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Global Ideas

Using it platforms for idea sharing in MNCs

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ABSTRACT

Ideas are the basis of what can lead to innovation, where the latter is crucial to obtain and sustain competitive advantage. MNCs have the possibility to internally connect globally diverse knowledge to create ideas through organisation-wide collaboration. However, MNCs experience difficulties with sharing ideas internally. IT platforms have been presented as a solution, but have received limited attention in previous research, therefore this study explores the interdisciplinary gap of the two fields, MNCs knowledge sharing and IT platforms. This qualitative study aims to increase the understanding of how IT platforms can be used for sharing ideas in the daily operations within an MNC, where the platforms are available to all employees. The findings show that IT platforms can be used as wikis, suggestion boxes, social media platforms and Q&As for sharing ideas in the daily operations. This study identifies the use of the IT platforms and the elements that affect the use, without providing best practice recommendations. However, the use of these platforms in MNCs is impacted by elements related to knowledge sharing barriers for MNCs as well as the support mechanisms needed for IT platforms. Finally, the result of this study implies that MNCs can use the four explored IT platforms for sharing ideas in a variety of ways, e.g. from creating discussions for ideas, to having standardised forms for idea sharing.

Keywords: ideas, knowledge sharing, IT platforms, MNC, innovation, employees

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ABBREVIATIONS

ICT	Information and Communications Technology
IPR	Intellectual Property Rights
IT	Information Technology
MNC	Multinational Company
R&D	Research and Development
Q&A	Questions and Answers

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1. INTRODUCTION

1.1 BACKGROUND

To be a successful international company, organisations are forced to innovate to obtain competitive advantage. Innovation does not have to involve big, ground breaking ideas. It is more often than not small incremental changes that are the source of innovation (Porter 1990). Globalisation and the growing importance of digital communication have revolutionised how innovation processes are managed, especially in international corporate environments (Dodgson et al. 2008). Information technology (IT) has provided organisations with new tools and possibilities to share knowledge (Iske & Boersma 2005).

Innovative ideas can be derived from many different sources. Employees have been emphasised as a crucial source for ideas and innovation (Subramaniam & Youndt 2005; Dodgson et al. 2008). Companies are dependent on their employees' ability to create ideas in order to be innovative (Amabile 1988). The more interaction employees have, the more likely they are to create ideas and knowledge, which is believed to lead to innovation (Boschma 2005). Organisations have shifted from exclusively having certain functions, e.g. research and development (R&D) departments, as responsible for innovation, to instead involving the entire organisation in the creation of new ideas with emphasis on harnessing the skills of all employees at every level of the organisation (Birkinshaw et al. 2011). Firms need to be aware of how to search for innovation from employees ideas. Managers need to be aware of employees as a source of ideas, and how to utilise them as a source for new ideas, leading to innovation (Dodgson et al. 2008).

Successful ideas that lead to innovation are the outcome of knowledge sharing. Being able to share knowledge is seen as a source for ideas (Leonard-Barton 1995). Researchers argue that there is a direct link between knowledge sharing and the creation of ideas for innovation (Riege 2007; Elerud-Tryde & Hooge 2014). Being able to cooperate across borders in terms of knowledge flows is important for the success of multinational companies (MNCs) (Ambos & Ambos 2009). Increasing competitive pressure forces MNCs to coordinate the geographically and technologically dispersed units of the MNC, in order to benefit from having international units and activities (Martinez & Jarillo 1989). Knowledge and ideas from different units within the firm need to be integrated in order to be innovative (Dodgson et al. 2008). However, there are barriers in transferring and sharing knowledge (Szulanski 1996), which can impede good ideas within an MNC to come forward (Von Krogh et al. 2000).

MNCs are also searching for new ways to share knowledge and thus creating new and better ideas (Riege 2007).

Chesbrough's (2003) concept of open innovation, such as crowdsourcing, has been widely recognised and researched. However MNCs have the benefit of being large enough organisations in terms of number of employees, which allows them to access a large pool knowledge and therefore having direct access to their own internal crowd in the purpose of searching for ideas (Simula & Vuori 2012). This is created by linking employees across the organisation, by using IT platforms to enable collaboration without looking outside of the organisation (Elerud-Tryde & Hooge 2014). Connecting employees across the world allows the company to connect globally scattered knowledge to form new ideas and create competitive advantage through the cross-functionality that is created (Doz et al. 2001).

The barriers of knowledge sharing in a large organisation such as an MNC can be overcome by the usage of IT platforms (McAfee 2006). IT platforms have been proven to be a suitable forum where employees jointly are able to build upon each other's ideas and have become a popular tool for sharing knowledge and ideas (Ardichvili et al. 2003; Ambos & Ambos 2009). Accenture (2013) stresses that companies need to invest in creating collaborative IT platforms for their employees to share their knowledge and ideas, and that these systems need to be integrated into the everyday activities of the employees.

1.2 PROBLEM DISCUSSION

GLOBAL BUSINESS ENVIRONMENTS AND EMPLOYEES

The business environment for firms is becoming more and more global (Werner 2002; Tsui 2007). A global environment for firms requires global ideas (Doz et al. 2001). Therefore research should become more global and focus on international firms. As an effect of the increasing globalisation, it has become critical to gain knowledge about firms in global contexts (Werner 2002; Tsui 2007). Previous research has highlighted that global market pressure requires for firms to become more innovative in order to survive the competitive conditions, and innovation is needed to create competitive advantage in the international environment in which the companies operate (Boschma 2005; Dodgson et al. 2008).

Prior studies have emphasised the importance of employees interacting and sharing ideas for creating innovation (Van de Ven 1986; Bartlett & Ghoshal 2002). Subsequently employees' ideas are estimated to become even more important in the future where employees will have to become skilled at communicating across different units and boarders (Dodgson et al. 2008). There is a specific demand for research on employees' collaboration within MNCs (Werner 2002). These future challenges require more research on how to share employees' ideas within the MNC's global environment.

RESEARCH GAPS

Scholars call for more research on how IT platforms can be used for the transferring and sharing of knowledge in the purpose of creating ideas (Elerud-Tryde & Hooge 2014; Mohamad Sani & Arshad 2014). More specifically, it has been identified that IT platforms for idea sharing within organisations have not been the focus of prior research (Elerud-Tryde & Hooge 2014). It is not longer enough to solely rely on e-mailing and other file systems. MNCs need to use other IT platforms that enable employees all over the world to collaborate on ideas together (Rao 2012). However, there is a lack of research that incorporates the field of IT platforms and MNCs as a research unit (Alavi & Leidner 2001; Ardichvili et al. 2003; Pan & Leidner 2003; Elerud-Tryde & Hooge 2014).

There is a North American research paradigm, meaning that most research focus on North America as a research nation in international management studies (Tsui 2007). This homogeneity of research needs to be overcome by focusing on nations outside North America (March 2005; Tsui 2007). The dominance of English and research with origin from English-speaking countries is largely due to the dominance of English as standard language within the research community. This is particular for organisational studies, where North American firms and their organisational context have been the primary focus of prior research (March 2005). Based on these factors, we will avoid the paradigm by focusing this research on MNCs within a European context, in order to contribute with findings outside of the North American dominance in the field.

1.3 PURPOSE AND RESEARCH QUESTION

Little research has combined the field of MNCs and IT platforms. IT platforms are seen as one of the only viable options for MNCs in the purpose of idea sharing (Ardichvili et al. 2003). The focus of this thesis is to contribute and examine how IT platforms can be used in

the process of sharing ideas in MNCs. This study extends prior work on the knowledge sharing research within in an MNC, and contributes with novel context by investigating IT platforms as a tool for sharing ideas based on previous findings and the gaps identified by researchers (*see* Alavi & Leidner 2001; Ardichvili et al. 2003; Pan & Leidner 2003; Elerud-Tryde & Hooge 2014). While each field, namely IT and MNCs knowledge sharing, have been widely researched separately, the connection of combining these topics is relatively unexplored. Therefore our aim is to bridge the gap within these two research areas, and contribute to the interdisciplinary context. Based on these factors, the following research question has been formulated:

How can IT platforms be used for idea sharing in daily operations within multinational companies?

This thesis explores how IT platforms can be used for sharing ideas in MNCs. However, to provide a holistic discussion and understanding of the topic, the knowledge sharing barriers for MNCs and the support mechanisms that influence the IT platforms will also be discussed and examined. MNCs are especially interesting to investigate from this perspective, as they operate in an internationally competitive environment. The contribution of this study to the field of MNCs is to explore the different uses of IT platforms within a European context by conducting a multiple-case study, which is especially relevant due to North American research paradigm (March 2005; Tsui 2007)

1.4 DELIMITATIONS

This study aims to examine how the IT platforms are used for daily operations and not special events restricted in time. Therefore, this thesis will not include time-restricted IT platforms e.g. brainstorming events (Bjelland & Wood 2008) and online contests (Elerud-Tryde & Hooge 2014). In addition, this thesis is limited to IT platforms where all the employees can participate and not only a special group as in e.g. virtual teams (Elerud-Tryde & Hooge 2014). Finally, this thesis is limited to only examining MNCs, since small organisations most often do not experience the same need of using IT platforms for sharing ideas as they have greater opportunities to communicate directly to each other. In MNCs, finding the right colleague with the specific knowledge is often impossible if it is not a person in the employee's closest personal network (Rao 2012).

1.5 DEFINITIONS AND USE OF CONCEPTS IN THE THESIS

Generating vs. sharing

There is large inconsistency among researchers whether to use the term idea generation (*e.g.* Björk et al. 2010; Elerud-Tryde & Hooge 2014) or idea sharing (*e.g.* Pan & Leidner 2003; Natarajan 2008; Kauppila et al. 2011) for describing the same phenomenon in IT related contexts. However our empirical findings indicate and describe the IT platforms as being used for idea sharing. Hence the term idea sharing will be used in throughout thesis in order to stay consistent with the empirical findings.

Ideas

Innovation can take shape in a variety of forms: radical or incremental, competence-enhancing or competence-destroying, process or product, architecture or component (Schilling 2013). However, what is common for each of varieties is that they all stem from ideas (Van de Ven 1986). The aim of this thesis is only to focus on the actual sharing process, and not to evaluate the value of the ideas or form of innovation they can lead to. Therefore, the term ideas will be used for all types of ideas relevant for the organisation's innovation processes.

IT platforms

While the way in which IT is used in companies has a variety of designations, among them digital platforms (McAfee 2006) and IT platforms (Elerud-Tryde & Hooge 2014) that are used to describe the same tool, we have chosen to be consistent in our choice and only use IT platforms. As a common place in the company that is accessed by everyone in the company, IT platforms include the corporate intranet, the company website and information portals (McAfee 2006).

MNC

Jenkins (2001) concludes that there is no universal definition of what an MNC is, therefore authors often use wide definition for MNCs. In this case, we have chosen renowned researchers, and originated our description of an MNC based on their definition. Bartlett and Ghoshal (1998) describe MNCs as multinational corporations that operate in cross border activities and have multiple national entities. Additionally, Kogut (2001) describes that an MNC operates in more than two countries, and has subsidiaries or branches established in foreign countries.

2. THEORETICAL FRAMEWORK

This chapter will examine the impact employees ideas have on innovation, followed by the different ways in which IT platforms can be used for sharing employees' ideas in MNCs. Knowledge sharing barriers and support mechanisms for IT platforms will also be included for a transparent theoretical framework, which will be the foundation for analysing the empirical findings.

2.1 WHY EMPLOYEES AND INNOVATION ARE IMPORTANT

The process of innovation can be defined as ideas that over time have been created by employees who have undertaken in interacting with others within an organisation (Van de Ven 1986). The process of innovation is changing and developing, and it is therefore a challenge for management to handle this process (Dodgson et al. 2008). Global market economies require global ideas and knowledge (Doz et al. 2001). To achieve competitive advantage, firms need to be innovative and have the ability to transfer knowledge within the organisation (Boschma 2005). Organisations that do not succeed to manage the demands of innovation may not survive in the future (Dodgson et al. 2008).

There is a direct correlation between sharing knowledge within the organisation and the sharing of ideas, which is directly related to the firm's innovative capability (Lin 2007). Integrating and combining employees ideas can lead to new innovations and thus competitive advantage (Dodgson et al. 2008). McLure Wasko and Faraj (2000) argue that exchanging knowledge and building on each other's ideas create positive effects in terms of collaboration, which creates better end result than if employee's would only build on their own idea.

The process of creating new ideas should not solely assigned to specific individuals, instead everyone in the organisation needs to be included in the process (Birkinshaw et al. 2011). Therefore it is not only the R&D department that have the best ideas, and R&D department is not the single source of innovation. Often other individuals within the firm may have other ideas that contribute for the best end-result (Dodgson et al. 2008). Having all the employees included in the process of creating ideas and the sharing of knowledge can lead to greater competitive advantage for the firm (Von Krogh et al. 2000) and add to the innovative culture of the firm (Simula & Vuori 2012).

2.2 MNCs SHARING OF KNOWLEDGE AND IDEAS

The MNC arises out of its superior ability to transfer knowledge across borders, and is the main reason behind the formation of MNCs (Kogut & Zander 1993). The knowledge sharing within MNCs have been emphasised by many scholars (Gupta & Govindarajan 2000; Pedersen & Foss 2004; Adenfelt & Lagerström 2006a; Ciabuschi et al. 2012). MNC can be seen as a network of knowledge flows (Gupta & Govindarajan 1994), where the knowledge of individuals is expressed (Kogut & Zander 1992).

The distinction between knowledge transfer and knowledge sharing and how they are used by researchers is somewhat blurry (Paulin & Suneson 2015) and two definitions are used inconsistently (Michailova & Mustaffa 2012). The definitions are often used as synonyms (Riege 2005) and in combination with other terms such as e.g. knowledge flows (Jonsson 2008; Michailova & Mustaffa 2012). Furthermore, the topics of sharing and transferring knowledge often converge. Consequently neither should be ignored when examining the other (Paulin & Suneson 2015). The concept of ideas is often seen as a synonym to knowledge (Hsu 2006; Riege 2007; Natarajan 2008). Iske and Boersma (2005) even state that ideas are a type of knowledge. Ergo, continuously in this thesis we will use the terms sharing and transferring of knowledge, and the sharing of ideas as synonyms.

The importance of transferring knowledge in MNCs has been highlighted by researchers as an important basis for competitive advantage of firms (Grant 1996; Argote & Ingram 2000; Doz et al. 2001; Riege 2005). Additionally, an organisation's capability to innovate is directly connected to the ability to manage knowledge and leverage ideas (Lindič et al. 2011). Knowledge sharing tools are the most important element for idea sharing (Elerud-Tryde & Hooge 2014). Research shows that there is a challenge to combine and utilise the knowledge of all the employees to develop innovations (Dodgson et al. 2008). However, succeeding to manage the activity of sharing the employees' knowledge can lead to innovation (O'Dell et al. 1998). Firms that succeed with knowledge sharing are more innovative and hence perform better (Hsu 2006; Wang & Wang 2012).

Innovation processes are developing to be more interactive, which requires knowledge sharing within the different units of the MNC (Swan et al. 1999). Santos et al. (2004) state that having an innovation process where knowledge is shared across borders can be a source of competitive advantage since integrating knowledge from dispersed geographical locations

can lead to more innovation of a higher value and lower cost. Other researchers have also argued for the importance of innovation processes to achieve competitive advantage (Desouza et al. 2009) and link knowledge sharing and innovation strategies as a way of achieving competitive advantage (Johannessen 2008).

While knowledge is believed to be held at an individual level, which would imply that changing or increasing the firm's knowledge would be done by increasing or changing the employees (Argote & Ingram 2000). However, this does not consider that the key to the firm's knowledge is embedded in how these individuals collaborate, thus rejecting the principle of simply increasing employee turnover for changing the firm's existing knowledge and skills (Kogut & Zander 1992). The same reasoning is applied to ideas as Spender (1996) states that ideas are created by individuals. Companies are dependent on their employees' ability to create ideas that lead to innovation (Amabile 1988). However, the knowledge is a result of individuals interacting in a social context (Spender 1996) and the probability that innovation will be successful increases when people from different sources of knowledge interact compared to a group of people with the same type of knowledge (Santos et al. 2004). A company with subsidiaries abroad shares knowledge and creates ideas by connecting employees in order for them to think together (McDermott 1999). Therefore, diversity has a positive impact on knowledge sharing (Cummings 2004).

MNCs can use different organisational mechanism for sharing knowledge such as centre of excellence at headquarters (Adenfelt & Lagerström 2006a), transnational teams (Subramaniam & Venkatraman 2001; Lagerström & Andersson 2003; Adenfelt & Lagerström 2006a), R&D co-practice (Frost & Zhou 2005), social interaction between managers (Noorderhaven & Harzing 2009), e-learning systems (Hsu 2006), virtual media (Klitmøller & Lauring 2013), information systems (Swan et al. 1999; Alavi & Leidner 2001) and contemporary IT support (Desouza et. al 2009). Companies have developed their own successful process for sharing employees' knowledge and ideas across borders, such as Nokia with a corporate social media (Vuori 2012), IBM and their Innovation Jam as an online brainstorming session (Bjelland & Wood 2008) and Renault with idea challenges (Elerud-Tryde & Hooge 2014).

However, there are difficulties with transferring knowledge (Szulanski 1996; Von Krogh et al. 2000). Santos et al. (2004) question whether innovation activities integrate knowledge from

around the world (Santos et al. 2004) which is crucial in order for MNCs to be innovative (Swan et al. 1999). Nevertheless, MNCs have the possibility to integrate and share different knowledge from different nations within their organisation and thus being able to renew their internal knowledge and hence their internal source for innovation (Kotabe et al. 2007).

2.3 IT PLATFORMS FOR KNOWLEDGE SHARING IN MNCs

IT platforms are seen as one of the few feasible options for MNCs to create discussions and interaction between employees to support knowledge sharing (Ardichvili et al. 2003). The relation between creating processes for managing knowledge in organisations through IT platforms is believed to have a particularly significant role for MNCs (Alavi & Leidner 2001). Having common IT platforms across an MNC allows the organisation to overcome the cultural and geographical barriers created by the geographically dispersed characteristics of the MNC (Pan & Leidner 2003; Ambos & Ambos 2009; Kauppila et al. 2011).

As physical distance increases, the value and benefits of IT platforms as a way of transferring knowledge increases (Ambos & Ambos 2009). Moreover, IT platforms can also lower the functional barriers of an MNC (Kauppila et al. 2011) and facilitate the communication between the employees, thus enabling knowledge sharing (Kankanhalli et al. 2003). IT platforms have the benefit of always being accessible, therefore have the possibility to overcome the time difference obstacle in an MNC (Ambos & Ambos 2009).

2.4 KNOWLEDGE SHARING BARRIERS FOR MNCs

While some researchers argue that extensive studies have emphasised the barriers and difficulties an MNC may face in sharing knowledge (Adenfelt & Lagerström 2006b; Ambos & Ambos 2009), others argue that it is still a field that needs more attention and that the barriers are not sufficiently identified (Werner 2002; Riege 2005; Makela et al. 2007). However, in order to overcome the barriers it is important for organisations to be aware of what the barriers are (Riege 2005). MNCs face greater barriers in knowledge sharing than smaller organisations that do not operate internationally (Riege 2005), as knowledge that is needed for innovation exists both within different organisational units and geographically dispersed business units (Swan et al. 1999).

In table 1 we present the knowledge sharing barriers prominent for MNCs as discussed below, to give an overview of the barriers. MNCs may be in need of knowledge from different

locations than what is accessible in order to generate innovative ideas. The access to this geographically distant knowledge is hampered by the lack of frequent face-to-face contact. Hence geographical distance is preventing knowledge sharing in MNCs (Tippmann et al. 2012). Literature has identified that difficulties to manage knowledge grow as a result of increased cultural distance (Bresman et al. 1999). Jasimuddin et al. (2015) argue for geographical space as a barrier, which encompasses geographical distance, relational distance and cultural distance as hampering knowledge sharing. Ambos and Ambos (2009) also identified dimensions of distance as barriers, such as spatial, contextual, geographic, cultural and linguistic distance, to knowledge sharing. Further, the challenges also increase when the organisational distance increases, which can be described as the differences between the units of the MNC in regards of processes, values and structure (Schlegelmilch & Chini 2003). Von Krogh et al. (2000) define the barriers for an MNC as separation in time and space. Other barriers are the inability to communicate face-to-face (Meyer 1991) and differences in language (Makela et al. 2007).

TABLE 1: SUMMARY OF KNOWLEDGE SHARING BARRIERS FOR MNCS BASED ON PREVIOUS RESEARCH

Inability to communicate face-to-face	Meyer (1991)
Geographical and cultural distance	Bresman et al. (1999)
Geographically dispersed units	Swan et al. (1999)
Separation in time and space	Von Krogh et al. (2000)
Organisational distance i.e. processes, values and structure	Schlegelmilch and Chini (2003)
Language	Makela et al. (2007)
Dimensions of distance	Ambos and Ambos (2009)
Geographical space i.e. geographic, relational, and cultural distance	Jasimuddin et al. (2015)

2.5 USING IT PLATFORMS

IT platforms are an important tool for managing knowledge sharing (Bresman et al. 1999; Hendriks 1999; Swan et al. 1999; Ardichvili et al. 2003; Kankanhalli et al. 2003; Pan & Leidner 2003; Riege 2005; Ambos & Ambos 2009). Generally, the phenomena of companies using IT for creating networks and collaborative platforms within the organisation is called Enterprise 2.0 (McAfee 2006). There is a variety of IT platforms that can be used to manage knowledge transfer (Kankanhalli et al. 2003), such as wikis, questions and answers (Q&As), suggestion boxes and social media networks (van Dijk & van den Ende 2002; Levy 2009; Vuori 2012). These platforms can create an idea sharing process and are seen as a compliment to traditional processes for idea and knowledge sharing (Elerud-Tryde & Hooge 2014).

Managing employees' ideas requires a systematic approach (Björk et al. 2010) and can lead to higher performance (Hsu 2006). Organisations need to have processes and systems in order to be able to organise ideas. IT platforms create the possibility to build on other employees' knowledge and provide a network where communication and collaboration are enabled (Swan et al. 1999; Paroutis & Al Saleh 2009). Finally, organisations who invest in IT solutions are more likely to have effective processes of knowledge sharing in comparison to firms who do not make the investments, as organisations without IT platforms may face difficulties in sharing knowledge effectively (Ambos & Ambos 2009; Mohamad Sani & Arshad 2014).

IT platforms are able to link together employees with similar problems and ideas regardless of their location and also allow employees to actively gain access to other employees outside of their normal geographical reach (McLure Wasko & Faraj 2000; McAfee 2006). Employees participating in online forums can use it to be able to debate and discuss specific topics. They can additionally provide a forum for accessing knowledge, thus providing the employees with valuable and relevant feedback on their ideas and solutions from their peers (McLure Wasko & Faraj 2000; Levy 2009; Simula & Vuori 2012).

While IT platforms have a large number of purposes, the primary objective is to use IT to internally share knowledge between employees within an organisation (Natarajan 2008). IT platforms are seen as a suitable forum for creating discussions for ideas and sharing ideas as part of the daily operations (Paroutis & Al Saleh 2009; Kauppila et al. 2011). They are built as flexible systems, and have the benefit of being able to be integrated into other systems and to fit the organisation in which they are implemented (McAfee 2006). This allows for written documentation to be accessed throughout the organisation (Adenfelt & Lagerström 2006b). The systems are built to store the knowledge of the employees, which allows the organisation to retrieve old, but useful knowledge and ideas whenever needed (Natarajan 2008). From a practical point of view, IT platforms are where the information can be accessible from anyone within the organisation (McAfee 2006).

McAfee (2006) suggests the main priority is to allow the users to build and create the content of the IT Platform, in order for the knowledge sharing platform to be viable. This is used in order to create an interactive platform that invites users to contribute with their knowledge and ideas. Employees should be able to author, edit and contribute with knowledge, both building on their own and other employees' entries on the IT platforms. This function is

crucial since it interlinks the knowledge and ideas from many employees, thus enhancing the quality of the outcome (McAfee 2006).

2.6 DIFFERENT TYPES OF IT PLATFORMS

Below the different ways IT platforms can be used for sharing knowledge and ideas in the daily operations that include all the employees are presented. A summary of the different tools is presented in table 2.

2.6.1 WIKI

Wiki is a common tool established in many companies for sharing knowledge and editing each other's post, to create a company encyclopaedia, and has a similar design as the Wikipedia (Levy 2009). In addition to using the wiki as a collaborative tool for sharing knowledge, Leuf and Cunningham (2001) emphasise wiki as a tool for exchanging ideas.

The wiki can be described as linked web pages where new and old knowledge are stored and shared (Wagner 2004). Wiki is a fast, easy, informal and flexible way for employees to share knowledge and is especially successful as a collaborative tool (Leuf & Cunningham 2001). As a platform it allows for co-creation in large communities, such as an MNC, to generate large amounts of content, and is ideal for collaboration across the organisation (Wagner 2004). The purpose and use of the wiki may differ, some employees may use it as a learning place, while other may see it as a knowledge base or a discussion forum (Leuf & Cunningham 2001).

A benefit of using wikis is the possibility to use hyperlinks which decreases the need of filtering the content. Therefore, the risk of the same subjects being discussed in different threads and postings decreases due to the hyperlinks, which is an essential characteristic of wikis (Wagner 2004). Examples of companies who have established internal wikis are Google, Motorola and Pixar (Leuf & Cunningham 2001; Chui et al. 2009)

Many employees are used to use wikis in their social private life, however when using a wiki in the corporate environment which leads to challenges that requires the management to engage the employees in using the wiki with a more participatory approach in the organisational environment (Hasan & Pfaff 2006). Another challenge with using a wiki can be that it requires a wiki culture that encourages contributions, discussions and building on each other posts. Finally, as the wiki grows and employees contribute with posts and comments, it

can be difficult to keep all the pages up to date and keep the content relevant. Management need to declare what the main purpose of the wiki is and promote the wiki internally within the firm, as well as have keeping administration of the wiki for the content to be relevant (Leuf & Cunningham 2001).

2.6.2 SUGGESTION BOX

Many firms implement suggestion boxes or idea boxes, two terms that are often used as synonyms to capture the knowledge and ideas of the employees to create innovation (Dodgson et al. 2008). A suggestion box is a platform where employees can view each other's ideas (Kelchtermans & de Beule 2013). Kelchtermans and de Beule (2013) state that the primary purpose of the suggestion box is to collect and share ideas. Belliveau et al. (2004) also emphasise that the suggestion box is a platform aimed for sharing and collecting ideas.

What characterises the suggestion box is that the ideas are submitted in a standard format (Belliveau et al. 2004). Suggestion boxes often have built in forms that help the employees to define their ideas (Belliveau et al. 2004; Kelchtermans & de Beule 2013). The standardised forms require that the idea submitting employee to identify themselves. However the suggestion box form can also be adjusted to render anonymous submission of ideas. Being able to have the possibility to submit ideas anonymous is seen as one of the advantages of the suggestion box. Another characteristic is that suggestion boxes is suitable for capturing all kind of ideas e.g. regarding new products, services, processes, and internal organisational improvements. Submitted ideas are often stored in a database, in order to make them searchable and available in the future. All employees should be able to comment and to add content to ideas in the suggestion box which allows for the idea to become richer (Belliveau et al. 2004). Additionally, the platforms often has a search function which allows employees to search for ideas (Kelchtermans & de Beule 2013)

Xerox Venray implemented a suggestion system that encouraged employees to submit ideas no matter how small or extensive they were. Xerox Venray built the system to allow users to track their idea on the online system, thus allowing the ideator to know where in the evaluation process their idea was (van Dijk & van den Ende 2002).

There are some difficulties with using suggestion boxes. A challenge is that the employee who submits the idea may have limited possibility to comment and contribute with opinions

after the idea is being submitted into the platform. It can also be difficult for the employee to view the process of what is happening to the idea. However, this problem can be solved by allowing for the employee to subscribe on notifications on their submitted idea. The function of integrating notifications in the suggestion box can also allow for employees to subscribe to submitted ideas in their field of interests. Another difficulty is that ideas can be lost, forgotten or disorganised in the suggestion box (Belliveau et al. 2004).

2.6.3 SOCIAL MEDIA PLATFORM

Using a social media platform creates an interactive and networking way of working. The platforms are often used similarly to Facebook and other private social networking forums (Vuori 2012). The system is used for both collaborating (Vuori 2012; Accenture 2013) and connecting (Vuori 2012) employees with each other, no matter their location. The platform facilitates interaction between different departments and corporate locations, and improves the sense of community through the online network. These factors in turn increase the innovativeness of the company through the exchange of knowledge that the platform offers (Vuori 2012). Vuori (2012) emphasises, through the case study of Nokia, the substantial and valuable function social media particularly can fill in global organisations in terms of reaching people across the entire organisation. Additionally, the author describes that social media platforms can fill a role of creating discussions online, increase and advocate transparency within the organisations, and create flows of knowledge and ideas.

Similar to Nokia, Procter and Gamble was early in the trend of using social media, which they implemented in the beginning of the 21st century a social media platform that was to act as a global lunchroom for the thousands of R&D employees. This has created the opportunity to on a daily basis communicate and exchange ideas. The employees at Procter and Gamble were able to contribute with their own ideas, and be automatically connected through the system to other employees based on their own entries. In this sense, the IT platform was designed to stimulate collaboration and idea sharing (Sakkab 2002).

The difficulties with social media are to create an online culture within the company. Employees may not know how and what to contribute with, and may find it unproductive. The motivation and barriers are higher within corporate social media, compared to when used privately where the motive is different due to social factors. In a corporate role, the employee may not see the benefit of increased knowledge gains and collaboration possibilities.

Therefore the organisation needs to emphasise and clearly display the benefits of the social media platform to the employees (Accenture 2013). Accenture (2013) criticise the 'Facebook-format' that corporate social media often have, which includes social-activity streams, as they often require the employee to devise the benefit it can bring to them on their own, without the support or ease that the organisation can provide.

2.6.4 Q&A

Q&A are platforms where employees can collaborate and communicate with each other by asking questions and providing answers to the questions, and is seen as a user-friendly platform which allows for the employees to build on each other's knowledge. Q&As are seen as an IT platform that creates innovation by enabling discussion on all kinds of problems (Iske & Boersma 2005). By using a Q&A platform, knowledge and ideas can be stored and available in the future (Iske & Boersma 2005; Rao 2012). The possibility to store questions also leads to increased effectivity since employees do not have to ask the same questions several times (Iske & Boersma 2005). Simula and Vuori (2012) exemplify a company that uses a Q&A forum, where the employees can ask internal experts in particular fields on how to solve smaller problems or create ideas used specifically for incremental innovation and problem solving. Q&A forums are used by e.g. Procter & Gamble and Boeing (Rao 2012).

Rao (2012) argues for the benefits of using Q&As for MNCs, since in globally dispersed units it is problematic to identify and locate the right knowledge for a specific idea or issue at the right time. Therefore, tools such as e-mails are not the best solutions, since e-mails create too many questions and are directed to a specific person. This is a problem when new employees are hired, other employees move within the organisation or quit their positions (Rao 2012). By using a Q&A, the employees do not have to search for the specific colleague with the expertise, as the Q&A function asks the question broadly to anyone within the organisation. Another benefit with using Q&As is that unexpected expertise may be given the chance arise, as the employees who do not get asked questions regularly by their colleagues, thus can get the opportunity to contribute with their expertise knowledge and ideas (Iske & Boersma 2005).

Iske and Boersma (2005) state that answering questions are in most cases not a problem as long as the questions do not take too long time to answer and/or are of relevance. The challenge with Q&As is to get people to post questions. It can be scary for employees to ask

questions in an empty and non-active Q&A forum. Therefore, Iske and Boersma (2005) recommend a small group of committed persons to fill up the Q&A platform in the beginning and to make it feel active. It requires time and management support for clear benefits of the platform to be evident before posting questions in the Q&A forum becomes a natural part for the employees (Iske & Boersma 2005). Finally, a difficulty can be the need for the participants to filter the content since one question may have received several answers (Wagner 2004).

TABLE 2: SUMMARY OF THEORETICAL REVIEW - USE OF IT PLATFORMS

Tool	Characteristic	Aspects to consider
Wiki	*Leuf and Cunningham (2001):* · Knowledge sharing storage · Fast, easy, flexible · Informal way of sharing ideas · Sharing ideas *Wagner (2004):* · Knowledge sharing storage · Collaboration across the organisation · Large amount of content · Co-creation of large communities · No need to filter the content · Hyperlinks reduce repetitive subjects	*Leuf and Cunningham (2001):* · Have a defined area of use · Requires resources in form of administration *Hasan and Pfaff (2006):* · How to use in corporate setting
Suggestion box	*Belliveau et al. (2004):* · Collect and share ideas · Suitable for all kind of ideas · Everyone can comment and contribute with content · Stored and searchable ideas *Dodgson et al. (2008):* · Capture knowledge *Kelchtermans and de Beule (2013):* · Collect and share ideas · Ideas submitted in a standard form	*Belliveau et al. (2004):* · Anonymous vs. non-anonymous idea submission · Does not allow for change in the idea once submitted · Difficult to see the process after the idea has been submitted · Ideas can be lost or disorganised within the system
Social Media Platform	*Sakkab (2002):* · Global lunchroom · Connected to other employees based on interests *Vuori (2012):* · Interactive and networking · Collaboration · Connecting employees · Create discussion · Advocate transparency · Create flows of ideas and knowledge · Strengthens sense of community · Reaching people across the organisation · Increase transparency	*Accenture (2013):* · Create an online culture within the company · Unproductive · Employees do not know what to contribute with · How to use in corporate setting · Employees do not see collaboration possibilities · Requires management resources for promoting the platform · Employees must themselves figure the benefit for them
Q&A	*Iske and Boersma (2005):* · Enables discussion of all kinds of problems · Stored and searchable · Unexpected expertise may flourish · Storage decreases repetition of questions *Rao (2012):* · Stored and searchable · Do not need to search for the right knowledge *Simula and Vuori (2012)* · Good for incremental and problem solving ideas · Find expertise within the company	*Wagner (2004):* · Participants have to filter multiple responses to find the appropriate answer *Iske and Boersma (2005):* · Difficult to get employees to post questions · Scary for employees in empty and inactive forums

2.7 SUPPORT MECHANISM FOR IT PLATFORMS

2.7.1 COLLABORATIVE COMMUNITIES

Many of the difficulties related to using IT platforms are managed through the organisational culture and management support systems of the organisations (Ardichvili et al. 2003). Knowledge and idea sharing processes are dependent on organisational culture, which can impede the success of IT platforms (McDermott & O'Dell 2001). A study conducted by Lin (2007) shows that while IT platforms are a mechanism for sharing the knowledge needed for innovation, organisations cannot solely rely on the existence and implementation of an IT platforms for improving their innovative ability. IT platforms are a forum for sharing knowledge and ideas. However for the systems to be effective, the organisational support and culture for encouraging employees to share idea needs to be established (Lin 2007). However, McDermott (1999) states that at the same time it are difficult to change the organisational culture.

Even if the aim with IT platforms is to be a tool where employees share and build on each other ideas and knowledge, it is difficult to succeed with the implementation. For successfully sharing ideas through IT platforms, the participants need to build a relationship face-to-face. It is not enough to only have IT platforms as a tool for getting employees to share ideas and think together. There also need to be collaborative communities that encourage employees to share knowledge and ideas (McDermott 1999). Organisations may experience trust-related issues that impede the efficiency of the IT platforms. Organisations are therefore required to establish face-to-face practices for idea sharing that can later be translated into the IT platforms. This establishes a formal practice for knowledge transfer before the IT platform is implemented (Ardichvili et al. 2003).

Employees need to feel that spending time on contributing to these idea platforms is a valid use of their work day. In order for IT platforms used for idea sharing to be successful, they need to be able to encourage postings and responses from the participants, opportunities for the participants to share both personal stories and create discussions on specific and relevant categories (Björk et al. 2010).

2.7.2 PURPOSE OF THE IT PLATFORM

The implementation of IT platforms for idea sharing is dependent on having a strategy for their success (Flynn et al. 2003). It is crucial for management to describe how the IT platform

is intended to be used, and that the aim of it to make the employees use it as a collaborative tool (Li 2015). Without a set strategy on what the actual goal of the process is and how it should be executed, an organisation may end up with too many ideas that they do not know what to do with, or ideas that do not fit the strategy of the company (Flynn et al. 2003; Bjelland & Wood 2008; Birkinshaw et al. 2011)

The IT platforms are required to have an established set of rules and guidelines when implementing the strategy of the IT platforms. This is necessary for the IT platforms to be efficient. Further the rules solve the issues experienced by employees, as the guidelines help them recognise and evaluate the relevance and importance of their ideas (Ardichvili et al. 2003).

While the purpose of the platforms needs to be defined, Paroutis and Al Saleh (2009) suggest that there is a possibility that employees will use the IT platforms as a forum for discussing irrelevant and private subjects that are unrelated to the purpose, which would contribute to the inefficiency of the IT platforms. However, McAfee (2006) argues that the overall information available on the IT platforms would be relevant and beneficial for the organisation, thus outweighing the small number of irrelevant posts.

2.7.3 MANAGEMENT SUPPORT

The benefit of having IT platforms is that they are a natural part of the employee's day-to-day activities, and that it does not require the same intensity of management involvement, as e.g. innovation jams (Bjelland & Wood 2008) or contests (Elerud-Tryde & Hooge 2014) may require, as the employees themselves are able to manage the content, organise, and categorise the system (Levy 2009).

If an organisation uses an IT platform for idea sharing and leaves it to the individual employee, then it also becomes up to the employee to sort the knowledge and information and to decide what is important. Instead McDermott (1999) recommends the use of coordinators in the community that can enrich the IT platform by deciding what is important and useful knowledge, and subsequently combining and integrating the knowledge. However, in order for IT platforms to be successful, the leaders of the organisation need to engage with the employees on the IT platforms. Managerial involvement is identified as crucial for the

stimulus of ideas (Björk et al. 2010). Blogs have been used as a tool for management to support and promote the use of the IT platforms (Elerud-Tryde & Hooge 2014).

2.8 CRITIQUE AGAINST IT PLATFORMS

No presentation of any topic is complete without a critical perspective in order to create a transparent discussion. Naturally, there are potential risks of using IT platforms as tools for managing knowledge and idea sharing that need to be considered for a holistic discussion of IT platforms in the purpose of idea sharing. IT platforms are not a perfect solution, and there are a number of barriers where IT platforms are not brought up as a solution. Szulanski (1996) identified knowledge-related factors as impediments to knowledge transfer such as e.g. causal ambiguity and the recipient's lack of absorptive capacity.

Further, literature has shown that there are human resource-related issues associated with IT platforms and knowledge sharing, which impedes employees from participating and contributing with their ideas in the IT platforms. For example, new employees may feel that they have not obtained the right to post entries in the system that is seen in the whole company. Additionally, employees may not feel that their ideas are contributing with valuable and relative ideas. Some participants may feel discouraged from participating and sharing their ideas, as doing so may invite an attack on their self-perception and image. Participants may also fear the possible criticism that their ideas may receive (Ardichvili et al. 2003). However, this is not specific for IT platforms, as the same reasoning is found in face-to-face situations (McLure Wasko & Faraj 2000).

2.9 SUMMARY OF THEORY AND IMPLICATIONS ON RESEARCH

In the theoretical framework, the interdisciplinary gap of IT and MNC knowledge sharing have been brought together by reviewing and integrating two separate research fields within the scope of the research question. Therefore, by integrating two different research fields, it allows us to examine how IT platforms can be used in an MNC context.

In the beginning of this chapter, the relevance of innovation and employees ideas were accounted for, which resulted to highlighting the importance of sharing knowledge in MNCs. Secondly, the identified knowledge barriers that MNCs experience have been reviewed and the purpose IT has in overcoming these barriers. Thirdly, the theoretical framework identified IT platforms, namely wikis, suggestion boxes, social media platforms and Q&As, and how

they can be used. Each of them has specific characteristics and aspects that need to be considered when using them. These characteristics and aspects create a base for exploring how the IT platforms can be used in MNCs, and how to define the themes for the empirical data collection. Lastly, the theoretical research identified that IT platforms are in need of support mechanisms. Briefly said, the outcome of the theoretical framework through combining the two research fields is to act as a base for the empirical data collection, as well as a theoretical foundation for the analysis.

3. METHODOLOGY

This section outlines the methodology used for collecting the empirical data and creating the analysis. Moreover, the quality of the research is discussed. The aim is to provide a transparent explanation of how the research of this thesis has been conducted.

3.1 RESEARCH STRATEGY AND APPROACH

This study aims to provide an understanding of how IT platforms can be used for idea sharing among employees in MNCs. In coherence with Merriam (2009), we have chosen a qualitative study in order to investigate and get an insider perspective how IT platforms can be used. We have not sought to quantify our findings, instead this thesis has focused on contributing with an understanding of the context that IT platforms are used and the barriers that may appear. A qualitative approach has allowed for creating an understanding based on the theme of the thesis and the case companies chosen. Therefore, a qualitative study is the research strategy adopted for this thesis.

A qualitative research approach creates flexibility and adaptiveness in the data collection, as this strategy allows unpredicted information and data to emerge (Yin 2014; Bryman & Bell 2015). However, there are difficulties in qualitative studies, as research is dependent on accurate results, which is difficult to obtain in qualitative studies, as the counterpart in quantitative studies is able to provide hard numbers and statistics to prove its case (Morse et al. 2002). In this case, we believe that qualitative studies bring a benefit to our topic, as it allows us to explore a gap in the research field, as recommended by Merriam (2009), Yin (2014) and Bryman and Bell (2015).

Further we have chosen an abductive approach, which has allowed us to examine research prior to the field studies, as well as complementing the theory further along the process (Bryman & Bell 2015). In our case, we discovered that certain phenomena were not emphasised by the theoretical framework conducted prior to the empirical research, such as the theme regarding support mechanisms for IT platforms. Due to this, we have had to do modifications to our theoretical framework throughout the process, and further investigated the areas that were not covered in the initial theoretical framework. This is according to Yin's (2010) recommendation, as the empirical findings have throughout the process been compared to the theoretical framework, which has led to a more valuable fieldwork. Therefore, we have reviewed literature both before conducting the empirical research in order

to create a basic understanding of the field in which the research is focused on, as well as during and after gathering empirical data in the purpose of better understanding the discoveries from the empirical findings.

3.2 RESEARCH DESIGN

The thesis design creates a structure and a logical plan for how data is collected and analysed and is important for achieving strong validity and reliability (Yin 2010; Bryman & Bell 2015). In order to achieve transparency the research process should be described so that readers can understand how the research has been conducted (Yin 2010). Yin (2014) recommends using a case study design in topics where the research aims to answer *how* and *why* questions, as is the case of this thesis. We have chosen to do a multiple case study. This allows us to investigate the empirical data from the different case companies, where we are seeking to contribute with explorative examination of how IT is used in idea sharing.

To gain understanding of the field, we have chosen an exploratory research design. As recommended by Yin (2014), the initial phase of the study started with exploration of research within the main topic of the thesis, upon which the theoretical framework was based. By doing so, it allowed us to gain an understanding of what the final purpose of the study would be and how the empirical findings will be evaluated (Yin 2014). Exploratory case studies are often used in fields where little prior research has been done before (Yin 2014).

In our research, the aim is to describe how IT platforms can be used for idea sharing processes by examining theoretical and practical examples. There is a lack of qualitative research when examining MNCs, since focus has been on quantitative methods (Werner 2002; Doz 2011). Doz (2011) argues for qualitative research as a way of where contributions can be made for building theories. The choice of an exploratory study is therefore specifically suitable in this case where the focus is MNCs, as limited prior research regarding MNCs has been done using a qualitative research strategy (Werner 2002; Doz 2011).

3.2.1 MULTIPLE CASE STUDY

A case study can include one or multiple cases and is the preferred method within the social science research when the research questions is a how or why question, when the researcher has no or little control over behavioural events and when the focus of the study is contemporary phenomenon, which in contrast can be compared to a historical phenomenon.

Furthermore, when studying organisational and managerial processes, the case study research allows the researcher to focus on one or multiple cases and retaining a holistic and real-world perspective (Yin 2010).

The confidence in the results can increase when a multiple case study is used, compared to a single case study. The trustworthy and credibility of the study also increases when using different sources for data gathering i.e. the interviews (Yin 2010). Doz (2011) highlights that there is a special need for using multiple case studies based on interviews, as is the method in this study.

It is argued that multiple cases are suitable for creating a general overview of the field (Ghauri 2004) as it allows for investigation of what is both unique and common for the cases, supporting the process of creating basis for generalisations and exceptions made from the key findings (Bryman & Bell 2015). Additionally, Yin (2014) argues that using multiple case studies gives basis for general conclusions as the empirical data can be found in several cases. In contrast, other researchers argue that generality cannot be achieved when conducting case studies as it is difficult to ensure that the sample of the study is representative for the population (Hamel et al. 1993; Ritchie et al. 2013). In this study, we do not aim to create generalizable conclusions, as we are not able to assure the representation of our sample for the population. This will be further discussed in the section 3.7.1 Validity.

THE RESEARCH UNIT - CASE COMPANIES

The units were chosen according to what Yin (2010) defines as purposive sampling, which can be explained as choosing units that will provide the most relevant data for answering the research question. The process of sampling case companies for the interviews started in the School of Business, Economics & Law at the University of Gothenburg's alumni database of the authors for this thesis, which was seen as a facilitator to establish contacts within the case companies. The alumni database was used to contact the initial persons within the companies who later referred to suitable respondents to interview. As Bryman and Bell (2015) state it is common for researchers to sample from the sources that are available to them in combination with other methods e.g. purposive sampling, which was the method used for this thesis. The alumni database included several of hundreds of contacts, other criteria were used to find case units suitable for answering the research question of this thesis. These criteria are described below, and the case companies are presented in table 3:

1. MNCs

Based on the definition that MNCs are defined as companies active in cross border contexts, with multiple national entities (Ghoshal 1998), we have chosen to have a larger global scope with the minimum requirement has been that the company has presence on at least two continents in order for geographic and organisational distance problematics to become relevant. In this case we have considered the locations where the companies have subsidiary divisions based on each of their annual reports and key facts from the company websites.

2. HQ in Europe

Scholars have asked for more research outside the North American environment (March 2005; Tsui 2007). Researchers have also argued for the national home country and its effect on the MNCs, (*see e.g*. Ferner 1997). Therefore, HQ locations in Europe were an other criteria in order to contribute with findings outside the North American paradigm. Due to anonymity of the case companies, we will not present the HQ location of the companies, other than confirming that they are located in Europe.

3. Knowledge-intensive

Knowledge-intensive firm is defined as organisations where knowledge and human capital are the most important and dominating inputs (Starbuck 1992). However, every organisation has knowledge and employees with general knowledge. Therefore, in order for an organisation to fulfil the requirement of being knowledge-intensive, it must be valuable and special expertise that characterises the typical knowledge. Engineers are brought up as examples, illustrating employees with rare expertise (Starbuck 1992). Additionally, the European Commission uses the statistical classification of economic activities in the European Community NACE Rev. 2 to define knowledge-intensive with a two digit system that classifies activities (European Commission 2016). Thus, by using the definition and classification system provided by the European Commission all the chosen case companies can be defined as knowledge-intensive. Consequently, all case companies chosen are classified as knowledge-intensive according to the NACE Rev. 2, and can be characterised as engineering companies with high expertise knowledge.

4. Large companies

According to the European Union (2003) Commission's recommendation, a medium-sized company should have an annual turnover no larger than EUR 50 million and have no more than 249 employees. By default, a large company has to exceed both requirements.

TABLE 3: CASE COMPANIES

Name	Industry	Global spread	Turnover*	Employees
Alpha	Technology	150+ countries 5 continents	EUR 25+ bn (2015)	100 000+
Beta	Automotive & Technology	30+countries 3 continents	EUR 8+ bn (2014)	50 000+
Gamma	Technology	10+ countries 2 continents	EUR 0.25+ bn (2015)	3000+
Delta	Automotive	100+ countries 5 continents	EUR 9+ bn (2014)	40 000+
Epsilon	Energy	10+ countries 2 continents	EUR 10+ bn (2015)	50 000+

* The turnover rates have been converted to Euro (EUR) based on the European Central Bank (2016) Euro foreign exchange reference rates for March 29th 2016.

3. 3 DATA COLLECTION METHOD

3.3.1 SEMI-STRUCTURED INTERVIEWS

The empirical data has been collected through interviews with key personnel from the case companies, which have given us valuable insights in their IT platforms. The interviews have been constructed in a semi-structured manner, allowing for flexibility of the interview within the scope of the main topic. Semi-structured interviews provide an opportunity for a two-way communication and interaction between the respondent and researcher (Yin 2010). The questions being asked and the relation between the respondent and researcher were not strictly scripted.

Prior to the interviews, we developed an interview guide (*see* Appendix 1), which included the main topics we wanted to ask and specific questions to guide the themes, and did therefore not contain all the questions asked during the interview (Yin 2010). The questions were based on the theoretical framework. The interview guide was used as a tool to keep the interview flexible and allow for the interviewee to freely talk about the topic, which is distinguishing for semi-structured interviews (Bryman & Bell 2015). An interview guide was used as a complementing tool during the interviews and was a helpful tool reminding of what data that needed to be collected to answer the research question.

The risk with having an interview guide is that it may impair one of the strengths with qualitative research, namely capturing what is found important by the interviewees and not what is hypothesised and predicted by the researchers. Therefore, it is important to keep an open mind during the interviews so that the respondents perspective are captured, let unexpected data come forward, and allow the interviewee to steer the conversation (Yin 2010). As researchers, we controlled that the interview stayed within the topic by using the interview guide, in order to ascertain that enough information was given to be able to answer the research question. This can be critiqued, as there is a risk with staying too close to the set questions of the interview guide can hinder relevant and important subjects to arise (Eriksson & Kovalainen 2015). However, we believe that the benefits of having an interview guide outweigh the possible downsides that it brings. The interview guide allowed for new topics that we had not considered which proves the flexibility of our questions, e.g. topics such as the need for collaborative communities on the IT platforms to arise.

As seen from table 4, the interviews differ in length and the main reason is the extent and length of the company presentation that the respondents held as introductions during the interviews. Due to the availability of the interviewee, some interviews were not able to be conducted face-to-face. This may have affected the degree to which the interviewee felt comfortable to speak freely on the topic. Our decision to still conduct the interviews by telephone was based on that the information that the respondents were able to provide was still extremely valuable for the thesis. Additionally, when the interviews were conducted over telephone, there was less non-context related chatting, comparing to when conducting them face-to-face which decreased the length of the interviews.

CHOOSING RESPONDENTS

The interviewees should be chosen to provide different views and opinions related to the research topic. To decrease the risk of creating a biased study, interviewees should not only be chosen because they are predicted to confirm the expected result and outcome (Yin 2010). Before conducting the interviews, initial preparatory inquiry was performed with the intended interviewees, which confirmed the company's and interviewees relevance to the study. For this thesis, we have interviewed eight managers from five different organisations. The final interviewees within each of the case companies were chosen according to what is defined as snowball sampling where one person leads to another person that can be interviewed. The

initial contact was made through the University's alumni database, who referred us to suitable colleagues to interview after explaining the purpose and subject of this thesis.

The interviewees were chosen and contacted based on their managerial positions and key in insights into their company's IT platforms. The managers have key responsibilities in their respective organisation's innovation processes, including IT platforms. Snowball sampling and conducting initial interviews increases the validity by finding respondents that can contribute with relevant findings and plentiful data (Yin 2010).

NUMBER OF CASE COMPANIES AND RESPONDENTS

Five companies were used as cases and the reason for interviewing five companies is what Bryman and Bell (2015) explain as theoretical saturation was achieved. After interviewing the fifth company, we believe that all the different themes in the theoretical background were identified, and the respondents and the experiences from the case companies confirmed each other, e.g. all the five companies had mentioned the lack of communities that encourage the use of IT platforms. The respondents also confirmed each other regarding e.g. barriers. Consequently, after the interview with the fifth company, we believe that a sixth case company would not add any new data or insights for the scope of this thesis according to Bryman and Bell (2015) explanation of theoretical saturation, and therefore we did not continue to collect more data.

In three out of the five companies, two interviews were conducted per company. The reason for this is because varies. In two companies, two persons were offered to be interviewed by the initial contact at the firm. In the third firm, we initiated the contact with a second interviewee of that company, as information provided in the first interview indicated that a second person in the company could provide more specific information regarding one of the platforms used in the company.

TABLE 4: OVERVIEW OF INTERVIEWS

Interviewees	Job title	Date	Language	Form	Length
		Company Alpha			
A1	Collaboration manager	2016-03-14	Swedish	face-to-face	75 min
A2	Innovation manager	2016-03-14	Swedish	face-to-face	70 min
		Company Beta			
B1	Intellectual property manager	2016-03-21	Swedish	face-to-face	100 min
B2	Global development manager	2016-03-21	Swedish	face-to-face	100 min
		Company Gamma			
G1	Collaboration manager	2016-03-22	Swedish	face-to-face	60 min
		Company Delta			
D1	Innovation manager	2016-03-23	Swedish	telephone	40 min
D2	Collaboration manager	2016-03-24	Swedish	telephone	25 min
		Company Epsilon			
E1	Innovation manager	2016-04-06	Swedish	face-to-face	60 min

3.3.2 OBSERVATIONS

When planning the research design and data collection method, there was no intention of using observations. However, during all the face-to-face interviews, the opportunity to observe the companies' IT platforms appeared which was a good way for us as interviewers and researchers to get a deeper understanding of how the IT platforms work. For obvious reason, observations were not possible during the two telephone interviews.

The respondents presented visually what the IT platforms look like and how they work. Details that the interviewees did not mention or find important were able to be observed with our own eyes, especially as we got a look at their IT platforms, and were of relevance to us in accordance to the already conducted theoretical framework. For example, some of the interactive and collaborative functions that Alpha has in their suggestion box were not mentioned in the interview until the observation allowed us to see the suggestion box.

The opportunity to see primary data with your own eyes, without someone else's filter is also brought up by Yin (2010) as one of the valuable advantages with observations. Another advantage of using observations is that it complements the interviews as data collection, since the observations can corroborate or question the data found in the interviews. Using both interviews and observations to corroborate data is an important part when collecting data for qualitative studies and strengthens the validity of a study according to Yin (2010).

3.3.3 RECORDINGS & FIELD NOTES

Each interview was recorded with the consent of the interviewees. To avoid technical difficulties, which is described as one of the major problems with doing recordings by Bryman and Bell (2015), two different devices were used for recording during every interview. Additionally, each interview was transcribed in Swedish and later translated by the authors. The main purpose of using recordings was to be able to go back throughout the process of writing the thesis in order to assure that the information in the empirical section was replicated accurately. By recording the data, the need to triangulate and corroborate data decreases according to Yin (2010). Each interview was transcribed directly after while the information was still fresh.

During the interviews, one of us took the lead as head interviewer in each interview, while the other took notes, and recorded observations, as well as chimed in with follow-up and clarifying questions. The field notes were particularly important for the observations and key information that we found particularly relevant and included drawings, photos and written notes.

Yins (2010) discusses the dilemma of what needs to be recorded and the problems of recording too much versus the danger of recording too little and miss out on important parts. During the interviews, the whole conversations were recorded and the field notes were used as a helpful tool to handle the amount of information and sort out the most important part in the transcriptions. Finally, the field notes also facilitated the process of describing the data that was collected during the observations, especially since some of the interviewees drew on whiteboards when explaining how certain processes worked.

3.4 LANGUAGE

Xian (2008) is critical to the common view that the researcher is an objective translator that has nothing than a technical role in translating data from one language to most often English. The qualitative data translating is problematic. Nevertheless most of the problems presented by Xian (2008) are related to cultural elements and issues. There are also purely linguistic problems that need to be handled. Linguistic problems can be described as the respondents using words that have no equivalent in English and problems related to grammatical structure. Therefore, the researcher should not be regarded as objective and it is not correct to believe that the data will be translated without any changes made by the researchers. All the

interviews in this thesis were conducted in Swedish and then translated into English. Further, all quotes cited in the thesis have been translated by the authors. We did not encounter large issues related to grammatical structure, expressions with lack of English equivalent or experienced any other major difficulties in the translating.

3.5 ANONYMITY

Yin (2010) emphasise the importance of protecting the participants in the research and interviewed participants should be offered the opportunity to be anonymous. In this case, we have anonymised both the companies and the interviewees. Being anonymous allows for the interviewee to be more comfortable in the interviewing situation, and therefore give relaxed and honest answers and speak more freely regarding the topic (Bryman & Bell 2015). The company's facts and figures in table 3 have been rounded for the sake of decreasing the possibility to identify the organisations. This is mainly due to the fact that we did not find each company by itself to be particularly important for our findings, instead the focus of the thesis has been on the factors that are key facts and common experiences across the companies (Bryman & Bell 2015). Additionally, the job titles of the interviewees have been generally described in order to keep the anonymity, in order to avoid the ability to identify them based on their specific and online searchable job titles.

3.6 DATA ANALYSIS METHOD

We have used an iterative approach to analyse the data collected in the empirical research. As stated by Bryman and Bell (2015) an iterative approach includes to repeatedly going back and forth between the data collection and analysis. Initially, as the empirical data was started to be collected, transcriptions were made and directly related and reflected back to the theoretical framework. Empirical findings were coded and grouped after the overall theoretical themes. From these relations, main points for analysis were started before all the data had been collected, which is in coherence with Bryman and Bell (2015) recommendations for an iterative approach.

According to Merriam (2009), repeating the same headlines in the analysis as in the theoretical framework helps the authors create and follow a structured, and well-formed analysis, as well as patterns from the empirical data. As a result of the iterative method of this thesis, the final model that appeared (*see* fig. 1 in section 5.4.1), the headlines have been constructed to create consistency for the reader in each chapter, from the theory to analysis.

However, some topics in the theoretical framework act as background information for the thesis, and how not been subjected to empirical research and analysis under separate headlines. Instead, they have been integrated into the main themes of the empirical findings and analysis.

Lastly, categories that were identified from the empirical findings helped create a basis for the conclusion of this thesis. These were identified as common themes from the interviewees. An example is the lack of communities that the companies have managed to establish through their IT platforms for idea sharing.

3.7 RESEARCH QUALITY

Qualitative research is characterised by the researcher as the main instrument for collecting and analysing data. The researcher may have preconceived ideas and biases that can impact the study. However, these prejudices and biases should not be eliminated. Instead they should be identified in order to see how they may affect the data collection and analysis (Merriam 2009). The credibility needs to be demonstrated in order to achieve a study with high quality and value (LeCompte & Goetz 1982). The subject of this research has been chosen based on our own interests, and has been conducted within the frame of a master thesis. We have throughout the process aimed to the best of our ability accurately described the empirical findings. Both authors have continuously worked together on every part of the thesis and we have gone back to each chapter repeatedly to make sure that sources are correctly used in order to eliminate misunderstandings. For example, after the empirical findings chapter was written, we have re-listened to each interview and double-checked with transcripts to make sure that the information has been correctly rendered.

3.7.1 VALIDITY

Validity is the main component affecting the quality of a study and refers to the accuracy of the findings in the study. In order to achieve a high quality the study needs to be valid, which requires for the data to be collected and analysed in a proper way, thus making the conclusions reflecting and representing what was studied accurately (Bryman & Bell 2015). External validity, one of the two components of validity can be described as the degree to which the findings of the study are generalizable (LeCompte & Goetz 1982). There are difficulties with drawing general conclusions from qualitative case studies since qualitative studies have particularistic features. These features make it problematic to draw general

conclusions applied to a broader concept from the findings in the specific study. However, no matter what type of study that is being conducted, there is a limit in the amount of data that can be collected and upon which the conclusions are generalised (Yin 2010). Therefore, Yin (2010) suggests that qualitative studies can be used for generalisation by starting with the researchers showing how the findings can inform a theoretical construct, hypothesised events or a set of concepts. Second, the theory should be applied to involve other situations that are similar with concepts that might be relevant. Consequently, instead of trying to generalise on a broader level, this study aims to discuss and increase the understanding of how IT platforms can be used within MNCs for sharing employees' ideas according to Yin (2010) recommendations.

The other component, internal validity is the degree of how the theoretical ideas correspond to the observations made by the researcher (Bryman & Bell 2015). Another definition of internal validity is if the researcher and the participants understand the conceptual categories in the same way (LeCompte & Goetz 1982). One way to strengthen the validity, both internal and external is to gather data that later becomes conclusions from different sources. However, the need of using different sources to verify the conclusions decreases when the interviews are recorded (Yin 2010). This thesis has both used multiple case companies upon which conclusions have been drawn as well as used recordings during interviews to assure the validity. To further strengthen the internal validity, Yin (2010) suggests that respondent validation should be applied, which means that the interviewees should give feedback on their views in order to decrease the risk of misinterpretations. By applying respondent validation the external validity is also strengthened (LeCompte & Goetz 1982). The respondents in this study got the chance to give feedback on their data from the interviews in empirical findings before it was published. By doing so, this also decreases the degree of subjectivity in the translations of the data which is mentioned as one of the major problems when translating data, since the respondents could give feedback on possible misinterpretations related to translation (Xian 2008).

3.7.2 RELIABILITY

Reliability refers to the ability to replicate the findings in the study and the problem of reliability can be divided in two parts, external and internal. External reliability discusses if an individual researcher would be able to recreate the same study and discover the same generalisations in an identical or similar environment. However, this is problematic according

to LeCompte and Goetz (1982), since the social settings that are being studied are dynamic and change continuously. Therefore it is difficult to reconstruct and study the identical environment as in this study, especially when considering that the use of IT platforms is rapidly changing and constantly developing compared to studying e.g. national culture that takes longer time to change. Furthermore, for a study to be replicable and to achieve high external reliability, the method of how data has been collected and analysed needs to be clearly presented in order to give other researcher the possibility to use the methodology of this study as a manual for replicating the study (LeCompte & Goetz 1982). The aim of the method section in this thesis is to deliver a transparent and clear explanation of the method used. However, there are issues in replicating this study since the interviews were conducted as semi-structured interviews where the respondents could influence the content of the interview, while our role as interviewers was more to direct the conversations with the interview guide to answer the research question. As a result it is difficult to provide a clear method that can easily be used and followed in a similar study.

Internal reliability discusses if numerous researcher would agree on what they observe, i.e. if other researchers would be consistent in seeing, hearing and observing the same and agree with each other (LeCompte & Goetz 1982). The optimal way to decrease the threats of internal validity according to LeCompte and Goetz (1982) to is to have more than one researcher that observes, which enables discussion of what have been observed between the researchers in order to reach an agreement. Being two researchers and observers in this study, it allowed us to do what is recommended i.e. the observations were discussed to reach agreement. Finally, using recording devices can also strengthen the internal validity since raw data are preserved by the recordings and that other researcher can verify the authenticity of the findings. However, this is complicated due to the anonymity in this study and the recordings can therefore not be published for other researchers.

4. EMPIRICAL FINDINGS

This chapter presents the case companies and the data collected from the interviews and observations. First we present the case companies and their IT platforms used for sharing ideas. This is followed by a more detailed description of the IT platforms together with the main difficulties highlighted found in the empirical research. Lastly we describe the other prominent findings, which are presented according to themes that have occurred during the interviews.

4.1 PRESENTATION OF CASE COMPANIES

ALPHA

Alpha has four international business units operating in a silo structure, with a new fifth unit aiming to create cross-functional collaboration. Alpha is in the ICT sector and is a global company which operates across five continents. The firm has a suggestion box which is currently used in all of their company units. Currently there is no cooperation between the suggestion boxes of each global unit, as the business units do not operate within the same technologies, hence there is no need or purpose for integration. Each of business unit in itself is a global entity In addition to the suggestion box, there is also internal wikis.

BETA

Beta operates in the transportation market and consists of four major divisions. The products and services of one of the divisions operates in the transportation industry that is highly controlled by internationally agreed regulations, such as export control and other complex intellectual property right issues. These regulations affect the way they collaborate across the global organisation, for example the information they are allowed to share and how and where they store data. Beta uses a suggestion box solution that includes manual handling and can therefore be classified as semi-digital. The suggestion box is also affected by the export control restrictions.

GAMMA

Gamma operates in the technology service sector targeting other organisations in several industries e.g. the automotive and medical technology industries. The company has four different business units and has been present in the industry for several decades. The IT platform that Gamma uses is a Q&A, which is built in their IT platform where all the employees can ask for another colleague’s expertise. Additionally, Gamma also uses wikis

DELTA

Delta operates in the automotive sector and has been present for over a century. The focus of the company has been producing and selling products targeting the B2B market. The company operates in four main sectors. Delta actively works on improving their global collaboration among employees. They use an internally developed social media platform that is accessible for all the employees. In addition, they also use wikis and a Q&A function.

EPSILON

Epsilon operates within the energy sector and is one of the largest energy providers in Europe. Currently the organisation is divided into four main global units, with a fifth technology-focused division, which aims to coordinate projects across the organisation. Epsilon are in the process of improving their idea platform, which is in form of an internal 'idea wiki'. The idea process is currently under transformation in the Swedish market, which is been used as a test market to improve the idea sharing strategy within the entire organisation.

4.2 IT PLATFORMS

4.2.1 WIKI

Four out of five companies use wikis, however with different purposes. All the four case companies have the aim to use the wiki as a knowledge sharing tool, but with different types of implementations. The tool in all the four companies is used as a collaborative and co-creating platform that allows employees to edit and build on each other's contributions. Each platform is searchable so that users can inquire for the type of ideas, problems or exact knowledge which they are searching for.

Gamma presents wikis as a 'knowledge bank' (G1, Gamma, interview, 22 March 2016). However, as a service company, most workgroups work very separately from each other and therefore also have separate wikis, which are not directed or controlled by management. At Alpha, their two wikis are crosslinked with different sharing programs, and are also not under management control. This is used in a similar way as Gamma does, where the main purpose is to create a dynamic knowledge database.

The implementation of Epsilon's wiki differs compared to the other three case companies that use wikis since Epsilon focuses purely on ideas. E1 states that the wiki that Epsilon uses has the aim to create ideas and is even called 'idea wiki' within the company. The wiki is a platform where employees can contribute with their ideas, which creates a collaborative

platform and a database for all ideas. The employees at Epsilon can comment and add content to other employees' ideas. E1 does not believe in processing and formalising the use of IT solutions too much, and this is why Epsilon has chosen the wiki, due to the simplicity and usability of the platform. E1 explains that the wiki is a very simple and easy to use tool as it is easy to access, no registration is needed, and the only demand is for the employees to access the IT platform. Finally, E1 believes that there are more or less no risks with using the wiki.

DIFFICULTIES WITH WIKIS

Company Gamma experiences that there are several challenges with wikis. One of the difficulties is that wikis requires a large amount of maintenance and updating to keep the content up to date and relevant, which is resource exhausting. Moreover, respondent G1 believes that the employees within Gamma possess too broad knowledge in order for it to be efficiently shared in wikis. This is due to that the services that Gamma provides are highly knowledge-intensive and the employees are specialised in many different areas.

Alpha on the other hand exemplified the problems they experience of their wikis as they are unstructured and disordered. They have three sharepoints and two wikis that are crosslinked. Currently their technological solutions do not have sufficient search tools for efficiently finding the right knowledge.

Epsilon experiences problems related to activity level. According to E1, the number of ideas uploaded on the wiki are too few. In addition, even if ideas are uploaded there are difficulties with getting the employees to comment and build on each other's ideas. According to E1, the wiki is a good tool for collecting and sharing ideas, but not generating and developing them further due to the low activity level as it lacks the community culture that makes the employees participate. Epsilon additionally emphasise the need for visibility of the wiki within the organisation, which is one the reasons why activity level is low according to E1.

4.2.2 SUGGESTION BOX

Two of the case companies use suggestion boxes, however in the way that they use them are widely different. Below are presented the key points and differences taken from the interviews in order to illustrate how suggestion boxes are used.

Company Alpha is currently using suggestion boxes with the intention of sharing larger ideas. Each of the four international main divisions of the company in which Alpha operates has

their own suggestion box, which has the same design and purpose. However each product division can decide how to use the suggestion box. The suggestion box is accessible to all employees within each unit. When submitting an idea, the employees are required to fill in a standardised form. The platform is designed with functions that allow others to comment, collaborate and vote on suggestions, and link the ideas to other ideas, as a way to encourage collaboration across organisational and geographical borders. Employees at Alpha can choose categories in which the ideas in the suggestion box should be assorted in order to gather similar ideas. In this way employees can search and find ideas based on their preferred categories. Alpha's suggestion box is complemented by ideas coaches, who try to find the right collaboration partner once an idea is posted on the suggestion box. According to A2, this is to create more collaboration and cooperation of each idea.

Company Beta also uses a form of suggestion box implemented in their daily operations, in which an employee or a team is able download a form to fill in to submit their ideas. The purpose with the suggestion box is to collect commercialisable ideas that are later reviewed by expert decision makers regarding the idea. The possibility to upload the form on the IT platform is restricted by the export control that is distinctive for this industry. The export control restricts too much technical data to be stored on the servers of the company, as this data is protected by regulations. Filled forms are therefore uploaded by IPR experts only once the specific technical details, which could be affected by the export control, have been removed. Consequently, the suggestion box that Beta uses requires manually handling the idea before uploading on to the suggestion box due to regulations.

DIFFICULTIES WITH SUGGESTION BOXES

Suggestion boxes are seen a *'rudimentary'* (A2, Alpha, interview, 14 March 2016) method for idea sharing.

> "*It is easy for ideas to come here [to the suggestion box] to die. We are working a lot with trying to make the ideas move forward."*
> (A2, Alpha, interview, 14 March 2016)

A2 from Alpha is critical to how much of a community the suggestion platform really is, and mentions that very few employees actively log on to the suggestion platform on a spontaneous

basis. In Alpha and Beta, they both have the opinion that there is a difficulty of getting the employees to feel excited and motivated to use the suggestion boxes.

The reason to why the suggestion box is seen as a place where ideas come to die according to A2 is that the activity level is too low. Employees do not comment and evaluate the idea, thus there is no collaboration. This is believed to cause discouragement among employees to contribute with their ideas, and thus has not generated enough excitement within the company for active participation among employees according to A2 at Alpha. Therefore, the platform is currently undergoing a transformation where the goal is to encourage collaboration through the idea coaches as well as speed up the evaluation process of the ideas, in order to encourage employees to share their knowledge and ideas.

D1 from Delta, who is in charge of developing corporate-wide innovation systems, does not believe that a central suggestion box including the entire organisation would be the most efficient process. This is due to that it requires an extensive amount of resources in form of sorting and evaluating all the ideas by management personnel. D1 from Delta believes that it causes a time delay to handle the idea compared to presenting it directly to your manager in person.

4.2.3 SOCIAL MEDIA PLATFORM

Delta uses an internal social media platform that has been developed in the purpose of creating an organisation wide collaboration tool similar to Facebook, and to support cross-functional and geographical sharing of knowledge and ideas. The social media platform at Delta was launched with the hope that users themselves will create the engagement and discussion needed for the success of the platform. D2, who is one of the developers of the platform states that the initiation to create such a platform was in order to enable for colleagues across the organisation, who would otherwise never physically meet to discuss their ideas and share knowledge. The platform includes every part of the organisation, including both the commercial and the production functions within the company.

According to D2, employees are good at sharing knowledge and ideas with their closest colleagues that they work with on a daily basis and meet physically. By using a social media platform, D2 stresses that it enables colleagues that would never meet to discuss their ideas and share knowledge, and attain access to knowledge that they have not been able to access

before. The social media platform aims to ease the share and transfer of knowledge, and is used to overcome geographical and organisational distances by in a fast and easy way connect employees across the organisation, in the aim of encouraging and supporting collaboration.

"The idea is to support a cross-functional way of working, where we believe that the cross-functionality in itself, where people with different [job] positions and persons are able to meet in a different way than before, will create innovation and more efficiency."

(D2, Delta, interview, 24 March 2016)

By using a social media platform and enabling global sharing of ideas and knowledge, Delta can discover problems they did not even know they had which can lead to innovation and new ideas according to D2. Moreover, D2 believes that the social media platform works as a global discussion forum where foundation for innovative ideas is created. D2 can see that the platform has contributed with ideas that have led to internal assessments and developments. One example that is brought up is a global discussion about Google Glasses on the social media platform. A discussion thread on Delta's social media network created enough excitement within the company, that an official investigation started of the feasibility and the degree of relevance the discussion had for the company. Briefly said, the discussions on the social media platform can lead to internal assessment within the company to examine the ideas that can later lead to innovation.

DIFFICULTIES WITH SOCIAL MEDIA PLATFORMS

A challenge that Delta experiences with their social media platform is expressed that they have 20 000 users (total number of employees is more than 40 000) registered in their social media platform, of which only approximately 100 persons contribute actively with their ideas and knowledge and thousands that actively observe. Since almost a majority of employees have an account on the internal social media account, of which many of them are observing the feed, the step from observing to actively participate in the discussion seems to be the main issue according to D2.

Furthermore, D2 states that he finds that users are comfortable to use social media privately, but do not know how to behave on the same type of forum in a professional context. An issue that D2 highlights is that there is a cultural clash between individuals identity privately and

professionally, and points out that employees have to think differently when they are at work regarding how to behave on the social media platform.

D2 states that there are better idea sharing tools such as suggestion boxes, where the specific purpose is to create ideas in a collaborative form. The social media platform used at Delta does not have the same purpose, as there is not clear path of how ideas are to be taken into action.

4.2.4 Q&A

Gamma and Delta both use a function where employees can ask their colleagues all across the organisation a question when they are looking to solve a problem or search for specific expertise. Company Gamma uses a Q&A function where employees, no matter their location are able to ask for the expertise of their colleagues. The function is integrated in a way that employees are able to personalise their newsfeed, which creates a mixture of both questions posted by colleagues as well as other posts, such as local office news and non-work related announcements. Each employee can choose which topics or location areas they want to subscribe to based on their own interests. G1 from Gamma believes that one of the benefits with from their Q&A function is that employees can structure and form their feed of question based on their own preference by subscribing to categories of their choice.

The Q&A function, called 'ask-a-colleague' (D2, Delta, interview, 24 March 2016) at Delta is designed in a way where anyone within the organisation can freely post a question, and can according to D2 gain valuable insights from colleagues who possess the necessary expertise needed to respond. The ask-a-colleague function effectively facilitates knowledge and idea sharing across geographical and organisational borders as stated by D2. Delta gives an example of when a production site had an accident where a person was injured. The employees at this site posted a question in the Q&A forum asking how to prevent similar accidents from occurring again. This resulted in a collaborative solution from globally spread production sites where employees shared their ideas on how they had created similar solutions at their local units.

DIFFICULTIES WITH Q&As

According to the respondents from the interviews, they do not find any significant disadvantages with using Q&As for sharing knowledge and ideas. However, at Delta they

have identified one challenge, namely the activity level in the Q&A with only a small percentage of employees engaging in the conversations on a frequent basis. The platform is most often used by the same group of people and is often the same employees that engage in the questions. The challenges with activity level are discussed further under the section 'social media platform' as Delta's Q&A function is integrated into the platform.

4.3 KNOWLEDGE SHARING BARRIERS FOR MNCs

4.3.1 TIME ZONES

As stated during the interview with Alpha, the IT platforms that they use can be used for overcoming several of the barriers that the company experiences as an effect of being an MNC. Time differences can be both a problem in some cases when jointly collaborating requires immediate and simultaneous discussion, and not difficult at all in other cases according to Alpha when the same on-going discussion is not required. Problematics with time zones were brought up by the interviewee from Gamma where there rarely are any problems when there is a need to collaborate with colleagues in one different time zone. The difficulties appear when there are several different time zones. Alpha, Delta and Epsilon agree with this. Delta expresses that the time zones are manageable when they are limited to one time zone and not multiple different time zones.

The problems with time differences are overcome with the social media platform and the function ask–a-colleague at Delta as the time difference enables a global around-the-clock discussion. The participants contribute with answers and comments fast, usually within a couple of hours which keeps the discussion living day and night. Consequently, D2 believes that the social media platform is excellent for overcoming time zone barriers.

4.3.2 LANGUAGE

Language was brought up as a barrier during the interview with Alpha, Gamma and Epsilon. Alpha believes that it is one of the challenges of working in a global environment with employees all over the world. IT platforms are perceived as increasing the nervousness that some employees may feel when discussing in English. When using IT platforms for discussing ideas, participants do not have the opportunity to talk in an informal manner, before starting to use the IT platforms for discussing ideas, which may increase the language barrier according to the interviewees from Alpha.

The respondent from Gamma also believes that IT platforms, and especially written text, increases the language barriers, since there is an inability to capture gestures, body language, linguistic accentuations and nuances compared to communicating face-to-face. If a colleague uses imperfect English, then it becomes more difficult to understand each other when using an IT platform compared to if they would meet physically.

E1 highlighted that the problems Epsilon experiences related to language is that the employees write in their native language on the wiki. Every case company stated that English is their corporate language. E1 also stresses that language is a barrier for the employees within Epsilon, especially for engaging in each other's ideas and starting to collaborate more. E1 explains this reasoning by giving the example that some employees with a little contact in their daily work life with the official corporate language, may be hindered by the language barrier to engage with colleagues from a different country. E1 believes that IT platforms where the communication is in written form can be a way of decreasing the language barriers, since if you feel insecure in communicating in another language, it may feel easier and more secure to communicate and comment on ideas by text.

4.3.3 ORGANISATIONAL DISTANCE

Beta and Gamma state that the organisational structure obstructs the sharing of knowledge and ideas across the company. The organisation structure at Beta is as such that each business unit or even company location is isolated as they produce different products at different locations, which includes different processes and technologies. However, at company Beta they have identified a need for collaborating and sharing knowledge across the globally dispersed company divisions, and are working towards increasing their collaboration and sharing of knowledge between the different global locations.

For Gamma, the difficulties in sharing knowledge are related to the fact that they are specialised in consulting on the development of external projects with a large variety of technically specialised knowledge, which therefore creates isolated specialties within the organisation. Additionally, as they do not produce the majority of the products they help develop because they are a technical consultancy, they are hindered by secrecy agreements that hinder them from sharing knowledge with the organisation.

E1 at Epsilon believes that the major reason to why employees do not actively contribute with ideas on comment on each other ideas in the wiki is due to organisational cultural reasons. According to E1, Epsilon does not have an entrepreneurial corporate culture and the employees are not used in working in such a way as the organisational structure does not promote it. Moreover, E1 has the opinion that the cultural problems are related to the products that Epsilon produces that are process heavy and therefore renders the degree of entrepreneurial corporate culture.

4.3.4 GEOGRAPHICAL DISTANCE

Epsilon experiences difficulties, where there are geographical barriers due to the size of the company and that the products widely differs and are isolated, and have different knowledge fields according to E1. The energy market is highly regulated, and therefore the company cannot create global advantages, especially from a production perspective where the products are highly adapted to local environments according to Epsilon and the benefits of sharing ideas and knowledge are not prominent. According to E1, the Swedish headquarter is large enough that the need for other units ideas and knowledge is currently limited. As mentioned in the company presentation, it is noteworthy that process for idea sharing is under development and is currently being tested on a single market before being launched in the rest of the organisation.

The social media platform that Delta uses has been in the sole purpose of creating global knowledge sharing and collaboration tool on a daily operational level. The aim of the social media and Q&A function at Delta is to facilitate idea sharing by overcoming geographical distance according to the respondents. The social media platform enables global sharing of ideas, knowledge and discussions and also allows for employees to meet virtually, that would never meet physically according to D2. Alpha on the other hand has experienced difficulties when trying to use IT platforms and discussions in idea sharing purposes. Alpha state that it may be a problem for employees to work collaboratively on ideas when they do not know each other, and that there are advantages when employees can meet face-to-face by e.g. the coffee machine and discuss ideas spontaneously.

According to D2 at Delta, there are differences that have risen from national differences that have needed to be considered in their social media platform. While no official analysis has been conducted, D2 exemplifies that he sees more activity on the internal social media

platform from North European employees, than at other locations, such as South America, where he believes cultural aspects such as organisational hierarchy affects employees' probability to contribute with content.

In addition to that, E1 has experienced problems related to national culture, where E1 has the perception that it is more common for employees from Sweden to use the wiki and contributing with their ideas compared to other nations. E1 develops his reasoning by explaining that he believes that differences in national culture may affect the employee's activity level and how they use the IT platforms. E1 exemplifies his statements with that some countries may have e.g. hierarchical levels that make employees more hesitant to use the wiki. In e.g. Germany, the respondent believes that employees may be hindered by hierarchical structures that are prominent in the German overall organisational structure. The same reasoning is exemplified by D2 at Delta as stated above.

4.4 SUPPORT MECHANISMS FOR IT PLATFORMS

4.4.1 COLLABORATIVE COMMUNITIES

To complement the suggestion box platform, Alpha has implemented idea coaches who are able to personally mentor the employees who have suggested ideas on how they should evolve their ideas, and direct them to experts within the company, and encourage them to send the link to their post on the platform to the experts in order to create a discussion online. The coaches also support the innovator throughout the process from idea to pitching it to the company, in form of advising them e.g. on how to creating a team with various competencies and other collaborations. In addition, Alpha also has face-to-face workshops. The main purpose of the workshops is not to create ideas, instead it is to develop a mind-set for the employees and teach the employees how to create and work with the development of ideas. An example mentioned is that they use coaches to help employees to learn how to carry forward in the process of working and developing ideas.

4.4.2 PURPOSE OF THE IT PLATFORM

A difficulty with using IT platforms that were brought up by several of the case companies is related to finding the right tool for sharing knowledge and ideas within the variety of function the company's IT platform has. Alpha, Delta and Gamma highlight that it is difficult to find the right function, which instead encourages employees to discuss their ideas with colleagues face-to-face, according to Alpha and Gamma.

Gamma sees the IT platform as more as a facilitating tool that aids communication than a knowledge sharing platform, especially due to the broadness of the type of operation that Gamma conducts. G1 expresses that there are no guidelines for how to use the IT platform from a managerial perspective. Instead the platform is seen as an obvious tool to be used without further instructions. From this it is expressed that this may hinder the usability of the platform for other purposes than to share knowledge in an informal way.

A problem with the IT platform that Alpha, Delta and Gamma have experienced is the amount of information that is too overwhelming and that it is difficult to sort and find the right information. All the IT platforms have many functions aside from the idea function that are not related to ideas and knowledge. However, Alpha, Delta & Gamma all believe that the risk of information overload is outweighed by the usefulness of the platform to find ideas and knowledge. Each case company allowed every employee to be able to personalise the feed of their IT platform, by being able to subscribe to certain categories and other topics of interests based on their preferences. It is suggested by Gamma that this is possibly decreases the information overload aspect for each employee.

4.4.3 MANAGEMENT SUPPORT

All the five case companies emphasise that the IT platforms used for sharing ideas and knowledge is not sufficient on their own. Instead every company emphasises that IT platforms need to be complemented and supported by management in some shape or form.

Making the IT platform visible for the employees is an important process that requires encouragement from management according to both Alpha and Epsilon. A2 at Alpha believes that the suggestion platform is a good tool. However it needs to be made more visible and increase the willingness for the employees to use it. E1 at Epsilon also believes that their wiki needs to be made more visible for the employees.

Blogs are used at Epsilon as a marketing tool for the new unit in the company which aims to encourage new ideas, highlight problems, and create discussions for ideas. Mainly it is to promote the function of wikis as E1 argues that wiki needs to be endorsed more internally to make it more visible. In addition to using blogs, Epsilon has started to engage the executives

by letting them highlight the problems they experience and areas that are in need of ideas by using face-to-face informal meetings in combination with IT platforms.

"If we [the management] don't do anything, nothing will happen."

(E1, Epsilon, interview, 6 April 2016)

4.5 SUMMARY OF EMPIRICAL FINDINGS

As seen in table 5, we summarise the characteristics of the IT platforms and the aspects that the interviews have maintained that need to be considered.

TABLE 5: SUMMARY OF CASE COMPANIES' USE OF IT PLATFORMS

	Characteristic	Aspects to consider
Wiki	Knowledge database or idea wiki, idea and knowledge collaboration	Community Updating and maintenance (resource exhausting) Structure and disorder
Social Media Platform	Collaboration and discussion Cross-functional, geographical sharing	Community Observers Professional/private role More for collaboration, no clear path for ideas
Suggestion Box	Collecting and collaborating on ideas Standard format For larger ideas	Community Motivation and excitement Resources for processing ideas
Q&A	Quick problem solving Incremental, daily questions	Community

Table 5 only represents what is related to the specific use of the IT platforms. Our interviews however showed that other aspects non-related to specific IT platforms that appeared important connected to the knowledge sharing barriers of the MNC as well as the mechanisms needed in the organisation to support the use of IT platforms. Together with the theoretical framework, we aim to use the empirical findings as a foundation for analysis and in the formation of the final conclusion of the research question. We aim to accentuate the subjects that have been highlighted by the respondents during the interviews, and create themes based on them on create our final model for how IT platforms can be used in MNCs for sharing ideas.

5. ANALYSIS

In this chapter, the theoretical framework will be used to discuss and analyse the most important empirical findings in order to answer how IT platforms can be used for idea sharing in daily operations within MNCs. Based on the analysis, a final model is created.

5.1 IT PLATFORMS

5.1.1 WIKI

Wikis have commonly been described as a tool for sharing knowledge and ideas. The platform is built up as a collaborative tool that allows for editing of others postings on the wiki, and has been described as the tool for creating a corporate encyclopaedia (Leuf & Cunningham 2001; Levy 2009). Our empirical findings show that this is a commonly used tool, where four out of the five case companies have some form of wiki implemented in their organisation.

Primarily, the use of the wikis in the case companies is in accordance to literature, namely a fast and flexible tool that allows for collaboration in large communities (Wagner 2004; Levy 2009). As Gamma stated, the tool creates a knowledge bank for the company, which is in accordance to Wagner's (2004) description of the wiki. From the empirical findings, the possibility to search within the platform has been identified as one of the benefits, as this allows for employees to use the tool in the way they find suitable, whether it be to solve a problem or to find exact knowledge.

Leuf and Cunningham (2001) mean that wikis can be used in different ways depending on the employee's preference, e.g. as a learning tool, discussion forum or knowledge base. This means that it is up to each employee how they would like to utilise the tool, if the implementation of the tool is in accordance to what is characterised as typical use, namely a user-built knowledge and idea forum (Leuf & Cunningham 2001; Wagner 2004; Levy 2009). Epsilon on the other hand limits the use of wikis to only ideas. Adding a purpose for a specific wiki, as Epsilon in this case uses ideas, indicates that limiting the scope of the wiki may be beneficial (Leuf & Cunningham 2001). Contrasting this to e.g. Gamma, where the knowledge stored in the wikis is very broad, which G1 describes as an inefficient use of the platform. MNCs often have varying types of knowledge (Simula & Vuori 2012), thus creating a company-wide wiki for knowledge and idea sharing quite possibly creates large inefficiencies.

What seems to be a common factor is the activity level needed to keep wikis up to date. Gamma explains that wikis are resource exhausting as they need to be constantly updated and edited to be a useful tool, implying that the time required for the ideas and knowledge to be up to date does not exist. Gamma's experience of wikis is in coherence with Leuf and Cunningham's (2001) who maintain that wikis require resources. Furthermore, Leuf and Cunningham (2001) imply that for a wiki to function, it requires the organisation to have a wiki-culture, which encourages contributions on the platform. Being able to search for information online is incorporated in most people's everyday life, no matter whether it is in their private life, or in their professional role. However, for a corporate wiki to function, the active participation is the crucial factor, thus it not enough for employees to only use the search function, there also needs to be contributions (Hasan & Pfaff 2006). This means when using wikis, they are not enough by themselves, instead they require other factors that will create the contributions.

Culture is an important factor to consider, no matter what the purpose of the wiki is, as without the contributions of the employees, the forum loses its function. While Epsilon uses their wiki with a purpose specifically for ideas, the activity level is seen as an obstacle here, and exemplify that a contributing culture is crucial, which is in accordance to Leuf and Cunningham (2001). E1 believes that exposure to the wiki is needed to encourage participation, which implies that internal marketing of the wiki within the organisation can be a solution in order to make the benefits of the tool visible for the employees.

5.1.2 SUGGESTION BOX

Suggestion boxes are described as a tool for collecting and sharing ideas (Belliveau 2004; Kelchtermans & de Beule 2013). Dodgson et al. (2008) have also described it as a way of capturing knowledge and ideas, thus creating innovation. The two case companies that use suggestion boxes, Alpha and Beta, and their experience of how the tool are being used, is in coherence with the literature as a tool for collecting and sharing ideas. Both the case companies have emphasised the suggestion box as a tool for specifically collecting ideas. Alpha also maintained that it is a platform for sharing ideas where the employees can view, comment, vote on suggestions and link the ideas. The purpose according to Alpha is also to encourage collaboration.

In contrast to how Alpha uses their suggestion box and how research has described it as a platform for sharing ideas (Belliveau 2004; Kelchtermans & de Beule 2013), company Beta does not use it for sharing ideas. The suggestion box at Beta is not open for all employees to work on each other's ideas, since it is only experts aimed for evaluating the ideas that can see the ideas. Briefly said, Beta only uses the suggestion box for collecting ideas and not for sharing ideas accessible to all employees to comment and thus enriching the ideas, which is against Belliveau et al. (2004), and Kelchtermans and de Beule's (2013) description of the suggestion box, where all employees should be able to view each other ideas as it lacks a collaborative function.

Suggestion boxes are characterised by the built in form that standardises the submitted ideas and helps the employee to define their idea (Belliveau et al. 2004; Kelchtermans & de Beule 2013). The two case companies have a standardised form that the employees need to fill in to submit an idea in accordance to the literature. However, due to export control restrictions company Beta has implemented a paper form that is downloaded and once filled in, uploaded by manually by experts. In this case, it is evident that IPR related issues highly affect the way in which the platform can be used, especially for Beta that has to consider the export control regulations concerning what they are allowed to upload on their database. Due to the export controls, the suggestion box at Beta, lacks the possibility for employees to search as well as comment on other's ideas, which is seen as an important function, as it allows for collaboration on the ideas (Belliveau et al. 2004). The ideas at Beta are stored on the idea database, but are not widely searchable by employees across the organisation. Without the collaborative and sharing function, Beta's suggestion box becomes merely a tool for management to collect ideas, rather than cross-organisational collaborative suggestion box as recommended by literature (Belliveau et al. 2004; Accenture 2013; Elerud-Tryde & Hooge 2014), and also used by Alpha.

What further characterises the suggestion box is that it is a platform that is suitable for all kind of ideas, both regarding e.g. new products and small organisational improvements (Belliveau et al. 2004). Companies described in the theoretical framework e.g. Xerox Venray state that their suggestion box encourages the submission of all kind of ideas, not only large and commercialisable ideas (van Dijk & van den Ende 2002). Alpha stated that the purpose of their suggestion box is to collect and share larger ideas. Correspondingly, Beta expressed that the aim with their platform is to collect ideas that can be commercialised. Thus, the

description that is provided by Belliveau et al. (2004) is not found to be implemented in the empirical findings by the case companies, as the case companies' suggestion boxes are not also aimed at smaller ideas.

Connected to the problems Beta experiences, literature has identified another challenge in the limited possibility for the submitter of the idea to review and add content to the idea after it has been uploaded (Belliveau et al. 2004), which is in accordance to how the suggestion box is used at Beta. At Beta, the employee who submits the idea is not themselves able to see what happens to the idea once it is submitted. Due to the rigorous regulations at Beta, the idea is only accessible for expert decision makers that evaluate the idea, after being uploaded into the suggestion box. At Alpha on the other hand, there are no difficulties with adding content to the idea after it is submitted. The ability to view the idea is once again connected to the collaborative opportunity of the platform, which literature identifies as a crucial success factor of suggestion boxes (Belliveau et al. 2004). McLure Wasko and Faraj (2000) argue that building and collaborating on each other's ideas leads to a better final idea, compared to only submitting an idea without the idea being subjected to the possibility of being developed and discussed by others. Therefore Beta might miss out on creating better ideas within the company by not allowing for collaboration on the shared idea. Additionally, the lack of a collaborative function can reduce the endeavour to obtain greater competitive advantage (Von Krogh et al. 2000) and not support the innovative culture (Simula & Vuori 2012). Based on this, the lack of visibility of the ideas across the entire organisation might mean that the company is missing out on great ideas and end results.

A difficulty may be that ideas can be lost or forgotten once it is submitted to the suggestion box (Belliveau et al. 2004), which is something that A2 at Alpha highlighted as a challenge with their suggestion box. In both Alpha and Beta, it is difficult to make the suggestion box active, get the employees to use it on a spontaneous basis and feeling excited and motivated to use it. Alpha has the opinion that ideas get forgotten and die in the suggestion box. This is due to that the activity level is too low and employees do not collaborate on each other ideas. Consequently, according to Alpha, employees feel even less motivated and encouraged to contribute with their ideas. In this sense, there seems to be a need for the organisation to encourage idea contributions, as well as making sure that the ideas are actively processed once submitted, so that the suggestion box does not become an idea graveyard.

5.1.3 SOCIAL MEDIA PLATFORM

Literature describes social media platforms as a tool that creates a networking and interactive way of working that connects employees and can be compared to private social networking forums e.g. Facebook (Vuori 2012). Delta, which is the only company out of the five case companies that uses an internal social media platform, uses it in coherence to Vuori's (2012) description of it. The platform is by literature described as a tool that shares knowledge and ideas within the organisation by creating global wide discussions (Vuori 2012).

Vuori (2012) and Accenture (2013) have emphasised social media platforms as a tool used for collaboration. The social media platform at Delta was created with the defined purpose of connecting employees that would never meet physically to make them share knowledge and ideas through discussions. D2 maintains that the purpose of the social media tool is to share ideas and enable collaboration at Delta and not a tool aimed for generating ideas. Consequently, the social media platform in Delta is used as described by literature as a tool for collaborating and sharing ideas.

Boschma (2005) states that there is a positive relationship between the interaction of employees and the creation of ideas, which in turn can lead to innovation. According to D2, their social media platform enables global sharing of knowledge and ideas that can lead to innovation. The coherence between literature and empirical findings indicates that innovation can be created by having a social media platform that creates a forum for sharing knowledge and ideas globally.

Accenture (2013) has described challenges with using social media platforms related to having high motivational barriers for the employees to use the social media platform in a corporate setting. In Delta, people are often comfortable to use social media privately, but do not know how to use it in a corporate environment. D2 expressed it as that it is a cultural clash that requires the employees to think how they use the social media platform at Delta. Therefore, it can be stated that both research and the empirical findings indicate that there are difficulties with using a social media platform in a corporate setting.

Another difficulty that was brought up by D2 is the challenge of getting the employees to contribute actively with their ideas and knowledge and not only observing. Accenture (2013) expressed that it is a difficulty for the organisations to create a culture where the employees

contribute. Consequently, the coherence between the empirical findings and the literature indicates that there are challenges with creating a culture that motivates the employees to contribute in the social media platform. The motivational challenges can also be related to Accenture's (2013) description of the difficulties of having a social media platform that is similar to the Facebook-format since the employees then have to identify the benefits using the social media platform lead to, without the support of the organisation.

5.1.4 Q&A

Q&As are a simple, user-friendly tool that is based on employees asking questions freely to the organisation, without directing the question at a specific person, but instead enquire for knowledge and ideas from colleagues throughout the entire organisation (Iske & Boersma 2005). The tool seems to be one of the easiest collaborative tools for any type of enquiry or problem the employees may have, as neither of the case companies, Gamma and Delta, that use Q&As have identified any major problems with their Q&As.

A major benefit of the tool is the possibility to store knowledge within the platform. This creates an efficient idea and knowledge storing bank, as employees leave, are hired or move within the organisation, the previous postings in the Q&A are stored and searchable (Iske & Boersma 2005; Rao 2012). This means that the same question does not have to be asked and answered multiple times, instead the employees can search through previously asked questions. Literature has identified Q&As as a forum for unexpected knowledge to appear, e.g. colleagues who possess certain expertise that others may not be aware of, are given a chance to contribute. This can be connected to Gamma's Q&A where employees can subscribe to question topics of their interest, which reduces the flow of unrelated questions for employees as well as allows for them to only get the question flow of the topics they have expertise in.

The empirical data shows that Q&As are great for smaller questions that need a quick response, but also to create a discussions across the organisations. The tool is open for anyone to see, which can create debates as well as knowledge and ideas being shared in a quick and informal way. Delta's example where production units spread across the world were able to fleek in with suggestions on how to solve safety issues, improves the incremental innovation and problem solving ability within organisations in accordance to Vuori (2012). However, it is worth discussing whether the platform is suitable for sharing larger ideas that need to be

evaluated compared to e.g. the resources that are required for evaluating ideas in suggestion boxes. Given the empirical findings, the Q&A is thus a better tool for sharing knowledge and ideas among employees without the involvement and evaluation of the postings from management.

Difficulties with Q&As experienced by the case companies is primarily experienced in the activity level among employees. Delta exemplifies this as only a small group of employees in the organisation that consists of tens of thousands of employees are active on the Q&A platform. According to literature, questions posted have to be relevant and not take too long to answer to engage the employees (Iske & Boersma 2005). Additionally, a problem with Q&As can be that it is difficult for employees to sort through the relevance of the answers received (Wagner 2004). However, the overall benefits of the platform outweigh the negatives according to the case companies, mainly as it is a simple and interactive tool. Activity levels can be increased through having a small number of engaged employees who are responsible to keep the activity of the platform relative and present in the organisation, as a way to encourage others to participate in the Q&A (Iske & Boersma 2005).

5.2 KNOWLEDGE SHARING BARRIERS FOR MNCs

Limited research has explored how distance affects knowledge sharing in MNCs (Ambos & Ambos 2009). However, it is indicated that IT platforms can allow MNCs to overcome these distances, including e.g. geographical and cultural distance, that characterise MNCs (Pan & Leidner 2003; Ambos & Ambos 2009; Kauppila et al. 2011). There are barriers where IT platforms have not been identified as a suitable tool for overcoming them in order to share knowledge and ideas (*see e.g.* Szulanski 1996). In line with what is found during the interviews with Beta and Gamma their organisational distance is perceived to create barriers.

Global ideas are a requirement in today's global market (Doz et al. 2001). An MNC creates ideas and subsequently innovation by sharing knowledge that allows employees to think together across its globally spread subsidiary units (McDermott 1999). Literature has continuously shown that exchanging and sharing knowledge and ideas within MNCs, and across global, geographical and cultural borders, increases the knowledge of the firm (Ambos & Ambos 2009). Combining different types of knowledge sources increases the opportunity for the MNC for successful innovation and competitive advantage (Santos et al. 2004). One of the designers behind Delta's social media platform eloquently described it as a platform that

brings together employees with different type of expertise no matter where in the MNC they are located , which shows that the organisation has identified global knowledge as a key for innovation. This is the main incentive for implementing collaborative and sharing IT platforms within MNCs. Our empirical research has identified four primary categories of distances and barriers that the case companies experience, and the effect these barriers cause on the use of IT platforms.

5.2.1 TIME ZONES

Von Krogh et al. (2000) have defined separation in time as a barrier for knowledge sharing within MNCs. Alpha, Delta, Gamma and Epsilon expressed that differences in time is a barrier when it includes multiple time zones. An insight drawn from the empirical findings is the problems that are caused when collaboration is needed over more than two time zones. Time difference barriers are easily solved when there is only one other time zone to consider, which is often rare for globally operating companies.

Ambos and Ambos (2009) have argued for IT platforms as a solution to overcoming time zone barriers in MNCs, as IT platforms always are accessible. The empirical findings indicate that IT platforms can overcome time zone barriers. According to Delta, their social media platform is an excellent tool for overcoming differences in time as the social media platform enables global discussions that are ongoing day and night. Moreover, Alpha states that time zones are a problem when there is a need for joint collaboration with simultaneous ongoing discussions. However, when there is no need for immediate and synchronised discussions, IT platforms overcome the time zone barriers. This indicates that IT platforms that are designed to be non-team specific, meaning that everyone in the organisation can participate and that there is no reliance on the accessibility of one particular person, team or geographically distant office as indicated by Alpha, can bridge the time zone barrier. The explored IT platform solutions, namely wikis, suggestion boxes, social media platforms and Q&As are in general designed to not be team specific, and are accessible to everyone in the organisation, which can lead to the possibility of an around-the-clock global discussion.

5.2.2 LANGUAGE

Language is argued as a barrier for MNCs when sharing knowledge (Makela et al. 2007), which is in coherence from empirical findings from Alpha, Gamma and Epsilon. For the organisation, written documentation has a large benefit for knowledge and idea sharing

processes (Adenfelt & Lagerström 2006b). This allows the organisation to store and be able to access the knowledge and ideas at any given time and space. In contrast, the empirical findings from Gamma signify that IT platforms lack the ability to capture gestures, body language, linguistic accentuations and nuances in comparison to face-to-face conversations. Written communication is not able to capture these impressions. By default, the inability to capture these dimensions of communication is even more hampered if the English of employees is inadequate, according to Gamma. This indicates that the discussions created on IT platforms may not be as rich discussing verbally and visually. Consequently, in contrast to Adenfelt and Lagerström's (2006b) reasoning, it is difficult to achieve the benefits of written documentation for organisations.

There are factors to consider especially from an employee perspective. Alpha emphasised that there is hesitation among some employees when using IT platforms. As this is a formal tool, the lack of chit-chatting before commenting or discussing ideas increases the formality and the nervousness of the participant, and subsequently the language barrier increases as experienced by Alpha. Indication is given by the empirical findings which suggest that the lack of informal face-to-face contact may impede employees in how they choose to use the IT platforms.

An additional dimension of language barriers to consider relates to the use of native language and corporate language. As each corporate language of the case companies is English, some difficulties have been identified through the empirical findings. At Epsilon, some employees write on the wiki in their native (non-English) language, which excludes all employees who do not speak this language. Consequently, the platform loses one of the main benefits of common IT platforms in the organisation, as it excludes global discussions from all employees. E1 believes that this may be due to that some employees do not have daily interactions in the corporate language, which could be related to Meyer's (1991) reasoning that inability to communicate face-to-face creates barriers in MNCs, and thus may hinder employees to engage in discussions on the IT platforms.

5.2.3 ORGANISATIONAL DISTANCE

Schlegelmilch and Chini (2003) have stressed organisational distance as a barrier for MNCs knowledge sharing, which can be explained as e.g. differences in the MNC units regarding processes, values and structure. The organisational distance was highlighted by Beta and

Gamma as hindering the idea sharing within the respective company. The structure with isolated units as the products that are being produced at each isolated unit require expertise knowledge specific to that development and production site, which leads to limited need of knowledge from other units according to Beta. This reasoning applied by Beta can be questioned with Doz et al. (2001) arguments that there is a need for global ideas and knowledge. Dodgson et al. (2008) emphasised the importance of integrating employees' ideas and knowledge for creating innovation. Therefore, according Beta's description of the current state, there is a risk that they may miss innovations since they do not believe that they need to overcome the organisational barriers and share ideas. However, Beta has acknowledged the need for creating processes for cross-organisational to collaborate in their globally dispersed units.

Gamma experiences similar problems to Beta, where the company structure affects the organisation's need and ability to share ideas globally across organisational units. In Gamma's case the structural problems have a different cause, namely Gamma being a consultancy firm. Nonetheless, whatever the organisational structure is, without collaboration the company may miss out on innovative opportunities and greater competitive advantage (Doz et al. 2001; Dodgson et al. 2008; Ambos & Ambos 2009). For cross-organisational collaborative IT platforms to work, the organisational structure needs to allow for cross-functional and cross-organisational collaboration. Consequently, there is a risk that Beta and Gamma do not reach the full potential of having successful innovation and competitive advantage (Santos et al. 2004). Companies need to understand the value of their employees knowledge, and create the required environment to support the utilisation of employees knowledge Therefore, when creating IT platforms for idea sharing, companies need to consider and be aware of how their organisational structure and distance can affect the use of IT platforms.

5.2.4 GEOGRAPHICAL DISTANCE

Literature has highlighted geographical distance as obstructing the sharing of knowledge and ideas for MNCs (Ambos & Ambos 2009; Tippmann et al. 2012; Jasimuddin et al. 2015). Researchers have also argued for the benefit and value of using IT platforms for knowledge sharing in order to overcome geographical barriers (Pan & Leidner 2003; Ambos & Ambos 2009; Kauppila et al. 2011). Additionally, research has maintained that IT platforms are able to connect and link together employees outside their normal geographical reach in order to

share ideas (McLure Wasko & Faraj 2000; McAfee 2006). Delta has developed their social media platform mirroring the recommendations of researchers (McLure Wasko & Faraj 2000; McAfee 2006). Their tool was initiated in order to create a global idea sharing and collaboration tool, where the sole purpose was to create a forum for collaboration for employees who otherwise would never meet, both due to the physical and geographical distance as well as the functions in which they work within the organisation. The social media tool is thus a global, cross-functional idea and knowledge sharing collaboration tool, which are crucial factors for innovation in a globally dispersed company (Swan et al. 1999).

As stated by Alpha, there are some difficulties when collaborating with those who an employee has never met. For instance, Alpha mentions the spontaneous discussions of ideas that happen at the office coffee machine. Organisations need to consider how they can recreate a similar spontaneous interaction on their IT platforms, as one of the findings of the research has been the case companies' dissatisfaction with the number of contributions on their IT platforms. This is important as the purpose of creating a globally connected organisation that increases the innovative capability of the MNC (Swan et al. 1999)

Riege (2005) has demonstrated that MNCs are especially exposed to barriers for knowledge sharing. Swan et al. (1999) argued that this is due to the knowledge that is needed for innovation in MNCs is scattered in geographically dispersed units. Epsilon experiences barriers related to geographical distance. The company has difficulties with sharing knowledge and ideas across geographically dispersed units, which E1 develops by explaining that the geographical barriers can be derived from the large size of the company. The need to share knowledge and ideas with units abroad are limited since the Swedish headquarter is large enough, and their products are highly differentiated and isolated, with specialised knowledge in each location. According to E1, Epsilon cannot create global advantages by sharing knowledge and ideas across the globally different units since the products are highly adapted to local environments, with local regulations. Nonetheless, research shows benefits of sharing ideas across globally dispersed units (Swan et al. 1999; Doz et al. 2001; Ambos & Ambos 2009). However, with regards to the empirical findings from Epsilon, it can be argued that there are difficulties with obtaining such advantages related to local adaptation and regulations. This means that what is by theory highlighted as important, may be difficult to achieve in real life for an MNC due to the geographical barriers.

Operating globally has wide impact on how each geographically distant unit of the company works in terms of the typical organisational culture of that specific location. For IT purposes, both Delta and Epsilon have emphasised the result that organisational hierarchy can have on the participation level of employees on the IT platforms. Both identify that in typically flat hierarchy MNC units, e.g. Sweden, employees more freely participate on the IT platforms. Whereas in other more hierarchical structured cultures, the participation frequency is perceived to be lower. As a consequence, MNCs need to consider how national differences, expressed as e.g. hierarchical levels will influence the use of the IT platforms, and what role the managers will need to play for increasing the participation of employees, and thus increasing the number of ideas and in result the innovation level (Boschma 2005).

5.3 SUPPORT MECHANISMS FOR IT PLATFORMS

5.3.1 COLLABORATIVE COMMUNITIES

As argued by McDermott and O'Dell (2001) and Lin (2007) there needs to be an organisational culture when using IT platforms that supports the process of sharing knowledge and ideas. As found in the empirical findings, organisational culture affects how the IT platforms are used. Alpha tries to create the right organisational culture by having face-to-face workshops, with the aim to create a mind-set among the employees to teach them how to work with and create ideas. In the interview with Epsilon, EI stated that the major reason to why employees do not actively comment on each other ideas and contribute with their own ideas in the wiki can be derived to organisational cultural reasons. According to EI, Epsilon lacks some elements to fully have an entrepreneurial culture, which can be explained by that the products that Epsilon produces are process heavy, which as a consequence renders the entrepreneurial culture. In addition, the employees are not used to work in an entrepreneurial way. As a result, it can be argued that the insights and experiences from Alpha and Epsilon confirms literature, by showing that organisational culture is crucial, since it affects how IT platforms are used confirmed.

An important insight from the empirical findings is the importance of communities that McDermott and O'Dell (2001) argue for. There need to be communities that encourage employees to share knowledge and ideas. The lack of community is primarily shown through the lack of contributions by employees on the IT platforms, and the willingness to collaborate and build on each other's on ideas. In order for the IT platforms to be used successfully,

employees may need to build face-to-face relationship prior to using the IT platform (McDermott & O'Dell 2001).

As identified in the summary of all the tools in the empirical findings chapter (*see* section 4.5), community is a common denominator in all four IT platforms. This indicates that it is not specific to any of them in particular, but instead is a difficulty generally experienced in IT platforms used for idea sharing. As the lack of community has been pinpointed in the empirical findings, it can be concluded that communities contain the elements of having the organisational culture where the use of IT platforms is a natural part of the daily operations and encouraged by the organisation. Often, the lack of community does not engage employees enough to spontaneously log on to the platforms and contribute with their comments, thoughts and ideas, not only on their own postings, but also on what others are contributing with. As brought up by Alpha, Gamma, Delta and Epsilon, in their role as responsible to develop the platforms, the interviewees find it very difficult to create communities that create excitement and content among the employees.

Alpha has tried to overcome the lack of collaborative community by implementing idea coaches aimed to encourage the employees to contribute with ideas, create the teams to carry their idea forward and improve the collaborative capability of the idea contributors. In accordance with Alpha, Lin (2007) maintains that IT platforms need to be complemented with organisational support mechanisms and the right culture, which in this case is referred to the need for a collaborative community, for an effective use of the IT platforms. Concluding, this implies that communities within the organisation need to be established for encouraging employees to share ideas (McDermott 1999).

5.3.2 PURPOSE OF THE IT PLATFORM

Researchers argue for the importance of having a strategy for IT platforms (Flynn et al. 2003) and for management to communicate how IT platforms are intended to be used and the purpose of them (Li 2005). Not having a strategy can lead to organisations having too many ideas that they do not know how to handle or ideas that may not fit the strategy of the firm (Flynn et al. 2003; Bjelland & Wood 2008; Birkinshaw et al. 2011). The case companies seem to struggle with the use of the IT platforms for reasons related to not being able to find the right tool, which in some cases causes the employees to entirely skip the use of IT platforms and instead ask their a colleague in person. Overall, what characterises the difficulties

experienced is that the purpose of each of the tools seems to be not set, nor conveyed and communicated to the employees, as exemplified by Gamma where guidelines have not been given by management for the use of the IT platforms. Having set purposes and strategies of the IT platforms, which are well-established and accepted in the organisation, seems to be crucial for the success of using IT platforms (Flynn et al. 2003; Li 2005; Birkinshaw et al. 2011).

The IT platforms in the case companies often have a variety different purposes and functions, which creates large amounts of information that needs to be sorted and looked through by the employees, which can be overwhelming. This creates inefficiency of the tool. Employees discussing irrelevant and private subjects on the IT platforms have been argued for contributing to the inefficiency of the IT platforms (Paroutis & Al Saleh 2009). However, McAfee (2006) maintains that the overall contributions with ideas and information overweigh the irrelevant post on the IT platform. This is confirmed by Alpha, Delta and Gamma where usefulness of the platform to share ideas and knowledge is outweighed by the risk of information overload.

5.3.3 MANAGEMENT SUPPORT

Li (2015) emphasises that the management leadership in supporting employees use IT platforms is crucial for the platforms to work. Iske and Boersma (2005) stress that time and management support need to be invested for the benefits of IT platforms to be evident for the employees. The same problematic is experienced by all the companies, and is highlighted by Epsilon, where E1 states that without the management engagement, no ideas would be shared through the IT platforms.

Elerud-Tryde and Hooge (2014) argue that managers need to engage with the employees on the IT platform for it to be used successfully. Alpha and Epsilon have highlighted that internal marketing of the IT platforms is necessary to create the engagement needed for the platforms to generate content and gain awareness among employees. One way for management to support the IT platforms is through e.g. blogs (Elerud-Tryde & Hooge 2014), which is used by e.g. Epsilon. However, marketing internally in general, no matter in what type of shape or form, seems to be a crucial factor for the use of IT platforms.

The immense amount of information and ideas that the platforms create need to be evaluated by managers (McLure Wasko & Faraj 2000). All platforms create content, a lot of that may not be relevant but still needs to be evaluated. Gamma highlights this issue where they state that maintaining and updating the content on the wiki is resource exhausting. Leuf and Cunningham (2001) emphasise the same problematic with resource exhaustion. Delta currently refrain from implementing suggestion boxes due to the extensive amount of resources required for that specific platform, in terms of management resources required for sorting and evaluating the ideas. This implies that organisations need to invest time and resources for maintenance and evaluation of the content on the IT platforms in order to gain the benefits of them.

5.4 SUMMARY OF ANALYSIS AND CONCEPTUAL MODEL

Shortly below, we will conclude the findings of the analysis of how each of the platforms can be used for sharing ideas, based on our theoretical and empirical research.

WIKI

As implied in this study, wikis can be used as a knowledge bank, where the content can be edited and enriched by other users continuously. The platform allows for flexibility as the purpose of the platform can be customised. The coherence between theory and empirical findings implies that attaching a specific purpose of the platform can change the use of the wiki, as e.g. Epsilon uses their wiki specifically for ideas.

SUGGESTION BOX

The purpose of the suggestion box can vary, and it is up to each organisation to decide the scope of the ideas they encourage within the suggestion box (Belliveau et al. 2004). What typically characterises suggestion boxes is the clear format of the ideas submitted. A main finding for this platform is the emphasis on using the suggestion box purely for ideas. The platform is not used for general discussions, instead the collaborative part of the function as recommended by previous research (Belliveau et al. 2004; Accenture 2013) is other employees ability to comment on the posts in the suggestion box.

SOCIAL MEDIA PLATFORM

As a networking and interactive tool, social media platforms are used for connecting ideas and create discussions. Our findings suggest that the tool can be used to create discussion, where the discussions of various topics can lead to development of ideas and thus innovation. In MNCs, the platform creates a global forum for the employees to interact cross-functionally

and across the entire organization in a somewhat informal way, as it used as a meeting point for the organisation.

Q&A

The main purpose of the Q&A platform is to enable employees to ask questions. It provides a platform for employees to widely contribute where they find that their knowledge is suitable for answering a question. The platform is primarily used for smaller, incremental ideas, that can be shared and answered quickly, and most often do not require any management evaluation of the ideas due to the simplicity of the questions. These questions can often lead to discussions that can be a base for larger ideas.

5.4.1 MODEL FOR USING IT PLATFORMS IN MNCs

In order to provide a holistic answer of the research question, the research has included knowledge sharing barriers for MNCs and the support mechanism that influence the use of IT platforms. Our research has found that sharing ideas within MNCs requires consideration of multiple elements for the IT platforms to be used. As a result of the analysis, based on the theoretical framework and empirical findings, we have created the below model (*see* fig.1) to incorporate the elements that our findings and analysis show needs to be considered in the use of IT platforms in MNCs.

Two main categories of elements have emerged during the process of this thesis, and have been grouped according to the common denominators we have identified, i.e. knowledge sharing barriers for MNCs and support mechanisms for IT platforms. This shows that IT platforms by themselves require more than just implementing good tools. In order for the platform to actually be used for idea sharing, organisations need to consider what barriers affect them as an MNC, and the types of support mechanisms that are required for the use of the IT platforms. Here we will shortly conclude each of the elements of the two categories that need to be considered when using IT platforms for idea sharing in MNCs as a result of the analysis.

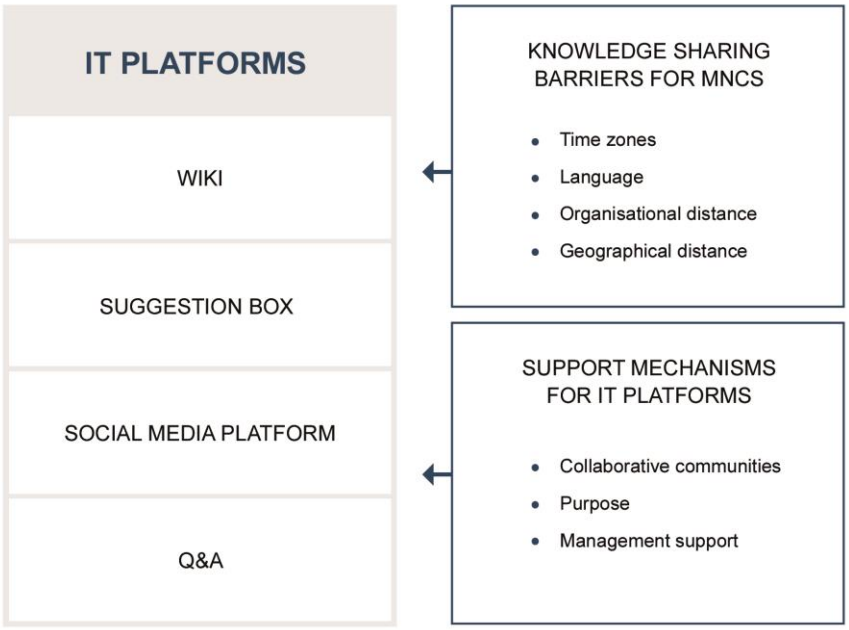

FIGURE 1: MODEL FOR USING IT PLATFORMS IN MNCS

KNOWLEDGE SHARING BARRIERS FOR MNCs

TIMEZONES

Time differences can be a barrier for MNCs when there is reliance on a specific person, team or office located in different time zones. However, in this thesis the IT platforms investigated are used without the reliance of anyone, which means that organisations can draw on the benefits of their geographic spread as it allows for on-going, round-the-clock global discussions.

LANGUAGE

IT platforms are not able to capture gestures, body language and linguistics nuances. Most of the content on IT platforms is submitted in written text that cannot capture these impressions. Therefore the discussions on the platforms may not be as rich as face-to-face discussions are able to be verbally and visually. Further the use of IT platforms in global operations need to consider that there needs to be a single common language used, to gain the benefits of being an MNC, which includes that some employees will not use their native language that could hinder their use of the IT platforms.

ORGANISATIONAL DISTANCE

The company structure may affect the use of IT platforms, and enthusiasm organisationally distant units will have for sharing ideas. The IT platforms are meant to integrate the employees, however if the organisational structure does not encourage cross-functional and cross-organisational collaboration, the use of IT platforms may be hindered. This means that

if there is an intention to use of IT platforms for idea sharing, the organisational structure needs to allow for collaboration.

GEOGRAPHICAL DISTANCE

IT platforms enable global discussions and brings together employees from geographically dispersed units within an MNC. By using IT platforms, our findings suggest that MNCs can share global ideas. However, organisations need to consider the impact that the differences in e.g. culture has due to the geographical distance. This may affect how the employees use the IT platforms, due to e.g. national hierarchy differences of the globally spread units. Finally, there also needs to be an awareness of the adaptation to local environments needed for the use of the platforms.

SUPPORT MECHANISMS FOR IT PLATFORMS

COLLABORATIVE COMMUNITY

There needs to be an organisational culture and community that supports the sharing of ideas in IT platforms, which affects how IT platforms are used. A main problem that seems to affect the use of IT platforms is the lack of activity on the IT platforms. This means that the creation of a collaborative community, where the amount of contributions in terms of spontaneously using the IT platforms, commenting and contributing with content, needs to be supported by other mechanisms that encourage the collaborative community.

PURPOSE OF THE IT PLATFORM

When using IT platforms for idea sharing, our research suggests that there needs to be a purpose, strategy and guidelines attached to the platform communicated to the employees, otherwise the users may not know how to use the IT platform and in what way. The purpose, strategy and guidelines also need to be established and well-conveyed within organisation, for the company to gain the benefits of the IT platform. Having these factors attached to the IT platform also allows the management to control and adapt the aim of the IT platform.

MANAGEMENT SUPPORT

Our findings show that management needs to invest in internally marketing and promoting the use of the IT platforms. There needs to be commitment among management to create engagement and awareness among the employees to use the IT platform. There also needs to be consciousness that time and resources will need to be set aside for evaluating, sorting and making use of the content created on the IT platforms in order to gain benefits of them.

6. CONCLUSION

Based on the model created, we intend to conclude the findings of this thesis and critically discuss the limitations of the model. Further, we will conclude the practical and theoretical implications of this study, and finally suggest further research.

6.1 REVISITING THE RESEARCH QUESTION

The objective of this study has been to examine and provide an understanding of how IT platforms can be used for sharing ideas in daily operations within MNCs. Based on the objective, we provide an answer below of our research question of the thesis:

How can IT platforms be used for idea sharing in daily operations within multinational companies?

As a result of the study, based on the five interviewed case companies and the theoretical framework it can be concluded that IT platforms can be used as wikis, suggestion boxes, social media platforms and Q&As for sharing ideas in MNCs. The conclusion from this study implies that all the four designs can be used as tools for sharing ideas in the daily operations. Our recommendations identify that each of the platforms has characteristics that are more suitable for certain purposes according to our empirical and theoretical research, as summarised in the analysis.

To bridge the research gap between the two fields of research, we have investigated the use of IT platforms within the context of knowledge sharing in MNCs. By combining the two interdisciplinary research fields, we have come to the conclusion that the use of IT platforms for sharing ideas needs to consider two categories of elements, namely knowledge sharing barriers for MNCs and support mechanisms for IT platforms. The importance of these elements arose during the interviews, and were especially highlighted by the interviewed managers. Knowledge sharing barriers for MNCs are directly related to the organisation's global operations. Our research concludes that the barriers, time zones, language, organisational and geographical distance, need to be considered in how the organisation aims to use the IT platforms. For example, how the corporate language affects employees in terms of contributing on the IT platforms when it is not their native language. Additionally, our empirical findings have emphasised that creating the collaborative communities needed for the platforms to function, is a crucial element that is difficult to achieve, which is why an

active use of IT platforms for idea sharing among employees is highly dependent on having collaborative communities established. Without the right type of support and consideration of the environment in which the MNC operates, the use of IT platforms for the purpose of idea sharing becomes difficult. By creating our model, we aim to lift these elements that need to be considered for the use of IT platforms with an idea sharing purpose in an MNC.

6.1.1 LIMITATIONS OF THE MODEL

The IT platforms and the elements that influence the use of them have merely been identified based on our theoretical and empirical findings. Our research has not strived to create best practice recommendations, weight the IT platforms or rank them based on any order. Additionally, it is not excluded that there may be other IT platforms that can be used for idea sharing in daily operations and that are available for all employees within an MNC. However, these four platforms are the ones that we have found that fulfilled the scope of this thesis, and appeared in previous research and in the empirical findings. The same reasoning applies for the two categories of elements influencing the use of IT platforms.

The aim of this study and the conclusions we have been able to reach, have never been intended to create generalizable results that can be universally applied. General conclusions cannot be drawn, as the aim of this thesis has been to explore and contribute to an increased understanding of how IT platforms can be used. Therefore the model and conclusion should only be considered within the context of this thesis.

6.2 THEORETICAL IMPLICATIONS

Previous research has widely examined the topics of IT platforms (*see e.g.* McAfee 2006; Levy 2009; Simula & Vuori 2012) and MNCs knowledge sharing (*see e.g.* Gupta & Govindarajan 2000; Pedersen & Foss 2004; Adenfelt & Lagerström 2006a; Ciabuschi et al. 2012) separately. Nonetheless, it should be acknowledged that some scholars have combined the two disciplines (*see e.g.* Alavi & Leidner 2001; Ardichvili et al. 2003; Pan & Leidner 2003; Elerud-Tryde & Hooge 2014). However, these researchers argue that there still are gaps in the research that incorporates the field of IT platforms and MNCs knowledge sharing. Hence, the ambition of this study has been to provide and adopt an interdisciplinary approach by combining the two research fields and thus contribute with new knowledge. Consequently, the findings of this thesis have contributed with theoretical implications.

Firstly, not many interdisciplinary studies have been conducted that combines the field of IT platforms and MNCs knowledge sharing. Thus, this study provides unique and novel contributions and therefore, fills the gap in the integrative field of using IT platforms for sharing ideas within MNCs.

Secondly, this thesis has provided a European context by examining European MNCs. Scholars argued for the North American paradigm and have asked for more research outside the North American context (March 2005; Tsui 2007). Accordingly, this thesis has provided research in a European context.

Thirdly, this thesis has also aimed to extend the knowledge regarding how IT platforms can be used since many of the studies conducted in the field of IT platforms are presented several years ago and the process of innovation is constantly changing and developing (Dodgson et al. 2008). Thus, this study contributes with updated and revisited insights in how IT platforms can be used for idea sharing, building on existing research that were presented around the turn of the millennium (*see e.g.* Bresman et al. 1999; Swan et al. 1999; Alavi & Leidner 2001). Therefore our research shows the contemporary context in which IT platforms are to be used in MNCs.

6.3 PRACTICAL IMPLICATIONS

Through our model, we have created recommendations for what managers need to consider in the use of IT platforms for idea sharing. This model does not only identify what IT platforms can be used for idea sharing, but also how the context in which MNCs operate can affect the use of these platforms.

The findings of this study imply that managers need to consider the knowledge sharing barriers for MNCs and the support mechanisms for IT platforms. Knowledge sharing barriers for MNCs can become a benefit for the company, as e.g. time zones can create global, round-the-clock discussions. Our findings also show that it is not enough to just implement IT platforms without engagement from management. Managers need to be aware that the platform will require time and resources to establish the IT platforms among the employees. A clear purpose of how the IT platforms is intended to be used needs to be anchored within the organisation and clearly communicated to the employees. Lastly, managers are required to

consider that MNCs need to have collaborative communities that encourage employees to use the IT platforms in order to gain the benefits of having IT platforms for idea sharing.

6.4 RECOMMENDATIONS FOR FUTURE RESEARCH

There are other dimensions and contexts where this particular thesis could be expanded to. Our research has been limited to IT platforms that can be used in the daily operations of MNCs that aim to share ideas, and are accessible for all employees. There may be other tools that can be used that fulfil the requirements of this thesis, but have not appeared in our research, mainly due to the time constriction and design of the study, i.e. the limited number of case companies. Therefore a suggestion for future research is to include more case companies, where other IT platforms that have not examined in this thesis may emerge.

Secondly, this study has not sought to create generalizable conclusions. Therefore, another suggestion is to conduct a quantitative study in order to provide general patterns and conclusions that can strengthen the findings of this study, by being able to quantify the qualitative findings of this study.

Thirdly, this thesis has only included European MNCs and the interviewed managers have all been Swedish. Consequently, the study has been limited to a specific context. It is not excluded that the experiences of the use of IT platforms may differ in other national contexts, which is why it would be valuable to conduct a study in another context, interviewing respondents from other nations than Sweden.

Finally, this thesis has only interviewed managers responsible for the IT platforms, which has not captured the opinions of employees' at all different levels and their experiences and insights. Therefore, it would be valuable to strengthen the understanding by approaching the investigation of the use of IT platform from an employee perspective. By doing so, organisations may gain greater insights to the obstacles their employees experience in the use of the IT platforms.

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APPENDIX I: INTERVIEW GUIDE

About the interviewee:

- Title
- Job function

General about idea sharing:

- If you or any of your colleagues have an idea, no matter the size or subject of the idea, what do you do with the idea? To whom or to what do you turn to?
- What type of IT platforms do you use for sharing knowledge and ideas?
    - Can you describe the platform?
    - How does this platform allow collaboration?
- How is this system used across the organisation?

Barriers (geographic, time, language, organisational, culture etc.)

- What is your organisation's view on sharing ideas and knowledge internally across the entire (multinational) organisation?
    - What advantages do you see in sharing ideas across your (international) organisation?
- As a multinational company, what type of barriers do you experience when sharing ideas? Please give examples.
- How does the IT platform(s) help or obstruct working in a multinational environment?

Specific IT platforms (wikis, suggestion box, Q&A, etc.)

- How does your (specific IT platform) work?
    - How is it used?
- What is the main purpose of this (specific IT platform)?
- What benefits do you see in using this (specific IT platform)?
- What difficulties do you see in using (specific IT platform)?
    - What have you done to reduce these difficulties?
- How has this (specific IT platform) worked?
    - What have you done to improve this (specific IT platform)?