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ASSESSING ENABLERS AND BARRIERS TO SHARING KNOWLEDGE AND INFORMATION.

– Case study: A knowledge intensive case company in Finland

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ASSESSING ENABLERS AND BARRIERS TO SHARING KNOWLEDGE AND INFORMATION – CASE STUDY: A KNOWLEDGE INTENSIVE CASE COMPANY IN FINLAND

In this thesis, the researcher explores the barriers and enablers to sharing knowledge and information in the context of a knowledge intensive case company. The researcher set out to first examine the strategic intentions of the case company from a knowledge and information sharing perspective, with the aim of taking a closer look at the practical ways that sharing takes place within the case company. This includes elements such as company driven initiatives, tools and processes. Based on this, a key set of enablers and barriers to sharing could then be identified and assessed over the research period. This then enabled the researcher to suggest potential changes to the ways of working at the case company, and areas for future improvement.

Relevant theory relating to knowledge and information sharing, along with the impact of key factors such as culture, people, leadership, processes, structures and technology were also considered in the sharing context to further enhance and support the structure for the presentation of results.

A qualitative approach was taken to the empirical section of the thesis, which included two sets of interviews and two observation periods. Combined with existing secondary research material from the case company's own internal surveys, the researcher was able to gain insight into the impact of enablers and barriers in a company specific context.

The thesis shows that many of the key elements highlighted in literature were also relevant to the case company, and that in many cases there are elements that can act as both enablers and barriers to sharing. The key for the case company therefore, is to undertake a balancing act to ensure that the negative impact of barriers is mitigated by the positive effect of enablers. Furthermore, the sharing efforts of the case company can be distilled into three key dimensions of sharing that need to be considered alongside one another.

KEYWORDS:

Knowledge sharing, information sharing, organisational culture, organizational structure, leadership, processes, technology, growth

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ABBREVIATIONS USED

CRM - Customer Relationship Management

IM – Instant Messaging

EMT – Executive Management Team

SWOT – Strengths, Weaknesses, Opportunities, Threats

1 INTRODUCTION

Knowledge management, knowledge sharing and information sharing are topics of particular importance to any organisation. The success of integrating these topics into the daily activities and strategy of an organisation can vary greatly depending upon the organisation in question. This is despite there being a large amount of literature and interest in the subject in recent years.

1.1 The Goal of the Thesis

This thesis focuses on one case company. The main focus of the thesis is on identifying key enablers and barriers to sharing both knowledge and information at the case company in the context of a set of organisation driven initiatives and tools that are used for that particular purpose. This in turn, shall enable the researcher to suggest the key barriers that need to be overcome, and what this means for the case company. In addition, the goal is to assess additional barriers and enablers to sharing affected by the company's strategy and day to day activities. Although not a direct assessment of the strategy in itself, the thesis should offer a starting point for future strategic implications and changes that can be made within the case company.

1.2 Introduction to the researcher

At the time of publication of this thesis, the researcher is employed by the case company. During that time, he has had several roles within the company with a focus on sales, marketing and business development. Several of those years have also been spent within a managerial position within the company, and as a result he has experienced changes first-hand from several perspectives.

1.3 Introduction to the case company

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1.4 Timing and structure of the Research

This thesis contains findings from two sets of interviews, supported by the researcher's observations. A preliminary set of interviews was made in January 2016, and a follow-up set of interviews was made in January 2017. Further details on the personnel interviewed, the timing and the length of the interviews can be found in Appendix 1. This interviewing approach was decided on to ensure that changes at the case company could also be observed and incorporated into the study. In addition, this allowed for a suitable amount of time to pass in order to assess some of the impact caused by knowledge and information sharing initiatives at the case company. The focus of the first set of research was to perform an assessment of the state of knowledge and information sharing in the case company, including an assessment of tools and initiatives already in place at that point in time. The second set of research focused more on the effect of changes, including implementation across the research period and more of a focus on the critical success factors for knowledge and information sharing.

Ongoing observations from the researcher between January 2017 and January 2018 have also been integrated into this thesis to ensure that suggestions for the future remain relevant upon publication. Combined with secondary data from the company surveys, this should give an idea on how sharing initiatives are seen at the case company.

2 KNOWLEDGE & INFORMATION SHARING LITERATURE

2.1 An introduction to knowledge management

Knowledge management is a discipline that from a theoretical point of view is still rather new. Despite this, there is already an abundance of material available on the subject. There have been several so-called “generations” of knowledge management theory that have built upon each other over time. There are however, some key underpinnings to literature that have developed.

As knowledge management theory has developed over time, it has become a lot more holistic than it once was (Grant & Grant, 2008, Heisig, 2009). However, a lack of consistency both in terms of terminology and approach have led to knowledge management being a discipline that can easily become confusing, with terms being used interchangeably (Paulin & Suneson, 2015). In addition, several elements of theory consider only the concepts related to knowledge management but fail to address practical elements of implementation (Mohamed et.al, 2013)

This ambiguity has been part of knowledge management theory for a long time, dating back to some of the earlier and most famous pieces of research in particular. One of the first contributions to knowledge management theory was by Polanyi in 1958. Here, Polanyi expressed the ideas of tacit and explicit knowledge. These two so-called “types” of knowledge have formed the cornerstone of several pieces of research since then. It has generally become accepted that explicit knowledge can be considered as more codified and understandable knowledge, whereas tacit knowledge is more intangible and harder to articulate (Polanyi, 2012). What is important to underline here though, is Polanyi’s belief that knowledge is not simply “tacit or explicit”, but in fact all knowledge is tacit in some way. Knowledge simply varies based on how easily it can be transferred. Grant (2007) points out that despite the work by Polanyi being referenced thousands of times, these key items have been misunderstood and misinterpreted on several

occasions. He continues to suggest that this misunderstanding is perhaps in part a cause of practical failures to implement knowledge management, especially in IT-related projects.

Perhaps the most famous theory related to knowledge management dates back to 1995, where Nonaka and Takeuchi introduced the idea of the “knowledge creation cycle”, also known as the “SECI Model”. This consists of four phases: Socialization, Externalization, Combination and Internalization, where knowledge can be created as part of a conversion cycle. As part of this research, the role of the organisation itself in the knowledge creation process was considered. (Nonaka & Takeuchi, 1995; Nonaka et.al, 2000). As knowledge is created by social interactions between or amongst individuals as well as organisations, it can be seen as dynamic in nature (Nonaka et.al, 2000). Interestingly, this was the first real work that focused on how knowledge moves between the previously mentioned tacit and explicit states (Snowden, 2002). In addition, it focused on the idea that knowledge is “fundamentally individual” (Hislop, 2009).

As Knowledge Management theory has developed, the SECI model has become another reason for confusion within the field (Kamhawi, 2010). It has been argued that there are some theoretical shortcomings tied to the theory and empirical process that the SECI research was based upon (Gourlay, 2003). The research used a set of mixed definitions for example, and did not fully explore the differences between information and knowledge (Kamhawi, 2010). It is for this reason that it is important to clarify exactly what is meant by both knowledge and information in the context of this thesis, as well as how they fit into the larger picture of the organisation.

2.2 Knowledge and information sharing definitions

Before defining knowledge and information sharing, it is first important to discuss the definition of the overarching concept: Knowledge management. Despite the best efforts of some authors to clarify definitions and frameworks in this area, it can still be stated that knowledge management as a subject is rather unclear. In

addition, there is a clear lack of consensus on core concepts related to knowledge management (Mohamed et.al, 2013).

One rather clear definition of knowledge management however comes from Skyrme (2012), who defines knowledge management as the “explicit and systematic management of vital knowledge - and its associated processes of creation, organisation, diffusion, use and exploitation - in pursuit of business objectives." As will be explored later in this thesis, this definition fits rather well as it also ties into the application of the knowledge.

This thesis will define knowledge management in a similar way to Massingham (2015), who defined knowledge sharing as “a tacit contextualisation process”. In other words, the transfer of the knowledge in one person’s head to that of another. The key here is the focus on the individual.

At this point, it is worth highlighting that there have typically been two schools of thought regarding the definition of knowledge itself. The “knowledge as an object” school of thought focuses mainly on the idea that knowledge can in some way be externalized into a separate entity. The challenge being that it assumes that none of the important elements of that knowledge are lost as part of the transfer process. The main focus here is on the codification of knowledge and using specific mechanisms to promote sharing (Hislop, 2009).

It has also been argued that knowledge has a more embodied nature, where knowledge is tied to individuals. This draws from the practice based school of thought, which also considers “knowledge as a social construct”. This focuses more on the development of processes to facilitate communication between individuals, and is more collaborative in nature (Hislop, 2009).

As a result of there being several definitions of knowledge in existing literature, it is no surprise that knowledge sharing itself is another “blurry term” within the field of Knowledge Management, as noted by Paulin & Suneson (2015). It is quite

often used interchangeably with the term knowledge transfer. The differences in how they are used often lies in how knowledge is defined by the researcher, or in the context of the research itself. Knowledge transfer is typically more applicable when knowledge is defined as an object, whereas knowledge sharing is more applicable when knowledge is defined in a social context (Paulin & Suneson, 2015).

Bhatt(2001) notes that there is a constant need to run through the cycle of converting data into information, then into knowledge and vice versa. In addition, it is important to consistently remain flexible with knowledge in an organisation. Knowledge must remain relevant to the context in which it is being applied in order to be useful to the organisation. This introduction of information brings a new element into consideration, and makes a clear differentiation between knowledge and information.

Fernie et.al (2003) suggest that information is a "medium to initiate and formalize knowledge", and that knowledge is personal in nature. Leistner (2010, 2012) also proposes that knowledge exists only in the mind, and is tied together with past experience. That knowledge then becomes information once it leaves the mind and is expressed in context. The context in which that knowledge is expressed, combined with the existing experiences of the person receiving the new information can often then lead to creation of new knowledge. This happens only as the information is interpreted and assessed in light of the receivers own experience. In that sense, it is not possible to manage knowledge. It is only possible to manage flows of knowledge by passing on information, and it should not be assumed that the received item is the same as what was passed on (Leistner, 2010).

Kamhawi (2010) on the other hand proposes that knowledge and Information should not be treated as separate entities, but instead they should allow for a flowing, and flexible structure within which suitable actions for each organisation can be applied.

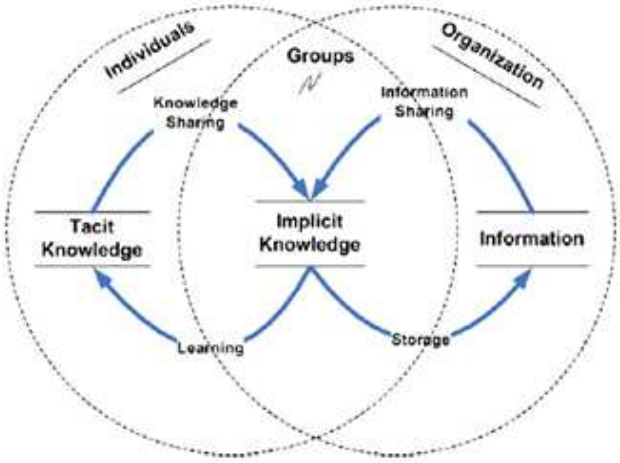

Figure 1. Knowledge flow and creation cycle (Kamhawi 2010).

This suggests that knowledge sharing is an effort of the individual, whereas information sharing is a result of more formal, organisational efforts. Furthermore, when information is shared, the individual interpretation of that information and lessons learned may lead to the creation of a new context that can in turn be shared once more as newly created knowledge (Kamhawi, 2010). This is a key concept that goes beyond the typical “knowledge as an object” point of view, and considers the idea that interpretation of knowledge and information is an equally vital but not separate part of the equation. It is in this middle ground where both knowledge and information sharing are combined that the real practical value for an organisation can be found Kamhawi (2010).

It is for this reason that this thesis will attempt to go beyond the organisation led initiatives to also consider how individual knowledge can bring greater value to those initiatives, and address noted enablers and barriers to sharing that impact individuals as well as the organisation.

2.3 Enablers and barriers to knowledge and information sharing

It is generally accepted that knowledge management practices relate directly to organisational performance (Zack et.al, 2009; Mills & Smith, 2011).

Expanding on the idea of tacit knowledge from the introduction, knowledge that is embedded inside an organisation, especially tacit knowledge is critical to retain a competitive advantage (Teece, 1998). What is equally important however, is how individuals apply that knowledge (Grant, 1996).

There are considerably higher learning demands on employees than in the past due to how frequently people change employers or roles. As work has become more and more intellectual, knowledge has become an increasingly important resource for organisations to remain competitive (Hislop, 2009). Companies must therefore be careful to manage the knowledge of both incoming and outgoing employees. It can be easy for the organisation to effectively “lose knowledge” or have items misinterpreted where they should not be (Dalkir, 2011).

According to Hariharan (2011), a lack of knowledge is not the challenge for most companies in terms of performance though. Instead, they struggle to optimally and effectively deploy available knowledge and expertise in a way that relates to their most important business measures. This is despite the traditional idea that the primary objective of any corporate knowledge management program is to “support the achievement of strategic business objectives” (Hariharan, 2002; Albers 2009). In addition, there are some elements which play an important role in the practical implementation of knowledge management but don’t necessarily impact organisational performance by themselves. The successful integration of technology is one such example (Mills & Smith, 2011).

Frost (2014) suggests that knowledge management practices are very hard to succeed at, and that the success or failure of knowledge management can be put down ultimately to so-called “causal” reasons. These reasons tie in closely with management efforts, measurement, culture and company structure.

Failing to succeed in these key areas then has a knock-on effect on other related areas and create additional problems. For example poor technology integration, or lack of contribution from the wider organisation. It is these knock-on reasons that are often cited as the reasons for failure, yet in many cases the failure is

caused by other, larger issues and it is those issues that should be addressed (Frost, 2014).

Heisig (2009) highlighted that in order for knowledge management to be successfully integrated into strategy, it must be considered within the context of key enablers. After an analysis of 160 different frameworks, he concluded that there are four critical success factors for knowledge management:

1.Human-oriented factors (culture, people and leadership)
2. Organisation (process and structures)
3. Technology (infrastructure and applications)
4. Management (strategy, goals and measurement)

Although there are a number of individual barriers to sharing knowledge, most literature categorises the challenges in similar ways. Riege (2005) for example proposes that there are three key types of barriers to sharing: Individual barriers, organisational barriers, and technological barriers. These tie in closely with the above critical success areas for knowledge sharing activities and the suggestions made by Frost(2014).

When assessing the current state of knowledge management implementation in an organisation, Albers (2009) notes that there is a difference between knowledge assessment and knowledge audit. This is despite the fact that many companies use them interchangeably. A knowledge audit focuses on the actual knowledge assets in various forms. Knowledge assessment, on the other hand focuses on how the organisation uses knowledge, and on the organisational factors that contribute towards knowledge management such as those detailed in the figure below:

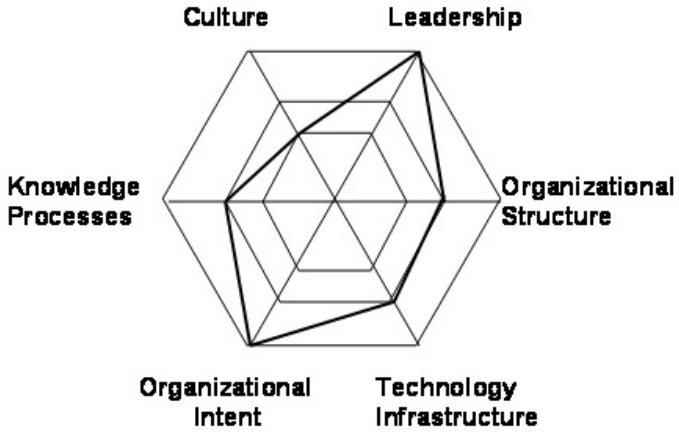

Figure 2. Organisational factors that influence knowledge management (Albers 2009)

Figure 2 represents another breakdown of critical factors, and highlights the fact that these factors often vary depending on the author in question. The factors in play here are similar to those proposed by Heisig (2009), yet are expressed in a different form. This is a perfect example of how the same information (or knowledge, depending on your definition) can easily be interpreted and expressed in a different manner despite the end message being extremely similar.

In this thesis, the research of the case company will focus on knowledge assessment. This thesis however, does not seek to complete a knowledge audit within the case organisation, and it is a potential area for future research.

The implementation of strategy and initiatives at the case company will be assessed whilst keeping the critical success factors noted by Heisig (2009) in mind. In that way, it should become more apparent if sharing activities are succeeding or failing because of one of those critical areas. In addition, it should be possible to make clear suggestions for the future. The following sections will explore each of the critical success areas in more detail.

2.4 Knowledge management strategy, goals and measurement

Knowledge management strategy in an organisational context is an area that still requires further research (Kim et.al, 2014). A knowledge management strategy should act as a roadmap, and a guide towards effective knowledge management. (Bosua & Venkitachalam 2013).

Bose (2004), listed a number of benefits associated with knowledge management as a strategy, such as: “The loss of intellectual capital from employees leaving the company, lower costs of development, increased productivity and an increase in overall employee satisfaction”. The exact way in which an organisation will see, and approach knowledge management however is also greatly affected by its organisational size and structure. The exact knowledge based challenges that an organisation may face therefore must always be considered in context of the organisations own specific situation (Hislop, 2009).

One of the biggest challenges facing any company that tries to manage knowledge is the fact that it is not very tangible. Knowledge management, by its very nature touches on several parts of an organisation, yet it is also hard to assign a purely monetary value to knowledge. In practice, this means that the impact of knowledge management initiatives are harder to measure than many other initiatives (Bose, 2004; Zack et.al, 2009; Frost, 2014). Measuring investment in knowledge management on a qualitative level is both time consuming, and also hard to achieve due to the number of actors that participate in sharing activities. Without clear ways to measure sharing activities, it becomes particularly difficult to introduce and follow them alongside organisational performance.

This difficulty to measure knowledge management initiatives is also partly due to the fact that there are so many elements involved in knowledge sharing practices as a whole. It is no surprise therefore to see that many approaches towards managing knowledge rely on frameworks and structuring knowledge processes. Although processes to manage knowledge are important, they must also be considered within the organisational context and alongside other elements (Shahzad et al, 2016).

As a result, any organisation rolling out initiatives or programs tied to knowledge management needs to be able to roll them out as a measurable process. Bose (2004) suggests that knowledge management's effect on the performance of an organisation is most easily measured by measuring knowledge management alongside the organisation's own overall ways of measuring. Companies have for example turned to the balanced scorecard as a way to include more intangible assets into the company's strategic planning. This shifts the focus away from finance and towards more intangible success factors (Bose, 2004).

Marr et. al (2004) suggest that one way to represent the value of these intangible elements is to represent strategic intent in a more visual manner. The aim should be to provide a shared framework that encourages both individual and organisational collaboration towards a shared set of goals. In addition, it allows individuals to map their own actions to the bigger picture. Ultimately, justification of investment in knowledge management relies on understanding the relative value and benefits and using "sound business judgement" (Morrissey, 2005).

It is also worth noting that in some cases, there may be external influences on the strategy making process. For example, if the company in question is owned by another company, then the parenting style of the owners (as detailed by Goold et.al, 1994) must also be taken into consideration. This has two key dimensions: The level of influence on planning (including strategy), and the level of financial control. This is explored more in section 2.8.

Treacy & Wiersma (1993) introduced the idea of three "value disciplines" that represent competitive strategies that each company must choose between: "Customer Intimacy", "Product leadership" and "Operational Excellence". In order to be a market leader, it is understood that companies must excel in one of the three disciplines and perform to an acceptable level in the others. O'Dell & Grayson (1998) and Haggie & Kingston (2003) expanded on this to suggest that a company's knowledge management initiatives can, and should be selected and designed based on which of the disciplines the company is pursuing.

Hansen et. al (1999) were amongst the first to define a framework for approaching knowledge management as a strategy. They considered two typical strategic approaches to knowledge management: Codification, and personalisation. Codification can be seen as making knowledge easy to understand, accessible and reusable. As will be expanded on later in this thesis, this often involves the use of technology in some form to help maintain structure and ease of access. Personalisation on the other hand, focuses more on the human aspect of knowledge management strategy where the creation of knowledge and individual expertise are given more importance. Marouf (2016) notes that knowledge sharing efforts should, at least in part be driven by human resources related activities, as human resource management practices are vital for creating the required knowledge sharing environment and culture. That being said, it is important to understand that knowledge management strategy and human resource strategy are not one and the same but in fact both contribute towards the development of a suitable organisational culture and a knowledge sharing culture. Knowledge management strategy focuses more on the ways of acting, for example “techniques and tools” to apply and create knowledge and make it more systematic. Human resource strategy on the other hand, focuses more on policies, rewards and desired behaviour. (Marouf, 2016)

It is important to ensure that overall business strategy and procedures are aligned with knowledge management strategy and vice-versa (Morrissey et al, 2005). That being said, “top down and linear strategies” that seek to create change have been proven to not work Cummings et.al (2013). Instead there is a need for more flexible and adaptable strategies. An organisation cannot be managed, or understood simply by considering each of the parts individually. Instead, the flow and interactions between those parts must be understood. In the same way, any knowledge management strategy must be adaptable and able to consider the whole as more than a “sum of its parts”. Holdt Christensen (2007) suggests for example, that knowledge sharing activities should form an active part of ongoing organisational activities. Their role should be one of coordination, and resolving challenges related to interdependency.

This aligns with the previously discussed ideas of understanding the contributions of both individuals and the organisation towards the overall knowledge and information sharing within a company.

Challenges associated with strategy implementation are also important to consider. As noted by Hrebiniak (2013), the execution of a strategy often involves a larger number of personnel than the planning. In addition, changes in the strategic or operational environment over the period of implementation may lead to strategy being implemented but still not actually being successful.

As Cabrera & Cabrera (2005) note however, it will still be necessary to “renovate knowledge assets”, in order to remain competitive irrespective of how knowledge management is integrated into strategy. In essence, understanding where knowledge lies within an organisation, and how to leverage it also plays an important role.

2.5 Culture, people and leadership

As already discussed in section 2.3, human-oriented success factors for knowledge management relates to the impact of culture, people, and leadership. It has been suggested that the implementation of knowledge management processes as part of transformational leadership can directly impact organisational performance as a whole (Birasnav, 2014). Organisations should therefore, not just focus on the practical elements of knowledge management such as strategy and processes, but also on how leadership efforts can lend support.

Before expanding on the role of leadership, it is first worth exploring some differences between management and leadership. Zaleznik (1977) introduced the idea that managers embrace process and control, whereas leaders are more willing to be flexible in order to understand an issue more fully. It is ultimately the character of a person that defines how they will act as a leader. One key difference between managers and leaders is that managers tend to work within the confines of the existing organisational culture, whereas leaders push for change (Conger & Kanungo, 1998). Management deals more with the administration and formal efforts to influence behaviour, and tie in closely with the organisational elements

discussed in sections 2.4 and 2.6. Leaders on the other hand, contribute more towards the human-oriented factors for success explored in this section. In practice however, this means that a combination of both good management and good leadership will help to guide knowledge management efforts, as well as other efforts that have an impact upon the success of the chosen strategy of an organisation.

It is also worth discussing culture, specifically organisational culture, leadership and resulting identity. Schein (2010) defines culture as “A pattern of shared basic assumptions” that essentially come from as a “product of joint learning”. As he points out, the main source of these shared assumptions is quite often the leadership within an organisation. According to Schein, organisational culture can be broken down into three key levels, that become progressively more difficult to change: Visible elements of culture that are physically experienced, beliefs and values (for example goals or ideals), and basic underlying beliefs and assumptions that are taken for granted within an organisation.

The challenge for leaders is not only to identify these assumptions, but to deal with the resulting anxiety and challenges that arise when those assumptions are challenged. Some of this can be handled through processes for example, as will be discussed in section 2.6. Others, such as the nature of relationships in an organisation are harder to change. This is made even harder by the fact that the culture and relationships themselves are often a result of the leader’s own actions in the first place.

Riege (2005) notes that knowledge sharing practices often appear to fail because companies approach the cultural elements in the wrong way. Companies should implement strategies to fit their culture, instead of adjusting their culture to fit the goals. He also notes the importance of not separating knowledge sharing from overall company goals. Instead, there should be a clear connection between the two. The most successful organisations at creating and integrating knowledge are those that encourage all parts of the organisation to contribute when they are able to. Sometimes, that may lead to the questioning of so-called “fundamental

beliefs" of the organisation, and existing ways of working, which can be rather difficult for management to handle (De Long and Fahey, 2000).

Marouf(2016) also highlights the importance of trust in developing a knowledge sharing culture. As is to be expected, individuals are a lot more willing to share if they trust the person they are sharing with. It is important to align organisational culture with defined knowledge management goals, in order to more easily create behaviour that supports the achievement of those goals. Leadership's ability to communicate openly and to "walk the talk" plays a large role in promoting any required sharing efforts. (Marouf, 2016). In addition, the presence of so-called "authentic leadership style" builds trust, which in turn has a direct impact on sharing behaviour Ozlati (2012).

Cabrera & Cabrera (2002) noted that a social environment that encourages sharing is vital to successful exchange of information. Even if the benefit of sharing to the organisation is apparent, it may be that it sometimes has costs to the individual. As a result of the impact of such an environment, it has become widely accepted that encouraging relationships, and promoting knowledge sharing as part of the organisational culture is preferable to simply "capturing and documenting knowledge". By focusing on "social-centred" approaches to knowledge management, organisations can ensure that knowledge is created and not just shared. This also helps to combat typical challenges related to knowledge management, such as knowledge becoming outdated over time. (Wick, 2000).

Zhang et.al (2015) researched how both responsive and proactive knowledge sharing behaviour was affected by the willingness of individuals to share knowledge, and what triggered that behaviour. They concluded that well planned sharing behaviour is not always the reason for sharing. In some cases, the recipients own behaviour can act as a trigger for sharing. It is therefore always important to consider who you are sharing with, as well as what is being shared.

2.6 Process and structures

Singh et.al (2006) suggest that knowledge in an organisation should be managed as a combination of processes, and organisational memory. In other words, ensuring that the organisation itself can evolve and retain knowledge through the implementation of dedicated infrastructure to facilitate knowledge management processes. It is no use to develop a process, if the infrastructure to manage and facilitate that process is not in place. In addition, it is important to carefully consider the relationship between knowledge management strategy and knowledge management processes in order to manage knowledge successfully in organisations. (Bosua & Venkitachalam 2013).

Albers (2009) suggests a five step approach towards implementing knowledge management. This approach allows an organisation to not only build up a way to handle knowledge management, but also to assess it (figure 3).

Figure 3: Five step approach to implementing knowledge management. Adapted from Albers (2009)

The aim of this approach is to break down knowledge management implementation into smaller, more manageable pieces, which ultimately lead to the develop-

ment of an easy to use system that benefits employees (Albers, 2009). The challenge with this approach is that it considers knowledge as a tangible object that can always be assessed.

Kamhawi(2010) suggests that using processes, such as the one above to manage knowledge often leads to simplification and unnecessarily sequential approaches towards knowledge management. This type of approach is not too useful in practice. The challenge with creating processes, is that in reality they may be handled by a group of individuals. Each of those individuals may have their own views and opinions on how the process should be managed, and the reality is actually a much more interactive and cyclical set of interactions that continuously develop knowledge based approaches over time. Paulk et.al (1993) stated that strong processes cannot overcome instability caused by unsound management practices. Competent personnel are at the core of any successful business, and this perhaps applies here as much as anywhere.

It is therefore important to consider how individuals, groups and the organisation fit together into the picture. As stated in section 2.3, Organisational factors play a key role in the success of knowledge management success, and processes are one part of that. Processes alone are not enough however. Methodology related to knowledge management should originate from the organisation's strategy, and integrate with the mission and vision of the organisation so that it can be supported from the top (Rubenstein et.al, 2001).

Knowledge management tools are one element that can be considered as enablers of sharing. Although tools are often seen as technological, there may also be other non-technological resources available to support the sharing activities. In any case, knowledge sharing tools must demonstrate the value they bring through measurable success, in order for enthusiasm to continue (Bose, 2004)

2.7 The role of technology

The role of technology in knowledge sharing, is one that has been consistently debated. Riege (2005) notes that it is often unclear if sharing practices should be driven by technology, or by people. This is due in part to the fact that knowledge management has typically been seen as a "people-embodied activity" (Mohamed eg.al, 2006). Ozlati (2012) notes that although technology can directly influence the sharing behaviour of an individual, knowledge sharing itself is still "about people, not technology". As previously mentioned, there is no doubt that technology plays some kind of role in enabling knowledge and information sharing success.

McDermott & O'Dell (2001) suggested that technology should only play a peripheral role in knowledge management initiatives. Technology acts simply an enabler, and the most important element of success is to match knowledge sharing with the values and style of the organisation. This research was based on large, and successful organisations at that time. As organisations have become more and more reliant on technology since then, there has been a natural increase in assessments of the use of technology to support knowledge management. This is to be expected, as the barriers to technology integration have decreased over time.

Technological advances make it easier than ever before to stay connected in an international working environment. On the other hand, as Dalkir (2011) points out this also leads to more challenging demands both on the organisation and on the technology. People are always connected, and they expect instant responses. There is also a larger influx of items to deal with, which must also be managed in the right way. All of this also adds to pressure from increased workload. Employees have a need to find, and assimilate information quickly and easily, and it is here where technology must play a role in knowledge management. It is also worth noting that due to our increasing reliance on technology for communication, working teams can often contain multicultural groups that bring an additional layer of cultural complexity to both leadership and team coordination (Schein, 2010).

Wick (2000) notes that it is typical for some types of personnel in an organisation to construct a technology centric approach towards knowledge management, with a focus on increasing technological solutions to sharing problems. This is especially true of programmers, developers and others that work regularly with technology. The challenge here comes when the assumption is that technology will solve all problems. As funding for IT departments, or their equivalent increases it is important to make sure that the social factors related to knowledge management are not forgotten.

Karlsson (2010) wrote about the introduction of collaborative idea management systems and processes within an organisation. Technology can without doubt play a role in promoting a collaborative work environment. When it becomes easier to share and discuss ideas, creativity becomes more of a possibility. When considering the impact of technology, it is also important to consider that younger generations are very comfortable using such tools compared to older generations. This in itself changes the way that individuals and companies work.

Having the infrastructure and knowhow to use such tools to promote information sharing within a company is therefore becoming more and more common, but as Karlsson (2010) points out it is equally important to make sure that the use of those tools is somehow guided. Without the guidance, there is the risk that tools may not be adopted equally across all members of the organization.

Singh et al., (2006) considered the impact of technology on organisational learning. Technology can both improve coordination, and minimise the time spent by individuals that could be used elsewhere. For example, the handling and structuring of a large amount of information.

Rasula et al (2012) studied the effect of IT systems on Knowledge Management within an organisation. They verified that the codification and structuring of knowledge through IT systems can positively influence and enable Knowledge related collaboration. However, such structure and tools are no guarantee of greater efficiency by themselves. The main challenges lie with using the IT infra-

structure effectively, and how they are applied and used across the whole organisation. This idea was also supported by Cabrera & Cabrera (2005), who suggested that the failure to implement technological tools for knowledge sharing is often not related to the tools at all. Instead, the reason for failure lies in human factors that negatively impact the effectiveness of the new system(s).

The need for flexibility within today's organisations suggests that technology alone is not enough, and the best solution is in fact a hybrid solution comprising of both technological enablers and social enablers of knowledge management (Bhatt, 2001). Tsai (2014), for example researched how a practical hybrid model focusing on how the automation of sharing operations could overcome typical barriers to sharing. He concluded that a sufficient level of automation and IT integration, combined with an alignment with existing business processes can indeed break down typical individual barriers to sharing. This applies both on an individual level, such as unwillingness to share, and on an organisational level barriers such as unclear procedures.

2.8 The importance of context

As previously noted in section 2.2, context is extremely important when considering knowledge and information sharing at a given organisation. As noted by Fernie et. al(2003), each organisation has its own internal politics, affairs and a variety of social factors that all provide an important context to the state of the organisation in question. The authors also note that both the industry and the individual history of the organisation are important to consider.

The Greiner growth model (Greiner, 1972, 1998) as shown in figure 4 below, depicts typical phases of growth that organisations go through as they develop. Different phases of growth introduce new challenges, and different types of "crisis" that the organisation must overcome, in order to continue on a path towards sustainable growth.

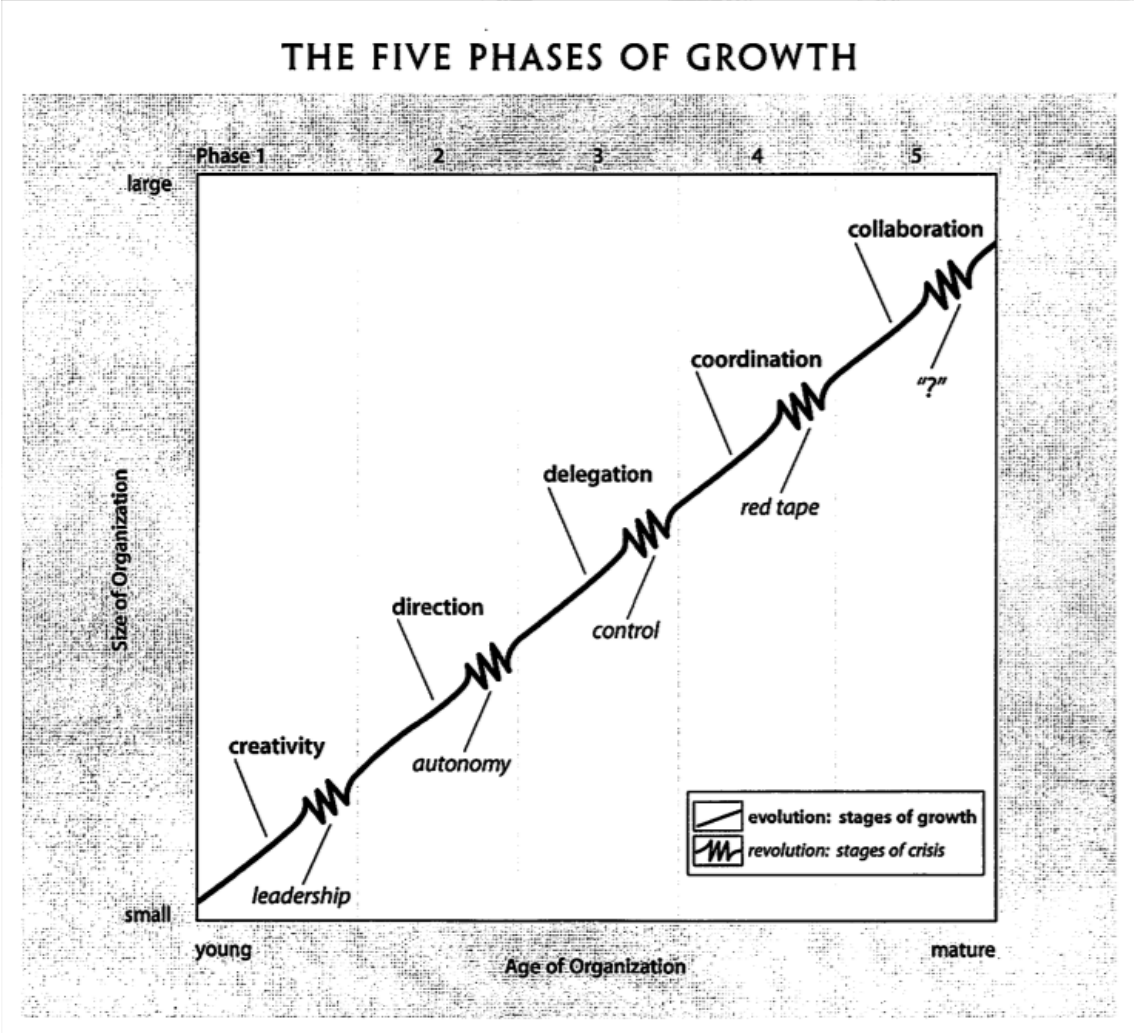

Figure 4. Greiner's Growth model (Greiner, 1972)

For example, as an organisation becomes more departmentalised, and teams develop their own dynamics an organisation may run into a "crisis of control", where management has difficulties to keep track of the activities each team is responsible for. This can lead to a situation where teams focus on their own work and priorities at the expense of the organisation as a whole.

It is important therefore, to ensure that sharing efforts are considered within the context of this model, to better understand potential challenges an organisation faces.

On the other hand, and as already alluded to in section 2.4, if the company is part of a larger parent company the parent company typically uses one of the following

strategic control (parenting) styles: Strategic planning, strategic control or financial control(Goold et. al, 1994). When undertaking a financial control parenting style, the parent company pursues strict financial control but has little influence on the subsidiary's strategic choices. With a strategic planning parenting style, the parent company has both a relatively tight financial and strategic control over the subsidiary. With a strategic planning parenting style, the parent company's financial control is low or flexible, but it strongly impacts the strategic planning and strategic choices of the subsidiary.

3 RESEARCH QUESTIONS & METHODOLOGY

3.1 The research questions

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The first question that was researched as part of this thesis was therefore:

- How do the company's strategic goals relate to knowledge & information sharing?

This was an important first step in understanding the strategic wishes and objectives of the case company, and how the company set about creating change related to information and knowledge sharing. Furthermore, it allowed the researcher to verify if sharing initiatives were considered within the context of strategy setting or not, as well as to clarify the overall intentions at the case company. It is important to note at this point that the aim was not to understand the company strategy as a whole, but simply if there were elements related to sharing included as part of the strategy.

To enhance understanding of the case company's efforts, it was also important to consider how both the company, and individuals contribute or can contribute to sharing efforts. The next question that was researched, was therefore:

- How are knowledge and information shared at the case company?
    - What efforts to share are being driven by the company?
    - What tools and processes are in place to facilitate sharing?
    - What other elements impact sharing efforts?

This focused clearly on the practical elements of implementation, and company led initiatives, as well as challenges that existed in the case company.

In order to consider these answers in the context of their capacity as enablers or barriers to sharing at the case company, the following questions were also devised:

- What are the key enablers and barriers to sharing within the case company, and why?
- What areas could be improved in the future?

This allowed the researcher to understand possible influencers upon sharing behaviour at the case company, and to expand on areas highlighted by the interviewees. In addition, it put more of a focus on the success and failure of sharing activities and their impact within the case company: Both of which are practical areas for improvement and development.

Expanding on that same idea, and taking into account that the research took place over an extended period of time, it was also important to consider the following questions:

- How did sharing efforts develop over the research period?
- What company specific changes took place over the course of the research period related to knowledge & information sharing?

These questions naturally have some overlap with the previous questions, but the main aim here is to pinpoint areas and items that are not necessarily driven by the case company, yet still have an impact on sharing.

3.2 Qualitative Research Methodology

In this research a qualitative approach to collecting data has been used. The qualitative data were supported by the observations of the researcher to help ensure validity. The qualitative part of the research consists of the collection and analysis of interview questions.

As noted by Krishnaswamy & Satyaprasad (2010), interviewing individuals is a method that is able to secure in-depth and detailed information with a higher level of quality than some other methods. Interviews are also flexible in their nature, and the researcher can adapt questions based on his or her own requirements.

It should be noted however that there are also challenges associated with interviews. As an interview is an interaction between two or more parties, the responses can often depend on the individual relationship between the parties involved. The interviewee is not required to respond to questions, and in some cases may not respond in the manner or depth that the researcher was hoping for. In addition, the interviewer should be “highly skilled” in order to fully obtain the true benefits from the interviewing process. The success of interviews will often depend on the capabilities of the interviewer. (Krishnaswamy & Satyaprasad, 2010)

The researcher was not an experienced interviewer, and also had existing working relationships with the interviewed parties. There was therefore a clear need to enhance the research with additional observations and secondary research material. During the period of writing the study, the researcher was working at the case company on a daily basis, and interacting with a number of different teams. This allowed for a more informal way of collecting data from a wider audience, in order to support and expand upon the data collected from more formal interviews.

3.3 Action research in researcher’s own organisation

As noted by Coghlan and Brannick (2014), performing research within the researcher’s own organisation can be complex, due to the challenging nature of performing a normal role within the organisation alongside the role of researcher. They note the importance of distinguishing between what the researcher already knows, and what the researcher learns during the research process. By making this distinction, the researcher can more easily avoid making assumptions and ensure that necessary parts of the organisation affecting the research are investigated and included as required. They also note that although working within an organisation allows direct access to the inner workings of that organisation, it can also lead to challenges accessing all required information.

In the case of this thesis, the researcher ensured beforehand that he would be able to access and use secondary data related to the topic, such as employee surveys.

3.4 Collection of data

Data, as defined by Sachdeva (2009) are “a collection of natural phenomena descriptors, including the results of experience, observation or experiment, or a set of premises”.

As she also notes, there are two types of data: Primary and secondary. The data collected during this research consists mostly of primary data, in other words data that has been collected by the researcher using direct contact methods. There is however some secondary data available that take previous opinions of the employees into consideration (for example, the previously mentioned employee survey). This was used to give a wider context to the research beyond that of the interviews.

3.5 Interview process and question development

The first set of interviews for this study took place across a two week period in January 2016. A total of 6 employees from the case company were interviewed semi-formally, and several other employees were interviewed informally as part of the observation process. After undertaking these interviews, the researcher concluded that a satisfactory state of saturation was achieved to reach a conclusion about the set research objectives at that stage, which was to focus specifically on the existing strategic goals, and how the company facilitated sharing through tools and initiatives.

Given the strategic nature of the discussion and the aim to focus on the company’s existing strategy and initiatives, the interviewees in the first set of interviews were almost all members of the EMT (Executive Management Team). The EMT is ultimately responsible for creating and guiding the company’s strategic decisions. They also represent all areas of the company and are the most informed about the strategic wishes and direction of the case company. A limitation

to only interviewing EMT members however, is that the research focused on the implementation from the top down. This is why more informal information was obtained from other employees across the period, as well as during the follow-up interviews in January 2017 to ensure that the situation within the company as a whole was also considered.

Before taking part in the first set of interviews, all interviewees were specifically asked not to prepare in advance in order to facilitate a more open discussion. They were however informed that the discussion would be about:

- The company's approach towards knowledge & information sharing, with a focus on practical implementation elements such as "tools and processes"
- Other factors that influence employee motivation to share

Although the specific topic of motivation was discussed as part of the interviews, it was not the main focus of the interviews at that point in time, as the focus was on company driven sharing efforts. Some discussion on the topic however was necessary in order to better understand perceived barriers or enablers to sharing.

The follow-up interviews took place across a one month period in January 2017. A total of 11 people were interviewed semi-formally, and once again several other employees were interviewed informally as part of the observation process. The decision to expand the number of people interviewed was made in order to move beyond the point of view of the EMT members. After undertaking these interviews, the researcher concluded for the second time that a satisfactory state of saturation was achieved to reach a conclusion about the set research objectives.

As with the first set of interviews, the interviewees were asked not to prepare in advance, in order to facilitate a more open discussion. They were informed that the topic would be about:

- The current attitude towards knowledge and information sharing
- The tools, processes and initiatives that have been implemented over the year

Similar topics were also discussed informally as part of the observation periods across the whole research period. In cases where informal observations were made, the people in question were asked if they allowed their comments to be included as part of this thesis. At no point did anybody decline to have their comments included. These two observation periods took place both between the two sets of interviews, and also for another year following the second set of interviews.

3.6 Results, coding and handling of data

After having collected the data, the responses from the interviews were broken down into separate statements. The first set of interviews produced a total of 219 separate statements. The second set of interviews produced a total of 364 separate statements. In addition, another 65 statements were added as a result of the researchers own observations and informal discussions. This gives a grand total of 648 statements on the topics in question.

In order to present those statements in a more meaningful way, the data were then coded, and separated into clearly definable classifications.

The statements were split into the following areas:

- Background information & company strategy related to sharing
- Elements driven by the company
- Tools & technology implementation
- Other elements that enable or hinder sharing

Statements that did not fit into the above classification, were simply labelled as “other comments”.

After breaking down the data this way, the researcher therefore began to look for repeating themes as an additional way to structure the results in a more meaningful manner. As a result of this, the final list of repeating themes was identified:

Table 1: *Table deleted/removed due to confidential nature*

These themes are opened up in more detail in the results and discussion sections 4.3 and 4.4.

See Appendix 1 for a full list of interviewees and interviews.

3.7 Reliability and validity of data

The data collected during the research period consists completely of primary data, with the exception of the company surveys outlined in section 4.2. For the purpose of extended analysis, it would have been beneficial to also collect and compare with additional secondary data, such as statistics on user behaviour of some sharing tools. This would have allowed the researcher to verify certain points and opinions related to usage frequency and user activity. In addition this could have been used to explore and disparity between perceived and actual usage of the tools in question. However, acquiring such data would have required receiving permission from each individual. The researcher believes that asking for permission to monitor and use such data would have risked altering the behaviour and perception of the users towards this thesis, and thus would in turn have led to the data not being as reliable. This is particularly the case given that the researcher was also employed by the case company. It was with this in mind that the researcher decided to focus more on strategic and practical elements of sharing within this study.

As previously highlighted in section 3.5, the first set of interviews were with members of the EMT and thus only show one part of the whole picture. The personnel interviewed in the second set of interviews was expanded in order to ensure that the responses reflect the wider company and not just a specific subset. However, this still leads to a situation where the assessment of the case company is largely representative of a subset of the company. The observations of the researcher, and the usage of the somewhat old but still relevant secondary data from the company surveys help to offset this however.

It should also be noted that the focus of this thesis was on internal knowledge and information sharing. There are some elements related to sharing with external parties, such as partners and customer that have not been considered in the course of this thesis. This limits the scope of this article to an element that can be more easily measured in practice.

4 RESULTS AND DISCUSSION

4.1 Background information on company strategy: Prior knowledge of the researcher in January 2016

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4.2 Results from the company surveys

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2014

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2015 and 2016

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4.3 Company strategy: Developments over the research period

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4.4 Organisational activities related to knowledge & information sharing

4.4.1 Company culture and identity

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4.4.2 Rules, guidelines & processes

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4.4.3 Company led sharing initiatives

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4.4.4 Organisational structure & responsibilities

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4.4.5 Leadership & management

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4.5 Sharing tools & technology

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Specific Tool: SharePoint

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Specific Tool: Jira

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Specific Tool: Instant Messaging software and video conferencing software

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Specific Tool: Slack

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Specific Tool: Email

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Specific Tool: CRM

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4.6 Other barriers and enablers to sharing at the case company

4.6.1 Meetings

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4.6.2 The importance of attitude

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5 CONCLUSIONS AND DISCUSSION

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Figure 5: Figure *deleted/removed due to confidential nature*

6 CONTRIBUTION OF THE RESEARCH

As a company increases in size, and progresses throughout various stages of growth, the need to share information across the company also increases. This in turn can lead to an increase in bureaucracy, and requirements for clearer processes and structures. Challenges that arise from this can potentially act as barriers to sharing, despite the best intentions of the company. This is especially true when considering companies developing from an entrepreneurial world into that of a larger corporation that also must contend against other challenges, such as the impact on company culture.

One of the solutions to help overcome such challenges, is the integration of technology to help support sharing activities. However, as demands arise, often through different branches of the company, there becomes a danger of overreliance on such technology. The challenge for a company is to find the balance between using fewer tools broadly and intensively, as opposed to multiple single purpose solutions targeted to individual needs.

The human factor and impact of an individual on sharing efforts cannot be ignored. There may be some people who require more information from the company than others to undertake a particular task, even if they would retain the same level of knowledge in the end. Understanding this across alongside the enablers and barriers at play becomes vital to successful sharing.

Individuals should be able to access both what they want, and what they need. That may be different to what another individual would expect or assume. It is important therefore, that people do not only do receive this information, but they have the opportunity to influence how they receive it themselves.

All of this can be reduced to the dimensions shown in Figure 6: The information level (driven by the company's sharing efforts), the knowledge dimension (driven by the individual's knowledge preferences), and the barrier dimension, which is context specific based on the impact of enablers and barriers to sharing.

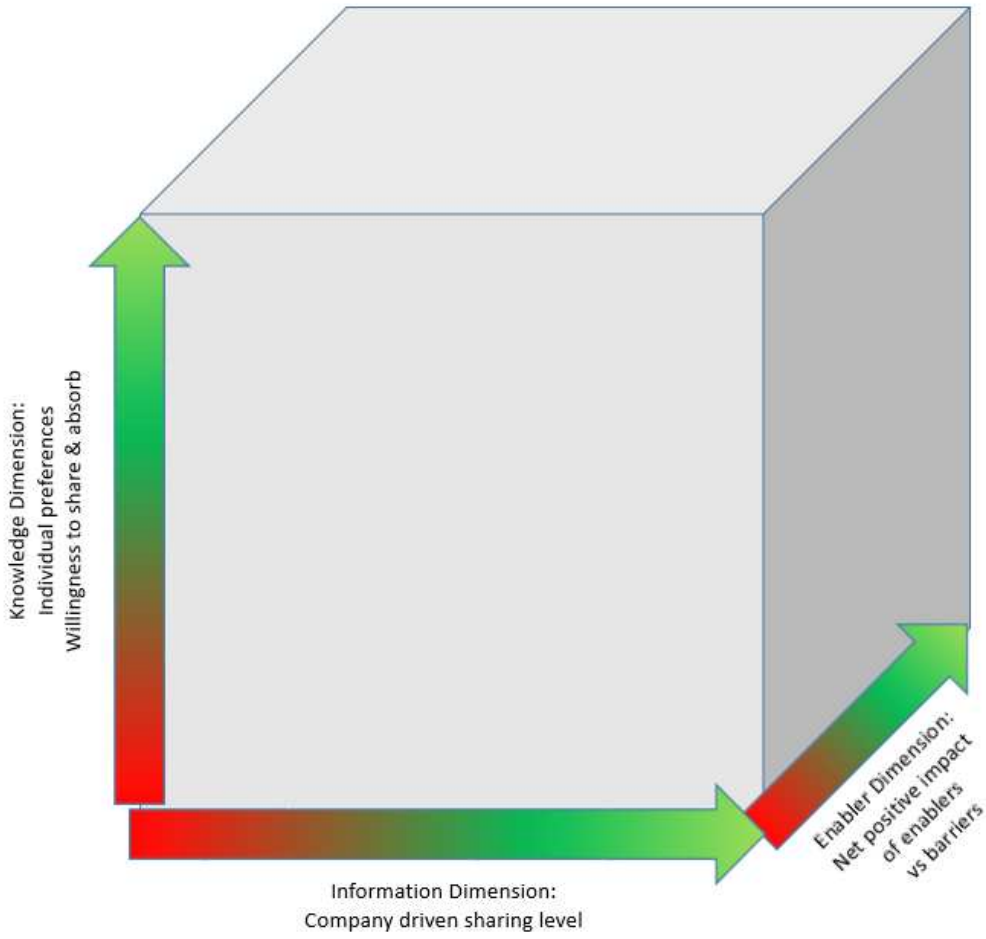

Figure 6: Three dimensions of sharing.

6.1 Future research

At the case company in particular, a full knowledge audit would be useful, to ensure that the company's specific knowledge needs are understood, as well as where gaps in knowledge exist. The case company would also benefit from assessing the differences between perceived and actual usage of tools and technology, in order to ascertain how the tools are used in practice for day to day sharing activities.

Future research on this topic should investigate the importance of individual sharing preferences in more detail. For example, possible relationships between sharing preferences and personalities, especially when considering the differences between formal and informal sharing efforts and structures.

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APPENDIX 1: LIST OF INTERVIEWEES

Respondent Role	Date & duration of first interview	Date & duration of second interview
Technology Director	22.1.2016 - 1 hour	18.1.2017 – 1 hour
Managing Director	25.1.2016 - 1 hour	18.1.2017 – 30 mins
Aftersales Manager	20.1.2016 - 45 mins	17.1.2017 – 45 mins
Technical Director	22.1.2016 - 1 hour	19.1.2017 – 30 mins
Technical Director	22.1.2016 - 45 mins	20.1 2017 – 45 mins
HR Director	18.1.2016 - 1 hour	12.1.2017 – 1 hour
Commercial Director	N/A	24.1.2017 – 1 hour
Marketing Manager	N/A	31.1.2017 – 45 mins
Business Controller	N/A	23.1.2017 – 30 mins
Product Manager	N/A	24.1.2017 – 45 mins
Solution Manager	N/A	31.1.2017 - 30 mins

APPENDIX 2: SECONDARY RESEARCH MATERIAL

The tables below are references from the case company's internal employee surveys. Only a selection of the results have been taken..

2014 – Internal Employee Survey (selected results)

Appendix deleted/removed due to confidential nature

2015 - Internal Employee Survey (selected results)

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2016 - Internal Employee Survey (selected results)

Appendix deleted/removed due to confidential nature