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TO SHARE OR NOT TO SHARE:
AN EXPLORATORY REVIEW OF
KNOWLEDGE MANAGEMENT SYSTEMS
AND KNOWLEDGE SHARING IN
MULTINATIONAL CORPORATIONS

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ABSTRACT

In the current fluid environment, the challenge for Multinational Corporations (MNCs) is how to accumulate knowledge that stems from various sources, facilitate the management of knowledge, and maximise value generated from all available assets. For this purpose, MNCs use Knowledge Management Systems (KMSs) to share, utilise, and integrate knowledge. This paper seeks to explore how knowledge sharing takes place through the use of KMSs in MNCs. Based on 42 semi-structured interviews, main themes underlying knowledge sharing were identified and summarised in a more holistic conceptual framework. First, Knowledge Management Systems includes three sub-themes: Technology Acceptance, Communication Tools, and KMS Usage. Second, Knowledge Sharing Practices includes the following sub-themes: Content, Willingness to Share and External Factors. The paper clarifies the existing literature on KMSs and KS by proposing a holistic conceptual framework which will help managers to identify ways of initiating knowledge sharing in MNCs.

Key Words: Knowledge Management Systems, Knowledge Sharing, Multinational Corporations

INTRODUCTION

In the current global market and in this highly competitive environment, Multinational Corporations (MNCs) are increasingly recognising an urgent need to institutionalise knowledge sharing (KS) as a means of obtaining the best value from all available knowledge assets (Goh, 2007). To facilitate knowledge flow in organisations, specific relationships between individuals and groups are required (Huang *et al*., 2014). However, effective KS between different units overseas is a challenge for MNCs, as there are so many unprecedented difficulties facing managers outside their organisations, along with environmental "forces for change", such as globalisation, emerging technologies, emerging best business practices, government regulations, politics, competitive global financial markets, limited availability of knowledge workers, and higher worker turnover rates (Cuffe, 2007). As Montazemi *et al.* (2012) emphasise, the effective sharing of organisational knowledge is particularly relevant for MNCs, as it is considered a significant source of competitive advantage in their global strategy. Therefore, in order to succeed in the global society, MNCs need to identify, evaluate, create, evolve, and develop their knowledge assets since knowledge is one of their major economic resources (Ergazakis and Metaxiotis, 2011).

Moreover, with the advent of the knowledge economy and the increasing size of the knowledge society, organisations continue to seek new ways of leveraging and sharing knowledge to support decision-making processes (DMP) (Thompson *et al.*, 2009; DeTienne and Jackson, 2001). Nemati *et al.* (2002) state that knowledge management (KM) initiatives can facilitate the capturing, coding, and sharing of knowledge within organisations, which is expected to result in well-informed DMP. Zhang and Lu (2007) draw attention to the importance of incorporating a knowledge management paradigm into an enterprise's business processes in order to assist knowledge workers to make decisions efficiently and effectively; the challenge in today's dynamic economy is "how to manage enterprise knowledge" so that knowledge workers can use it effectively and efficiently in their daily work. Technology plays a vital role in business, as it helps employees to access the knowledge they need when they need it, and provides the tools with which decision makers and users can leverage their knowledge in the context of their work (Chong and Chong, 2009; Bals *et al.*, 2007). Knowledge Management Systems (KMSs) are part of the agenda in many of today's leading MNCs (Michailova and Minbaeva, 2012; Nielsen and Michailova, 2007). For example, Bose (2004) highlights that KMSs can facilitate KS by ensuring knowledge flow from the person(s) who know(s) to the person(s) who need(s) to know throughout the organisation. Therefore, MNCs are always looking for support from their IT departments to utilise and

facilitate their existing knowledge effectively and efficiently (Montazemi *et al.*, 2012). In the complex environment of MNC units, particular coordination mechanisms and tools to facilitate KS are required (Ghoshal and Bartlett, 1995; Gupta and Govindarajan, 2000; and Sia *et al.*, 2010). Accordingly, in order to understand the role of KMSs in facilitating KS in MNCs, further research is needed; the subject has been underexplored in more recent literature and there are few empirical studies on this particular research topic.

This paper therefore aims to answer this research question: *What are the factors that affect knowledge sharing by using KMSs in MNCs?* To answer this research question, we used an exploratory research with semi-structured interviews supported by qualitative analysis to support the exploration and interpretation of this study.

In this paper we summarise our exploratory research to address this issue. We begin this paper by discussing Knowledge Management Systems and Knowledge Sharing in MNCs. Then, we outline the methodology and data collection of the study, followed by the findings and conceptual framework. The final sections are the discussion and conclusions, and we draw out some of the implications of our findings with a focus on future research.

RESEARCH BACKGROUND

Knowledge Management Systems

Over the past three decades, many organisations have developed information-technology-based systems designed specifically to facilitate the sharing, integration, and utilisation of knowledge, referred to as Knowledge Management Systems (KMSs) (Nielsen and Michailova, 2007). Alavi and Leidner (2001) define KMSs as "Information Technology based systems developed to support and enhance the organisational processes of knowledge creation, storage/retrieval, transfer, and application". They also point out that IT can be used as an enabler in KM initiatives, but stress that KM initiatives do not necessarily involve the implementation of IT solutions.

Organisations across all sectors recognise the critical role of effective KMSs in their future success (Shin, 2004). Binney (2001, p.33) posited that "The KM spectrum has been developed to assist organisations in understanding the range of KM options, applications and technologies available to them". Sharda *et al.* (2013) point out that KMSs are intended to help an organisation to cope with rapid change, turnover, downsizing, and leveraging knowledge use by making the expertise of the organisation's human capital widely

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accessible. Indeed, the focus of the Information Systems literature has shifted from data and technology to knowledge and expertise (Willcocks and Whitley, 2009).

Shin (2004) believes that the KM approach is one of the reasons why some organisations reap the benefits of KMSs while others do not. Some examples are summarised in Table 1.

Table 1: KM Approaches

KM Approaches	Main Focus
Technological	Enhancing KM quality by supplying tools for effective storage and sharing of knowledge
Intellectual asset	Enhancing KM quality by valuing knowledge assets in financial terms and reflecting them in accounting practices
Organisational learning	Facilitating knowledge creation and sharing by developing a positive work environment or effective reward systems
Process	Enhancing KM quality by identifying key processes on which important knowledge flows, and managing them formally
Philosophical	Gaining a higher understanding of knowledge lead by asking questions such as 'Do we know what we do not know?' towards development of new ways of thinking

(Source: adapted from: Shin, 2004)

KMSs are expected to play a major KM role in enterprises that are increasingly confronted with paradoxical challenges of exploiting explicit knowledge resources and exploring new tacit knowledge. Such a knowledge creation and sharing infrastructure within the context of organisational know-how can provide organisations with the requisite agility to respond to the dynamic nature of organisations' business imperatives (Wand and Noe, 2010). Moreover, KMSs are systems that automate the input, storage, transfer, and retrieval of knowledge, and include tools for capturing various types of knowledge from useful lessons learned, classifying knowledge documents, locating the relevant experts, facilitating expertise and so on (Kulkarni *et al.*, 2006). Considerable attention is currently being paid in both academic and practitioner literature to the value that organisations could create through the use of big data, knowledge, and business analytics (Sharma *et al.*, 2014; Mithas *et al.*, 2013).

Knowledge Sharing

With the advent of the knowledge economy and the increasing size of knowledge societies, organisations continue to seek new ways of leveraging and sharing knowledge to support DMP (DeTienne and Jackson, 2001). The primary objective of most KM research and practice is to facilitate effective and efficient KS among organisational members (Shin, 2004; Davenport and Prusak, 2000; Nonaka *et al.*, 1998).

Effective KS is not moving knowledge from one location to another, but the basic notion is that the sharing of viable knowledge should assist with collaborative problem solving between people, directly and indirectly, supported by networks and tools (Wang and Noe, 2010). KS refers to the provision of know-how to help others and to collaborate with others to solve problems, develop new ideas, or implement policies or procedures (Cummings, 2004). Although, in reality, KS is still challenging for managers, organisations exert a lot of effort to utilise, implement and apply the knowledge that they have to make actual use of this knowledge and to be reflected in organisational performance (Gold *et al.*, 2001; Zheng *et al.*, 2010). Organisations can facilitate knowledge flow by influencing individuals' information-processing behaviours, as specific relationships between individuals and groups are required to influence how knowledge is shared and disseminated within the firm (Huang *et al.*, 2014; Turner and Makhija, 2006). KS occurs through different means and tools, including written documents, telephone, face-to-face communication, networks and KMSs (Alavi and Leidner, 2001; Cummings, 2004; Wang and Noe, 2010).

The term KS has been used interchangeably in the literature with "knowledge transfer", "knowledge diffusion" and "knowledge exchange" (Cabrera *et al.*, 2006; Szulanski *et al.*, 2000). Wang and Noe (2010) highlight the differences between knowledge sharing, knowledge transfer, and knowledge exchange. Knowledge transfer includes both KS by the source of knowledge and the recipients' acquisition, application, and use of this knowledge. Knowledge exchange involves both knowledge sharing and knowledge seeking, or in other words, it includes employees providing knowledge to others and employees searching for knowledge from others. Davenport and Prusak (2000) define KS as "The process by which knowledge is transferred from one person to another, from individuals to groups, or from one group to another group". Kulkarni *et al.* (2006) use the term KS to mean both contributing to and using available knowledge. In this paper, "knowledge sharing" will be used to describe the movement of knowledge between different individuals, departments, divisions, units or branches in MNCs through KMSs.

RESEARCH METHODS

This section describes the data collection and the qualitative data analysis used in this study. The qualitative analysis presented here is used as exploratory research. It supports the exploration and interpretation of the study. Exploratory research is one of several methods of conducting qualitative research. Its purpose here is to seek new insights into phenomena, to

ask questions, to assess the phenomena in a new light through interviewing experts in the subject and to identify further issues related to the topic (Robson, 2002).

This study adopted semi-structured interviews as a valuable data collection method which serves the purpose of this paper, as the authors are adopting an interpretivist epistemology to understand the meanings that participants ascribe to various phenomena. In total, 42 semi-structured interviews were conducted. All the interviews followed the recommendations suggested by Myers & Newman (2007). This stage resulted in 42 participants from 32 different MNCs. Table 2 shows the interviewees' positions, country, industry and the interview mode.

Table 2: Participants

Firms	Number of Participants	Positions	Countries	Mode	Industry
1.	1	Professor, Head of Department	UK	Phone	Research
2.	1	Professor, Team Leader	Holland	Phone	Research
3.	2	Professors	UK	Site	Research
4.	1	Accounting Manager	Egypt	Phone	Biotech & Pharmaceuticals
5.	2	Service Delivery Manager ; Senior Service Delivery Engineer	UK	Skpe & Site	IT Services & Consulting
6.	1	Accounting Manager	Saudi Arabia	Phone	Energy & Utilities
7.	1	Assistance Station Manager	Jordan	Phone	Airline & Cargo Services
8.	3	Laundry & Home Care Corporate Director; Products Development Manager; Products Development Manager Laundry Care Middle East	Germany & Egypt	Phone	Personal Care
9.	2	Credit &Investment Supervisor; Operation Management Supervisor	UK & Egypt	Site & Phone	Banking
10.	3	Purchasing Manager; Safety Manager; Quality assurance supervisor	Egypt & UK & Syria	Phone & Skype	Oil & Gas
11.	2	Senior Auditor; Associate Financial Services Advisory	Qatar & UK	Phone & Site	Accounting & Professional Services
12.	1	Senior Network Administrator Engineering consultancy IT Global support	United Arab Of Emirates	Skype	Multidisciplinary consultancy
13.	1	Technical Analyst	UK	Skype	IT Services & Consulting
14.	1	Chief Information Consultant	Kuwait	Phone	Multidisciplinary consultancy
15.	1	Senior Cargo Assistant	United Arab Of Emirates	Phone	Airline & Cargo Services
16.	1	Growth & Business Development Director	Saudi Arabia	Skype	Manufacturing
17.	1	IT Consultant	UK	Phone	Financial services
18.	1	Senior Auditor	Egypt	Skype	Acconting & Professional Services
19.	1	KM Consultant	Switzerland	Skype	Building & Constructions
20.	1	Consultant and Doctorate Researcher Lecturer	UK	Skype	Research
21.	1	Knowledge Manager	UK	Site	Business processing
22.	1	HR Manager	Egypt	Phone	Hospitality & Tourism
23.	3	General Manager; KM Manager; Accounting Manager	Saudi Arabia	Phone	Automotive
24.	1	Sales Manager	Egypt	Site	Technology Development
25.	1	Zone Credit Manager	UK	Skype	Financial services
26.	1	Financial Analyst	Saudi Arabia	Phone	Biotech & Pharmaceuticals
27.	1	IT Consultant	UK	Site	IT Services & Consulting
28.	1	IT Advisory	UK	Site	Accounting & Professional Services
29.	1	ERP principle Consultant and financial track leader	United Arab Of Emirates	Phone	IT Services & Consulting
30.	1	Project Management & delivery management & IT services	Germany	Skype	Telecommunications
31.	1	Payable Manager Automation&Drive	Egypt	Skype	Telecommunications
32.	1	Software Engineer	UK	Phone	IT Services & Consulting
Total	42		12		13

The interview protocol included 12 questions (see the Appendix), which were reviewed by three academics from three different universities with backgrounds in knowledge management, knowledge sharing and knowledge management systems. Questions were pilot tested with two executives from two MNCs. Suggestions were incorporated into a second version which was piloted by another two executives from another two MNCs. Finally, questions were again modified as recommended, to simplify the wording and to make it easy for participants to answer the questions without any misunderstanding or confusion.

Data Analysis

After the data collection, thematic analysis was used to analyse the data. Thematic analysis is one such approach; it concentrates on the themes or subjects and patterns, emphasising, pinpointing, examining, and recording patterns within the data (Braun and Clarke, 2006). Thematic analysis is normally concerned with experience-focused methodologies. Thematic analysis is considered as a type of qualitative analysis which is used to analyse orderings of data and present relevant themes that relate to the data, research question, and objectives. Throughout the analysis, we identified a number of themes by considering the following three stages highlighted by King and Horrocks (2010):

1. *Descriptive coding (First-order Categories):* researchers identify those parts of the transcript data that address the research question and allocate descriptive codes throughout the whole transcript.
2. *Interpretative coding (Second-order Themes):* researchers group together descriptive codes that seem to share some common meaning, and create an interpretative code that captures this.
3. *Defining overarching themes (Aggregate Dimensions):* researchers identify a number of overarching themes that characterise key concepts in the analysis.

The following sections explain the main themes that constitute the core of the current study's conceptual framework.

Knowledge Management Systems

Under this main theme, three sub-themes were identified: Technology Acceptance, Communication Tools, and KMSs Usage (see Figure 1).
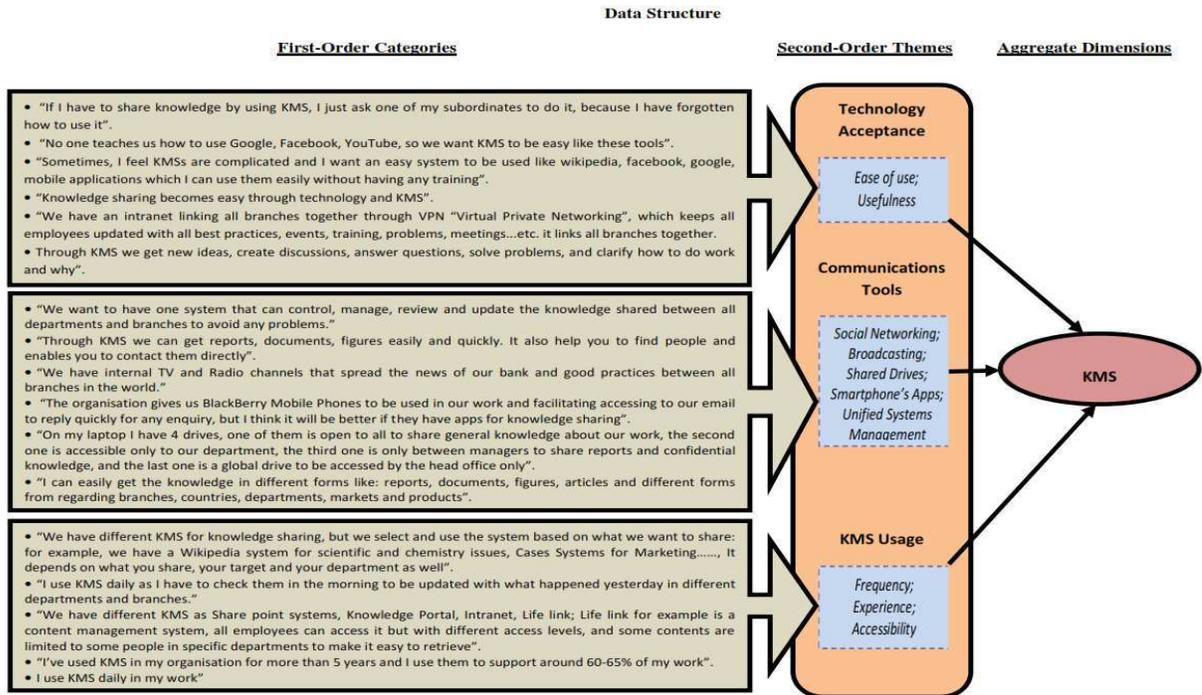
Figure 1: KMS- Data Structure

Knowledge Sharing Practice

Under this main theme, three sub-themes were identified: Content, Willingness to Share, and External Factors (see Figure 2).
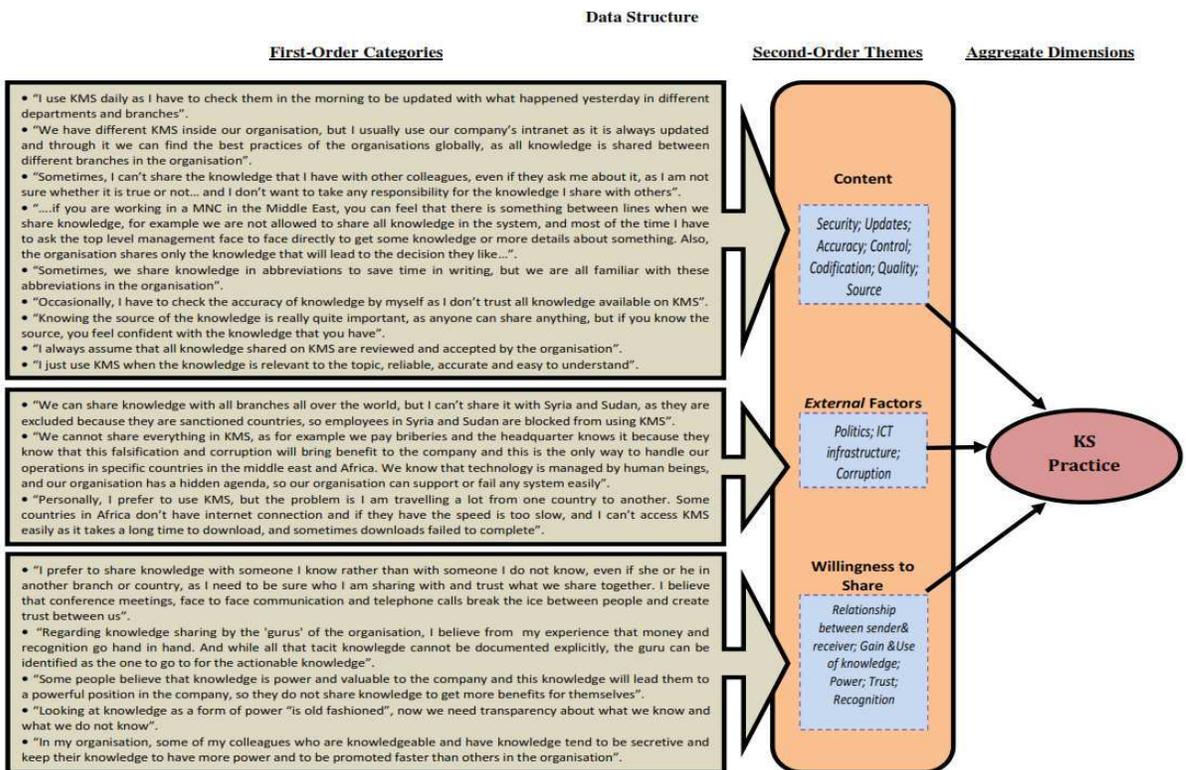

Figure 2: KS Practice- Data Structure

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The thematic analysis used in this paper highlights the factors that affect knowledge sharing and indicates how participants in MNCs share knowledge through KMSs. The emergent conceptual framework (Figure 3) comprises two core themes: *Knowledge Management Systems* (Technology Acceptance, Communication Tools and KMS Usage), *Knowledge Sharing Practice* (Content, Willingness to Share and External Factors).
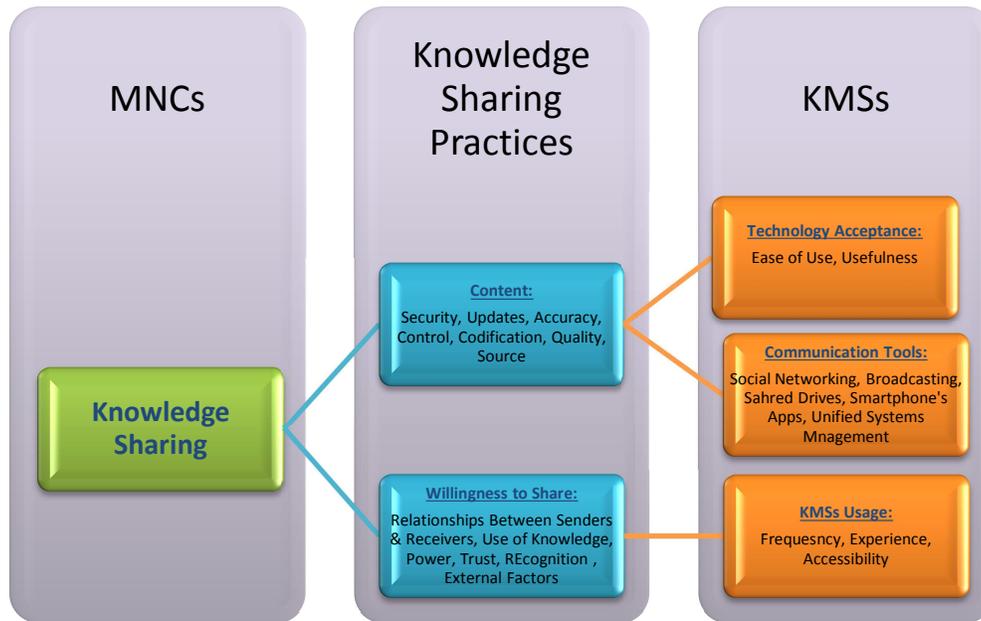

Figure 3**: Factors Affecting Knowledge
Sharing by Using Knowledge Management Systems in Multinational Corporations**

DISCUSSION

In this study, 42 semi-structured interviews were conducted and a set of strong overarching themes concerning the factors affecting KS were identified based on analysis of the interviews. The participants in this study all use KMSs to share knowledge, most on a daily basis. Most respondents have more than five years' experience of using KMSs. The findings presented in this paper indicated that participants in MNCs tend to use KMSs regularly to share best practice and knowledge with other branches all over the world, which is unsurprising as knowledge is the core of their business and the reason for their existence and survival. Without KMSs they cannot share knowledge appropriately. The thematic analysis used in this study highlighted the factors that affect KS by using KMSs in MNCs, and these are summarised in a conceptual framework which comprises two core themes: Knowledge Management Systems, Knowledge Sharing Practices. Findings are discussed in relation to literature in the following sections.

Knowledge Management Systems

Under this theme, three different sub-themes were identified: Technology Acceptance, Communication Tools, and KMS Usage.

Technology acceptance affects the participant's decisions regarding using KMSs. In this study, technology acceptance depends on employees' perceptions regarding the usefulness and the ease of use of KMSs in supporting their job performance without extra effort. Interviewees stressed that employees in MNCs want KMSs to be easy to use, like the social networking tools that they use in their daily life (e.g. Twitter, Facebook, YouTube, Wikipedia, some applications on smartphones, Google, etc.). They also want advanced and smart searching tools to be available in KMSs to enable them to search and find knowledge quickly and easily by codes, abbreviations, product, country, branch, region, keywords, etc. This finding is in line with some studies which show that the links between employees within social networks can facilitate KS and enhance the quality of knowledge shared (Coakes *et al.*, 2008; Cross and Cummings, 2004; Hansen *et al.*, 2005; Reagans and McEvily, 2003; Wang and Noe, 2010). Coakes *et al.* (2008) point out that "social networks hold those colleagues who are most trusted in central positions within the knowledge sharing activities". Similarly, Wang and Noe (2010) point out that KS may be embedded in broader organisational social networks such as communities of practice. Davis (1989) and Venkatesh *et al.* (2003) claim that employees' expectations and attitudes are heavily grounded in the technology acceptance model, which describes how individual behaviours are influenced by beliefs and attitudes.

The participants believe that KMSs with artificial intelligence tools can support KS by automatically providing them with any knowledge related to their work, based on their search histories. Furthermore, participants highlighted their need for speedy KMSs that are accessible anywhere at any time and are easy to both use and customise. This finding is consistent with some studies which showed that employees' perceptions regarding ease of use and usefulness of technology affect KS in organisations (Bock *et al.*, 2005; DeVries *et al.*, 2006; Lin, 2007; Wang and Noe, 2010).

Communication tools: participants prefer KMSs that have a variety of tools to help them in creating and sharing usable knowledge through an interactive, consolidated, and user-centred design; they want KMSs to help them in finding, sharing, interacting, and collaborating with each other in a simple way. Recent technologies have also affected employees' behaviour, as the participants noted that they want to have KMS applications on their mobiles to enable them to share knowledge and documents with their colleagues easily at any time and from anywhere. Additionally, some participants have internal multi-media communication tools in

their MNCs (i.e. intranet, TV channels, radio stations, magazines) which keep employees updated with the latest news regarding their work, best practice, markets, and customers. However, MNCs use shared drives which allow employees to access different knowledge-bases but with different degrees of accessibility, according to their position, location, and level of authority. As a result, participants pointed out the importance of having unified KMSs in all other branches to avoid any differences that might prevent them from sharing knowledge.

Overall, communication tools, social networks, and the existence of networking connections can facilitate KS in MNCs. This importance was highlighted in the literature. For example, Michailova and Minbaeva (2012) state that KS does not occur automatically, but requires substantial organisational efforts aimed at encouraging close relationships between organisations' members. Similarly, Minbaeva *et al.* (2003) maintain that organisations should invest in systems symbolised by continuous social interaction, communication of ideas, sharing of knowledge, and other acts associated with the social character of learning. Indeed, a deep understanding of organisational and IT challenges, can help businesses prepare better for a highly volatile future (Sauer and Willcocks, 2003). Nonaka (1994), in his SECI model, points out that combination requires active use of organisational media, computerised networks, employee suggestion systems, and organisational routines to capture knowledge. Chen (2007), Reagans and McEvily (2003) and Wang and Noe (2010) agree that social networks and relationships between employees are positively related to the ease of KS as perceived by the knowledge sender, suggesting that networks and connections with knowledge receivers will motivate employees to share knowledge.

In most of the interviews, participants highlighted the importance of having tools in KMSs that enable them to get *feedback* on knowledge they shared; was this knowledge significant for others, how many employees used and shared it, and where? They believe that feedback will encourage employees to be involved in KS inside the organisation. Wang and Noe (2010) commented that receiving feedback regarding the knowledge shared, how it is recognised by others, and how it has helped co-workers will help the organisation to create competency, credibility, confidence, and KS self-efficacy which will increase the likelihood of KS between employees.

KMSs usage was highlighted in this study as an important theme that affects KS in MNCs; as already noted, most of the interviewees studied have more than five years' experience in using KMSs, use them on a daily basis, and consider them as a crucial part of their daily work. Participants also described the wide variety of KMS tools they use in KS and the DMP;

tool selection depends on what they want to share or what they want to decide. Nicolas (2004) highlights this point in his study and reveals that each KMS has an impact on the DMP, and this impact depends on the KMS used; it is therefore recommended that organisations match the right KMS with their DM situations. Minbaeva (2007) emphasises the importance of involving MNC units in using KMSs with other branches, and states that "the higher the degree of involvement of the focal subsidiary in network relations with other MNC units, the higher the degree of KS". On the other hand, not all participants prefer to use KMSs for KS. For example, some of the executives over 50 years old in the Middle East prefer to use traditional methods of KS (i.e. telephone, fax, face-to-face, etc.); if they are required to use KMSs in their work, they just ask the people who work for them. Szulanski (2000) highlights this point and mentioned that in spite of the increasing use of technology to facilitate KS within organisations, face-to-face communication and interaction is still an indispensable mechanism for KS, especially when more tacit knowledge is involved. Similarly, Wang and Noe (2010) point out that employees' personal characteristics and motivations may influence the extent to which they share knowledge using KMSs; for example, new employees might use KMSs because they are motivated to impress their supervisors.

Knowledge Sharing Practices

Under this main theme, three different sub-themes were identified: Content, Willingness to Share, and External Factors.

The content of KMSs is perceived to be an important factor in KS to support DMPs in MNCs. The participants underlined the importance of reviewing all knowledge shared between MNC units through a committee or knowledge team to check the veracity and accuracy of knowledge uploaded on KMSs and to avoid any incorrect decisions or errors based on this knowledge. Additionally, interviewees remarked on the importance of keeping the content of KMSs secure and regularly updated to ensure that all knowledge is correct and accurate. The quality of the knowledge available in KMSs is essential; participants stressed that it must be precise, relevant to the topic in hand, easy to understand, accurate, complete, reliable, and timely. The participants also suggested that knowing the source of knowledge increases confidence and encourage employees to share and use it. Knowledge codification is also important for the interviewees, who noted that the process of standardising and

developing a norm for a language in KMSs must be known and applicable to the knowledge shared between all branches of MNCs.

These findings are consistent with the literature. For example, Shin (2004) says that lack of up-to-date knowledge can hinder KS. Bordia *et al.* (2006), state that employees' apprehension about KS may result from their perception that the shared knowledge might be inaccurate and likely to result in unfavourable criticism from others. Nemati *et al.* (2002), state that KM initiatives can facilitate capturing, coding, and KS within organisations, which is expected to result in well-informed decision processes. Furthermore, employees' doubts or mistrust about the knowledge and the networks that contain this knowledge might prevent KS in these organisations (Carnabuci and Operti, 2013). Several studies have shown that employees who are more confident in their ability to share knowledge are more likely to express their intention to do so, and report higher levels of engagement in KS (Cabrera *et al.*, 2006; Lin, 2007; Wang and Noe, 2010). Additionally, employees who believe that the contents of KMSs are useful see this as an incentive to share and use knowledge (Cabrera *et al.*, 2006; Kulkarni *et al.*, 2006; Wang and Noe, 2010).

Willingness to share: KS obviously cannot occur unless there is a willingness to share between senders and receivers. Some participants highlighted that they do not trust the knowledge that they have, so they are less willing to share it. Similarly, some respondents do not trust the knowledge shared through KMSs when they do not know the source; equally, they prefer to share knowledge with someone they know. Thus, most participants are willing to share knowledge with someone they know and trust rather than someone they do not know. These findings are consistent with a body of research that demonstrates the relationships between these factors and KS. For example, Wu *et al.* (2007) point out that KS involves providing knowledge to another person or a team or community of practice with expectations of reciprocity. Ghoshal and Bartlett (1994), state that unfriendly relationships between source and recipient might be a barrier to KS in organisations. Minbaeva (2007) developed and tested a model of KS in MNCs through analysing the relationships between knowledge senders and receivers. She found that, for receivers, "the higher the ability and motivation of the subsidiary's employees to absorb knowledge (absorptive capacity), the higher the degree of KS"; and for senders, "the higher the ability and motivation of the knowledge senders to share knowledge (disseminative capacity), the higher the degree of KS". From this study, we can see that the success of KS among MNC units is a function of the characteristics of that knowledge but also that it is essential to take into consideration the characteristics of both sender and receiver in the KS process, as well as the context in which KS takes place.

Similarly, Connelly and Kelloway (2003) and Lin (2007) highlight the fact that the willingness of experts and employees to help others is positively associated with their willingness to share knowledge.

Relationships between employees also affect knowledge utilisation and KS in MNCs. Abdelrahman *et al.,* (2011) highlight that "*the success of KS among MNC units is not only a function of the characteristics of that knowledge but it is also essential to take into consideration the characteristics of both sender and receiver involved in the transfer process as well as the characteristics of the context in which KS takes place*". Inkpen and Dinur (1998) argue that organisations with open and informal power relationships between members will be more effective in KS, through better communication. On the other hand, organisations with formal and mechanistic structures may lose or misunderstand the knowledge shared between different managerial levels. Other research has shown that personal relationships and trust between employees are positively associated with the perceived helpfulness and the quantity of knowledge shared (Chiu *et al.*, 2006; Wang and Noe, 2010; Wasko and Faraj, 2005). Similarly, Politis (2003) states that interpersonal trust between employees can facilitate KS, open communication, and understanding of work-related problems and encourage organisational members to gather new knowledge that supports their decisions in solving problems. David *et al.* (2000) point out that the level of trust that exists between the organisation, its sub-units, and its employees greatly influences the amount of knowledge shared between employees and entered into the firm's databases, best practice archives, and other records.

On the other hand, some participants consider knowledge as power, which will make them appear knowledgeable and experts in their organisations; this power will lead to promotion and powerful positions in the organisation. Consequently, they are willing to share knowledge only if they will be recognised as knowledgeable people in their organisations. Wang and Noe (2010) state that employees have different concerns regarding losing or gaining power through KMSs. Losing power might occur because knowledge becomes widely available and might be seen by other employees who have not contributed to it. Gaining power may occur because KMSs make knowledge more accessible and make it easier to reach a wider audience, and therefore increase the possibility of receiving personal recognition. Different research has highlighted that when knowledge is considered as a source of superiority and power, it will obstruct KS (Gupta and Govindarajan, 2000; ChanKim and Mauborgne, 1998; Szulanski, 1996). Considering knowledge as power might discourage KS between employees, as they might consider it as a source of distinction,

especially when organisations assess employees' knowledge in performance appraisals and link it to promotion, cash bonuses, or downsizing (Bordia *et al.*, 2006; Foss *et al.*, 2010). Thomas-Hunt *et al.* (2003) maintain that acknowledging employees' expertise and the knowledge they share helps to increase KS within the organisation.

External factors: participants pointed out several external effects of KMSs. Politics plays a major role in KS, especially in the Middle East, and participants believed that their MNCs have hidden agendas which are influenced by politics. They also claimed that sometimes their organisations control the DMP through KMSs by providing or precluding specific knowledge to avoid or support specific decisions. They also noted that some branches cannot always access all knowledge in specific countries like Syria, for political reasons. Secondly, some participants said that MNC units operating in some African and Middle East countries are involved in fabrications and falsification practices, in corruption, and in bribery. All of these practices are known to employees and accepted by their headquarters and managers, as they believe that this is how work is done in these countries. However, they cannot share this type of knowledge on KMSs.

Mellahi *et al.* (2011) point out that "substantial economic and political changes have been underway in most Middle Eastern countries which prompt the need for a closer look at emerging business opportunities and challenges for MNCs operating or considering entering the region". Thirdly, the ICT infrastructure is itself considered as an obstacle in specific countries, as MNCs experience network connection problems, especially in developing countries; thus KMSs in these branches might be down or slow because of the speed of the internet or other connection problems.

CONCLUSION

Given the advent of the knowledge economy and the increasing magnitude of the knowledge society, this study highlights the factors that affect KS by using KMSs in MNCs; these factors have two themes: Knowledge Management Systems and Knowledge Sharing Practice.

Regarding Knowledge Management Systems, it is recommended that MNCs acknowledge evolution in the KMS tools that they use to share knowledge, by meeting employees' wants and needs and incorporating the latest common technologies, such as the social networking tools that they use in their daily lives (e.g. Google, Wikipedia, Twitter, Facebook, Skype, MSN, smartphones, radio, TV channels for work, etc.). This will make it easier and more comfortable for them to share their knowledge, by using tools similar to those in their

personal lives. Taking into consideration preferences regarding ease of use and the usefulness of KMSs will enable employees to work and collaborate, and to be updated with news and practices from their MNC locally and in other branches all over the world.

Knowledge Sharing Practice is important, and employees care about the content and other issues when they share knowledge. The accuracy and quality of knowledge shared inside the MNC must be reviewed, secured, updated, and controlled. Employees' willingness to share is also important, as it is an essential part of sending and receiving knowledge. It includes trust between employees. There are also some pragmatic issues like corruption, ICT infrastructure, and politics, mainly dependent on the countries in which the organisation is operating. In line with other studies (Finnegan & Willcocks, 2006) we have found out that political and cultural issues affect knowledge sharing processes. Incentives play a major role in encouraging employees to share knowledge, but in this study the incentives that were highlighted by respondents were not financial; they want to be recognised as knowledgeable persons inside their organisation, and they want to promote and spread their knowledge under their own names. Recent developments in the IT environment such as social media platforms have introduced new requirements and changed the way of doing work, which is reflected in an organisation's results.

Limitations of the Study

Although this paper proposes a holistic conceptual framework that would help MNCs to identify ways of leveraging and sharing knowledge, but a few limitations have been recognised which might be useful for other researchers to consider in the future.

The study was conducted in different MNCs with several types of business, and restricted to a limited number of countries. Obviously, there is no reason to assume that the results obtained in this study can be generalised to other MNCs, other countries, other functional areas, or other industries. Second, the framework devised in this study represents a reasonable starting point as it was created based on a sample size (42 participants), which certainly will have some implications for the generalisability of the findings. Third, it would in fact be unreasonable to assume that KMS tools, and KS are the same in all MNCs, as organisations have such diverse goals and operate in different sectors in different countries with employees with different backgrounds, knowledge, educations, willingness to share, experience of working in MNCs, etc.

Recommendations for Further Research

Throughout the current research, some notes and research ideas were observed which were not related to the main question or objectives of the paper, but which are interesting and deserve more attention in future work. In particular, additional research might authenticate the generalisability of the findings. To generalise the results and make significant analysis, further research needs to be conducted through testing the relationships between factors identified in this study.

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APPENDIX

Interview Protocol

1. **Background Information:**
- Information about the organisation
- Information about the participant – age, functional experience, experience in the industry, experience with the firm.
2. **Brief introduction of the research project:** we are investigating factors that affect knowledge sharing through using knowledge management systems in MNCs.
- Do you share knowledge in your organisation?
- How do you share knowledge in your organisation?
- What are the factors that affect knowledge sharing in your organisation?
- What are the cultural issues that can affect knowledge sharing in MNCs?
- What are the incentives that encourage knowledge sharing in MNCs?
- Do you have KMSs in your organisation? Do you use them?
- How do KMSs facilitate knowledge sharing in your organisation?
- Do the applications of KMSs increase the sharing of knowledge among MNC units?
- What are the barriers and drivers of using KMSs in sharing knowledge in your organisation?
- How can KMSs support your work in your organisation?
- What are the barriers and drivers of using KMSs in supporting KS in your organisation?
- What are the KMSs' characteristics that can facilitate knowledge sharing in MNCs?