. However, there are other ESM affordances mentioned in the literature. Thus, some additional and relevant affordances could probably be included in the study.

2 Previous research

This chapter presents an introduction to knowledge sharing and ESM, and presents previous research conducted within the areas of ESM and knowledge sharing.

The studies presented in this chapter have been chosen because they approach aspects of knowledge sharing on ESM that are related to this study, including affordances of ESM and factors that influence why professionals share knowledge on ESM. The previous research provides an insight into the topic of the thesis and presents what kind of information is already available within the area.

2.1 Knowledge sharing

There is a lack of common definition of Knowledge Management (KM) in the literature (Milne, 2000; Widén-Wulff et al., 2005). In Library and Information Science (LIS) it is argued that KM is not a new discipline, but a re-branding of information management or librarianship. KM is seen as information management (Wilson, 2002) and it is stated that KM has been done in LIS and by information professionals for years (Gorman, 2004; Koenig & Srikantaiah, 2002; Sarrafzadeh et al., 2006). Familiarity with information and knowledge, with users and related technologies (Sarrafzadeh et al., 2006), and administration of information resources and technology (Widén-Wulff et al., 2005) are some of the overlapping competencies between KM and LIS mentioned in the literature.

KM was raised as a concept within business and computing in the beginning of 1990s, and the overlap with traditional library science, information systems and information management was evident (Widén-Wulff et al., 2005). Sarrafzadeh et al. (2006) points out that there is an overlap between the activities of LIS and KM, it is discussed that KM is a new name for what has been done in LIS for years. Wilson (2002) in addition to argue that KM is frequently used as a synonym for information management, also says that KM can refer to the management of work practices to improve knowledge sharing in an organization. Wilson's statement is reinforced by Schlögl (2005) in her KM literature review.

It is difficult to capture the concepts of knowledge and information sharing because the concepts of knowledge and information can have diverse meanings and be understood in different ways (Savolainen, 2017). For example, what an individual understands as knowledge and its relation to information influences how they see KM (Bawden & Robinson, 2012). This study does not attempt to describe concepts in a philosophical perspective and concepts are not extensively discussed, they are approached with the intention to show how they are adopted in this study.

Knowledge can be understood as what we know and can be expressed in messages that constitute information that can be assimilated by others. In this view it is understood that the information expressed by what a person knows can be shared, not the knowledge itself (Wilson, 2002). In another approach

knowledge can be understood as information processed by a person including ideas, facts, expertise, and judgments (Wang & Noe, 2010). We see that the definition of knowledge is related to information in both views. Knowledge is defined by Wilson (2002) as what a person knows. He states that “[...] knowledge involves the mental processes of comprehension, understanding and learning that go on in the mind and only in the mind, however much they involve interaction with the world outside the mind, and interaction with others” (p. 2). Expressing what a person knows can be done by sending oral, written, graphic, gestural or body language messages. These messages do not carry knowledge, but instead constitute information that may be assimilated, understood, comprehended, and incorporated by a knowing mind into its own knowledge structures (Wilson, 2002). While Wang and Noe (2010) consider “[...] knowledge as information processed by individuals including ideas, facts, expertise, and judgments relevant for individual, team, and organizational performance” (p. 117).

Bawden and Robinson (2012) approaching the concept of information, say that “[...] the ‘commonsense’ meaning of the word relates to knowledge, news or intelligence, given and received, so that someone becomes ‘informed’” (p. 64). They discuss that there is no consensus as to what information is, and even in the LIS field there are diverse views.

In these diverse views, information can be associated with documents and data and also understood as a process or knowledge. The three principal uses of the term information are identified by Buckland (1991) and discussed by Bawden and Robinson (2012):

1. Information as thing: information is associated with documents and data, regarded as informative.
2. Information as process: information is the act of informing, communication of knowledge or news; when an individual is informed what they know change, information changes a person’s knowledge state.
3. Information as knowledge: information is used to denote what is perceived in ‘information as process’, the knowledge that was communicated.

Pilerot and Limberg (2011) adopt the understanding of ‘information as thing’ in their study about information sharing, they discuss that acquired information is what is shared in the act of information sharing, in this perspective data and documents that can be regarded as informative. Pilerot and Limberg (2011) added that information sharing should also “[...] include the act of providing someone else with directions to, or information about, information” (p. 314).

Some researchers in LIS argue that the concepts of knowledge sharing and information sharing are often used as synonyms in the literature. It is stated that knowledge sharing often is used referring to information sharing (Wilson, 2010) and the concepts of knowledge sharing and information sharing are used interchangeably (Savolainen, 2017). Pilerot (2012) says that several concepts of information sharing are used in the library and information science literature, and the concepts of information sharing and knowledge sharing are used as synonyms in diverse research. This perspective is based in the assumption that knowledge is a set of mental processes and cannot be shared.

In the domain of KM, knowledge sharing focuses on sharing knowledge among professionals in organizations, and “refers to the provision of task information and know-how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies or procedures” (Wang & Noe, 2010, p. 117). Knowledge sharing “[...] can occur via written correspondence or face-to-face communications through networking with other experts, or documenting, organizing and capturing knowledge for others” (Wang & Noe, 2010, p. 117). In this approach, Wang & Noe (2010) consider that knowledge is information processed by individuals.

Other definitions of knowledge sharing can be found in the literature, usually related to work contexts of sharing. According to Bosua and Scheepers (2007) knowledge sharing is the process of enquiring and contributing to knowledge through for example sharing ideas, giving advice, learning-by-observation. The generation and exchange of new ideas, insights and concepts is involved in knowledge sharing. Jacobson (2011) defines knowledge sharing as “an exchange of knowledge between two individuals: one who communicates knowledge and one who assimilates it” (p. 925). Knowledge sharing is also defined as the process where individuals mutually exchange their knowledge to create new knowledge (Hooff & Ridder, 2004; Razmerita et al., 2016).

Organizational knowledge sharing is defined by Ellison et al. (2015) as the process of providing and receiving information, advice or feedback in the organization. Knowledge is interpreted and processed by individuals to co-create individual and shared meanings. Lin (2007) defines organizational knowledge sharing as capturing, organizing, reusing and transferring experience-based knowledge and making it available to others in the organization. Cyr & Choo (2010) say that the behavior by which people voluntarily provide others in the organization access to their knowledge and experiences can be viewed as organizational knowledge sharing.

In summary, knowledge sharing is defined in KM as the process of sharing ideas, giving advice and learning by observation (Bosua & Scheepers, 2007), the process of providing and receiving information, advice or feedback (Ellison et al., 2015), and providing information and know-how to help others and collaborate to solve problems and develop new ideas (Wang & Noe, 2010). Knowledge can be shared through networking with others, via written or face-to-face interactions (Wang & Noe, 2010). Knowledge sharing is an important process of social interaction in organizations (Razmerita et al., 2016), and ESM are digital tools that enable social interaction among professionals in an organization (Leonardi et al., 2013; Moqbel et al., 2020; Sun et al., 2019).

Considering that this study is placed in the KM domain and knowledge is shared in social interactions, the adopted concept of knowledge sharing in this study is based on these knowledge sharing definitions in the KM field. Knowledge sharing is understood as sharing of ideas, experience, expertise, providing and receiving advice and information in the work-related context.

2.2 Enterprise social media (ESM)

Following the popularity of social media tools, organizations have been motivated to implement similar tools (Azaizah et al., 2018). Organizations are increasingly implementing ESM for contributing in achieving their KM goals, the ESM networking aspect addresses the need to connect users to each other and to content (Fulk & Yuan, 2013).

There are similarities between social media and ESM, but ESM is intended for use in organizations and is used primarily to accomplish work-related goals and tasks (Ellison et al., 2015). Social media is defined by Ellison and Boyd (2013) as:

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).

Enterprise social media (ESM) are social media used for social interaction and internal communication within the enterprise (Leonardi et al., 2013). Leonardi et al. (2013) definition of ESM is often cited in the literature (Chen et al., 2020; Oostervink et al., 2016; Razmerita et al., 2016). 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).

Weber and Monge (2011) point out that ESM and social media have many of the same technical features, but ESM is designed for organizational use and often adapted according the organization needs. Kirchner and Stegmann (2016) say that ESM is social media that is aimed for enterprises but provide a more controlled environment adapted to organizations when compared to social media. ESM are implemented within organizations and are designed to meet organization needs, primarily to accomplish work-related goals and activities (Ellison et al., 2015).

ESM enable communication and interaction between employees in an organization. These tools allow employees to easily interact across functions and geographical regions. Since it is a digital platform, not physical, it allows people in the organization to participate in the social interaction at any time from any location (Leonardi et al., 2013). An effective way to use ESM is to use it to share knowledge (Rode, 2016). For example, it is possible for professionals physically working in Scandinavia to easily communicate and share knowledge on ESM with professionals physically located in other parts of the world. ESM are important tools for knowledge sharing in organizations and the use of ESM for knowledge sharing among professionals can increase organizational performance (Ellison et al., 2015; Oostervink et al., 2016).

2.3 Previous research: factors influencing knowledge sharing on ESM

To understand why information professionals use ESM for knowledge sharing and answer this study research questions, the factors that can influence why they share knowledge on ESM will be approached. These factors are drivers and barriers that affect knowledge sharing on ESM identified in previous research and discussed in this section.

The factors influencing knowledge sharing can be classified as individual, organizational and technological (Razmerita et al., 2016). Individual factors are related to individuals' motivations driven by an interest or enjoyment of the task itself, or goal-driven reasons associated with sharing knowledge. Some individual factors that impact knowledge sharing are helping others, knowledge self-efficacy, reciprocal benefits, fear of sharing, lack of time and trust (Razmerita et al., 2016). Organizational factors refer to culture in the organization as values, beliefs and systems that may encourage or impede knowledge sharing. Some organizational factors that impact knowledge sharing are management support and encouragement, reward systems and guidelines (Razmerita et al., 2016). Technological factors are associated with system functionality and usability. Some technological factors that impact knowledge sharing are information overload and ease of use (Razmerita et al., 2016).

Table 1 and table 2 present an overview of the factors that influence knowledge sharing on ESM which are found in previous research.

Table 1

Drivers to knowledge sharing on ESM

Drivers	Description	References
Helping others	Helping others on ESM, answering questions; sharing ideas and experiences	Chin et al. (2015), Gibbs et al. (2013), Razmerita et al. (2016), Vuori and Okkonen (2012)
Receive help	Receiving help from others on ESM; asking questions	Chin et al. (2015), Gibbs et al. (2013), Islam and Tsuji (2016)
Reciprocity	Help others to receive help in return	Chin et al. (2015), Rode (2016), Vuori and Okkonen (2012)
Expand network of connections	Expand network on the ESM; making connections on ESM; find experts	Gibbs et al. (2013), Oostervink et al. (2016), Rode (2016)

Ease of use	Easy to use the ESM	Chin et al. (2015), Islam and Tsuji (2016), Vuori and Okkonen (2012)
Management support and encouragement	Support and encouragement from management to share knowledge	Chin et al. (2015), Oostervink et al. (2016), Razmerita et al. (2016)
Rewards	Reward for sharing knowledge on ESM	Chin et al. (2015), Razmerita et al. (2016)
Recognition	Sharing is recognized by colleagues and management	Chin et al. (2015), Razmerita et al. (2016)
Organization policies	Knowledge sharing policies, norms and guidelines	Chin et al. (2015), Oostervink et al. (2016)
Reputation	Gain reputation for contributing and sharing content	Chin et al. (2015), Rode (2016)
Develop expertise	Stay updated; seek for relevant content; exchange experiences; increase knowledge	Oostervink et al. (2016)
Knowledge self-efficacy	Self-efficacy about what one knows	Rode (2016)

Table 2
Barriers to knowledge sharing on ESM

Barriers	Description	References
Fear of sharing	Fear of sharing something irrelevant or inappropriate	Chin et al. (2015), Gibbs et al. (2013), Islam and Tsuji (2016), Razmerita et al. (2016)
Lack of trust	Lack of trust in content published by others, and in colleagues	Gibbs et al. (2013), Islam and Tsuji (2016), Razmerita et al. (2016)
Lack of time	Lack of time to engage in knowledge sharing	Chin et al. (2015), Gibbs et al. (2013), Razmerita et al. (2016)
Lack of support and recognition from management	Lack of support from management to share knowledge	Chin et al. (2015), Islam and Tsuji (2016)

Lack of knowledge self-efficacy	Low self-efficacy about what one knows	Chin et al. (2015), Rode (2016)
Information overload	Too many contributions; too many notifications	Chin et al. (2015), Gibbs et al. (2013)
Change of behavior	Resistance to change behavior from hoarding to sharing knowledge	Razmerita et al. (2016)
Negative reputation	Negative reputation for being negative or providing wrong information	Oostervink et al. (2016)
Negative social climate	Negative climate on ESM related to negative thoughts, feelings and behaviors	Chin et al. (2015)

2.3.1 Drivers and barriers to knowledge sharing on ESM

Helping others in the organization is often identified as a factor for engaging in knowledge sharing on ESM, by sharing content that is relevant to colleagues (Razmerita et al., 2016), to help others with job-related problems and for the benefit of the organization (Chin et al., 2015), and share content to keep everyone informed (Gibbs et al., 2013). People share knowledge when they enjoy helping others, when helping others is perceived as interesting and feels good, or when engaging in intellectual challenges and solving problems is challenging or fun (Wasko & Faraj, 2005).

Receiving help is often mentioned as a reason to engage in knowledge sharing on ESM. Professionals want to receive help to find answer to problems (Islam & Tsuji, 2016), help to accomplish tasks (Gibbs et al., 2013), and contributions that facilitate problem solving or decision making (Chin et al., 2015). Reciprocity is also mentioned, and refers to helping others when they need, to get help when needed (Chin et al., 2015; Rode, 2016). Reciprocity motivates participation on ESM because it creates a perceived fairness and sense of helpfulness among employees (Chin et al., 2015). Wasko and Faraj (2005) argue that individuals share knowledge when they think their contribution is relevant to others, and with the expectation of reciprocity.

At the same time, issues related to trust are often recognized as a factor that hinders knowledge sharing on ESM. Razmerita et al. (2016) point out that lack of trust can be related to competitive work environment and concerns about job security. When a person shares what he/she knows, that knowledge is not exclusive to that person anymore and the professional may be easier substituted. Users feel that their knowledge can be misused by others in the organization (Razmerita et al., 2016), specialized knowledge stolen (Gibbs et al., 2013), and they lack trust in the quality and accuracy of content published by others (Islam & Tsuji, 2016). Trust is important for enabling effective knowledge sharing (Levin et al., 2004), the desire to give and receive

information is related to trust in others' ability and integrity (Wasko & Faraj, 2005).

Fear is another factor that hinders knowledge sharing. Fear that content shared will be misused (Razmerita et al., 2016) and fear of publishing something inappropriate, as for example confidential information, can prevent knowledge sharing on ESM (Chin et al., 2015; Gibbs et al., 2013; Islam & Tsuji, 2016). Employees are concerned about sharing confidential or sensitive information on ESM (Gibbs et al., 2013), and feel that they have to be careful when posting on ESM because content posted on ESM is available to the whole organization (Chin et al., 2015). Employees that are concerned about their job security may not share knowledge, because they fear that sharing their expertise would make them easier replaced (Gibbs et al., 2013).

Knowledge self-efficacy is also identified as a factor influencing knowledge sharing on ESM (Chin et al., 2015; Rode, 2016). Rode (2016) state that professionals that are confident about their ability to add valuable knowledge, that can be helpful to their colleagues, are more likely to share on ESM than professionals with low levels of knowledge self-efficacy. Professionals that are not confident about the value of their knowledge contributions may not feel comfortable to share on a visible environment as ESM (Rode, 2016). Lack of confidence prevents professionals to contribute on ESM because they fear their contributions are not valuable or cannot help solving problems (Chin et al., 2015). Professionals are less likely to contribute on knowledge sharing when they feel their expertise is inadequate (Wasko & Faraj, 2005). Even if people are motivated to share knowledge on ESM to help others, they may feel afraid of sharing because of lack of trust, low knowledge self-confidence and fear issues.

To expand network of connections is another factor that affect why employees share knowledge on ESM. They establish connections to strengthen ties with others in the organization resulting in receiving knowledge in return (Rode, 2016), to connect with people that have the same interests (Oostervink et al., 2016), and to build working relationships (Gibbs et al., 2013). The sense of connectedness provided by ESM enables users to feel they belong to a larger community within the organization and it facilitates interaction and enhances connectivity among them (Chin et al., 2015). The association and visibility aspects of ESM facilitates identifying expertise in the organization (Ellison et al., 2015), and trigger users to connect to relevant people in the organization, experts, and people that can help them with tasks (Oostervink et al., 2016). Ellison et al. (2015) argue that knowing people's connections and identifying what content they are connected to, can help professionals to locate experts in specific domains in the organization. The visualization of others social network may provide a kind of identity warranting, that can build trust and credibility (Ellison et al., 2015).

Developing expertise is another motivator for knowledge sharing on ESM (Oostervink et al., 2016). Professionals collaborate on ESM to learn from colleagues and develop their expertise (Oostervink et al., 2016). The visibility aspect of ESM allows professionals to see what their colleagues are engaged in on the platform, and they can engage in discussions and exchange experiences with them for knowledge development (Oostervink et al., 2016).

Another factor that affects knowledge sharing on ESM is reputation. When sharing knowledge is seen as positive in the organization it contributes to gaining professional reputation (Rode, 2016). Contributing to knowledge sharing helps to strengthen employees' reputation and status as experts (Chin et al., 2015). Content published on ESM is visible to everyone in the organization and do not expire, employees may share knowledge on ESM to improve their professional reputation by getting associated to favorable content (Oostervink et al., 2016). Wasko and Faraj (2005) point out that individuals engage in social interaction with the expectation that this engagement will lead to social rewards as approval, professional status, and respect. The perception that active participation may enhance professional reputation and status in the profession motivates individuals to active participate and share knowledge in organizational electronic networks (Wasko & Faraj, 2005). On the other hand, negative reputation related to association to inappropriate or irrelevant content is identified as a barrier to knowledge sharing on ESM (Oostervink et al., 2016).

Reward for sharing knowledge on ESM is identified as motivator to knowledge sharing, including monetary rewards and social rewards in form of status and recognition (Razmerita et al., 2016), and a reward system that recognize and rewards professionals that engage actively in knowledge sharing and collaboration (Chin et al., 2015). Knowledge sharing is motivated when it is recognized in the organization (Razmerita et al., 2016).

To follow organization policies and norms is also identified as a driver to knowledge sharing (Chin et al., 2015; Oostervink et al., 2016). Employees feel encouraged about using the ESM if there are guidelines indicating what should or not be shared in the work context and outlining the benefits of sharing on ESM (Chin et al., 2015), and are encouraged to use ESM to adhere to organizational norms and formal policy (Oostervink et al., 2016).

Ease of use is another factor that facilitate knowledge sharing on ESM, because on ESM it is easy to create and retrieve content (Chin et al., 2015), and ESM is easy to use to communicate with colleagues (Islam & Tsuji, 2016). Professionals use ESM to facilitate their everyday work and if the platform wasn't easy to use, they would stick to other ways of sharing knowledge (Vuori & Okkonen, 2012).

Information overload is mentioned as a barrier to knowledge sharing and refers to too many irrelevant contributions as self-promotions and not work-related content (Chin et al., 2015). Overload of content makes it difficult to follow-up too many posts and updates (Gibbs et al., 2013). Content published on ESM is persistent and accumulates, employees face an information overload, do not know what information to spend time on, or use too much time to filter information (Oostervink et al., 2016). Information overload may lead to users disengagement from knowledge sharing activities, because it becomes overwhelming preventing them from participating in online discussions (Gibbs et al., 2013).

Another factor that it is often mentioned in studies is lack of time. Even if employees are aware of the benefits of using ESM, they struggle to use it due to time constraints (Chin et al., 2015). Razmerita et al. (2016) point out that the

lack of time to engage in knowledge sharing on ESM may affect how often knowledge is shared in these platforms. Use of ESM competes with employees' daily tasks (Razmerita et al., 2016), employees lack of time to participate in conversations on ESM is a challenge (Gibbs et al., 2013). When time is an issue, professionals may become concerned about the extra workload generated by engaging in knowledge sharing on ESM (Vuori & Okkonen, 2012). Also, the visibility of social media enables employees to be more visible and perceived as available by others (Gibbs et al., 2013). That could lead to more time spent helping others, when lack of time is an issue they may become 'invisible' by not answering or going offline to avoid the extra workload (Gibbs et al., 2013).

Razmerita et al. (2016) identified change of behavior from hoarding to sharing knowledge as a barrier to knowledge sharing on ESM, when employees resist to change their current work practices to sharing knowledge on ESM.

Negative social climate is another identified inhibitor to knowledge sharing in the literature and it is related to employees' negative thoughts, feelings and behaviors expressed on ESM. When employees share negative emotions such as anger and dissatisfaction toward the organization in the ESM creating a negative climate in the platform that may prevent knowledge sharing (Chin et al., 2015).

Management attitude towards knowledge sharing can be a driver or barrier to knowledge sharing. Management support and encouragement to share knowledge is recognized as driver (Chin et al., 2015; Oostervink et al., 2016; Razmerita et al., 2016). When management is involved in the use of ESM, it shows that the use of the platform is seen as beneficial and supported within the organization (Chin et al., 2015).

And the lack of support and recognition from management is a constrain to knowledge sharing on ESM (Islam & Tsuji, 2016). It is a barrier when managers do not participate on ESM, are skeptical regarding the use of ESM and see it as a distraction (Chin et al., 2015). Contributions on ESM are visible to many people in the organization, including management. Users are cautious about joining conversations or asking questions on ESM if managers see it as waste of time or lack of expertise (Oostervink et al., 2016).

Organizational knowledge sharing culture is important for the adoption of ESM for knowledge sharing, the organization should encourage and support employees to share knowledge. Employees engagement in knowledge sharing on ESM is visible to managers, if seen as positive in the organization it encourages knowledge sharing (Oostervink et al., 2016). Organizations can incentive knowledge sharing for example by establishing guidelines for contributions and reward systems (Razmerita et al., 2016). When employees believe that their engagement in knowledge sharing will result in professional reputation gains, they will be encouraged to participate.

3 Theoretical framework

The concept of affordances is presented in this chapter. The ESM affordances of visibility, persistence and association together with the factors influencing knowledge sharing on ESM identified in previous research, and previously presented in table 1 and 2, are used in this study to help understand, interpret and explain why information professionals share knowledge on ESM. The theoretical framework serves as a lens through which the empirical data can be analyzed, and the results of the study discussed.

3.1 Affordances of ESM

Several scholars have proposed the concept of affordances to understand how ESM supports knowledge sharing (Ellison et al., 2015; Majchrzak et al., 2013; Leonardi et al., 2013; Oostervink et al., 2016; Sun et al., 2019; Treem & Leonardi, 2012).

Affordance is a term proposed by the psychologist Gibson (1986) to explain how an object may be perceived differently by different species of animals. Gibson (1986) argues that objects are not perceived free of values and often they are associated with certain types of uses that influence perceptions. Gibson (1986) asserts that “The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill” (p. 127). Gibson uses as an example the affordance offered by a chair. A chair is perceived as *sit-on-able* and affords sitting on.

The concept of affordances was introduced by Norman (1988) in the design field and adopted by software designers and human-computer interaction scholars (Ellison et al., 2015). Norman (1988) states that “[...] the term affordance refers to the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used” (p. 9). A chair affords sitting and can be also carried, knobs are for turning, balls are for throwing or bouncing (Norman, 1988).

Norman (1988) developed further the concept of affordances relating affordances to knowledge and past experience, he states that “[...] affordances result from the mental interpretation of things, based on our past knowledge and experience applied to our perception of the things about us” (p. 219). Users understand that the affordance for a switch is to turn something on or off, based on their past knowledge and experience.

The concept of affordances refers to the potential for a particular action that an object provides (Majchrzak et al., 2013). Affordances are the user’s perceptions of an object’s utility and are unique to the particular way in which a user perceives and uses the object. Affordances are not only the properties of people or technology, they are constituted in relationships between people and the materiality of technology (Treem & Leonardi, 2012).

ESM provides affordances that create opportunity for and constrain knowledge sharing in organizations. Ellison et al. (2015) point out that studies use an affordance approach to explain how the ESM affordances can be used to facilitate and to hinder knowledge sharing. Leonardi et al. (2013) state that

“[...] the affordance view reveals that both positive and negative outcomes can result from the use of social media in the enterprise” (p. 16). For example, the openness of ESM that allows professionals to join conversations, at the same time leads them to be selective in what way they share (Oostervink et al., 2016) because they know it is open to many others in the organization to see. And the affordances can enhance organizational knowledge sharing by supporting how professionals locate relevant content and expertise, and provide the ability to articulate connections to others in the organization (Ellison et al., 2015).

The affordances of *visibility*, *persistence* and *association* are often cited in the literature (Ellison et al., 2015; Leonardi et al., 2013; Oostervink et al., 2016; Treem & Leonardi, 2012) that adopt an affordance perspective on ESM and knowledge sharing and are described in the next sections. These affordances can influence organizational knowledge sharing on ESM by affecting why individuals share knowledge on ESM (Oostervink et al., 2016; Treem & Leonardi, 2012).

One example on how the visibility affordance affects why employees share or do not share knowledge on ESM is connected to the fact that knowledge sharing on ESM is transparent and visible to everyone in the organization. Employees that are confident about their ability to add valuable knowledge to an ESM are more likely to participate actively in knowledge sharing and employees with low perceptions of their self-efficacy in knowledge sharing may fear contributing (Rode, 2016). Another aspect of the visibility affordance that can encourage sharing organizational knowledge is the visibility of knowledge conversations that facilitates informal inferences regarding expertise (Fulk & Yuan, 2013). This aspect can help reduce the challenge of location of expertise by facilitating identifying experts (Fulk & Yuan, 2013).

The affordance of visibility together with the affordance of association affect why employees share knowledge, with who they share knowledge, what connections they have and what groups they participate in on ESM. Oostervink et al. (2016) argue that since connections and knowledge sharing activities are visible to everyone, employees feel pressure from the management to follow specific groups and assure that the right people know what they are doing by connecting to the right people and contributing in the right groups. Employees connect with people that are influential in the organization, as for example managers, and with people that share their professional interests (Oostervink et al., 2016).

Visibility, persistence and association are related to the fact that employees engage in knowledge sharing on ESM to gain professional reputation in the organization and to strengthen ties with other members in the organization, because their interactions are visible for others, are persistently accessible over time and provide a visualization of individual's knowledge contributions (Rode, 2016). The affordance of visibility and persistence affect how users engage in knowledge sharing to develop their reputation, they face the ambiguity whether to engage in discussions or not since contributions are visible and persistent on ESM. Users are careful about what content to associate with, to protect themselves against negative content as for example critical contributions, and they engage in discussions to develop their expertise (Oostervink et al., 2016).

3.1.1 Visibility

The affordance of visibility affords users to make what they know, preferences, user profiles and network of connections visible to others in the organization. Posts, status updates, discussions, comments, and other contributions are visible to everyone that has access in the organization (Oostervink et al., 2016; Treem & Leonardi, 2012). This visibility facilitates to identify and connect to people and networks (Majchrzak et al., 2013).

The engagement of individuals at ESM, such as content of published messages and communication network, that once was 'invisible' to others in the organization becomes visible (Leonardi et al., 2013). Content is visible to many in the organization and people may share what they know on ESM to gain professional reputation by showing that they know a lot (Rode, 2016).

The visibility provided by ESM can affect why people share or not what they know on ESM, some people are motivated to share knowledge on ESM because they know that many people will have access and can benefit from the content shared. On the other hand, some people may feel reluctant to share content when so many people will have access to it, for example fear of demonstrating lack of expertise, afraid of being misunderstood or challenged by others (Leonardi et al., 2013; Treem & Leonardi, 2012).

Visibility is one of the most characteristic affordances of social media. In other types of tools commonly used in organizations, as for example e-mail and other systems that allow people to post and share files with others, there is not such a visibility aspect unless the person is involved in the communication (Leonardi et al., 2013; Treem & Leonardi, 2012).

3.1.2 Persistence

The affordance of persistence refers to the fact that content published on social media does not expire and remains available to users. Conversations on social media persists after they have been posted. These conversations can be searched, browsed, visualized, replayed and recontextualized. It is possible to read, like and comment on content previously posted (Treem & Leonardi, 2012). Generally, contributions as posts and comments remain accessible allowing users to use these previous contributions and combine these with new contributions (Oostervink et al., 2016). Persistence affords users the ability to see and build upon previous contributions (Leonardi et al., 2013; Majchrzak et al., 2013).

When having access to these past interactions and content posted, users can get information about what has been discussed previously and have the chance to learn from the experiences of others. It is not necessary to participate in the interaction or see the interaction between others in real time to have access to the content (Leonardi et al., 2013).

Persistence can influence why people share or not what they know on ESM. Since there is a lot of content there already, some people may think it is not necessary to add more content because it would be irrelevant if similar type of content is already shared previously. People may not add new posts because they find already the answers to their questions in previous conversations between others. At the same time people can feel motivated to share what they

know if they feel like they can contribute to previous conversations that have been started by others in the platform (Oostervink et al., 2016; Treem & Leonardi, 2012). The fact that content created on ESM remains on the platform could prevent people to engage in knowledge sharing if they perceive as negative that their past contributions can be retrieved. Such contributions could be for example a post quickly constructed with spelling errors or a message that could be misunderstood (Ellison et al., 2015).

3.1.3 Association

The established connections between persons and between persons and content are associations. The affordance of association makes it possible for persons to see other persons connections with content and others (Treem & Leonardi, 2012). Association is the possibility to establish connections with other persons in the platform, and between persons and content (Oostervink et al., 2016). Association allows viewing others' networks of connections, and these views can be used to see where an individual's special expertise may fit and what connections are relevant to make (Majchrzak et al., 2013). Connections may be established expecting reciprocal benefits, individuals share what they know and help others in the organization expecting that they will be helped and their request for knowledge or information would be reciprocated (Rode, 2016).

When people follow each other, that indicates an explicit relationship between them. The association of persons with content can reveal information that they have created or are related to (Treem & Leonardi, 2012). It is possible to make connections with people who are not personally known, see what connections they have, which people they are connected to and how they are connected to specific content (Oostervink et al., 2016). It is possible to trace contributions in the ESM to specific users and establish connections with them (Rode, 2016).

Association can affect why people share or not what they know on ESM. When people see other people connections and the content they share, they can identify people related to content that are of their interest and get access to relevant content. They can make connections and share content with these specific people that they understand have relevant experience and expertise (Oostervink et al., 2016). It can be frustrating when connections are made based in a wrong understanding of others expertise or ability to contribute (Majchrzak et al., 2013; Treem & Leonardi, 2012). In addition, people may not engage in knowledge sharing on ESM to prevent getting associated with negative content, including irrelevant or critical messages (Oostervink et al., 2016).

3.2 Application of the affordances in the study

The concept of affordances serves as a lens through which the empirical data of the study can be analyzed, and the results discussed. To help understand how the affordances may affect knowledge sharing on ESM, the relationship between the affordances and the factors influencing knowledge sharing on ESM is established.

The relation between the factors and affordances of ESM is based on how the affordances influence or trigger the drivers and barriers to knowledge sharing on ESM. The affordance perspective “[...] reveals that both positive and

negative outcomes can result from the use of social media in the enterprise” (Leonardi et al., 2013, p. 16). When visibility, persistence and association enable or hinder individuals in the organization to share or not knowledge on ESM. Because what is shared on ESM is visible to others in the organization, is persistent and can be searched and retrieved, and it is associated to people and content.

When the visibility, persistence and association affordances are perceived as positive for knowledge sharing, their relation to the drivers to knowledge sharing on ESM is established. On the other hand, when visibility, persistence and association are perceived as negative for knowledge sharing, their relation to the barriers to knowledge sharing on ESM is established. For example, when professionals perceive that the visibility of their contributions on ESM is positive in relation to gaining reputation. In this example, the visibility affordance is related to the driver gain reputation. The relations between the factors and affordances in this study are established as demonstrated in table 3.

Table 3
Relations between factors and affordances

Affordance	Factors	Relation
Visibility <i>Engagement and content on ESM are visible to others in the organization.</i>	Drivers	Afforded visibility on ESM is perceived as positive for knowledge sharing.
	Barriers	Afforded visibility on ESM is perceived as negative for knowledge sharing.
Persistence <i>Engagement and content on ESM are persistent, searchable, and retrievable.</i>	Drivers	Afforded persistence on ESM is perceived as positive for knowledge sharing.
	Barriers	Afforded persistence on ESM is perceived as negative for knowledge sharing.
Association <i>Engagement and contributions on ESM are associated to individuals and to content.</i>	Drivers	Afforded association on ESM is perceived as positive for knowledge sharing.
	Barriers	Afforded association on ESM is perceived as negative for knowledge sharing.

4 Method

Qualitative research is a research strategy that usually emphasizes words rather than quantification in the collection and data analysis (Bryman, 2016).

Qualitative research is mainly interpretative, interpretation is the personal and theoretical understanding of the phenomenon studied (Zhang & Wildemuth, 2016). Qualitative research is defined by Denzin and Lincoln (2005) as:

“[...] a situated activity that locates the observer in the world. It consists of a set of interpretative, material practices that make the world visible [...] qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them.” (p. 3).

This study is a qualitative research conducted with an interpretivism perspective. This approach is relevant for this study because it helps to understand the phenomenon studied from the perceptions of the participants. Interpretivism “[...] focuses on reality as a human construction which can only be understood subjectively [...]. The purpose of interpretivist research is to acquire meaning and understanding” (Kroeze, 2012, p. 47). In an interpretive research the researcher cannot distance himself/herself from the social reality studied to make sense of the phenomena and create knowledge about them (Kroeze, 2012). The research validity depends on its plausibility, consistency, and logical reasoning (Kroeze, 2012).

Subjectivity, difficulty to replicate and generalize, and lack of transparency are common criticisms towards qualitative research (Bryman, 2016). To assess the quality and defend the integrity of qualitative studies, the trustworthiness criteria can be used: *credibility*, *transferability*, *dependability* and *confirmability*. Credibility refers to the validity of the findings; transferability to how the findings apply to other contexts; dependability to the reliability of the findings at other times; and confirmability refers to the objectivity of the researcher while conducting the research (Bryman, 2016). These criteria will be discussed further in this chapter in trustworthiness.

The aim of this study is to explore and understand the use of ESM for knowledge sharing among information professionals. Saunders et al. (2009) states that qualitative research helps to gain insight into people’s daily work and the relationships between them. To gain insight into the relationship between use of ESM and knowledge sharing among professionals, and to answer the research questions, qualitative research was conducted. The case study research design with qualitative semi-structured interviews was chosen.

4.1 Research design

Case study research design was chosen for this study, the focus was on a single case in one organization instead of a set of cases in one or more organizations. Case study is a common method in social science research and has been adopted for decades in Library and Information Science (LIS). Case study is the description of a situation or event and is focused on a single case or a set of cases.

The lack of generalizability of research findings is the case study most cited weakness in the literature, and it is argued that in a case study there is no basis for generalization of findings beyond the setting in which the case study is conducted (Wildemuth, 2016). However, Flyvbjerg (2006) discusses that a case study without any attempt to generalize can be of value in the process of knowledge accumulation in a field or society. The greatest strength of a case study is the richness in which a situation can be described. We study a case primarily to understand this one case, to catch the complexity of a single case (Stake, 1995). An in-depth investigation and rich details can be provided by a single case study (Wildemuth, 2016).

The research questions of this study aims to answer a “why” and a “what” question and the phenomenon of interest, knowledge sharing on ESM, is a contemporary phenomenon that contains a variety of factors and relationships that can be directly observed. Doing a case study is an appropriate approach for the study since it is appropriate to use the case study strategy when aimed to answer “how”, “why” and “what” questions (Wildemuth, 2016; Yin, 2009). And case study approach is often used in exploratory studies with focus on contemporary events (Wildemuth, 2016). According to Wildemuth (2016) the following questions should be taken to evaluate if case study is appropriate for a research: Does the phenomenon of interest has to be studied in a natural setting?; Does the phenomenon of interest focuses on contemporary events?; Does the research question aims to answer how and why questions?; Does the phenomenon of interest include a variety of factors and relationships that can be directly observed?

4.1.1 Case organization

The organization where this case study was conducted is a large Scandinavian energy company present in many countries worldwide, the organization will be named Case organization. The unit of analysis is one team within the organization, the information professionals working in a department that provides information management services in the Case organization. The team is located in Scandinavia, the department will be named Information department.

Investigating organizational knowledge sharing on ESM in this organization could be of value for similar organizations where information professionals use ESM for knowledge sharing, in terms of enhancing their capacity to benefit from knowledge sharing on ESM. The Case organization is a large organization where employees work in different locations worldwide, and the information professionals in their work interact with people working in different locations and in diverse disciplines. In such type of organizations good collaboration and communication are very important for knowledge sharing. The ESM used in the Case organization has been implemented in the organization for approximately three years.

The ESM tool used in the Case organization is Yammer, it is an ESM that was launched in 2008, was acquired by Microsoft in 2012 and became part of Microsoft 365. It is a platform where co-workers can share knowledge, solve problems, gather ideas and feedback (Mahajan & Ghatak, 2020). Yammer is a very popular ESM, over 500.000 business worldwide use Yammer (Qi & Chau,

2018), including 85% of the Fortune 500 companies (Microsoft, 2020; Qi & Chau, 2018).

Yammer is a platform that can be accessed from multiple devices such as web browser and mobile phones. A primary feature of Yammer is the creation of groups containing users within the organization network. Bookmarks of posts, tags, mentions and replies, personalized notifications and following users are some available functionalities (Azaizah et al., 2018; Mahajan & Ghatak, 2020).

4.1.2 Participants

There was a total of seven participants for the study. They were selected from the group of people working in the Information department in the Case organization. The information professionals working in the department have a background in Library and Information Science (LIS) or related discipline and are based in a Scandinavian country. They provide information and data management support to projects in the Case organization, including advise and support on how to handle data and information, implementation of information management routines and applications. The professionals are placed in different professional levels in the organization: from junior to specialist. At the time of this study the Information department had a total of 45 permanent employees.

Generally, there are not exactly number of interview subjects that are necessary in a qualitative study. Bryman (2016) says that there are many different opinions about the appropriate sample sizes in qualitative research. The size of the samples should be able to support conclusions in a study. Kvale (2007) states that we should interview as many subjects as necessary to get the information we need to know. Having fewer interviews and using more time to prepare and analyze the interviews can be beneficial for a study (Kvale, 2007). Wildemuth (2016) states that studies in LIS are not focused on the number of participants, but instead are focused on the richness and quality of the data collected.

In addition, practical issues including time available to collect and analyze data should be considered. Gillham (2005) points out that practical issues as time and cost should be considered when choosing the number of participants. Bryman (2016) states that it is very time-consuming to transcribe interviews and the researcher should be realistic and take in consideration the available time for the study when deciding how many interviews can be conducted.

Data saturation is “the principle that the researcher should continue sampling cases until no new insights are apparent in the data” (Bryman, 2016, p. 690). Data saturation was used to decide how many participants were needed in the study, and the number of participants was considered appropriated when data saturation was achieved.

Purposive sampling was used for selection of participants. This method is a sampling approach where the participants are selected based on a set of criteria that are established concerning what is needed to address the research questions. It is a common sampling approach used in qualitative research (Bryman, 2016). In the purposive sampling the sample is intentionally selected according to the study needs, the purpose is to select information-rich

participants with a good understanding of the study topic and from which one can learn a lot (Coyne, 1997). The goal is to identify the participants that are able to provide valuable insights on the phenomena of interest (Wildemuth, 2016). The participants were selected considering their potential to provide rich data about the study topic and help answer the research questions.

The population from which the sample was taken is the information professionals working in the Information department. The participants were identified from the list of employees in the department and invited by email. The participants and the Information department were selected considering the relevance to the research questions.

The criteria below were established for participants selection:

- They are information professionals that work in the Information department
- They are users of the ESM tool in the Case organization
- They are placed in diverse professional levels
- They are permanent employees

In addition to the main criteria, the criteria below were established to minimize the bias related to the fact that the author of the study works in the Case organization:

- They do not work in the same project as the author of the study
- Participants and author of the study are placed in the same hierarchical level in the organization
- There are no power relationships between participants and author of the study

Eight information professionals were invited to participate in the interviews, the author of the study was aware of the bias during selection and followed the established criteria when selecting the participants. The interviews started with those who were expected to offer valuable information and continued up to when data saturation was reached. Since saturation was reached, it was not needed to invite more professionals to participate in interviews. The final sample are seven participants with diverse professional levels and working in diverse projects. Two of them have less than 5 years of experience as information professionals, three of them have between 10-15 years of experience, and two have more than 20 years of experience as information professionals. All participants are regular users of the ESM used in the Case organization.

4.2 Data collection

Considering that this study aims to understand how ESM is used for knowledge sharing from the information professionals' perspectives and generate rich and detailed answers, qualitative research was chosen over quantitative research. The semi-structured interview technique with open-ended questions was chosen for this study to gather rich qualitative data. One of the most useful data collection methods for studying information behaviors are semi-structured interviews (Wildemuth, 2016).

Most of case studies are qualitative and use qualitative methods as for example interviews and participant observation, because these methods provide detailed examination of a case (Bryman, 2016). Semi-structured interview is a flexible interview technique, questions can be adjusted during the interviews. In the semi-structured interview, the questions are predetermined but the order can be modified if appropriate and the interviewer has freedom to adjust questions and give explanations (Wildemuth, 2016; Wilson, 2014).

Kvale (2007) says that “the qualitative interview is a key venue for exploring the ways in which subjects experience and understand their world” (p. 9). Gillham (2005) points out the importance of semi-structured interviews, taking in consideration the balance between structure and flexibility, combined with the rich qualitative data obtained. Conducting semi-structured interviews is seen as a good choice of data collection for this study, since this balance between structure and flexibility made it possible to adjust the questions during the interviews and relevant information was collected.

Data was collected using semi-structured interviews with information professionals from the Information department. Semi-structured interviews were used to gather rich data to examine how the professionals use ESM for knowledge sharing. Data collection was stopped when saturation was reached, as each new interview mostly confirmed the findings in previous interviews, so no new insights about the topic emerged from the interviews.

Wildemuth (2016) points out that it is necessary to develop an interview guide with a list of questions, but the interviewer doesn't need to strictly follow the wording of the questions. For this study an interview guide was made in advance with specific questions based on the initial reading of literature and research purpose (see Appendix A). The guide was used as base for the interviews and was designed to help answering the study research questions and to make possible for the interviewees to provide relevant answers, make comments about the topic and provide additional information during the interview. The questions could be asked in an order that suits each individual interview.

The study uses qualitative data collection through online interviewing of seven people from the Information department in the Case organization. The names of the participants were anonymized with the aim of maintaining their privacy, confidentiality, and anonymity.

A research interview is generally a face-to-face conversation between interviewer and participant. But interviews can be conducted through other channels as web-based applications, since these channels have increasing availability and number of users (Wildemuth, 2016). Bryman (2016) points out that online interviews conducted in such applications are more flexible when it comes to schedule and need for travelling is removed. Considering these factors and the current face-to-face meetings restrictions due to the coronavirus pandemic, online interviews were conducted for this study. The interviewer and the participants are frequent users of the Microsoft Teams application. Therefore, the interviews were conducted in video meetings in Teams. The interviews were performed without any significant technological problems. General Data Protection Regulation (GDPR) principles for collecting and

processing of personal data were respected. The interviews were not recorded in Teams and no personal data was saved directly in the application, instead voice audio recordings were made using a mobile phone and a tablet according to provided participants consent.

The duration of the interviews was from 45 to 65 minutes. The consent for the collection and processing of personal data for participation in the interview and voice recording was sent to the interview participants and returned to the researcher by email. No extra requirements have been required from the Case organization for conducting and voice recording the interviews.

As previously mentioned, a mobile phone and a tablet were used for voice recording the interviews. Two recording devices were used to make sure the data is saved in case one device fails. Recording the interviews was used to help with transcriptions, avoid misinterpretations about what was said, and make it possible to focus in concentrating in the interviews instead of having to concentrate in making many notes. Bryman (2016) points out that recording is essential when performing qualitative interviews. In addition to other advantages, it allows repeated examinations of what the interviewee says, helps to correct natural limitations of our memories and allows the interviewer to be alert to what is said instead of distracted getting down notes on what is said (Bryman, 2016).

The data was prepared by transcribing the voice recordings into written text. The interviews were transcribed by listening to the voice recordings at the same day they were performed, or maximum the next day after the interviews were conducted to improve accuracy as much as possible. Bryman (2016) states that interview transcription and coding should be done as soon as possible to take advantage of a recent understanding of the collected data.

4.3 Data analysis

Qualitative analysis of content was used in this study, it is a method for data analysis that has been widely used in LIS (Zhang & Wildemuth, 2016). Content analysis is mainly inductive, with the examination of topics and themes in the data. But the method does not need to exclude deductive reasoning, generating themes from theory or previous research is very useful for qualitative research (Zhang & Wildemuth, 2016).

Qualitative analysis of content involves condensing data into themes or categories based on inference and interpretation. The themes emerge from the data through examination and comparison. In the directed analysis of content approach, the initial coding starts with a theory or relevant research findings and during data analysis the themes or categories emerge from the data (Zhang & Wildemuth, 2016).

The directed analysis of content approach was chosen for this study, this method of data analysis is appropriate to answer the research questions of this study, since the themes emerged in the analysis illustrate the range of the meanings of the phenomenon investigated (Zhang & Wildemuth, 2016).

Directed analysis content approach has been used in this study, themes emerged from previous research and from the data collected in the interviews. The factors that influence knowledge sharing on ESM, previously presented in table 1 and table 2, are the basis for the list of initial coding themes generated from the previous research and presented in table 4.

Table 4
Initial coding themes

Themes
Helping others
Receive help
Reciprocity
Connections
Ease of use (<i>Removed from the final coding</i>)
Rewards (<i>Removed from the final coding</i>)
Management support and encouragement
Organization policies (<i>Removed from the final coding</i>)
Develop expertise
Recognition
Reputation
Knowledge self-efficacy
Lack of trust
Lack of time
Information overload
Fear of sharing
Change of behavior (<i>Removed from the final coding</i>)
Negative social climate (<i>Removed from the final coding</i>)

The coding of the interviews shows that most of the initial themes were appropriate for the data. But some themes didn't emerge from the data and were not used, as for example 'organization policies' and 'negative social climate', and were therefore taken out of the coding schema. New themes that emerged from the data were added to the existing coding schema, and the actual empirical data defined the final themes. Similar themes were combined into broader and more overarching themes, for example 'helping others',

'receive help' and 'reciprocity' were merged into 'help'. Patton (2002) recommends looking for recurring regularities in the data and combine themes into broader categories, figuring out what fit together. Table 5 presents the final coding themes, the complete list of codes applied to the data.

Table 5
Final coding themes

Themes	Description	Notes
Time	Lack of time to engage in knowledge sharing	<i>Based on the initial code: lack of time</i>
Help	Helping others; receive help; reciprocity (help others to receive help in return)	<i>Combination of the initial codes: helping others, receive help and reciprocity</i>
Trust	Trust or lack of trust in content published by others, and in colleagues	<i>Based on the initial code: lack of trust</i>
Fear and knowledge self-efficacy	Fear of sharing something irrelevant; fear of being misunderstood; fear that content shared will be misused; self-efficacy about what one knows	<i>Based on the initial codes: fear of sharing and knowledge self-efficacy</i>
Connections and expertise	Expand network; find experts; stay updated; seek for relevant content; exchange experiences; increase knowledge	<i>Based on the initial codes: expand network of connections and develop expertise</i>
Information overload	Too many contributions; too many notifications	<i>Initial code</i>
Reputation	Gain reputation for contributing and sharing content; negative reputation for being negative or providing wrong information	<i>Initial code</i>
Management support, encouragement and recognition	Support and encouragement from management to share knowledge, or lack of it; sharing is recognized by colleagues and management	<i>Combination of the initial codes: management support and encouragement, and recognition</i>

A Microsoft Excel sheet was created to insert the text extracted from the transcripts. The texts were labeled into the themes, texts related to diverse themes were added to multiple codes. Each coded text can be traced after

interview participant (P01 to P07) and labeled theme. The text was coded by carefully reading the transcripts, each transcript was analyzed, and relevant parts of the text were extracted and categorized into coding themes.

The relation between the themes and the ESM affordances was identified in the data from the interviews. The transcripts already coded by themes were associated to the affordances of visibility, association and persistence. That was done by marking out different parts of the data with colors to fit into the identified affordances. This relationship is used to help understand how the affordances may affect knowledge sharing on ESM, some examples are presented in table 6.

Table 6

Examples of the relation between themes and affordances identified in the data

Themes	Affordances	Example from the data
Time	Visibility <i>(Visible and perceived as available if engaging on ESM)</i>	I think what stops me from doing that more [engaging in knowledge sharing in Yammer] is the time I think, because I do not know if I have the time to go in and look at the questions and answer them. (P03)
Help	Visibility <i>(Contribution is visible on ESM)</i> Persistence <i>(Contribution is persistent and can be found on ESM)</i>	I think the whole point would be to comment in public and not send private messages. I think it is important to answer questions in public to, you know, provide everyone with a result of the discussion and the answer. We do not hide parts of the help process, and others can see and find it later in the feed (P03)
Trust	Visibility <i>(That content is visible is positive for content quality)</i>	I trust [when people share content on ESM] because it is a company social space and I think when people publish, they are most of the time sure about what they publish. (P02)
Fear and Knowledge self-efficacy	Visibility <i>(Too many people can see posts on ESM)</i>	I think I am definitely worried that people would misunderstand what I post, and it will become a huge discussion. I guess I am worried to start a discussion that isn't really my area of expertise (P07) I think it stops me from posting because I know it is visible for everyone and then I really think

		if it is necessary. And if I post something, I should be quite sure that it is correct (P06)
Connections and expertise	<p>Association <i>(Can identify experts)</i></p> <p>Visibility <i>(Can see connections)</i></p> <p>Persistence <i>(Can find relevant content related to someone)</i></p>	<p>It is like finding experts, in a way helps to kind of identify people that know about some specific topics (P01)</p> <p>I have seen that there are some experts posting about specific topics. So, when I have like an issue, I can easily take contact with them directly because I've seen that they are the ones who have the expertise on a particular thing (P02)</p>
Information overload	<p>Persistence <i>(Content persists and accumulates)</i></p>	<p>Because of the way Yammer is set up, the feed just goes longer and longer, you know, I mean, the important information isn't separated from the noise. It is just one long feed of everything. So, of course it is a bit of information overload and difficult to find what is relevant and separate from what it isn't. (P03)</p>
Reputation	<p>Visibility <i>(Relevant contributions are visible on ESM)</i></p>	<p>I mean if you are very active on Yammer and you give a lot of good information and people see that you have a lot of knowledge then I think that effects reputation a lot (P03)</p>
Management support, encouragement and recognition	<p>Visibility <i>(Leaders activities on ESM are visible)</i></p> <p>Association <i>(Content is associated to individuals)</i></p>	<p>I think they [leaders] could encourage us more by being more involved and sharing things themselves. (P05)</p> <p>I know that [I am recognized] when I post things and I see that it is appreciated. They [colleagues] say that 'this was good to know', I get some of those comments. (P01)</p>

The results are presented in themes with quotes to make the findings better understandable, with a balance between the description and interpretation of the results. Patton (2002) states that an interesting report “provides sufficient description to allow the reader to understand the basis for an interpretation, and sufficient interpretation to allow the reader to appreciate the description” (pp. 503-504).

4.4 Ethics

The author of this study works in the Case organization during the study and is aware of the research bias involved in the study. Chavez (2008) says that it is important that an insider researcher is aware of researcher bias since the researcher experiences may influence the study, its research questions, design and data collection. Researchers need to remain neutral and resist to share their own experiences (Fleming, 2018).

Fleming (2018) points out that there are challenges and benefits of being an insider researcher. Some challenges are the desire for specific outcomes, and the implicit coercion that may occur if power relationships exist (Fleming, 2018). At the same time the researcher that is a member of the organization in a case study brings a pre-understanding of the organization to the design of the study and can develop research questions based on the rich understanding of the issues that need investigation and about what is significant (Fleming, 2018).

It is necessary to minimize the potential bias during the research. Fleming (2018) discusses that in the specific case of interviews with members of the organization, the researcher must be aware of the informant bias. When informants give answers that they think the researcher wants to hear (Fleming, 2018). The participants and the author of this study have a professional relationship, and participants may respond according to what they feel the author of the study wants. To minimize bias during the research, it was established that the selected participants and the author of the study do not work in the same projects and that they are placed in the same hierarchical level in the organization, so that there are no power relationships between them.

The participants were not pressured to participate in the study, they were invited to voluntary participate in the interviews and provided a consent for the collection and processing of personal data for participation in the interview and voice recording. An explanation about the topic and the implications in participating in the study has been provided, including the possibility to withdraw their consent. The University's template for obtaining consent was used. Bryman (2016) states that people should always be informed about the research process when asked to participate in a research and should be aware of their possibility to refuse to participate or withdraw. Ethical issues need to be taken in consideration, and it is necessary to follow the ethical principles and informed consent applies (Fleming, 2018). Confidentiality and privacy need to be protected (Fleming, 2018).

In this study no sensitive information has been provided by the participants. The names of the participants are kept confidential and were not included in the transcripts. The names are anonymized with the aim of maintaining their privacy, confidentiality and anonymity. When transcribing the interviews specific details that could make a participant identifiable was altered, as for example mentions of what project they work. Anonymizing is done by eliminating the connection between an individual and samples or answers, to avoid unauthorized people to be able to combine the information with a specific person's identity (Swedish Research Council's Expert Group on

Ethics, 2017). These changes have not altered the meaning of what was said by the participants and their privacy and anonymity will be preserved. Bryman (2016) says that questions of privacy are related to anonymity and confidentiality, privacy and anonymity need to be preserved and respected in the research process and personal information should be kept confidential.

The data collected in the study, voice recordings and transcriptions, were stored according to the University's rules. General Data Protection Regulation (GDPR) principles for collecting and processing of personal data were respected. As previously mentioned, consent was given by the participants and a mobile phone and a tablet were used for voice recording the interviews, the Teams meetings were not recorded in Teams and no personal data was saved directly in the application. No names or other personal identification were attached to the data. The data will be deleted from the storage areas when the information is no longer necessary. The Swedish Research Council's Expert Group on Ethics (2017) points out that the material collected in a research is not the researcher's private property and must be stored and archived according to regulations.

4.5 Trustworthiness

The assessment of the quality and trustworthiness of the research findings should be part of any study. Trustworthiness is a common approach used for assessing qualitative studies and includes four criteria: *credibility*, *transferability*, *dependability* and *confirmability* (Bryman, 2016).

Credibility refers to performing the research according to principles of good research practice and how well the research findings are linked to reality and acceptable to others (Bryman, 2016). Respondent validation is one technique often used to establish credibility, is a process where the researcher provides others an account of the research findings (Bryman, 2016). The goal is to seek confirmation that the findings are congruent with the views of those on whom the research was performed (Bryman, 2016).

In this study it was attempted to describe and conduct the research process in a transparent way to enhance credibility. Interview recordings and transcribed text were examined carefully to improve accuracy as much as possible. To increase credibility of this study, several interviews could have been performed with the same participants, interviews transcripts could be sent for participants validation, and more than one method for data collection could be used. But that was not possible due to time limitations for conducting the study.

Transferability corresponds to generalizing the research findings, it refers to the extent to which the research findings can be applied to another context (Bryman, 2016, Wildemuth, 2016). It is related to the richness in the data sets and descriptions that makes it possible for others to evaluate the research findings' transferability to different settings or contexts (Wildemuth, 2016).

This study provides descriptions that should make possible for others to evaluate the transferability of the results to other settings or contexts. This study does not claim to be generalizable to all other contexts, but there is a

possibility that the findings could be used as point of departure for studies in similar contexts.

Dependability refers to keeping all records of all phases of the research process (problem formulation, selection of participants, interview transcripts, data analysis, and so on) accessible to others. Then it is possible for peers and others to act as auditors (Bryman, 2016). Confirmability is concerned with showing that the researcher has acted in good faith, it should be visible that the researcher did not overtly allowed personal values or theoretical inclinations to impact the research findings (Bryman, 2016). Audits of the research findings and processes is a major technique for establishing dependability and confirmability (Wildemuth, 2016).

This study has been made available and reviewed by a supervisor, the methods and processes were discussed with the supervisor and the records of the research process were kept and could be made available to others during the conduction of the study.

5 Results and analysis

In this chapter, the results and analysis of the data collected in the interviews are presented. The data analysis reveals diverse themes as previously presented in table 5, and the results are therefore organized into themes. Quotes taken from the collected data are used to illustrate the various themes.

To maintain their privacy, the participants names are anonymized. Their code names in this study are P01 to P07, P refers to participant and each one has been given a number from 01 to 07. The code names will be used to be able to know to what participant a quote refers to.

5.1 Time

All participants visit the ESM regularly, almost all of them check it every day, with exception of one participant (P03) that visits the ESM about twice a week, or maybe more often if interesting content is identified from notifications. All participants mention that they post content on ESM at times (questions, answers and updates), but only two consider that they post content often (P01, P04).

Lack of time is suggested by almost all participants as a reason why they do not engage more in knowledge sharing on ESM (P01, P02, P03, P04, P06, P07), they suggest that other work tasks should be prioritized instead of using ESM (P01, P02, P03, P04). According to P01 sharing on ESM is an additional work that is done when extra time for that is available. Other examples are presented in the responses bellow:

I think what stops me from doing that more [engaging in knowledge sharing in Yammer] is the time I think, because I do not know if I have the time to go in and look at the questions and answer them. (P03)

[How often I use Yammer for knowledge sharing] depends a lot on how busy I am with all the tasks and meetings and so on. (P04)

The responses suggest that using ESM is not a priority among the participants, priority should be given to other work tasks and ESM should be used only when there is some time left for that. Participants get concerned about not having enough time to answer questions and engage in knowledge sharing, this indicates that being visible and engaging in knowledge sharing on ESM is seen as potential workload increase. The visibility affordance has a negative influence on knowledge sharing in this context, participants may not engage in knowledge sharing because their activities are visible to others and they can be perceived as available, and that could possibly increase workload.

5.2 Help

The participants often indicate helping others, receiving help or feedback as reasons for knowledge sharing on ESM. All participants (P01, P02, P03, P04, P05, P06, P07) indicate that they share what they know to help others, they feel motivated and want to contribute to the profession and their colleagues' professional development:

I share mostly to help others and to give them input that can help them and their jobs. (P01)

I like very much to help others, that motivates me a lot when I feel that I have really helped someone to do their job, could be small things and big things, but that really motivates me. (P04)

I do want to help others, and also kind of improving information management in general in the company are my biggest motivators. (P07)

Receiving help and feedback (P02, P03, P04, P05, P06) is also indicated by most of participants as trigger to knowledge sharing on ESM. Getting help when needed is pointed out as a reason to engage in knowledge sharing on ESM. P04 states that using ESM is relevant for sharing ideas and experiences, to ask questions and help each other. The visibility affordance makes it possible for everyone to see when they ask for help on ESM. They ask questions, the questions are visible to people on ESM, then others share what they know by answering the questions and helping them to solve problems and develop as professionals. Some examples are presented in the following responses:

It is to help others [that I share on Yammer] and to get help as well when I need. (P06)

Why do I share what I know? It is because I like to help people and when I help people, I also get something back. If I help people, they help me back. So, it is a way to grow in your job. It is a way to learn and it is a way to help others. (P04)

The responses of two participants (P03, P04) indicate that they believe that the visibility of content shared on ESM is positive, and shared knowledge should be available and can be helpful to many people in the organization. P03 says that it is beneficial to make comments to posts on ESM instead of sending private messages to colleagues, then the answer can be of help to others that were not involved in the interaction. The visibility affordance makes it possible for everyone to see the contributions on ESM, and who contributes. Because of that, other people in addition to the one that asked for help can benefit from the knowledge shared.

Diverse participants (P03, P04, P05, P06, P07) perceive that people in the department like to help each other and they always get responses when they ask a question on ESM. This indicates that helping is part of their working culture and that someone will always share knowledge to help the colleagues, as noted in the responses below:

I think it seems like a lot of people at least have the reaction that they, we should help people by responding. I think that is kind of a part of the culture. I think that's a cultural thing where we work. So, it might not be that way in other companies, but I think that culture of supporting and helping out it is showing itself here [on ESM] as well. (P03)

A lot of the employees usually want to help others. So, I typically get a lot of answers when I post a question. (P05)

I feel like you can always get help from people in the department, no matter if you have never talked to them before or not, I feel like that culture we have kind of in the workplace is translated to Yammer. (P07)

Two participants (P03, P04) mention that they try to find content that can help them in existing posts on Yammer, in addition of asking questions. The affordance of persistence affords professionals to find previously published knowledge contributions on ESM posts, and that can be of help to solve their work-related issues:

Quite often I post a question if there is something I'm looking for assistance or help. But if I know or remember that I have read something on Yammer earlier, then I may do a search to see if I can find something about the earlier discussion on Yammer. (P04)

P03 says that it is good to know that one can search and find old posts with relevant content on ESM, indicating that persistence of content can be positive because it is possible to retrieve previously posted content:

I think mostly it is positive [that content remains] because as we use it to post both information and also sometimes attachments, documents, it is good to know that I can go back and find posts from a year back from example, for example to check the content. (P03)

The responses suggest that participants search and find content previously posted on ESM that are visible and available, and they can benefit from this content to help them solving problems and increase their knowledge. The affordances of visibility and persistence are reflected in the responses related to help. Visibility allows the participants to see who needs help and allow others to see who is helping, and persistence allows them to search and find previous contributions that can be of help.

5.3 Trust

Based on the responses given in the interviews it seems like there is some level of lack of trust in content published by others among participants. At the same time, many participants indicate that they trust their colleagues and their professional abilities and believe that colleagues have good intentions and want to help.

Most of the participants suggest that they trust the colleagues, that colleagues want to help and do not post wrong content with the intention to do so (P01, P03, P06, P07). But people may think they are providing correct answers or information when it is actually not correct (P01, P03, P06), and it is necessary to double check content published on ESM if does not come from people the participants see as experts or super users (P01, P03, P06). P01 and P06 highlight that people do not post wrong information on purpose, but because they lack knowledge about the topic they are commenting about. This is also reflected in the following responses:

Well, yes and no [trust content]. I mean, you know people are professionals. But of course, you check as well if you feel that it might not be correct. Just do not take it as a hundred percent correct information [...] And I think the

trust is very high because you know all the persons involved, you know them personally. (P03)

There are some people that I know if they post things I will not check that, because I know they are super users so on, but if it is just a random person, I'm not interested. (P01)

P02 and P05 say that they trust content published by others on ESM. They argue that the company ESM is a public space in the organization, content is visible to others, and colleagues are professionals that should be sure about what they post in such space. In addition, P05 points out that when wrong information is posted on ESM, someone else will always point that out.

Other participants (P04, P07) argue that what maybe seems to be wrong could be just different opinions and perspectives:

I trust content [...] I wouldn't say that people post wrong things, because Yammer is not a newspaper or sort of a media that pretends to be objective in that way. It is always a person who is writing this, so the person who is responsible, it would always be that person's opinion or experience that is behind the words. (P04)

I trust that they think it is correct. It could be different ways of doing things. So, it depends, like it could be hard that there's a wrong or right, you know, it could just be different ways of solving a problem. (P07)

As indicated in the responses it seems like there is some level of lack of trust in colleagues' competence. But even if some of the participants do not totally trust content that is published on ESM, they seem to generally trust colleagues' integrity. The affordances of visibility and association allow content to be visible and associated to individuals on ESM. Responses indicate that since content published on ESM is visible to diverse people in the organization and connected to individuals, participants believe that wrong content would not be posted consciously. They believe that most people would probably check the quality of the content they want to share before posting. And if wrong content is published, probably others would point that out. This indicates that the visibility and association aspects of ESM are seen as positive when it comes to the quality of shared content.

5.4 Fear and knowledge self-efficacy

Participants point out that they fear to be misunderstood when posting on ESM (P02, P05, P07), as mentioned by P02: "I am afraid to be misunderstood, I can say like I have to think through before I post". Many participants indicate that they are careful and double check any content before posting to avoid misunderstanding or posting something not relevant (P01, P02, P03, P05, P06), as showed in the responses bellow:

When posting I think about what I post and I really look through, if it is correctly, if there's no chance that they might be misinterpreted because I haven't given enough information or using specific enough language. (P03)

Sometimes I feel afraid that I will not be understood. So, I usually have somebody else that quality checks things before I post them, because it is from

my perspective and I do not always consider others, as well as I want people to understand the point of view and the answer, so I usually spend a lot of time writing them. (P05)

When asked if they are afraid that content shared on ESM could be misused, all participants (P01, P02, P03, P04, P05, P06, P07) suggest that they are not afraid of that. It is indicated that what is shared on ESM is knowledge and information related to their discipline that it is supposed to be made available to others in the organization (P02, P03, P04, P05, P07). This is reflected in the following responses:

No, I do not think about that [knowledge could be misused], not really... It is all corporate ownership anyway. If I had a good idea, I would not post it in normal social media. But at work I'm not thinking about that because it is common knowledge that we need to share anyway. (P03)

No [I do not feel afraid that content I share could be misused]. What I post on Yammer is almost always something related to a topic I work on and to our discipline, information management, so I do not see how anyone could misuse that. No, I'm not afraid of that. (P04)

It seems like some participants may not share knowledge because they are not confident about their expertise or self-efficacy in knowledge sharing (P02, P06, P07). It is suggested that they are not sure about their competence, do not have the necessary expertise about a topic or can give the right answer to a question. P02 commented that he/she thinks about his/her competence and if he/she has the necessary expertise to answer a question or give information about a topic on ESM. This is also indicated in the following responses:

If someone asks a question, and I think I know the answer I will answer, but usually I wait and see if other people answer first. I need to think if it is the correct answer that I will post. Sometimes if I'm not quite sure I need some time to figure it out or have a second thought up on it. (P06)

I think I'm definitely worried that people would misunderstand and it will become a huge discussion, especially with like, is there things that do not really have an answer and then it is kind of like, I guess I'm worried to start a discussion in something that isn't really my area of expertise. (P07)

The visibility affordance allows content published on ESM to be visible to the whole company and participants are aware about what content they post, and how it will be received by others. The amount of people that will have access to content published on ESM may stop people from sharing. The participants indicate that because posts on ESM are visible to everyone in the organization, content will only be published if they consider it to be necessary. This is reflected in the response below:

I think it stops me from posting because I know it is visible for everyone, and then I really think if it is necessary. And if I post something, I should be quite sure that it is correct. (P06)

In the responses it appears that professionals with low perceptions of their knowledge self-efficacy fear that their contribution is not valuable to others and are careful to engage in knowledge sharing. They know that content they publish is visible and available to many people in the organization and this may

prevent them to contribute to knowledge sharing. The visibility, persistence and association affordances of ESM that allow everyone in the organization to see, find and associate content posted on ESM to individuals can hinder knowledge sharing in these cases.

5.5 Connections and expertise

To establish connections, locate and connect to experts in the organization, develop expertise by increasing knowledge, staying informed and finding content relevant to their work tasks is indicated by the participants as reasons to share knowledge on ESM.

Almost all participants indicate that ESM helps finding experts in the organization, and to establish connections with people that share knowledge that is relevant to their work and professional development (P01, P02, P03, P04, P05, P07). The visibility affordance allows them to see other people activities on ESM and identify potential experts in relevant areas. This is reflected in the following responses:

I have seen that there are some experts posting about specific topics. So, when I have like an issue, I can easily take contact with them directly because I've seen that they are the ones who have the expertise on a particular thing. (P02)

I follow people that I know are writing interesting things. So, I follow some from IT, and I follow some of my colleagues in the department. (P04)

I use the search field in Yammer to search for existing posts about different subjects. And I also make comments on existing posts if I have something to add. I also use Yammer to kind of figure it out who I am going to ask something about, specifically for instance within a project or if something they are good at. And then I kind of use Yammer to understand what people are doing, because it is a so big company that you do not know what everybody is doing. So, I think Yammer is a good place to figure it out what people actually do and how they can help you, and if you can help them. (P05)

All participants indicate that they follow groups they find interesting in the organization, but the following people function on Yammer does not seem to be extensively used by them. Some participants follow few people that they perceive as experts or that publish relevant content (P01, P04, P05, P07), as commented by P07: “[I follow] mostly people that are either experts within information management or a leader [...] the leaders that are higher up that I know use Yammer and post interesting things”.

Some participants indicate that following individuals on ESM is not very necessary, since they follow groups and get updates and notifications from there (P01, P02, P06). Some participants didn't know about the possibility to follow individuals on Yammer and were not familiar with this feature (P02, P03, P06), as mentioned by P06: “I do not follow people and I am not familiar with this feature, maybe because it is quite enough following groups. So, I do not think I need to follow people”.

It seems like developing expertise, increasing knowledge, and finding information relevant to their work are strong reasons to knowledge sharing on ESM among participants. Diverse participants indicate that they participate in

interactions on ESM to increase knowledge in diverse areas and in their discipline (P02, P04, P05, P07), as showed in the following responses:

I like to check specific Yammer groups that kind of increase my knowledge level. The areas that I like, things that deal with my discipline, but also things that help me to increase my knowledge in other areas. (P02)

I think it is a very effective tool for sharing ideas and helping each other and keep on continuous learning from others, especially from others in my groups, in other projects, since it is open to the whole company it is easy to pick up. (P04)

Another reason to use ESM reflected in responses from all participants (P01, P02, P03, P04, P05, P06, P07) is to find information relevant to their work. They find information that can help them solving work tasks and get input and feedback on specific issues, as showed in the responses below:

I think for me it is actually finding information that is relevant for me. And I think increasing my knowledge level that is very important. And of course, being up to date with what is happening internally in the company. I think that's also very important. And I think another important thing is that because there are so many groups so I kind get to know different things that I would not be able to get to know if I didn't, for example, check in there. I think I've learnt a lot about other disciplines outside our discipline on different topics, different views. (P02)

I definitely use Yammer for information relevant for my tasks because that's already our Yammer channel in the department specifically used a lot for. I think almost everything there is relevant for my tasks. I also use it for inputs and feedback on specific ideas or getting help in specific ideas or specific topics that I'm working on. (P04)

Also, to get updated about what happens in the organization is a reason to participate in the ESM mentioned by many participants (P02, P04, P05, P06, P07). P05 says that in such a large company it is important to know what is happening in the different departments, and Yammer is really a good place to share company information.

As reflected in the responses, participants establish connections and find experts on ESM. They can see content published by other people in the organization and their connections, then they identify and associate to people that share relevant content and have expertise in specific topics. The affordances of visibility, persistence and association make it possible to see professionals' contributions and connections on ESM, and it is possible to find experts by seeing persons connections to specific topics and disciplines, perceiving if someone knows a lot about a topic.

5.6 Information overload

Participants indicate that information overload hinders knowledge sharing (P03, P05, P06, P07), and seems like it may be difficult to find relevant content because that are too many posts, including irrelevant content (P03, P05, P06, P07). The persistence affordance allows content to remain on ESM, leading to information overload. The participants point out that posts persist and

accumulate in the ESM feed and relevant posts may get lost between irrelevant ones. This is reflected in the following responses:

Because of the way Yammer is set up, the feed just goes longer and longer, you know, I mean, the important information isn't separated from the noise. It is just one long feed of everything. So, of course it is a bit of information overload and difficult to find what is relevant and separate from what it isn't. (P03)

I think it is an effective tool, but I also think at least in some channels, it will be an information overload [...] It can be quite negative if you think about how much information it is. And sometimes how unnecessary information is. (P05)

Some participants (P01, P02, P06, P07) indicate that too many notifications coming from announcements and posts on Yammer may become an issue that prevents them to engage in knowledge sharing in the platform. They get an overload of notifications and do not manage to follow-up all updates and may not see relevant content. P02 points out that the Yammer feed is very overloaded with posts and it is difficult to go back and read previous posts, P07 mentions that he/she receives too many notifications from Yammer and ends up deleting the notifications without being able to check the content.

It appears that participants try to deal with the notifications overload issue by restricting what notifications they receive (P02, P05, P06). They deactivate notifications from some groups and reduce how often they will receive notifications from the ESM, as mentioned in the response below:

I put filters, like now I do not put notification for all the groups I follow. I have put notifications for the department because it is a discipline thing and the company group which comes once a week. So, kind of like a summary of things. [...] So, when I have time, I will go and see what is up. I do not want overload of information. (P02)

It is indicated in the responses that because content persists and accumulates on ESM, it is difficult to find it back in the feed, and relevant content may disappear between the posts. The persistence affordance contributes to this issue allowing content published to accumulate in the ESM feed.

5.7 Reputation

Gaining professional reputation is suggested by many participants as a drive for knowledge sharing on ESM. Most of participants indicate that sharing what you know on ESM can be positive for the professional reputation (P01, P03, P04, P05, P07). They suggest that individuals become visible, are seen as wise, helpful and engaged in the profession, as commented by P07: "Being active on Yammer shows that I'm engaged in the profession, which I think is very positive". The visibility and persistence affordances make it possible for everyone in the organization to see others' activities on ESM, and that may affect reputation. It is suggested that being active on ESM, answering questions and posting relevant content is positive because the contributions are visible, and people can see that you are knowledgeable and want to contribute. This is indicated in the following responses:

I mean if you are very active on Yammer and you give a lot of good information, and people see that you have a lot of knowledge, then I think that affects reputation a lot. And then they see here is a person they could go to, you know, about any issues. So, I think that's a big deal. I mean, it is very visible who is active on Yammer. (P03)

It is positive because when I post something or when I answer another person's post then people see that I'm sort of active, that I contribute and that I want to help either by answering other people questions or by being open and ask questions myself. So, I guess affects the professional reputation a bit. It shows sort of that you are a person who wants to contribute to the common better. (P04)

I think a lot of people that are super involved in posting and is really active, I think they can have a positive effect on their professional reputation. Mostly because then you are noticed by a lot of people. (P05)

As observed in the responses, diverse participants suggest that relevant contributions on ESM may improve professional reputation. At the same time most of participants suggest that sharing irrelevant or inappropriate content can negatively affect reputation (P01, P02, P03, P04, P05, P07). That is related to the fact that content is visible to many people in the organization and associated to individuals on ESM. The participants point out that everyone can see who posts and what is posted on ESM, and posting critical, inappropriate, or too personal comments can have a negative impact on reputation. P01 points out that negative and inappropriate comments posted on ESM are visible to everyone in the organization with the name of the person who posted, and that is not good for professional or personal reputation. This is reflected also in the responses below:

If the knowledge you share is wrong, if your input isn't very helpful or good, so that goes both ways. And it is very visible, it is not just for the one person who you answer that on the email or something. It is visible to everyone. So, I think it is quite revealing. If you're active on the Yammer is quite revealing whether you're good or bad on your job. So, in a sense it is like, it is a bit of a risk. (P03)

People need to be careful to not share personal, to not being too personal in a way because it is seen by everyone. But I think most people have that filter, and also not to start you know, big discussions about politics and 'my opinions' on everything that's not maybe related to work even, we shouldn't use Yammer for that. We should use Yammer to what we do in the company, and use it in a positive way, sharing, lifting each other up, not pressing each other down. (P04)

I would maybe be hesitant to write critical comments and comments that can be seen as kind of bullying as well, or negatively about the company, and mostly because yeah, the whole company see that. And how you are perceived on Yammer, it is important to not look a certain way on Yammer, is traceable back to you in a way [...] everybody can find it again. (P05)

The responses show that considering that content published on ESM is visible, persistent and associated to individuals, the professionals may engage in knowledge sharing to improve their professional reputation. And they are aware that posting or getting associated to negative content can be bad for their

reputation. This reflects the aspects of the affordances of visibility, persistence and association.

5.8 Management support, encouragement and recognition

Management support, encouragement and recognition are indicated by many participants as motivators for sharing knowledge on ESM, and the lack of it as barriers.

It appears that participants believe that leaders should be more active in knowledge sharing on ESM. They perceive that by being active, leaders show that ESM should be used for knowledge sharing, as demonstrated by P01: “The leader team need to use it more. I think if the leader team is more active, if they are using it, they encourage people to use”. Employees can see that leaders are active in knowledge sharing on ESM and feel encouraged to also share knowledge on ESM (P01, P02, P03, P04, P05, P07). The visibility and persistence affordances allow employees to see recent and previous leader’s activities on ESM. This is reflected in the following responses:

If management is active on the channel maybe that would show that it is positive to use it, they should advertise about Yammer on department meetings to promote it. If it does play a positive role then they should underline it. (P03)

I think it is very good that top leaders are getting involved [in using Yammer] and I think our leaders in our profession could be better involved. (P07)

Some participants indicate that they feel encouraged by management to share knowledge on ESM (P03, P04, P05). P05 says that leaders are open and try to encourage the use of Yammer as much as possible in the department. But many participants (P01, P03, P04, P06) suggest that they were much more encouraged to share knowledge on ESM when it was implemented at the Case organization than now. They suggest that leaders are less focused on promoting the use of ESM after the introduction phase of the platform in the organization. As demonstrated by P04: “We do not mention it so much anymore [in the department]. But I think when Yammer was new, we talked about how important it is to use it for sharing knowledge”. They also indicate that the encouragement when the ESM was implemented is seen as the reason why many employees are active on ESM today (P01, P03, P04):

I think that we were encouraged for that [sharing what we know on Yammer] when we started using Yammer, and then we see now that it is more people using it because we were early. (P01)

So, and I'm guessing that has worked [encouragement from management when Yammer was implemented]. I mean, there's probably a lot more stuff getting written there now than in the beginning and it is more of a natural tool to use. I mean it is not talked about that often, but it was talked about in the beginning and I think they probably see that it is used enough to not have to mention it anymore, probably. (P03)

It seems like some participants do not feel they are very encouraged by management to share knowledge on ESM, because there is a lack of focus on that from management (P01, P02, P06, P07), and content posted on ESM is visible to everyone (P06, P07). This is showed in the following responses:

I do not see this aspect [sharing on ESM] like being a very strong focus [from management]. It is more like if you want to, you can, if you do not, it still ok. (P02)

I think we are more encouraged [from management] to share like in a monthly meeting or in an e-mail or in a meeting. Like I think we are more encouraged to do that than to use the Yammer, and I think that kind of has to do with the fact that it is open. (P07)

The visibility, persistence and association affordances make it possible for the participants to see and follow up leaders' activities and engagement in knowledge sharing on ESM. Since content posted on ESM persists and is visible to everyone, they can see if leaders are or not active in sharing, posting, commenting, or liking content on ESM, and this may influence participants engagement in knowledge sharing.

Recognition is indicated by all participants as a motivator for sharing knowledge on ESM (P01, P02, P03, P04, P05, P06, P07). The visibility affordance allows colleagues and leaders to see contributions on ESM, making it possible to show recognition. The participants suggest that they feel encouraged and recognized to share knowledge on ESM when recognition is showed by others. This is reflected in the responses below:

I know that [I am recognized] when I post things and I see that it is appreciated. They [colleagues] say that 'this was good to know', I get some of those comments. Maybe not always comments on Yammer, but when we have meetings, they said 'oh that's good because we have seen this announcement' or 'we have seeing it on the Yammer that you have posted', that is motivating. (P01)

I think that being recognized encourages sharing, because if you just share and you do not get any feedback through likes and comments, then you just probably think that all this wasn't an interesting topic for others. So yeah, of course. So that's probably equally important that we give feedback just to encourage people to post more. (P03)

Getting positive feedback from management appears to be a recognition factor that encourages sharing knowledge on ESM (P03, P04), as reflected in the following response:

I'm quite sure that if the leader had told me that she/he sees that I'm very active on Yammer and help other people, I would be proud and I would think, okay I'll do this even more. That would motivate me, if the leader gives a sign that she/he really sees it [...] So that's maybe something that the leader should give more feedback on, actually follow up a bit more. [...] the leader should give credit to people who really are visible on Yammer and tell us that she/he sees it. Yeah, to give feedback or comment. Give us the credit because it is a very important thing we do when we share on Yammer, we help the whole team to lift the skills, their skills. (P04)

And getting comments and likes in content shared on ESM is seen as recognition by almost all participants (P02, P03, P04, P05, P06, P07), as suggested in the following responses:

I have to admit that I like to see that people have seen the post and given a thumbs up, yes. And I try to do that myself as well to sort of both to mark that I have read this, and also to sort of acknowledge that people have shared something. (P04)

I feel like every time I do [share what I know] it is recognized by everybody and that it is positively received as well, and that people kind of encourage the sharing because either they like it or they are like adding greetings, comments. (P05)

The responses suggest that when leaders and colleagues see and add likes and comments to content shared and visible on ESM, the professionals feel recognized and motivated to keep sharing. And they perceive that likes and comments on ESM show that leaders and colleagues can see that they are active on knowledge sharing and show appreciation for the contributions. The persistence and visibility affordances allow feedback, likes and comments to be traceable and visible to a wide audience on ESM, which in turns enables public recognition.

6 Discussion and conclusions

This study has been conducted with the main purpose of exploring and understanding the reasons why enterprise social media is used for knowledge sharing among information professionals, and what factors drive and hinder sharing knowledge on ESM among information professionals.

In connection to the research purpose, described above, the research questions below were formulated:

- What factors affect information professionals' knowledge sharing on enterprise social media?
- Why are information professionals using enterprise social media for knowledge sharing?

In this chapter, the results are discussed in relation to previous research. The results demonstrate that there are diverse factors that enable or hinder knowledge sharing on ESM among information professionals. Thus, the following themes are discussed in the next three sections: enabling knowledge sharing on ESM, preventing knowledge sharing on ESM, and why ESM is used for knowledge sharing. Then the research questions are answered based in the discussed themes, and some limitations of the study are discussed. The chapter concludes with concluding remarks and further research suggestions.

6.1 Enablers to knowledge sharing on ESM

The data analysis reveals that there are diverse factors that enable knowledge sharing on ESM among information professionals. Helping others is identified by Razmerita et al. (2016), among others, as an important factor that influences knowledge sharing behavior, this was also the case in this study. The results show that professionals help others to contribute to the profession and to help colleagues to develop skills, including receiving help when needed. This can be related to the fact that helping and receiving help contribute to performing work tasks and developing skills. In addition, helping each other is seen as part of the working culture in the Information department, then sharing knowledge is seen as positive and everyone in the department should contribute. Previous research (Razmerita et al., 2016) also shows that the culture in the organization may influence knowledge sharing behavior and when sharing knowledge and helping are part of the culture, individuals will probably commit to it. It is also showed in the results that professionals are aware of the advantages of the visibility of the contributions on ESM. When they help others, the shared knowledge is visible, everyone can see it, search, and find it, and can benefit from it. This positive aspect of the visibility affordance is also highlighted by Treem and Leonardi (2012).

Ellison et al. (2015) emphasize that asking questions enable knowledge sharing, because when people make questions, they drive others to share knowledge. In line with that, the professionals in this study enable knowledge sharing by asking questions to get needed help or information. And when they look for content previously published by others on ESM, they take advantage of the persistence affordance that affords them to find previously published content that can be of help to solve their work-related issues. Advantages

related to content published on ESM being visible, searched and found later is shown in previous research (Ellison et al., 2015).

In this study, in accordance with previous research (Wasko & Faraj, 2005) engaging in knowledge sharing is seen as positive for gaining professional reputation. Based on the results, it is seen that professionals are aware that engaging in knowledge sharing can create a perception that professionals are smart, collaborative, and engaged in the profession. As shown by Chin et al. (2015), when professionals help others by sharing knowledge on ESM, they may at the same time gain positive professional reputation and be perceived as experts in the organization. That is possible because colleagues and leaders can see what contributions the professional has added in the ESM, and helping each other and sharing knowledge are considered positive in the organization culture. Since the contributions on ESM are visible to everyone and remains over time, these professionals are visible and identifiable by others and that reflects as positive professional reputation. This is in line with previous research (Rode, 2016) that shows that ESM provides a way to share knowledge that is visible to the whole organization, persistent over time and traceable to a specific person, and employees can improve their professional reputation on a larger scale compared to other channels as for example emails.

The results show that management support and engagement in knowledge sharing on ESM is a strong enabler for sharing knowledge on ESM. Leaders' involvement in knowledge sharing on ESM is seen as positive and encourages knowledge sharing. It indicates that management engagement in knowledge sharing on ESM is important to motivate knowledge sharing in the platform. Previous research (Chin et al., 2015) has supported that when leaders are involved in knowledge sharing on ESM, that shows that the use of ESM for knowledge sharing is encouraged within the organization. The visibility affordance makes it possible for others, including leaders, to see the contributions that can create value and lead to reputation gain and benefits. Previous studies (Islam & Tsuji, 2016; Razmerita et al., 2016) also show that organizational culture and management support play important roles in the adoption of knowledge sharing behaviors.

In this study, the results demonstrate that many professionals see leaders' visible engagement on ESM as an indication that ESM should be used for knowledge sharing. Previous research (Ellison et al., 2015) also shows that when professionals see similar visible activity performed by their leaders and colleagues, they are more likely to engage in knowledge sharing. This perception of leaders' knowledge sharing practices can influence the professionals knowledge sharing practices on ESM. When professionals perceive that leaders are using ESM themselves and supporting and encouraging employees to use it, everyone should feel encouraged to share knowledge on ESM. It is highlighted by Ellison et al. (2015) that visibility and network transparency may motivate knowledge sharing on ESM.

As showed in previous studies (Chin et al., 2015; Razmerita et al., 2016), recognition is another relevant enabler to knowledge sharing identified in the results of this study. Many professionals feel recognized and encouraged to share knowledge when leaders and colleagues give positive feedback, make comments, and add likes to content published on ESM. The results indicate that

showing that knowledge contributions were seen and liked is important, because when appreciation to positive engagement on ESM is shown, professionals will feel motivated to participate and engage in knowledge sharing activities. This is also demonstrated in previous research (Ellison et al., 2015) that reinforces that visible feedback from colleagues and leaders on ESM motivates knowledge sharing.

Previous research (Razmerita et al., 2016) has identified that monetary rewards encourage knowledge sharing, and some studies (Chin et al., 2015; Oostervink et al., 2016) argue that following organization policies and guidelines are motivators to knowledge sharing on ESM. Monetary rewards, following organization policies and guidelines have not emerged in the results of this study as motivators to engage in knowledge sharing.

The importance of ESM to establish connections with others in the organization to strengthen ties, resulting in receiving knowledge in return is emphasized by Rode (2016). The results show that most of the professionals in this study participate on ESM activities to find experts that can provide knowledge that is relevant for their work-related tasks or can contribute to their professional development. ESM is used to identify and establish connections with people that share relevant content and have relevant expertise, these connections give them access to knowledge that may help them to increase professional expertise and work more effectively. As demonstrated in previous research (Oostervink et al., 2016), the results indicate that many professionals want to connect with other professionals based on shared interests and relevant work expertise.

The results demonstrate that professionals follow diverse groups and some individuals that are perceived as experts and post relevant content, with the purpose to establish relevant connections and get access to relevant knowledge. That shows that the professionals believe it is positive and they can benefit from following groups where they know relevant content for their work and profession is shared, and individuals that are perceived as knowledgeable. The ESM affordances facilitate this by making it possible to see and retrieve content posted in the groups and associated to individuals. That provides an overview of others expertise that helps building trust and credibility in their competence. This is reinforced by previous research (Ellison et al., 2015).

The results show that developing expertise by increasing knowledge and finding content relevant to their work is a significant enabler to engage in knowledge sharing on ESM. Most of professionals participate in interactions on ESM to increase knowledge in diverse areas and to get updated about what is happening in the company and in their discipline. This can help them to improve their professional development. This is in line with previous research (Oostervink et al., 2016) that shows that professionals participate on interactions on ESM to stay updated on work related topics, to keep in contact with other professionals and develop their professional expertise.

6.2 Barriers to knowledge sharing on ESM

In addition to the enablers, the results show that there are also some barriers to knowledge sharing on ESM. Significant barriers are the fear of being

misunderstood, fear of posting something irrelevant and lack of confidence in their own competence and knowledge. These factors may stop professionals from contributing on ESM and may hinder knowledge sharing. Previous studies have also demonstrated that low knowledge self-confidence and fear of publishing not valuable content are barriers to knowledge sharing on ESM (Chin et al., 2015; Rode, 2016). It is showed in the results that some professionals are aware about the visibility of content posted on ESM and because of that combined with their low self-confidence and fear, they are careful to post and concerned about how the content will be received by others. This is confirmed by previous studies (Chin et al., 2015; Rode, 2016) that highlight that professionals are careful to share knowledge on ESM because it is visible to a wide audience and they may fear contributing if they believe they do not have the right expertise. The fact that, in addition to colleagues, leaders can also see contributions on ESM can hinder these professionals to engage in knowledge sharing. Previous research (Oostervink et al., 2016) points out that the visibility aspect of ESM may encourage employees to be cautious about contributing, fearing how management will perceive their contribution.

Fear that content shared could be misused is identified in previous research as a barrier to knowledge sharing (Razmerita et al., 2016), but has not been revealed as a factor that hinder knowledge sharing in this study results. The results show that professionals are not afraid that content they post on ESM will be misused. Many of them perceive that what usually is shared on ESM is content that it is supposed to be made available to others in the organization.

Individuals that fear publishing and have lack of confidence can be also concerned about developing bad reputation by posting wrong content or showing lack of expertise. As previously discussed, to gain professional reputation is showed in the results as a drive to knowledge sharing. On the other hand, the results of this study show that most of the professionals believe that irrelevant or inappropriate contributions can affect reputation negatively. The visibility, persistence and association aspects of ESM make it possible for colleagues and leaders to see the negative content associated to specific people. It is demonstrated in previous research (Oostervink et al., 2016) that publishing wrong, irrelevant or inappropriate content can give bad reputation related to a person's integrity and expertise. To improve professional reputation employees contribute to knowledge sharing aiming to be associated with favorable content and avoiding associating with negative content.

The negative social climate related to employees sharing negative content on ESM identified in previous research as a barrier to knowledge sharing (Chin et al., 2015) does not emerge as a barrier to knowledge sharing in the results of this study, but as discussed, publishing negative content on ESM is seen as inappropriate.

While the results demonstrate that some professionals trust the colleagues' professional abilities and content published by them, lack of trust in content published on ESM is also showed. Even if professionals trust their colleagues' integrity, that they want to help and would not purposely share wrong content, they generally double check if content published is correct, showing that they do not totally trust content published. This is in line with previous research that shows that trust in the quality of content shared is a barrier to knowledge

sharing (Islam & Tsuji, 2016). It is observed in the results that trust is also related to perception of individuals expertise, trust in content published by colleagues seen as experts or super users in a topic is generally higher than trust in others that are seen as ‘simple’ employees. This is in accordance with previous research (Wasko & Faraj, 2005) that highlights that lack of trust in content can hinder knowledge sharing, and the desire to give and receive information is related to trust in colleagues’ ability and integrity.

Information overload is another issue revealed in the results that may hinder knowledge sharing. The results show that too many posts make it difficult to find relevant content in the feed and irrelevant contributions are noisy and contribute to information overload. In addition, too many notifications are overloading and becomes difficult to follow-up too many updates, and professionals may disengage from knowledge sharing. Because of that, professionals try to handle too many notifications by changing notifications settings, and when doing that they may not see some relevant content posted on ESM. Previous research has also shown that irrelevant contributions and self-promotions contribute to information overload (Chin et al., 2015), and information overload demands too much attention and can lead to knowledge sharing disengagement (Gibbs et al., 2013). It is showed in the results and previous research (Gibbs et al., 2013) that relevant content may get lost between many posts in the ESM feed, since the affordance of persistence allows content published to remain and accumulate.

Lack of time is also a barrier to engage in knowledge sharing emerged in the results. The results indicate that professionals do not engage more often in knowledge sharing on ESM because they lack time and need to prioritize other work tasks. This shows that even if using the ESM is seen as part of work, they will not prioritize knowledge sharing on ESM if it is not seen as important work. This is in line with what previous research shows, that the use of ESM competes with other daily tasks (Razmerita et al., 2016), and if using ESM is not seen as ‘actual’ work, engaging in knowledge sharing on ESM will not be prioritized by professionals (Vuori & Okkonen, 2012). As showed in previous research (Vuori & Okkonen, 2012) professionals are concerned about the extra workload generated by engaging in activities on ESM. If they are visible, actively asking and answering questions or posting information, that could lead to more time helping others. Previous research (Gibbs et al., 2013) highlights that the visibility aspect of ESM enables people to be more visible and perceived as available. And that it is not wanted when lack of time is an issue.

6.3 Why ESM is used for knowledge sharing

It is possible to understand why information professionals use ESM for knowledge sharing based in the discussion of the enablers to knowledge sharing on ESM in section 6.1. The reasoning for sharing knowledge on ESM, reflected in the identified enablers to knowledge sharing on ESM in this study, show why ESM is used for knowledge sharing.

Helping is an important enabler identified in the results of this study, and the results show that developing skills and contributing to the information management profession are expected outcomes from helping others. The results demonstrate that professionals establish connections with

knowledgeable people in the organization to get access to information and knowledge that contributes to solving their work tasks and increase professional expertise. Previous research (Oostervink et al., 2016) shows that professionals use ESM for knowledge sharing to develop their professional expertise.

To gain reputation is another identified enabler in this study, the results show that professionals perceive that contributing to knowledge sharing on ESM can improve professional reputation and status. Recognition for sharing knowledge on ESM is also an identified enabler in the study, and the results demonstrate that professionals are motivated to engage in knowledge sharing on ESM when leaders and colleagues show recognition for their contributions. It shows that engaging in knowledge sharing is relevant for their work. It is demonstrated in previous research (Chin et al., 2015) that professionals use ESM for knowledge sharing to gain professional reputation, and it may contribute to strengthen their status as knowledgeable in the organization and in the profession.

The information professionals' reasoning for engaging in knowledge sharing on ESM, identified in this study, show that they use ESM for knowledge sharing because they want to contribute to their profession, increase knowledge and improve their professional skills. They want to be seen by their colleagues and leaders as collaborative and engaged in the profession. It shows that professionals engage in knowledge sharing on ESM to increase their professional development. Previous research (Haq & Faridi, 2020) supports that through knowledge sharing information professionals can enhance their professional development.

6.4 Answering the research questions

The results and the empirical material analysis bring the following answers to the research questions:

What factors affect information professionals' knowledge sharing on enterprise social media?

Diverse factors influencing knowledge sharing on ESM are identified in the results and discussed in the sections 6.1 and 6.2. The identified factors that drive knowledge sharing are: helping others, receive help and feedback, establishing connections, finding experts, develop expertise, gain professional reputation, management support and encouragement, and recognition. While lack of trust in content, fear of sharing something irrelevant, fear of being misunderstood, lack of knowledge self-efficacy, information overload, lack of time, and negative reputation are identified as barriers.

The findings show that the most significant enablers are helping others, develop expertise, management support and encouragement, and recognition. The main barriers are fear of sharing, lack of trust in content and negative reputation.

As previously discussed, the ESM affordances of visibility, persistence and association are also related to the factors influencing knowledge sharing. The

fact that content published is visible, persistent and associated to individuals on ESM can motivate or hinder professionals to engage in knowledge sharing.

Why are information professionals using enterprise social media for knowledge sharing?

The results generated by this study show that information professionals use ESM for knowledge sharing to increase their professional development, as discussed in section 6.3. In the results it is seen that the information professionals aim to increase knowledge, develop expertise and enhance professional reputation when: helping and receiving help, looking for content relevant to their work tasks, and finding and establishing connections to experts in relevant areas. They can develop as professionals and contribute to their profession by learning from each other's experiences, and getting access to relevant knowledge and information.

6.5 Methodological reflections

As with any research effort, this study has a few limitations. The study is limited to few participants that are part of a specific group of information professionals that are using a specific ESM platform in a particular organization. The data collected is based on these participants experiences of sharing knowledge on ESM in a large organization. Hence, the results should not be generalized to other types of organizations and other kinds of digital platforms. But the study is relevant and of potential value for similar organizations where information professionals use ESM for knowledge sharing.

Another limitation of the study could be the researcher bias. A qualitative study was conducted, and the study results might be influenced by the author of the study personal interpretations and bias. The author of the study was aware of the bias during the conduction of the study, and criteria for participants selection were established to minimize the bias. The researcher bias and the criteria for assessing qualitative studies have been discussed in chapter 4, respectively in the ethics, and trustworthiness sections.

Lastly, it was not possible to perform face-to-face interviews due to the coronavirus pandemic and video meetings were performed instead. Some disadvantages with video conferencing research interviews are pointed out by Gray et al. (2020). For this study it is relevant to mention that even if interviewer and participants could hear and see each other, it was not possible to observe participants physical space and respond to body language in the same way as possible in face-to-face interviews. In addition, external distractions may have occurred, as for example participants getting distracted by chats or emails during the interviews. Even so, rich information has been provided in the interviews with the information professionals.

6.6 Application of the results

The lack of generalizability of research findings is often mentioned as a weakness of case studies. The results of this study are not applicable to all organizations using ESM for knowledge sharing or all information

professionals, but the results could be used as point of departure to understand similar use of ESM in similar organizations and in similar contexts.

Similar organizations that use ESM for knowledge sharing among information professionals could use the results of this study as point of departure to explore how information professionals use ESM for knowledge sharing. For example, large organizations based on the Scandinavia, organizations present in many countries worldwide, organizations where information professionals work with information management in projects.

This study could serve as a starting point for future studies to consider the relevance of using an affordances perspective in knowledge sharing in ESM contexts. Comparing the results of this study with the results of other studies performed in similar contexts could be of benefit to evaluate the generalization of the results.

6.7 Concluding remarks

This study explored why enterprise social media is used for knowledge sharing among information professionals, and what factors drive and hinder sharing knowledge on ESM among information professionals. The study was implemented as a qualitative case study in a large Scandinavian energy company present in many countries worldwide. Data was collected through online semi-structured interviews. The results were analyzed according to the affordances of ESM of visibility, persistence and association, and related to previous research.

This study contributes to the body of knowledge on knowledge sharing on ESM among information professionals by identifying the enablers and barriers that affect knowledge sharing on ESM. Particularly approaching how the affordances of ESM influence knowledge sharing on ESM among information professionals.

Based on the findings generated by this study, it is concluded that diverse factors drive and hinder knowledge sharing on ESM. Information professionals in this study are mostly positive and see the value of knowledge sharing on ESM, but they may not contribute to knowledge sharing if they are concerned about the issues presented by the barriers to knowledge sharing on ESM. That could for example happen when they want to help others but are afraid of posting irrelevant content or afraid of lacking the necessary expertise. Or when they want to learn and acquire knowledge by receiving help and finding information, but they do not fully trust content published by others. When professionals feel encouraged and recognized and perceive that knowledge sharing is positive for their professional development, they are more likely to engage in knowledge sharing.

In this study, it is observed that the affordances influence knowledge sharing on ESM. The influence can be positive and negative, as observed in the study findings. The positive impact of the affordances is perceived when professionals are motivated and encouraged to share knowledge because of the aspects enabled by the affordances. When visibility, persistence and association help them to become visible and recognized, and to find relevant

content they need to develop their tasks and increase knowledge and expertise. The possible negative impact is observed when aspects of the affordances prevent professionals to engage in knowledge sharing because they feel exposed or afraid of sharing since it is too visible or traceable. The affordance of visibility is present in most of factors influencing knowledge sharing on ESM identified in this study. This is in accordance with Treem and Leonardi (2012) statement that visibility is the most characteristic affordance of ESM.

The study revealed that helping others, acquiring knowledge and finding information relevant for their work, and management encouragement are important enablers to knowledge sharing through ESM among the professionals. On the other hand, trust and fear issues are found in the main identified barriers to knowledge sharing on ESM. For a successful use of ESM for knowledge sharing among professionals, organizations need to understand and take in consideration the factors that influence knowledge sharing and the aspects of ESM affordances. Then they will be able to know how to encourage their employees to engage in knowledge sharing on ESM and help improving organizational performance. The study shows that leaders' engagement in knowledge sharing on ESM and management support are important and motivate professionals to engage in knowledge sharing on ESM. Therefore, to improve knowledge sharing behavior among professionals, leaders should show support and engage more in knowledge sharing on ESM.

The research shows that information professionals use ESM for knowledge sharing to increase their professional development. ESM have been implemented by organizations to improve efficiency and increase knowledge sharing for organizational productivity (Ellison et al., 2015), and knowledge sharing may help information professionals to perform their tasks more effectively improving productivity (Islam & Tsuji, 2016). When professionals engage in knowledge sharing on ESM, developing their expertise and increasing professional development, that may result in improved organizational productivity and efficiency.

6.8 Further research suggestions

The study was undertaken from the context of information professionals working in an international large company. Future research could be done to extend the study to other types of organizations to further define why information professionals use ESM for knowledge sharing in other contexts, and better understand how these platforms are influencing knowledge sharing in different settings and organizations.

All participants of this study are based in a Scandinavian country, future studies could also include participants located in different locations worldwide to explore if and how cultural influences may affect knowledge sharing on ESM. It would be also interesting to explore management perceptions about the topic by including interviews with leaders in a future research.

Another interesting prospect for future studies would be to investigate how to overcome the barriers to knowledge sharing on ESM. Trust and fear issues are significant barriers identified in this study that could be relevant to further investigate.

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Appendix A – Interview guide

- Briefly explain the topic of the study.
1. How long time have you worked as an information professional?
 2. How often do you visit the ESM?
 - How much time would you say you spend on ESM on an average day?
 - Why do not you spend more time on ESM?
 - How the notifications from new posts or likes are related to how often you visit the ESM? Why?
 3. What do you spend most time on doing on ESM?
 - Do you spend time posting, reading other's posts, looking for information?
 - Why do you spend most time on this particular activity?
 - Do you consider yourself as a more passive user (only viewing content) or as an active 'poster'?
 4. When you post something on ESM:
 - Are you afraid that you will not be understood? Why?
 - Are you afraid that content you share could be misused? Why?
 - What do you mean is relevant to share? Why?
 - What do you mean is not relevant to share? Why?
 5. What kind of content do you seek for on ESM? Why?
 - Examples: content to answer technical questions; information relevant to your work tasks; internal news; input or feedback on a specific idea.
 6. How do you seek for content or to get help on ESM?
 - Post a question? Search for answers in existing posts? Make comments in existing posts? Contact specific individuals directly in private messages?
 - When you ask questions on ESM, do you usually get answers? Why do you think it is like that?

7. Do you trust content published by others on the ESM? Why?
8. How do you help other users that have asked questions on ESM?
 - Answer their posts? Contact them directly in private messages?
9. Why do you share what you know on ESM in general?
 - Some examples: to help others; help others to receive help when needed; tell others about your accomplishments; to publish content relevant to your job; to show what you know; to put forward new ideas.
10. What motivates you to use ESM in general?
 - Some examples: sense of belonging to a group; like helping others; finding important content relevant to your job; finding new connections; develop expertise; many people use it; others you know use it; get help from colleagues; it is easy to use.
11. How do you believe sharing what you know on the ESM affects your professional reputation? Why?
12. How encouraged are you by your own department to share what you know on ESM?
 - How is sharing what you know encouraged by the department?
 - What your department could do to encourage sharing on ESM?
 - Do you think that sharing what you know is recognized? Why?
 - Do you think that being recognized encourages sharing? Why?
13. If you consider your own department, do you feel that people have adapted to and use ESM to share what they know, or are they still doing things more ‘the old fashion way’? Why do you think it is like that?
14. Can you give an example of a concrete and specific positive outcome that came from your own ESM usage?
 - Some examples: finding a specific piece of information; finding experts in a relevant area; finding a colleague who could help with a task; receiving input or feedback on a specific idea; finding an answer to a technical question; being inspired by someone else accomplishment.
15. Do you ever feel negative towards using ESM? Why?
 - Some examples: information overload; too many notifications; sense of being ‘watched’ by others; feels wrong to use social media at work; unwillingness to share ‘special’ content; it is difficult to use.

16. Can you give a specific example of a negative experience on ESM?

- Some examples: received an impolite answer; received an incorrect answer; posted a question without getting a reply; spent time looking for information without finding it; posted something that was not liked or commented by anyone.

17. Do you follow other users on ESM? Why?

- Who do you follow? Experts in relevant areas? Leaders? Colleagues from your department? Colleagues from other departments?

18. How the use of ESM contributes to expand your network of connections?

- Some examples: contact with experts in the organization; contact with more colleagues than before using ESM; contact with people you otherwise wouldn't have known; finding new people in the organization.

19. Do you believe the ESM is effective as a tool for sharing ideas, experience, provide information and advice? Why?