Knowledge Management as a Strategic Resource to Gain Competitive Advantage

Master Thesis in Informatics
Authors: Edelson da Glória Baltazar Buanahagi
         Akpotereghe Odoko
Tutor: Jo Skåmedal
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Abstract

Even though knowledge management has progressed from an embryonic to an increasingly recognized discipline over the course of the last decade, the bulk of studies in knowledge management have been descriptive and focused on definitions and integrating existing definitions. There have been relatively few studies (mostly surveys) that focus on knowledge management in relation to other organizational factors (Zack, McKeen & Singh, 2009), and work in the area of knowledge management and competitive advantage has been found to be theoretically and empirically immature and underdeveloped (Chuang, 2004).

Therefore, aim of this research was to fill in the identified gaps by utilizing the resource-based view of a company to conduct an exploratory qualitative study to provide empirical and practical evidence regarding the relationship between knowledge management and competitive advantage. This was done mainly through interviews with knowledge management academics and practitioners in an attempt to have multiple perspectives on the matter to gain deeper understanding.

From the interviews, a number of observations were made. First, knowledge management can be used strategically to gain competitive advantage but this can only be done by introducing a successful knowledge management initiative. This calls for an implementation approach based on focus and measurement as principles and that takes into account strategy, organizational learning, culture and systems and technology as pre-conditional dimensions for a successful knowledge management project. In addition, these principles and preconditions all have to take the people into consideration as the people play a centre role in this system, being the ones that actually establish, run and maintain these mechanisms.

These findings are then synthesized into a knowledge management implementation model that may serve as a starting point for further research in successful knowledge management implementation. Practitioners may also use these findings and model as a tool for successful knowledge management implementation.
Acknowledgements

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To our interview subjects: Doctor Louise Cooke, Professor Ray Dawson (who agreed to contribute to our research on the condition that we mentioned that he was a ‘good guy’, which he was), Javier Davila and Mr Fagerhult-A (to maintain his anonymity, but he knows who he is). Thank you for opening your minds to us and taking the time to share your views, opinions and ideas.

To our tutor, Jo Skåmedal: thank you for your patience and honest criticism throughout this research. Your feedback helped us focus our research and your encouragement helped us keep confident in our work. ‘I will consider your suggestion to continue with research’ – Edelson.

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Edelson da Glória Baltazar Buanahagi
Akpotereghe Odoko

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1 Introduction

In this chapter, the research area and topic are introduced. The problem is discussed and the research objectives are revealed, leading to the research questions that the study attempts to address. Along with a brief description of the major concurring concepts, the outline of the whole thesis and subsequent chapters is presented.

1.1 Background to the Research

In the old economy, which was characterized by high levels of industrialization and manufacturing, organizations were essentially faced with three choices in their attempts to gain competitive advantage in a market – by cost leadership, niche focus and differentiation (Porter, 1985). In the contemporary economy, characterized by rapid and discontinuous change, globalization and fierce competition, organizations are left with no choice but to continuously explore new and innovative ways to adapt to and compete in the increasingly competitive environment. In such an evolving and dynamic landscape, companies face new challenges in managing their resources efficiently and adapting quickly and effectively in the short and long-terms to ensure their survival and profitability (Bolman & Deal, 2011).

These contemporary levels of competition place a great deal of importance on strategies that aim to achieve and sustain competitive advantage in the marketplace. To be able to do this, an organization first needs to understand competitive advantage and how it is essential to its survival and development. Sustainable competitive advantage can essentially be derived from resources that are scarce, valuable and difficult to replicate (Amit & Schoemaker, 1993). However, simply possessing these rare and valuable resources does not magically translate into competitive advantage. Only when a strategy is successfully implemented to manage and control these resources can an organization achieve an edge in the marketplace.

When discussing tangible resources these arguments become much clearer; a more efficient manufacturing plant, ‘better’ machinery, or a rare raw material. But firms employ both tangible and intangible resources when implementing strategies. Tangible resources are relatively easier to obtain and imitate, meaning that the advantage gained using such resources is often short lived. Intangible resources include reputation, goodwill, brands and human capital. As the nature of competition changes, it is argued that the intangible resources because they are impalpable and are often
more rare than their tangible counterparts are more likely to generate a competitive advantage (Black & Boal, 1994; Jackson, Hitt & DeNisi, 2003). Effectively managing scarce, valuable and difficult-to-imitate tangible and/or intangible resources has become the cornerstone to gaining competitive advantage. Zuboff and Maxim (2002) predict that the new economy holds great promise for organizations that design useful information systems and knowledge networks and make use of these resources successfully.

In the contemporary economy, which is broadly characterized by globalization of businesses and the revolution in information technology, competition becomes even fiercer. Because of this increasingly fierce competition and the ability of competitors to imitate tangible resources, a lot of focus has been directed at the exploitation of intangible resources in order to achieve competitive advantage in the marketplace. It is widely accepted that among a firm’s intangible resources, human capital is typically the most significant because it is the most difficult to imitate (Jackson, Hitt & DeNisi, 2003). This is because skills, knowledge and experience in an organization are probably the greatest driver for success.

What employees know and can do helps an organization build itself, improve and develop (Adams & Oleksak, 2010; Adams, 2010). Moreover, the collective skills and knowledge of individuals contribute substantially to organizational performance. As such, the foundations of a firm’s competitive advantage have been shifting towards a focus on knowledge and its applications within an organization. Another interesting characteristic of knowledge as stated by Walters, Halliday and Glaser (2002) is that knowledge as a strategic resource is the only resource that increases with use, as opposed to others that diminish with frequent use. This further adds to the importance and applicability of knowledge as a resource in an organizational setting.

In accordance with the resource-based view of a firm - a perspective on strategic management, which views a firm as a collection of resources, abilities and skills (reference here), the management of knowledge as a resource (and other resources) becomes the key for generating competitive advantage and exceptional performance (Jackson, Hitt & DeNisi, 2003). In essence, knowledge management becomes a strategic process within organizations with the aim to develop strategic competences to deal with the turbulent business environment and ultimately achieve competitive advantage. This management will allow a firm to create, gather, organize, share, analyze, develop, renew and utilize its knowledge, allowing it to adapt to changes and successfully compete in the market.
1.2 Problem Discussion – Making the Case for Knowledge Management

Even though knowledge management has progressed from an embryonic to an increasingly recognized discipline over the course of the last decade, the bulk of studies in knowledge management have been descriptive and focused on definitions and integrating existing definitions (Chauvel & Dupres, 2002). There have been relatively few studies (mostly surveys) that focus on knowledge management in relation to other organizational factors (Zack, McKeen & Singh, 2009).

To understand the objectives of this study a few underlying assumptions have to be appreciated. The underlying assumption behind the study and practice of knowledge management is that by generating, locating, storing and sharing vital knowledge in a company organizational performance (hence competitive advantage) improves (Davenport & Prusak, 1998). Because of this assumption, it is basic to expect that knowledge management therefore affects different facets of a company’s performance, financial and otherwise. Unfortunately, however, work in this area of knowledge management and competitive advantage has been found to be theoretically and empirically immature and underdeveloped (Chuang, 2004). Perhaps, the most significant case for investigating knowledge management and competitive advantage is the substantial lack of empirical evidence of the effects of knowledge management on organizational performance and ultimately competitive advantage.

Therefore, the aim of this research is to fill in the identified gaps by utilizing the resource-based view of a company to conduct an exploratory qualitative study to provide empirical and practical evidence regarding the relationship between knowledge management and competitive advantage.

In this research we shall be focusing on knowledge as a resource, and knowledge management, which is the process by which value is extracted from knowledge possessed. The importance of knowledge management in organizations in the new economy has been acknowledged (Jackson, Hitt & DeNisi, 2003; Riahi-Belkaoui, 2003, Dimitriades, 2005,) as the emerging foundation for competitiveness and the key to competitive edge.

This research therefore follows knowledge and how it can be used as a strategic resource. Just as the possession of a resource does not inherently translate to competitive advantage, the same principle can be applied to the ‘possession’ of knowledge. This critical strategic resource must be managed effectively in order for a firm to be
able to benefit from its value-adding capabilities which fuel and sustain competitive advantage. Knowledge in an organization has to be efficiently managed in for it to deliver any value. With the high levels of competition previously mentioned and the degree of uncertainty in the business environment, both promising opportunities and complex challenges emerge, particularly when it comes to competitive advantage and profitability.

To compete and excel, firms should highly consider the development of a proactive strategy towards the exploitation of its strategic resources, in this case knowledge, towards the achievement and sustainability of competitive advantage.

Questions then arise from these possibilities: ‘Is knowledge management a viable way forward?’, ‘Can knowledge management contribute to firm’s competitive advantage, and if so, how?’ A changing and disruptive economy by nature calls out for new and innovative ways for businesses to compete. Knowledge management may present another angle in which competitive advantage is sought.

1.3 Objectives and Research Questions

Following the critical review of existing literature and development within the areas of knowledge management and competitive advantage, the central research objectives are identified, leading to research questions which are explored in the course of the research.

1.3.1 Research Objectives

The aim of the research is provide more insight in the areas of intersection between knowledge management and competitive advantage. We explore the relationship between these concepts and how knowledge management can be employed as a strategic resource to improve organizational performance and gain competitive advantage. In dealing with this objective, we aim explore the relationship between these concepts through theoretical and empirical investigations in an organizational context. To achieve these objectives, research questions were designed.

1.3.2 Research Questions

To accomplish the research objectives mentioned above, this research means to handle the following research questions:
Research Question 1: Can knowledge management be used a strategic resource for competitive advantage?

Research Question 2: How can knowledge management as a resource be exploited to achieve competitive advantage?

Research Question 3: How can a firm ensure that it benefits from its knowledge management efforts?

When talking about knowledge management it is impractical to exclude the main concepts that make up this field of management; knowledge and management. To further clarify, the research questions speak of knowledge management and not simply knowledge itself. This is because we regard knowledge management as a discipline that includes ‘knowledge’ and not the reverse. Because of this particularity, we explore knowledge management as an encompassing discipline.

1.4 Delimitations of the Study

In order to gather adequate empirical data within the constraints of the available resources and time, some boundaries have to be laid in order to make the objectives of the research realistic and attainable.

This study does not focus on a specific company size (small, medium or large) as we deem the contemporary relevance of knowledge and its management ubiquitous - the argument for this perspective has been presented in the introductory section of this chapter. For this reason, the size of companies subjected to this study is not discriminated against. This study also does not focus on a longitudinal perspective on the research topic. While we consider that a longitudinal study may allow for the collection of data of the area of knowledge management in depth and over a period of time in a company, this ambition would be beyond the scope of the research. While it would be interesting to explore the development in knowledge management in specific organizational contexts over a period of time, this is out of the scope of this research given the limited time and resources for conducting this research.

In essence, this study does not aim at conceiving new definitions in the field of knowledge management, but make use of existing definitions to explore an underdeveloped field by academics and practitioners alike.
1.5 Definition of Major Terms

In the interest of generating a comprehensive argument, and a well-defined platform on which these arguments are made, a set of definitions of the main concepts of this thesis is seen a necessary addition at this point, before delving into further discussion. Throughout the thesis, these concepts will be mentioned and discussed time and again and their use stems from the following definitions. Some of the following concepts will be discussed thoroughly further, but we still consider the need to have them described here, to build a foundation on which arguments can be made without misunderstanding basic definitions and their underlying assumptions.

**Knowledge**: For the purposes of this research we adhere to the definition that considers knowledge as ‘actionable information’ (Jashapara, 2004). This means that knowledge is information that is contextualized to be exploited to provide value. In this sense, knowledge grants us the ability to act effectively and equips us with a superior ability to make decisions.

**Knowledge Management**: This is the collection of learning processes associated with the exploration, sharing and exploitation of tacit and explicit knowledge to enhance an organization’s intellectual capital and boost performance (Jashapara, 2004). This is done using appropriate technology and in suitable environments. This is a central approach in promoting well-founded superior decisions and dealing with complex business issues such as innovation and competitiveness (Bali, Wickramasinghe & Lehaney, 2009).

**Resource-Based View** (of a firm): This is a perspective on strategic management that views an organization as a bundle of resources, abilities and skills (Enz, 2009). This view proposes that resources that are rare, valuable and inimitable (or difficult to imitate) are the source of competitive advantage in firms (Dunning & Lundan, 2008; Enz, 2009). Dunning and Lundan (2008) also add that this competitive advantage stems not only from the possession of such resources, but the ability to develop, exploit and acquire more resources of this nature.

**Competitive Advantage**: This is the general objective of organizational strategies (Porter, 1985). This can be achieved through cost leadership, market focus and differentiation (product or service uniqueness). In any case, this advantage is derived from a firm’s relative position in a market and the value it delivers to its customers. In short, a firm has competitive advantage in a market when it generates more economic value than its competitors (Barney, 2007).
1.6 Perspective of the Study

This research is approached from a practical perspective, meaning, a practical *solution* that can be applicable in the real world is the objective of the study. Though grounded in theories and models, the result of the research is aimed at being as practical as can be for consideration of knowledge management practitioners, enthusiasts, critics and academics alike.

1.7 Disposition of the Thesis

This research adopts a framework of 6 chapters. Table 1 displays the general outline of the thesis.

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2 Methods

This chapter covers the methods carried out in this research in relation to the research objectives. Here, we explain how the data was collected and analyzed to answer the research questions presented.

Figure 1. Thesis Research Onion
Source: Own Model, Adapted from: Saunders, Lewis and Thornhill (2009)

Figure 1 gives an overview of the methods we used to conduct this research. We began this research with a pragmatic philosophy. We started out with only the research questions as the most important determinant of the direction of the research. This led us to the adoption of an inductive approach to help us shed light on the relationship between knowledge management as a strategic resource and competitive advantage. To further the research, we agreed on a single method for the research and completed it qualitatively. Due to the nature of the research and the time constraint that was placed on it, we had to employ a cross-section approach to ensure that the research was completed within the allocated time frame. We collected our primary data by conducting semi-structured interviews, which afforded us a lot of flexibility and also gave the interviewees ample opportunity to discuss questions in details. Finally, we
analyzed the data gathered using thematic analysis, analyzing the data with the help of themes that were recurrent during the gathering and organization of the primary data.

2.1 Research Philosophy

Tailoring methods to fit the research is very important; it determines the overall direction of the research project and in some cases its outcome. Researchers adopt different philosophical approaches to their research. These philosophical assumptions will determine the research strategy and the research methods the researcher chooses as part of their strategy (Saunders, Lewis & Thornhill, 2009). Some research philosophies mentioned by Saunders et al. (2009) are:

- Positivism
- Realism
- Interpretivism
- Pragmatism

The positivist stance has its roots in natural science and one of its main characteristics is the testing of hypothesis from pre-existing theory (Flower, 2009). Unlike the positivist philosophy or interpretivism, pragmatism gives precedence to the research question. As observed by Saunders et al. (2009) pragmatism advocates that the most prominent determinant of the epistemology, ontology and axiology adopted by the researcher is the research question. Adopting the pragmatic philosophy provides us with the opportunity to adopt both the objective and subjective points of view. This gave us the possibility to pursue the research in a number of different ways without being cumbered with the burden of determining what is “truth” or “reality” from the beginning of the research.

2.2 Research Study

Conducting a research study can primarily be done in three ways; the study could either be a descriptive, an exploratory or an explanatory one. Research is designed depending on the clarity of the research question and the level of understanding the researcher has about it. Exploratory research in most cases is concerned with new topics, where a lot has not been written about the given research (Yin, 2003). Descriptive research on the other hand according to Saunders et al. (2009) seeks to provide an accurate profile portrayal of a person, a situation or an event. According to Ghauri & Gronhaug (2005), some of the major skills needed in exploratory research are the keen ability to observe, collect information and then construct explanations.
In designing this thesis, we chose to apply an exploratory design, as it suits our aim of exploring the interaction between knowledge management and competitive advantage, and it facilitated the fulfillment of our research purpose. Saunders et al. (2009) observes that the great advantage of exploratory research is its flexibility and adaptability to change.

It is important to note however, that the flexibility that exploratory research provides does not lack direction; it only means that the research focus narrows as the research progresses (Adams & Schvaneveldt, 1991). While conducting this research we realized that we needed some degree of flexibility and therefore must be willing to change directions as we uncover new data and insights. Some of the ways of performing exploratory studies according to Saunders et al. (2009) are; performing a literature search, and interviewing experts in the selected area. Both of which we performed during the course of the research. A lot of arguments have been made in support of a descriptive research, but one of its major drawbacks is that it does not necessarily create new knowledge in all cases. Exploratory research on the other hand cannot be completed without the creation of new knowledge as it seeks to shed light on areas not previously explored. This however does not make qualitative research superior to quantitative, as both approaches are time tested and proven.

### 2.3 Research Approach

Researchers can approach their work in one of two ways; the inductive or deductive approach, depending on the needs of the research. For the purposes of this thesis we will use the inductive approach to ensure clarity and give a better understanding of the research. Ghauri & Gronhaug (2005) define induction as a means to make general conclusions based on empirical observations. This basically means that the researcher has to observe first and then theorize. Deduction is a reverse case from induction and as observed by Saunders et al. (2009) in a deductive approach the researcher develops a theory and hypothesis and then designs a research strategy to test the said hypothesis. A deductive approach to research gives precedence to already existing theories. Ghauri & Gronhaug (2005) describes it as drawing conclusions through logical reasoning, in which case its being true in reality is not as important as it being logical. There is a cyclical relationship between both approaches as shown in figure 2 below; theories created by induction can help researches to carry out deduction in other research.
This thesis employed the use of the inductive approach. As shown in Figure 2, we reached conclusions based on observations that we made during the literature review and from the interviews we conducted. For example, observations had to be made about knowledge management as a strategic resource and its deployment in reality, before we could analyze how it created competitive advantage for organizations. Ghauri & Gronhaug (2005) point out that researchers that use induction would often criticize the use of deduction for its tendency to construct in most cases rigid methodologies that do not allow for alternative explanations of what is actually happening. This almost unshakeable finality that plagues the deductive method however does not apply to the use of the inductive method as it allows the researcher to use different theories depending on the data gathered.

### 2.4 Research Method

Approaching research depends on the problem being looked into and the research questions that had been designed and it could be done using a quantitative or a qualitative approach. Both approaches are very different one from the other. The main difference between qualitative and quantitative methods of research is that quantitative research uses measurements while quantitative research does not (Saunders et al., 2005). A quantitative method is required for research in a case where variables can be measured numerically. Qualitative research is most effective when trying to study a particular subject matter in-depth (Mayers, 2009) as is the case for our research.
Qualitative research seeks to understand data that can only be approached in context due to its complex nature (Richards & Morse, 2007). As observed by Ghauri & Gronhaug (2005) qualitative research is a fine mix of the intuitive, the exploratory, and the rational, making the skill level and experience of the researcher very important in data analysis. For the purpose of this thesis will employ the use of qualitative methods in our planning and reporting. Bearing in mind that this research did not involve any direct form of quantification or try to test any pre-existing hypothesis, this influenced our decision to use the qualitative method as it provided us with enough tools to successfully conduct this research.

2.5 Data Collection

There are two basic types of research data, primary and secondary data. Depending on the nature of the research a suitable data collection method can be chosen. Primary data is original data which is collected by the researcher for the purpose of the research problem at hand (Ghauri & Gronhaug, 2005). Secondary data on the other hand is data that was not directly gathered by the researcher themselves from prospective respondents (Greener, 2009). Secondary data could contain raw data and also previously published summaries (Saunders et al, 2009).

Secondary data is not only useful when trying to gather information with the aim of solving our research problem; it also provides a better understanding and explanation of the research problem (Ghauri & Gronhaug, 2005). For secondary data to be useful according to Brannick & Roche (1997), the said data has not only to be accurate, but also relevant and available. There are three types of secondary data, documentary, multiple source, and survey. One major advantage of using secondary data is that it saves time. As noted by Brannick & Roche (1997) if the required data is already in existence, then there is no need to recreate the same study. Primary data according to (Ghauri & Gronhaug, 2005) is data that is collected by researchers when secondary data is not available or when it is not enough to answer the research questions using only secondary data. Secondary data can be collected from a number of sources, for example they can be collected from company data archives, and libraries etc. during the course of this research we collected secondary data from published articles in scientific journals on knowledge management.

Primary data for qualitative research can be collected using a number of methods; it can be collected through questionnaires, interviews, experiments, or in some cases direct observation. The primary data for this research was collected through semi-structured interviews, and this gave us the possibility to collect qualitative data from four different industry professionals. As observed by Ghauri & Gronhaug (2005) one of
the major drawbacks that could possibly affect the quality of primary data is that the researcher is totally dependent on the respondent’s willingness and ability. During the course of this thesis the respondents were available and willing to answer our questions to the best of their abilities. The respondents were chosen for their expertise, their familiarity with the area being researched, and their experience in the field.

2.5.1 Interviews

An interview requires that the researcher and respondent have real interaction. It helps researchers gather primary data when carrying out qualitative research. To conduct an interview successfully and with no hindrances, the researcher needs to possess enough knowledge about the respondent, and the respondents’ background, values and expectations (Ghauri & Gronhaug, 2005). There are three types of interviews according to Saunders et al. (2009): structured, semi structured and unstructured interviews.

Structured interviews employ a standard format with the interviewer placing emphasis on a fixed nature of response categories (Ghauri & Gronhaug, 2005). This will give the researcher total control over the interview process. Unstructured interviews offer the respondent an avenue to give their account or state their point of view almost uninterrupted (Richards & Morse, 2007). In this case the respondent is at liberty to choose how deep they will dive into the current subject or interview question.

Semi-structured interviews unlike structured ones allow the researcher to plan to reduce bias (Ghauri & Gronhaug, 2005). The use of semi-structured interviews to gather data for this thesis afforded us and interviewees the freedom to re-direct the interview as seen fit. As observed by (Greener, 2009) given that the interview is not fully structured, it gives the interviewee the freedom to go where they see fit with the question and touch on other things which might be of interest. The freedom to redirect questions and also come up with follow-up questions to gain clarity was the main reason why we chose to use semi-structured interviews for our primary data collection.

Criteria for Interviewee Selection

In an effort to gather data for this research, we chose to interview two different groups of professionals; academics and practitioners in the field of knowledge management. This was done in order to provide deeper insight in through multiperspectives from the academics and practitioners. Because of the multidisciplinary nature of knowledge management, we reasoned that getting data on the specific topic from multiple perspectives would only serve to increase understanding of the field and intensify the strength of our subsequent arguments.
The practitioners were selected from companies that were knowledge-intensive, meaning that these companies were greatly dependent on knowledge for their operations and success. This search resulted in two interviewee subjects from two knowledge intensive companies. The academics were selected for their knowledge and experience in the field, which resulted in two academics with vast experience in the field of knowledge management. Coincidentally, the two knowledge management academics have been directly involved in a number of knowledge management initiatives and efforts as consultants. We took this to our advantage by interviewing them, and tapping into their observations and experiences as both academics and practitioners. As a consultant, one has to show companies that the project being worked on will bear fruit (or not), and there has to be definite and convincing proof of either. This experience from the practical world, in addition to academic expertise, is a very rich and diverse source of insight on this matter. In addition to being in reliable positions in their respective contexts, the respondents were also chosen for their accessibility and availability given that the research is time constrained.

The Interviewees

A total of 4 interview subjects were contributed to this study. Ray Dawson is an academic in the field of knowledge management; he also works as a consultant overseeing the implementation of knowledge management systems in companies, including is Rolls Royce and British Aerospace (also known as BAE Systems). This made him a very good source of insight into the concepts and workings of knowledge management. We also interviewed Louise Cooke, who is a senior lecturer at Loughborough University, and has also been directly involved in knowledge management projects that included projects with the police (in Loughborough) and other local authorities.

We conducted an interview with one of the top IT managers of the Fagerhult Group who has been working in the company for over two decades (the said IT manager will be referred to as Fagerhult A for the purpose of this research due to the request for anonymity). We chose to interview him because of the vast experience he accumulated in the company.

Also, we interviewed Javier Davila, who is a project manager at CombiQ AB. CombiQ is a young company that started in 2007, its business is to provide customized IT solutions for customers using RFID or wireless technology. CombiQ is a very knowledge-intensive company, depending on knowledge for its proverbial bread and butter. It has distinguished itself as company and develops specialized solutions for companies like Husqvarna and Phoniro.
Interview Guide

An interview guide is needed when conducting a semi-structured interview, to serve as a guide for the interviewers during the course of the interview. This will ensure that the overall direction of the interview is not derailed by the interviewee’s interest in discussing other subjects not relevant to the questions asked or the research being conducted. The interview guide was divided into three parts each covering a certain theme in line with the research questions created. The themes were:

- Knowledge and knowledge management
- Competitive advantage
- Knowledge management-based competitive advantage

The first theme was knowledge and knowledge management, under which we had questions related to the nature and use of knowledge and knowledge management as applicable to their contexts. The second theme was competitive advantage, and it covered competitive advantage and the organizational strategies employed by the firms to gain competitive advantage. The final theme knowledge management based competitive advantage covered the relationship between knowledge management and competitive advantage. These three themes were maintained throughout the research and were used in the presentation of our empirical data and in our analysis chapter. The interview questions were designed from a framework of Knowledge Management performance measurement which will be discussed in details in the theoretical framework chapter (Chapter 3, Section 3.5.1). The interview guide can be found in the Appendix 2.

Ethical Issues

Ghauri & Gronhaug (2005) outlines eight ethical issues that could come up in the researcher-participant relationship, in trying to avoid the potential pitfalls; here are some of the steps we took. At the beginning of every interview we asked the interviewees if they wanted to be named participants in the research project, or if they wanted to stay anonymous. One of the four experts interviewed chose to stay anonymous. So as not to put the interviewees under any form of pressure, they were responsible for deciding when, where and by what medium they wanted to be interviewed, face to face or by telephone. The interviewees were also made aware of their right to refuse to answer any interview questions they perceived will be detrimental to their self-interest.

All the interviews we conducted were recorded using a voice recorder, and this use of special equipment to record the interviews was approved by all the interviewees prior to the commencement of the interviews. While conducting this research, we paid close attention to getting the consent of the interviewees. To be sure that they consented to
how the interviews were used, an interview consent form (attached in Appendix 3) was sent to the interviewees. To show transparency, and to assure the interviewees they were not being deceived, copies of the interview transcripts were sent to them as soon as they were transcribed, to have them verify that they were not misquoted or misrepresented. During the interviews, the interviewees were not under any obligations to answer questions they were uncomfortable with and were at liberty to refuse to answer any question if they wanted to for their reasons.

2.6 Time Horizon

Research can be carried out over a period of time or at a period in time. This makes it imperative for us to choose between a cross-sectional approach and a longitudinal approach. A longitudinal approach provides the benefit of being able to study change. Cross-sectional research is the study of a particular phenomenon (or phenomena) at a particular time (Saunders et. al., 2009). The time horizon for research is independent of which research strategy the researchers are pursuing, however if the research requires that observations be made over a period of time it will be futile to apply a cross-sectional time frame to it.

A cross-sectional study is the study of a particular phenomenon at a given point in time (Saunders et al, 2009). This provides a momentary snapshot of the research situation. One of the main strength of a longitudinal research approach is its capacity to study change and subsequent development over an extended period of time (Saunders et al, 2009). A longitudinal approach allows the researcher to understand the effect of time on their research. Stemming from combined limitations created by time constraint placed on the completion of this thesis, for this reason it was not possible us to carry out a longitudinal study for the purpose of this research. We found however that using the cross-sectional approach would be more practical as it would allow us to complete the thesis in the allocated space of time. An organizational endeavour of this magnitude would be well over the length of time allocated for this research. Therefore, a cross-section study is undertaken instead.

2.7 Credibility

It is important to take steps to make sure that the findings of the research are as a result of information, experiences and ideas of respondents instead of the preferences and characteristics of the researcher (Shento, 2004). According to Saunders et al (2009) to minimize the possibility of ending up with the answer wrong means that close attention has to be paid with particular emphases to research designs: reliability and validity.
We would like to mention that statistical generalization cannot be made in this case due to the use of semi-structured interviews. As observed by Saunders et al. (2009) qualitative research when it uses semi-structured or in-depth interviews cannot be used to make valid statistical generalizations concerning the entire population. This is because in some cases experts can hold conflicting opinions about certain concepts. To ensure the credibility of this research however, we endeavoured to interview seasoned professionals with years of experience in the field of knowledge management. We also made sure that they verified the interview transcripts and the final report as soon as it was ready.

2.7.1 Validity

To ensure the validity of this research, we considered validity threats from the perspective of Saunders et al. (2009). Saunders et al. (2009) mentions five threats to the validity of a research study, history, maturation, instrumentation, testing, and mortality. We conducted a cross-sectional research study, and this eliminated the possible effects that history and maturation could have on the research. Below are the other three threats and steps we taken to counter them:

**Instrumentation:** How we conducted the interviews and what bearing it had on the results.

**Steps taken:** All interviews were conducted using the same interview guide (which was derived from the research questions), and in the cases of face to face interviews or those conducted via telephone we made sure not to deviate from the themes or subjects being discussed by staying within the scope of the interview guide throughout. This made the various responses comparable during the analysis of the empirical data.

**Mortality:** Were some interviewees unavailable from the beginning of the research, or did some of them decide to drop out or were they unable to complete the process?

**Steps taken:** When we contacted the interviewees, we informed them about we planned to conduct the interviews and what roles they would play in the completion of the research. They all showed a willingness and readiness to work with us on the research and have always been available anytime they were needed for the interviews, clarification and validation.

**Maturation:** Did a change in the interviewees’ opinion after the interviews have any effects on the results?
Steps taken: All the interviewees were sent a transcribed copy of the interviews for proof reading and validation; there were no major changes in their opinions just a couple of clarifications to better explain their points. A copy of the final report was sent to all the interviewees as agreed to confirm that we did not alter their opinions in any way.

We also took steps to ensure that we minimize bias that could diminish the credibility of the research; these will be discussed under Reliability.

2.7.2 Reliability

The main focus of reliability is consistency, and a measure is considered highly reliable if it returns approximately the same result every time. Although reliability is a necessary and essential consideration when selecting measurement approach, it is not sufficient in and of itself. According to Saunders et al. (2009) there are four threats to reliability, participants error, participants bias, observers error and observers bias.

To avoid participants’ bias, the interviews we conducted were directed at top management of the companies. Interviewees may otherwise have chosen not to answer questions that were sensitive or that they were not at liberty to discuss (Saunders et al., 2009). To reduce the possibility of participant’s error, we chose to interview seasoned professionals and a transcribed copy of the interview was sent to the interviewees for proof reading. In order to minimize observers’ error during the conduction of the interviews, given that the research was carried out by two persons, both authors were present and worked as a single unit to minimize error and misinterpretations.

It is important to point out that due to the diverse views held by experts on knowledge management and the varying level of importance attached to it by different persons and organizations, a replication of this research will probably not yield exactly the same kind of results. However, this is expected in such a constantly evolving research field still seeking to cement itself as a globally recognized field. The exploratory nature of this study aims not specifically at generating generalizable conclusions but investigating practical for practical solutions.

2.8 Data Analysis

Collecting data is a core part of every research project, drawing meaningful conclusions from such data however requires more than just the researchers ability to ask the right questions especially in qualitative research. Ghauri & Gronhaug (2005) define
data analysis as the creation of structure, order and meaning, from a pool of collected data. Conducting a proper analysis of data largely depends on the type of data collected, given the non-standardized nature of qualitative data; a lot of work needs to be put into preparing it for analysis. To analyze the data collected for the purpose of this research, we will be using a thematic analysis.

Thematic analysis is a process that is used in the encoding of qualitative data, and it requires an explicit code which could be just some themes or a model of causally related themes, indicators, and qualifications (Boyatzis, 1998). The use of thematic analysis requires the creation of explicit themes. A theme can be seen as a pattern that recurs in the data and at least organizes and describes the possible observations and at its best interprets some aspects of the phenomenon (Boyatzis, 1998). Thematic analysis requires that the researchers to first of all identify recurring themes within the data, these themes should then be coded. Finally the coded information can be interpreted and analyzed as it relates to the main questions of the research.

For thematic analysis to be successful, the researcher needs to be familiar with the data collected. Howitt & Cramer (2008) observes that just like all other qualitative data analysis method, it is extremely important that the researcher be adequately familiar with their empirical data to make the analysis expedited and thoroughly insightful. This makes data familiarization an essential part of thematic analysis as it is for other qualitative methods. This is why a lot of authors propose that researchers planning to use thematic analysis should endeavor to collect the data themselves and if possible transcribe the data themselves, as was the case in this research.

The groundwork for creating the themes we used in this research was laid during the creation of the interview guide, which was separated into three themes. The empirical data for the research was also presented under the same themes.

- Knowledge and knowledge management
- Competitive advantage
- Knowledge management based competitive advantage.

As we conducted the interviews and transcribed them, we identified the information collected and were able to group them under these three themes. This made the grouping of the said concepts easier to carry out and their relation to our theoretical framework became clearer the more times we went over the empirical data. In the final analysis we analyzed the concepts under each theme from the point of view of all the interviewees collectively to paint a clear picture from their responses as it related to our theoretical framework.
3 Theoretical and Conceptual Frame of Reference

This chapter presents the theoretical and conceptual framework within which the research topic is investigated. The theories used to explain and understand the research concepts and their relationships are presented and serve to allow the reader to understand underlying theoretical foundations and assumptions within the context of the study.

Problems and concerns do not exist in nature but in people’s minds. This logically implies that there can be an infinite number of perspectives whence a problem can be investigated. In a scientific and practical setting however, this is highly illogical and unconstructive. So, in order to make the investigation of a problem valuable, it is necessary to establish a vantage point. This vantage point serves as a set of lenses used by the investigators to view and examine the problem. That is the essential purpose of the theoretical and conceptual framework.

In order to fully embark on this investigation, such a vantage point has to be established explicitly to increase clarity in the problem area. The main theories and concepts that are used for the particular study are pointed out and discussed, as illustrated in Figure 3.

This investigation is done around a number of concepts and theories as seen below (the shaded part of the diagram).

![Figure 3. Theoretical and Conceptual Framework of the Research](image)

Adapted from Enz (2009)
In essence, the theoretical frame of reference of this research is from the resource-based view of a firm as one of the strategic management perspectives of a firm.

### 3.1 Strategic Management

The ever-increasing importance of strategic management can be attributed to trends that include rising levels of competition, modernized transportation, communication channels, global markets and technological advancements (Enz, 2009). Regardless of these reasons, there has been a surge and rise in interest and importance of strategic management in the last two decades. So what exactly is strategic management?

Lamb (1984) described strategic management as a continuous process that evaluates, controls, implements and reassesses set goals and strategies to match and exceed existing and potential competitors. These processes include the analysis of strategic goals and the internal and external environment and strategic decisions and the actions that are taken thereafter (Dess, Lumpkin & Taylor, 2005). Strategic management, in this perspective, is essentially the set of initiatives that exploit the possessed resources to enhance organizational performance in a market of context (Nag, Hambrick & Chen, 2007). Strategic management focuses on questions that include the following:

- In what markets should we compete in?
- How should we compete in these markets in a way to create competitive advantages?
- How can we create competitive advantages that are sustainable and difficult for competitors to imitate?

In order to answer these questions, managers and leaders have the options of different perspectives which lead to different approaches in the pursuit of competitive advantage. These perspectives on strategic management are (Enz, 2009):

- The traditional perspective – which regards the firm as a traditional economic entity,
- The resource-based view – which views the firm as a collection of resources and skills, and
- The stakeholder view – which interprets a firm as a network of relationships between stakeholders

In this research, we look at companies from the strategic perspective of the resource-based view which views a company as a bundle of resources. This view is adopted because the concept under discussion is knowledge and knowledge management which would fall under intangible resources, namely human/intellectual capital. The re-
source-based view is discussed in more detail below. This serves to further define the vantage point whence this problem is investigated.

### 3.2 The Resource-Based View

The vantage point of this research is the resource-based view, which views an organization as a collection of skills, resources and abilities; and whose competitive advantage stems from the possession and exploitation of valuable, rare and inimitable (or difficult to imitate) resources (Amit & Schoemaker, 1993; Jackson, Hitt & DeNisi, 2003). Resources comprise of tangible and intangible assets and also organizational competences (Thomas, Hult, Ketchen Jr., Cavusgil & Calantone, 2005).

During these last ten years or so, there has been a substantial amount of contributions in strategic management that attempt to refine definitions and of the resource-based view in order to deal with conceptual and practical matters (Fahy & Smithee, 1999). These contributions have consequently made the delineation of the basic propositions of the resource-based view to be increasingly clear.

The contribution of the resource-based view can be regarded as a theory for competitive advantage, and the underlying assumptions are fairly simple: This starts with the assumption that the objective of organizational and managerial efforts is competitive advantage; achieving competitive advantage (and sustaining it) enables the company to secure economic rents or higher returns (Fahy & Smithee, 1999).

This notion causes attention to be focused on how to achieve and sustain competitive advantage. The resource-based view argues that the answer to competitive advantage lies in the possession and exploitation of certain strategic resources that have value and present barriers to its duplication and imitation. Therefore, the resource-based view emphasizes strategic decisions that charge the firm’s management with the mission to develop or identify and utilize the firm’s key strategic resources to maximize economic returns (Fahy & Smithee, 1999). In this sense, a resource is strategic in terms of its importance to achieving competitive advantage. In other words, the more indispensable a resource is, in terms of value and inimitability to achieving the firm’s goals the more ‘strategic’ the resource is.

There are no predefined parameters of what the resource can be; this may vary from context to context. It could be a manufacturing facility, a rare mineral or a top notch distribution chain. However, there are a number of attributes that a resource must possess to be considered strategic. Thompson and Martin (2010) state these as general principles for auditing the significance of a firm’s resources:
• Competitive superiority: the relative value of the resource when compared to its competitors. Significance increases with scarcity of the resource
• Barriers to replication: significance increases with the difficulty to replicate or imitate resources
• Durability: this refers to the time aspect of the previous two points – in short how long can these characteristics be maintained
• Substitutability: can the resource possessed be rendered obsolete with other alternatives
• Appropriability: is the resource in actual fact ‘possessed’ by the firm as opposed to the firm only benefiting from resources of its partners and alliances

Intellectual capital in the form of knowledge and skills are some of the resources that boast of the aforementioned characteristics. Therefore, because knowledge, but virtue of these characteristics, is such a strategic resource it warrants further investigation into what it is and how it can be managed to achieve competitive results - the management of this particular resource being knowledge management. To further clarify the theoretical assumptions of the research, knowledge management is discussed in depth further.

3.3 Knowledge Management

Knowledge is an elusive concept. In order to proceed with the discussion on knowledge management it is only natural to discuss knowledge. Knowledge management can only be carried out once knowledge is sufficiently understood. In turn, to discuss knowledge, one has to understand knowledge itself and its distinction from information and data.

3.3.1 What is Knowledge?

It is practically impossible to discuss knowledge without stepping into the realm of philosophy. From Plato to Descartes to Kant, we learn that the very issue of defining knowledge has been an elusive one for over two millennia. Knowledge has been described from a number of perspectives: from wide-ranging definitions such as the one proposed by Nonaka and Takeuchi (1995) that define knowledge from a number of categories that include knowledge as a state of mind, a process, a capability and an object; to more simplistic views such as the one illustrated in the knowledge hierarchy as discussed by Faucher, Everett & Lawson (2008).
According to the knowledge hierarchy, knowledge, information and data could be seen as intrinsically similar, although knowledge is the richest of all three. Rich in the sense that it consists of the other two: data being facts and observations, information being data in a specific context and ultimately knowledge being information with contextual meaning. Also, as data becomes information and information becomes knowledge, it becomes more tacit and less explicit.

Shankar, Singh and Narain (2003) defined data, information and knowledge as seen in the knowledge value chain (Figure 5).
Figure 5. The Knowledge Value Chain

**Data:** raw facts, transactions records, numbers etc.

**Information:** organized data in a context with relevance and purpose

**Knowledge:** information enhanced with experience, insight, values etc.

In this research however, we adopt the definition of knowledge as actionable information (Jashapara, 2004), meaning that knowledge is contextualized information in its richest form and ready to be exploited for its potential value.

Knowledge can be classified into two categories, tacit and explicit knowledge (Polanyi, 1966). Explicit knowledge is knowledge that can be documented and transmitted as information through the use of illustrations, demonstrations and explanations. Tacit knowledge is a more implicit knowledge which is drawn from accumulated experience, learning and cognitive predispositions and is harder to transmit. Although complex, it is possible to convert tacit to explicit knowledge and the other way around through knowledge management processes.

### 3.3.2 Knowledge Management

Following the definition of knowledge as actionable information we can now discuss knowledge management. Over the past decade knowledge management has gained popularity as an emerging field to academics and practitioners alike. It has been widely argued and accepted that there has been a paradigm shift in as far as competitive efforts are concerned. It is no longer traditional resources such as manufacturing facili-
ties and industrial technologies that fuel organizational competitive performance. Instead it is now intangible resources, particularly human knowledge that is a key access in the pursuit of competitive advantage (Jackson, Hitt & DeNisi, 2003).

Knowledge management is a relatively young discipline still on its way to being universally recognized and accepted as a discipline in its own right – so there is still quite some perplexity around it, from definitions to applications. This however, becomes less surprising when you consider that it has its roots in a number of different fields (as seen in Figure 6).

![Figure 6. Tree of Knowledge Management, Discipline Roots](image)

Source: Jashapara (2004)

The two dominant roots of knowledge management are information science and human resource management, which unfortunately rarely crossover as the nature of these disciplines varies substantially (Jashapara, 2004). However, it is this interdisciplinary nature of the field that gives it strength (and challenges): it is a very rich field that can be approach from a range of perspectives that can serve to complement each other.

Because of the multidisciplinary characteristics of knowledge management, it has a number of definitions that stem from the perspectives of its roots ranging from anthropological to strategic perspectives. Here are some definitions from some of the discipline’s roots.

Davenport & Prusak (1998) defined knowledge management as a process that draws from existing resources in an organization specifically focusing on the integration of information systems and human resource management practices. This definition stems from and integrated perspective of information science and human resource management.
Newell, Robertson, Scarbrough and Swan (2002) defined knowledge management as the processes involved with improving the ways in which companies in turbulent markets leverage their knowledge assets in order to drive continuous innovation. This definition is from a strategy perspective.

Skyrme (1999) defined knowledge management as the ‘explicit’ and ‘systematic’ management of an organization’s ‘vital’ knowledge and the processes associated with the creation, gathering, organization, diffusion and exploitation of knowledge to reach organizational predefined objectives. This definition stems from an information science perspective.

From these definitions of knowledge management a number of dimensions of knowledge management can be deduced.

From this illustration of the dimensions of knowledge management we can summarize that knowledge management consists of the following dimensions (Jashapara, 2004):

**Strategy:** This deals with strategies to manage intellectual capital to optimize organizational performance.
**Culture:** This deals with the cultural underlying assumptions most evident in implementation and change management efforts.

**Organizational learning:** This deals with the processes of exploration, sharing and exploitation of knowledge at an organizational level.

**Systems and technology:** This deals with knowledge management systems and tools used to support organizational practice of knowledge management. Knowledge management systems are systems that fulfil the function of supporting knowledge management activities.

Within these dimensions of knowledge management, three facets can be derived: people, processes and technology.

Knowledge management generally consists of people, processes and technology involved in supporting the creation, gathering, organizing and dissemination of information and knowledge. People conduct knowledge management processes with the assistance of systems and technology. Strategy, culture, organizational learning and systems and technology interact with the people, processes and technologies to bring about knowledge management initiatives.

Taking all this into consideration, the definition of knowledge management adopted for this research is as follows:
Knowledge Management is the collective of learning *processes* associated with the exploration, sharing and exploitation of tacit and explicit knowledge to enhance an or-
ganization’s intellectual capital and boost performance (Jashapara, 2004). In this collection of processes, knowledge is identified or created, collected, stored, updated and accumulated and shared to improve organizational performance. When these processes are carried out in an effective and balanced way they consequently allow companies to reap potential knowledge management benefits.

### 3.3.3 Benefits of Knowledge Management

From the multidisciplinary definitions of knowledge management and the dimensions aforementioned, it is evident that in order to make any substantial progress in the field of knowledge management, and integrated approach needs to be adopted (Davenport & Prusak, 1998). Many carefully designed initiatives that have focused on a single discipline and perspective on knowledge management have failed because, as illustrated, it is insufficient to the successful implementation of knowledge management initiatives. Therefore, a successful knowledge management initiative will consist of a balanced application of the different dimensions of knowledge management.

A successful knowledge management initiative potentially has a number of benefits to companies. The Kaieteur Institute of Knowledge Management (2012) summarized the main benefits of knowledge management thus:

- Increase in revenues
- Possibility to explore markets and open new markets
- Improve decision-making processes
- Mitigation of risks
- Build profound relationships with customers
- Improve customer service and support
- Increase productivity and efficiency
- Speed up innovation
- Help create a more adaptive, flexible and dynamic company
- Improve learning processes
- Gather competitive intelligence
- Improve the organizational knowledge flow
- Avoid waste and duplication of efforts through knowledge re-use
- Lower operating costs
- Attract and retain more committed talent

This list of potential benefits consists of a number of asserted benefits of knowledge management from a number of academic papers and practical observations into an integrated bundle of knowledge management benefits (The Kaieteur Institute of Knowledge Management, 2012).
In this research knowledge management is discussed with regards to competitive advantage, so it is also natural to discuss the concept of competitive advantage and how it is specifically employed in this study.

### 3.4 Competitive Advantage

Understanding competitive advantage is critical to the survival and development of a company. In the long-term, insufficient knowledge and understanding of the factors that affect business performance and competitiveness can have great repercussions on the economy of a company.

Michael Porter is widely recognized as having made essential contributions in the field of competitive advantage. Porter’s (1985) generic strategies to have dominated the realm of competitive strategy for decades, highlighting cost leadership, focus and differentiation as the basis for competitive advantage within firms.

![Porter's Generic Strategies](image-url)

*Figure 9. Porter's Generic Strategies

Source: Porter (1985)*

According to this framework, firms have the possibility to choose how they compete in markets after taking into account the market itself and the type of competitive advantage they aim to pursue. Doing so, would allow firms to deliver value to its custom-
ers and buyers. Consequently, competitive advantage stems from the value a firm is able to deliver to its customers (Porter, 1998). This value may take the form of lower prices than competitors for equivalent products or unique products or services at premium prices. Value superior to that of its competitors would allow a company to have competitive advantage over those competitors, which is the objective of most of business strategy.

Delivering this superior value, whence competitive advantage stems, involves a series of value-adding activities that make up a firm’s value chain (this will be discussed in detail further). The goal of these activities is to ultimately deliver superior value, which translates to competitive advantage, and generate profit margins (Porter, 1998). From the resource-based view of a firm, this value is created when the firm’s valuable, rare and difficult to imitate resources are exploited effectively with the aims of creating superior value.

In essence, competitive advantage is the edge a company may have over its competitors achieved through value-adding strategies that include cost leadership, market focus and differentiation (Porter, 1985). This advantage may manifest itself in a number of ways that include (but not limited to) higher revenues, higher customer satisfaction, bigger customer base and more positive brand image or a combination of these.

The previous section discussed knowledge management and this one competitive advantage. Now we can embark on the discussion of the relationship between these two concepts in an organizational setting.

### 3.5 Knowledge Management-Based Competitive Advantage

One of the main objectives of this study is to explore knowledge management-based competitive advantage. To do this, we first have to understand what is meant by knowledge management and competitive advantage which was the objective of the previous sections of this chapter. After having discussed these two concepts, one can now discuss knowledge management-based competitive advantage.

This section will discuss the nexus between these concepts to explore the relationship between knowledge management and competitive advantage in a company. Knowledge management is the collection of processes associated with the exploration, sharing and exploitation of tacit and explicit knowledge to enhance an organization’s intellectual capital and boost performance (Jashapara, 2004). Competitive advantage is the edge that a company may have over its competitors achieved through a series of value-adding processes that include cost leadership, mar-
Knowledge management-based competitive advantage is therefore the competitive advantage that may be derived from knowledge management processes and initiatives in an organization. This advantage too, may be achieved through cost leadership, market niche or differentiation with knowledge management as its critical supporting factor. After understanding the concept of knowledge management-based competitive advantage the issue of measurement comes up. How does one measure this competitive advantage that is awarded by knowledge management efforts?

3.5.1 Measuring Knowledge Management

The following framework proposes key performance indicators for the measurement of the impact of KM in organizations and competitive advantage.

The Matrix of Knowledge Management Performance Indicators

Shannak (2009) investigated the measurement of knowledge management in relation to its effect on organizational performance ultimately the ability to compete and excel in a market. This measurement was performed using a number of key performance indicators (KPIs) in order to gauge the contribution of knowledge management to organizations. Shannak (2009) also had a practical approach to knowledge management and researched the performance indicators of a number of high profile companies that included Ericsson, Hewlett Packard, KPMG, Schlumberger and Xerox. In addition, this performance matrix includes the bulk of performance indicators proposed by researchers and academics in the field. Because of these reasons, we deemed this performance a holistic one and employed in in the design of our interviews.

Each of these companies had a number of KPI to measure the impact of knowledge management in their respective settings. The culmination of this part of Shannak’s (2009) research was a performance indicator matrix for gauging the performance of knowledge management in an organization (Appendix 1).

For the purposes of this research, a number of performance indicators that were deemed relevant to the study were used to explore the relationship between knowledge management and competitive advantage. These indicators deemed relevant were identified after integrating the performance indicators used in the companies investigated by Shannak (2009) and reconciled into a set of indicators based on the purpose of this study: These same indicators were the basis for the interviews.
conducted for this study in order to investigate the relationship between knowledge management and competitive advantage, serving as gauges to determine the effects of knowledge management in a given organizational context. The indicators employed are:

- Access to knowledge
- Arrangement and classification of knowledge
- Distribution of knowledge, how facilitated it is
- Speed of knowledge transfer
- Attitude of knowledge sharing
- Knowledge culture, open or closed
- Quality and usefulness of knowledge
- Extent of application of knowledge in the company (company dependence on knowledge)
- User acceptance of knowledge initiatives (user satisfaction)
- Effects of knowledge management initiatives in the organization
  - financial effects (profitability, return on investment, savings)
  - operational effects (work methods, visibility, efficiency)
  - culture building (relationships and internal networks)
  - competitive value (customer satisfaction)
  - time saved
  - employee retention
  - innovation index

In addition to using these performance indicators, it is also prudent to be open to other measurement techniques to knowledge management performance that may be unique to organizations. Taking into account that this is a fairly immature field, such openness would make room for serendipitous findings that could fuel advances in the field.
4 Empirical Data

This chapter presents the findings of the data collection done mainly through interviews with academics and practitioners in the field of knowledge management. The findings are summarized, with the full transcripts appended.

The results from the interviews reflect the three themes of knowledge management, competitive advantage and knowledge management-based competitive advantage. The interviews, as explained in the interview guide in Section 2.5.1 were designed in such a way that three major themes were investigated. What follows hereafter is the empirical data, divided into those themes to facilitate understanding, discussion and analysis.

4.1 Interview with Javier Davila

An interview with Javier Davila was conducted investigating the perceptions of knowledge management, competitive advantage and competitive advantage fuelled by knowledge management from a commercial firm’s perspective (full interview transcription available in Appendix 4)

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Company</th>
<th>Role in Company</th>
<th>Other Relevant Information</th>
<th>Type of Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Javier Davila</td>
<td>CombiQ AB</td>
<td>Project Leader</td>
<td></td>
<td>Face-to-face</td>
</tr>
</tbody>
</table>

4.1.1 CombiQ AB

CombiQ AB (henceforth referred to as CombiQ) is a young knowledge intensive firm which is focused on the area of radio-frequency identification (RFID) and wireless data capture and transfer (Combiq, 2012). They work to explore and exploit opportunities in RFID technology to solve problems and serve customers in newer and smarter ways. CombiQ, CombiQ’s operation’s toolbox consists of a configurable and intelligent tag, active RFID, gateways to manage communication and software for the collection, presentation and dissemination of information. CombiQ operates on the principle of combining knowledge and IQ (combined knowledge + IQ = combIQ) in order to efficiently apply knowledge to benefit their customers. Javier Davila is a project leader in CombiQ, responsible for projects from their initial to final stages.
4.1.2 Knowledge and Knowledge Management

The first part of the interview revolved around notions on knowledge and knowledge management. Here, we were open to discussion issues of the firm’s perception of knowledge management processes: knowledge creation, storage, accumulation, sharing and access; and the underlying organizational culture and values with regards to knowledge management.

Davila explained the firm’s stance on knowledge:
‘For us our biggest asset is the brain of that person.’ (Davila, J., interview, 2012-04-19)
Davila emphasized that the importance of knowledge in the company. He explained that, being a relatively small and young company they are highly depended on the knowledge they have and accumulate. He added that as times passes and the company accumulates more knowledge, they have a deeper understanding and appreciation of its value in the company. This emphasis on knowledge in their operations was present throughout our conversation.

On knowledge management Davila continued:
‘So we are a very small company, we don’t have an established methodology of how to have this management but we know it is very very important for our success to keep this knowledge.
...it’s not yet implemented. We don’t have like a system where we manage that.’ (Davila, J., interview, 2012-04-19)
Because of its size and relative young age, CombiQ does not have a knowledge management system to aid knowledge management processes. Despite this, they are aware of the importance of knowledge capture, storage and sharing to their success. Although the company does not have an implemented technological artefact to support knowledge management, they have initiatives in place to store, increase and share their knowledge. These include brainstorming activities, regular meetings with the people involved in specific projects to discuss progress and ideas. Davila maintained that the absence of a technological artefact did not deter knowledge transfer within the company. He also alluded that since the company was relatively small the transfer process of knowledge was not a complicated one, given that the ‘source’ of particular knowledge could be easily located and the knowledge extracted.

On knowledge storage:
‘...it’s very important to store the knowledge in the way of reducing the risk in the company because... we must be sure that we have that knowledge documented so it’s something very important that sometimes many companies don’t pay so much attention.’ (Davila, J., interview, 2012-04-19)
Davila stated that knowledge in the organization was extensively documented and an important reason for so was to reduce the risks a company faces when it loses an employee. Whenever an employee leaves a company, he or she leaves with the knowledge acquired and accumulated. This knowledge may be essential to the company so the company always makes sure they extract and document knowledge needed from its employees in case of such an event.

On knowledge sharing, accessibility and knowledge culture:
‘That’s a way to reduce risk and about sharing knowledge... we try to be very open and to discuss ideas and once we have an agreement with them but we are open to discuss our knowledge.’ (Davila, J., interview, 2012-04-19)
The documentation of knowledge makes it easy to not only retain essential knowledge, but also share it according to needs, during development processes in projects and whenever a need arises. When there is a situation that calls for knowledge sharing, the employees in the company are readily available for meetings, brainstorm sessions and informal interviews amongst employees to extract necessary knowledge and share ideas.

‘...it’s very open, it’s a good environment we feel comfortable discussing any small thing, every detail in the development...’ (Davila, J., interview, 2012-04-19)
Davila also added that the environment and atmosphere in the company allows for knowledge sharing to be made almost effortlessly. When there is a need to access information, it can be done with minimal effort and minimal time. Getting hold of information needed is simple as tapping into the documented information or asking the appropriate employee without being obstructed by layers of hierarchy and departmental walls. The employees in CombiQ are not content with simply knowing something themselves and are always ready to discuss their ideas and share their knowledge. They do this because they understand that sharing this knowledge benefits the company as a whole and helps spark and foster innovation, which is essentially what they do. Davila added that knowledge sharing is an important process to improving the knowledge input in projects.

On the organizational culture vis-à-vis knowledge sharing:
‘It’s very simple like I said, everybody is very friendly and they don’t want to keep’ the knowledge for themselves.’ (Davila, J., interview, 2012-04-19)
Davila added that the culture that the organization fosters is one of openness and sharing. The company encourages its employees to be open with each other and ready to discuss ideas whenever the need arises. He continued to describe how this openness enables employees to cultivate relationships based on mutual trust and support, and that this is key in the organization. This support and trust extends beyond the pro-
Davila continued to explain that the size of the company does play a role in these relationships, and that the bigger a company gets, the more important it is to exercise conscious efforts to nurture relationships of trust and knowledge sharing – this being an essential part in a company. A lot of the knowledge sharing done in the organization was done in a very informal manner, often requiring direct contact with the individual(s) who possessed this knowledge. For CombiQ, this is an easy thing to do because of their underlying culture and size – making it relatively simple to get a hold of information and knowledge from individuals. They do not a technological system to support knowledge management. Despite the lack of a technological artefact, they still do manage their knowledge in an informal and social manner through the use of various processes.

Davila then added that the company was in a stage of stabilization and imminent growth, and that although they did not at the moment have such a system, its growth would make greater the need for such a system, because the informal way in which this knowledge was distributed would not make for effective knowledge dissemination were the company larger, and having a number of geographical locations.

4.1.3 Competitive Advantage

On the company’s competitive strategy:

‘I don’t think we really have competitors, because we try to find something that doesn’t exist - a totally new invention... So in that way there’s nothing in the market, we always try to bring unique products to the market...’ (Davila, J., interview, 2012-04-19)

CombiQ identifies itself as a company operating in niche markets. In this sense, the company can be seen as having a mixture between a niche and a differentiation competitive strategy, focused on bringing new products or highly differentiated products to a new or less established market.

To do this, the knowledge accumulated in the company is of utmost importance. This knowledge enables the company to actually develop something that is useful to customers and introduce it to the market faster. When you have more knowledge and ideas to combine it becomes easier to make better products. Davila added that it is not only about acquiring and managing knowledge, but a great deal of importance is placed in expanding the knowledge base. A company must not be static when it comes to knowledge, and should always seek to expand its knowledge. When developing a product knowledge and knowledge management is required throughout the process.
between employees and the customer(s) that the product may be developed for. The entire process is dependent on knowledge exchange and the speed at which is done; the more knowledge is shared at a higher speed the better.

4.1.4 Knowledge Management-Based Competitive Advantage

On the benefits of knowledge management:

‘For us, the day we have the idea is the same day we start to work on the solution. So for us the advantage is that we are small and we are fast.’ (Davila, J., interview, 2012-04-19)

Davila explained that knowledge management plays a huge roll in speeding processes in the company. Processes that would otherwise take a long time due to slow exchange of knowledge are sped up with efficient knowledge management techniques, thereby making development and decision-making processes shorter, allowing the company to start a project faster and consequently bringing a product to the market faster. Since the entire development process in the company is dependent on knowledge and knowledge management, a set of effective knowledge management procedures allows the company to work better and faster, bringing better products to its customers at a faster pace.

The knowledge management processes reduces development time and decreases the time of decision-making processes, according to Davila. However, the company does not have a formal technique to measure the impact of knowledge management within the company but it does acknowledge its contribution in the development and decision-making processes.

Although the company does not have a knowledge management system to support its knowledge management initiatives, it is highly dependent on knowledge management without its technological aspect. The size and culture of the organization make this initiative work in this way, without a knowledge management system. However, knowledge and its management is recognized as the backbone of the company and its essential resource and driver for success, and existence

4.2 Interview with Ray Dawson

Here, we summarize the interview with Ray Dawson on knowledge management and competitive advantage from a perspective of a consultant directly involved in knowledge management projects and an academic.
Table 3. Ray Dawson Interview Details

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Company</th>
<th>Role in Company</th>
<th>Other Relevant Information</th>
<th>Type of Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ray Dawson</td>
<td>Loughborough University</td>
<td>Professor of Knowledge Management</td>
<td>Has been a consultant in over a dozen knowledge management projects including BAE Systems, Rolls Royce and the Danward Group</td>
<td>Telephone</td>
</tr>
</tbody>
</table>

4.2.1 Ray Dawson

Professor Ray Dawson works as a professor of knowledge management in the Loughborough University. In addition to being an academic, he has been directly involved in over a dozen knowledge management projects as a consultant and his contribution to this study is both from a perspective of an academic and a practitioner.

4.2.2 Knowledge and Knowledge Management

Dawson, on his definition of knowledge management:

‘The problem with KM I think is working out what is KM and what is information management. And my particular message may not agree with everybody. From my point of view, I believe KM is making use of information within a particular context.’ (Dawson, R., interview, 2012-04-27)

Dawson in his definition of knowledge management brought up the issue of information management and how it is part of knowledge management. He illustrated with an example that simply knowing something is information and putting that information to use in a context makes it knowledge rather than just information. He also added that a company cannot perform good knowledge management without good information management as well because one cannot apply any contextual knowledge to information unless the information itself is of good quality.

Dawson also, in an organizational context added that any company would do better if it knows what it is doing. This implies that a company has the potential of doing better if first of all they know what they are doing. His logic for this was that knowledge leads to understanding, and one tends to do better if one understands what is actually being
done – and this understanding leads to better and wiser decisions that benefit the company as a whole.

Dawson explained that knowledge management tends to be a mixture of three things: people, processes and technology. He advised against thinking that a technological artefact constitutes a knowledge management system and that this type of thinking generally leads to failure. He discussed that technology does not make the system, and that knowledge management systems do not necessarily involve technology.

On the importance on knowledge accessibility in knowledge management initiatives:
‘You can say it has some value, but I do think it will vary from one context to another – just how much value it would have. I think you would find it very difficult to come up with a universal law or rule which says how much value it has.’
(Dawson, R., interview, 2012-04-27)
Dawson explained that he did see value in the level of accessibility of knowledge in knowledge management, but he also added that this importance of accessibility varies from one scenario to another. Some contexts would dictate that accessibility to knowledge is of utmost importance while others would not decree a similar level of importance. He continued to say that it clearly makes sense that in order to make a decision, for example, access to knowledge that would help make a more informed and faster decision would be highly advantageous. Also, Dawson added that the speed at which this knowledge can be acquired is important; not only that, but the speed at which knowledge can be made available to decision makers of equal importance. It boils down to the company’s ability to quickly make information and knowledge available where it is needed.

On the organizational culture vis-à-vis knowledge management systems:
‘If you manage to get a sort of level or readiness for KM – there are some companies that just do not understand or appreciate the need for it at all… I am talking about the actual workers. If the actual workers don’t actually see either the means for it or have any desire to use it – then they are not in a very high state of readiness…’ (Dawson, R., interview, 2012-04-27)
Dawson highlighted that the major organizational precondition for the success of a knowledge management initiative is the readiness on the part of the employees of the company, from lower levels all the way up to the corporate level. This calls for a culture where the company’s employees understand the needs of the company are willing, ready and able to change towards the necessary direction. Not having this kind of culture in the organization, which fosters a readiness and motivation to change, usually translates to failure in the introduction of initiatives and implementation of systems.
From his experience as a consultant in a number of knowledge management system implementation projects, Dawson repeatedly observed that lack of motivation and readiness among the staff to use the systems implemented resulted in massive failure. On the other hand, companies that understood the value of knowledge and knowledge management were keener on employing systems that would facilitate knowledge sharing throughout the organization. The underlying message here was that readiness is important for knowledge management (and can often be used as a KPI to estimate chances of success).

4.2.3 Competitive Advantage

Dawson defined competitive advantage as follows:

‘Basically, it’s something that you have that others haven’t got, that will give you an advantage.’ (Dawson, R., interview, 2012-04-27)

Dawson defined competitive advantage in a simple and straightforward manner: as having something that competitors don’t have or something better than they have that gives a company an advantage. He also added that he believes that there is no straight answer as to the importance of knowledge management in the pursuit of competitive advantage – knowledge management can be used much more effectively in some contexts than in others.

4.2.4 Knowledge Management and Competitive Advantage

On the introduction of knowledge management initiatives in companies:

‘...too many people when introducing KM just introduce KM because it’s a good thing and they just have a general belief that it will make things better. When it is introduced in that way it tends to fail...’ (Dawson, R., interview, 2012-04-27)

In addition to lack of readiness on the part of employees as a reason for knowledge management project initiatives failing, Dawson added that implementing knowledge management techniques with only a general idea and direction is also a huge factor behind these failures. Not having a specific direction behind the introduction of KM makes it extremely difficult to have criteria to measure its success. Dawson acknowledged the difficulty in measuring such an abstract concept such as knowledge put forward to explain the way in which he had tackled this in his experience as a consultant to other companies.

He proceeded to explain that he confronted the issue of measuring the impact of knowledge management initiatives in a different way. This was to first ask the company he (and his team) would be working with what problem it is that they are trying to solve. Identifying a specific problem or situation helps create a direction in the
knowledge management initiative, hence making its impact measurable in regards to that problem or that specific situation. When the problem is identified then he would estimate the cost of the problem: this means how much in financial terms the problem cost the company in terms of decrease in turnover and/or profits. In that way, when the knowledge management initiative is introduced, the company can actually measure the impact in straight forward cost ways and confidently say state that the initiative has saved the company a particular amount of money because it reduced that particular problem by that much. Furthermore, he added that if one presents an initiative in this manner; identifying a problem and setting out to address it, it makes people interested in doing it as well, as long as they also understand the problem.

He explained that he understands that there may be other benefits to introducing a knowledge management initiative but those benefits will not be directly discernible. This would be because the knowledge management initiative was not directed at those issues specifically, making it difficult to measure its impact on those issues not aimed at. He added that the reason he tackled the problem in knowledge management in this way was so that people would ‘buy-in’ into the problem, from senior management all the way to the bottom. If the issue is focused on as a problem that everyone understands and identifies with they will be willing and prepared to solve the problem using the initiatives in the knowledge management project.

Dawson continued to emphasize that this identification of a specific problem was key in making knowledge management initiatives succeed and that in from his experience and observation general knowledge management initiatives without a predetermined problem or situation to address had a success chance of less than 10%. The problem to be solved has to be recognized by everybody in order for them to be in a ready and willing state of mind to do something about it.

Dawson further explained that when identifying these problems to be solved, it is often prudent to have the problems defined in financial terms – a language that managers understand fully well. Drawing from his experience in consulting companies, he relayed that when these problems are converted into costs then managers in general tend to pay more attention, as money is essentially what they are mostly interested in. In the projects he was consulting in, Dawson assisted companies in saving from thousands to millions of British pounds (an example being in Rolls Royce where they managed to save about 5 million pounds within a year of the implementation). Using these examples, he continued to emphasize that first the problems to be solved need to be converted into figures and costs, so that managers and the general employees can understand and have a better feel of the problem and its direct impact on the revenue of the company.
When these problems are explained as they are in reality, sometimes they do not convey the necessary urgency and gravity to managers, so converting them into financial figures is a way of explaining them in a way that every employee can understand, and want to do something about it. Dawson concluded by referring back to the approach that he has used to introducing knowledge management systems saying that having a problem-solving based approach is very practical and has proved him to be an effective approach when dealing with knowledge management initiatives.

### 4.3 Interview with Louise Cooke

Dr. Louise Cooke is a senior lecturer at Loughborough University and has also been directly involved with a number of knowledge management projects, so her perspective is a blend of an academic and practitioner point of view.

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<thead>
<tr>
<th>Interviewee</th>
<th>Company</th>
<th>Role in Company</th>
<th>Other Relevant Information</th>
<th>Type of Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Louise Cooke</td>
<td>Loughborough University</td>
<td>Senior Lecturer MSc Information and Knowledge Management Tutor</td>
<td>Has been involved in a number of knowledge management projects</td>
<td>Telephone</td>
</tr>
</tbody>
</table>

#### 4.3.1 Knowledge and Knowledge Management

Cooke, on her definition of knowledge management:

‘I would conceptualize KM as the strategic management of intellectual assets of an organization in support of competitive advantage and organizational objectives.’ (Cooke, L., interview, 2012-04-19)

Cooke’s definition of knowledge management stems from a strategic perspective of an organization and management of resources. Knowledge management, from her perspective would encompass the acquisition, codification, storage dissemination and sharing of knowledge.

Knowledge management, which naturally includes knowledge, is not only an asset in the pursuit of competitive advantage but also in general business objectives. Although Cooke states these uses for knowledge management, she also recognizes that it (knowledge management) does not get much recognition, and this is something clearly
seen by those directly involved in the field. Regardless of the limited recognition of the concept, Cooke adds that she has noticed people becoming increasingly familiar with the concept, and it not being the alien concept it perhaps was a decade ago. From her experience, mostly in public sector organizations, she has seen increasing recognition of the importance of knowledge management – but just as equally has observed organizations engaging in knowledge management initiatives without actually recognizing them as knowledge management initiatives per se.

On knowledge management systems, Cooke added:
‘...I try to emphasize that a system is only a system and it would only be as effective as the people that are using the systems... and it is more important to see it as a more organic thing... the processes that you are trying to do and an enabler, but it’s not the end in itself.’ (Cooke, L., interview, 2012-04-19)

Cooke explained that having a knowledge management system is not an end in itself; it is merely a means to managing knowledge. The knowledge management processes are more important than just having a system, and systems are just a series of technological platforms to support these processes. In the University, knowledge is a critical resource, and in addition to knowledge management, effective information management is equally as important. The absence of information and knowledge would render the organization obsolete by virtue.

Cooke regards knowledge management as an equally important concept in public organizations because it supports organizational activities in addition to supporting competitive advantage endeavours. This importance however, is not uniform to all organizations in all markets – it differs from company to company. Public sector companies in the UK, according to Cooke, tend to restrain from positioning themselves as being about competitive advantage and profit-making. However, even these companies that are essentially not after profits can benefit from knowledge management in reaching and optimizing processes to accomplish organizational objectives. There is a culture in the UK that public sector companies are not considered as being about profit making even though they may be after ‘profits’ not in the traditional sense but in terms of streamlining processes for the provision of goods and services as cost-effective as possible.

Cooke also spoke of knowledge management practices in Loughborough University (as a public sector company), where she is a senior lecturer and programme tutor. In terms of accessibility she stated that there were good practices in place in the university but there were also gaps in knowledge accessibility. She stated that there is generally a great reliance on tacit knowledge, and there aren’t any ‘manuals’ on how to access information – making it a somewhat ‘learn-as-you-go’ process. She also commented on
the presence of an element of knowledge hoarding in the university – fuelled mainly by competitive funding arrangements that tend to fund those with more ‘competitive’ knowledge and by governmental appraisals and monitoring. She explained that this meant that there was a certain level of competitive culture within the organization because of this funding; however there were some collaborative efforts to promote the exchange of ideas and knowledge.

Despite this emergent competitive culture when it comes to knowledge, there have been collaborative initiatives instigated by funding councils in order to increase interdisciplinary collaboration and knowledge exchange. These initiatives have helped create and nurture relationships between individuals to promote knowledge exchange through the incorporation of breakout areas and collaborative spaces. Cooke also stated that knowledge within the organization could be accessed but this would call for the one searching for the knowledge to know exactly what he/she needs to know in order to approach the person who would be best in providing the information.

### 4.3.2 Competitive Advantage

On the characteristics of a company with competitive advantage in a market, Cooke explained:

‘...that they are positioned as a market leader, that obviously they have the biggest customer base – that might be seen as competitive advantage. You might see it in terms of actually being able to produce more efficiently, more effectively, being able to innovate more efficiently or more successfully.’ (Cooke, L., interview, 2012-04-19)

As stated above, Cooke defined competitive advantage in terms of major stakes in customer base, more efficient and/or effective production techniques and facilities and more successful innovations.

Thinking in terms of the University of Loughborough where she is a senior lecturer, Cooke competitive advantage there would be the ability to provide the highest possible quality of education with the least possible resources when compared to its competitors – other universities. She added that it would not necessarily mean providing the cheapest education because often times there are perceptions in the academic realm that cheapness equates to low quality. Because of this the ‘cost’ of education in a university is not a primary competitive point. The University could be said to compete in terms of quality of education and differentiation from its competitors.
4.3.3 Knowledge Management and Competitive Advantage

On the impacts of knowledge management in her institution, Cooke had this to say:
‘I wouldn’t say it’s visibly articulated, no. But I think it’s something that happens, but it isn’t necessarily explicitly recognized.’ (Cooke, L., interview, 2012-04-19)
Cooked explained that the contribution of knowledge management was not articulated visibly or recognized explicitly. She also added that there were no formal attempts at explicitly articulating the impacts and measuring knowledge management performance within the organization.

On the measurement of knowledge management in commercial companies, Cooke explained:
‘That’s a very difficult one, and one that hasn’t really been solved. There are sort of all kinds of ways in which people try to do so, by trying to measure RoI and so on...’ (Cooke, L., interview, 2012-04-19)
Cooke further explained that competitive advantage fuelled by knowledge management may be in terms of increased customer satisfaction, lowered costs or an increased rate of innovation; but she has experienced that it is very difficult to explicitly explain a causal relationship between these two variables. This is more so when attempting to prove the impact of knowledge management on return on investment (RoI). Another issue with measuring the impacts of knowledge management on organizational performance and competitive advantage is the fact that companies cannot control other variables such as market and economic shifts and other variables that might actually impact organizational performance. Cooke also added that there is a danger that if a company focuses too much on performance indicators, it may end up just measuring organizational inputs and outputs, and not specifically on knowledge management effects.

On the emergence of knowledge management performance metrics, Cooke added:
‘I think that’s a very difficult question to ask in a single, one size fits all – because I think it is very dependent on the specific initiative and organizational context...’ (Cooke, L., interview, 2012-04-19)
Cooke went on to explain there is no established knowledge management performance metric and that and that they are very dependent on specific knowledge management initiatives and organizational contexts. She added that some performance metrics may be used in certain situations but they may only be used in terms of a particular initiative in a particular context. In this sense, the context is predefined and the knowledge management initiatives will address that variable in that context only and nothing else. She added that looking at things in this manner would not provide insight on other variables but may be useful in determining a specific and predefined relation-
ship. Cooke added that each of these situations should be looked at in its own way and a specific mechanism for measuring could then be developed.

From her experience, Cooke explained some benefits of knowledge management initiatives:

**Reducing duplication of effort**: if knowledge about a specific process or situation is ‘possessed’ throughout an organization then resources will not be allocated multiple times to solve a problem or repeating the same kind of exercise. Knowledge from one exercise could instead be transposed for the same process elsewhere or a similar exercise.

**Increased innovation**: if people are enabled to share knowledge and ideas then a company potentially increases exchange of constructive ideas which lead to innovation, and enables the company to learn from previous situations and mistakes.

**Increase in organizational memory**: by increasing organizational learning, a company can improve and increase organizational memory which ensures that mistakes are not repeated and knowledge is continuously increase, which in turn benefits the company.

**Customer relationship**: if the company has a substantial and detailed repository of customer relationship management knowledge then that knowledge and information enables them to improve and customize marketing efforts and serve customers more efficiently.

From a financial perspective, Cooke explained that the things mentioned above ultimately assist in saving money and increasing turnovers. For example, in her experience Cooke has seen a situation where teams in research and development (R&D) departments in the same company where working on exactly the same thing – and this was attributed to poor organizational knowledge management. If knowledge was managed well, then the situation of two teams separately working on the same project could easily be avoided. Saving money then becomes a result of doing things better and doing better things to achieve the same results.

In terms of supporting decision-making Cooke explained that knowledge management supports in aiming for ‘perfect information’ and ‘perfect knowledge’. This means that the ‘right’ information be made available at the right time to the right person in order to make informed decisions which benefit the company. This will help in evaluation initiatives and choosing the appropriate initiative for the situation. Keeping knowledge on past decisions also helps the company understand where it is coming from and why it has done what it has done – this goes a long way in improving the current and future situations of a company. Cooke culminated by saying that there is certainly room for knowledge management and improvement in organizations, drawing from her experience with knowledge management practice.
4.4 Interview with Anonymous

An interview with an employee of Fagerhult on the topic of knowledge management and competitive advantage was conducted. The employee chose to remain anonymous, so for the purposes of the discussion and respecting his anonymity, he will henceforth be referred to as ‘Fagerhult-A’.

Table 5. Fagerhult-A Interview Details

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>Company</th>
<th>Role in Company</th>
<th>Other Relevant Information</th>
<th>Type of Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anonymous, hereafter referred to as ‘Fagerhult-A’</td>
<td>Fagerhult</td>
<td>IT Manager</td>
<td>Has been in the company for over 2 decades and has very deep insight on the workings of the company</td>
<td>Face-to-face</td>
</tr>
</tbody>
</table>

4.4.1 Fagerhult

The employee Fagerhult-A has been working in the company for over two decades and is well familiar with the inner workings and infrastructure of the company. His views and opinions are well grounded in decades of practical experience.

4.4.2 Knowledge and Knowledge Management

Fagerhult-A defined knowledge management as follows:

‘...it is to in some way document knowledge and to define how we can reuse this knowledge in our teams, by individuals in IT and also in different processes in the IT department.’ (Fagerhult-A, interview, 2012-04-25)

Fagerhult-A explained that a central process in knowledge management was to define knowledge in specific organizational contexts and have the knowledge documented and available for to all employees, from corporate to operational levels. He went on to illustrate that this was done in order for the organization to have a strong knowledge base and share its knowledge so it would not be dependent on specific individuals.

He added that although he, in his context, does not actively discuss knowledge management, he (and the company) are aware of knowledge and knowledge management and make conscious efforts to extract individual knowledge and competencies and have them documented to be available to the company at large. This documentation is
aimed at aiding support systems by making knowledge available and easily accessible. The Information Technology (IT) department of the company does not discuss knowledge management and how to develop it but instead, are more active in documenting knowledge and processes to avoid dependence on individuals. That being said, there is no discernible knowledge management system in the company – the company focuses mainly on documenting knowledge and processes to support organizational processes.

On knowledge sharing Fagerhult-A added that at the moment, the company was working or more efficient ways to make information and knowledge available. The company has been in the process of migrating to such an effective system. In smaller teams it is relatively easier to find required knowledge because of informal ways to access information. However, as the teams grow or when a new member enters a team it becomes progressively harder to access information at the moment. In this regard, there is some lack of transparency in the organization. This transparency decreases even further across departments – each department may have specific structure in their files and documentation protocols. This makes it difficult to ‘search’ for information on the servers to the average user. The way in which information and knowledge is stored makes it difficult to manage it. Now however, the company is working on building logical information storage structures through information architecture, guidelines, policies and so on in order to facilitate locating information.

The lack of a knowledge management system makes the search for information difficult and sometimes isolates parts of the company to some knowledge, as accessing it is difficult if they are not directly involved with the creation and storage of the knowledge. Internal knowledge management is lowly prioritized at the moment in the company – which instead is focused on reaching customers, sales, marketing and innovation. The internal system for communication in the organization is over a decade old, and the company feels like it is due time to upgrade the systems, because it does not support most modern organizational processes.

### 4.4.3 Competitive Advantage

When it comes to the company’s competitive strategy, Fagerhult-A explained that the company focuses on providing high quality products at relatively low prices. Internally, this high quality is a product of a number of processes revolving around knowledge in development, production and sales and marketing processes. The company is therefore proud of its designs and quality of products. To be able to provide these high quality products knowledge is required – knowledge to be able to make high quality produ-
ucts, knowledge on delivery processes. The company competitive approach is centred on the knowledge to be able to build good solutions lighting solutions for customers.

4.4.4 Knowledge Management and Competitive Advantage

On the absence of a knowledge management system, Fagerhult-A explained: ‘Of course you can manage without a system at the bottom, you can always get information in some way, but it is not as easy as it could be if you have a system in the bottom that supports you.’ (Fagerhult-A, interview, 2012-04-25)

Fagerhult-A explained that although there is no specific knowledge management technological system to support knowledge management activities, but the company manages without these. Employees instead use other forms of media to communicate and share information. While this is not efficient and standardized, it serves the purposes of a knowledge management system to a certain degree. With this in mind, the company realizes that it has a long way to go in effectively documenting knowledge and making information easy to access and find.

When it comes to measuring the results of knowledge management processes in the form of knowledge documentation and storage, the company lacks in documenting past experiences and knowledge accumulated thereafter. Therefore, when the company embarks on a new project, though it may be similar to past projects, the only experience carried on is those in the minds of those directly involved with the previous projects. The company does not explicitly document knowledge accumulated in past projects so sometimes it may encounter situations and lack knowledge on similar past situations. This may result in double efforts, especially if the project team consists of members not involved in the similar past project. When it comes to knowledge on customers, the company does not have a customer relationship (CRM) system or a similar system to manage customer information, but it is in the process of doing so, to be able to document customer information better and serve them better. At the moment, the system in place in each Fagerhult branch has its own structure and protocols and there isn’t much communication between different systems. Communication is done through traditional electronic methods like e-mails and intranets.

On the benefits of knowledge management in the system, Fagerhult-A first explained that such a system is not currently in place in the company. However, from his perspective and hands-on experience in the company he speculated that the system would first of all help save time (which is usually spent in other methods of information exchange) and it would enable the company to serve its customers’ needs faster and better. Those are the 2 biggest benefits to the organization that Fagerhult-A could foresee for the company.
Fagerhult-A also added that he thinks this would help the company in getting an advantage in the market but this is not something that can be said without any evidence. In their case, the benefits would be calculated in terms of how much time it would save in the company and how much faster they would be able to respond to customer needs. Regarding the lack of a management system, the senior management today is not too motivated to invest in new systems because the company is leading in its market in the Nordic region and is only third in the whole of Europe. The IT department may see a need to upgrade their systems but because of their market position, senior management is not too convinced of this ‘need’.

Fagerhult-A explained that the system would save them time in allowing information and knowledge to be accessed almost instantaneously, as opposing to the time spent trying to locate an individual who has specific knowledge (who may not always be available for various reasons) and extracting that knowledge. In this sense, a customer could be answered or served earlier but how is that quantified to be able to justify the investment of a knowledge management system? That is a major problem in the company today – not knowing what they are losing, or how much they are losing if they are even losing anything by spending this time in ‘locating’ and extracting knowledge. This time cannot be quantified in the company today. In addition to this, a knowledge management system is not a priority for senior management as they believe the company can make do with what they have at the moment.
5 Analysis

In this chapter, significance of the findings is discussed and explored in light of what is known in the knowledge management field. The analysis of the findings gives fresh insights on the relationship between knowledge management and competitive advantage. The analysis, based on the theoretical and conceptual framework discussed in chapter 3 culminates with a discussion on how the problems investigated may be understood better and overcome.

5.1 Knowledge and Knowledge Management in Organizations

5.1.1 Knowledge

In order to discuss the importance of knowledge management in their respective contexts, the meaning of knowledge was first discussed with the interviewees, in an attempt to investigate the level of strategic importance of knowledge through the principles proposed by Thompson and Martin (2010) as discussed in Chapter 3, Section 3.1.

The interviewees regarded knowledge in their specific contexts as: the biggest asset in the company, which is highly depended upon...; a source of understanding of how processes run, and how to make wiser decisions in order to improve them; an asset not only in the pursuit of competitive advantage but also in general business objectives; and as a central resource in knowledge management when it comes to building an organization that does not depend on specific individuals but on a strong knowledge base. These views on knowledge came from entities with different vantage points and different levels of experience in the field of knowledge management. However, they all share one premise: the understanding that knowledge is a vital resource in their organizations.

In addition to this general understanding of the significance of knowledge in their respective contexts, the interviewees discuss its competitive value in terms of its contribution to a company’s competitive advantage (Cooke, L., interview, 2012-04-19); appropriability, substitutability and durability as in how the company is primarily dependent on knowledge and seeks to store and accumulate it over time (Davila, J., interview, 2012-04-19; Fagerhult-A, interview, 2012-04-25) in order to continuously reap its benefits; and the difficult to replicate it, hence attempts to keep employees fulfilled to reduce employee turnover. This collective of attributes of knowledge as a resource, as presented by the interviewees is in conformity with Thompson and Martin’s (2010) principles for auditing the importance of a resource in a company. That being said, this collective perspective of knowledge suggests that knowledge is seen as a strategic re-
source in these organizations, not only pivotal in the pursuit of competitive advantage but also relevant and applicable to reach general business objectives.

5.1.2 Knowledge Management

The explanations on what knowledge management is were tackled from different perspectives by the interviewees. Knowledge management was seen as a methodology that includes a technological system for managing knowledge (Davila, J., interview, 2012-04-19), making beneficial use of information in a particular context (Dawson, R., interview, 2012-04-27), the strategic management of intellectual assets to support competitive advantage and organizational objectives (Cooke, L., interview, 2012-04-19), and documentation of knowledge and its re-use by employees in an organization (Fagerhult-A, interview, 2012-04-25).

These explanations not only show that the interviewees have a grounded understanding of what knowledge management is in their respective contexts, albeit each having a different perspective of the inherent dimensions of knowledge management. These dimensions were not made explicit by the interviewees themselves, but upon further inspection of the key terms in each explanation, we can identify these definitions from an integrated perspective, such as the one presented by Jashapara (2004), as discussed in Chapter 3, Section 3.3.2 on strategy, organizational learning, culture and systems and technology.

Davila’s (interview, 2012-04-19) definition of knowledge management stemmed from a mixture of the dimensions of systems and technology and organizational learning. This is made evident by the description of knowledge management as a methodology which requires a system to aid knowledge management processes and the understanding that this system is used to share and exploit knowledge at the most basic levels of organizational structure, leaving no employee out of the system. Cooke’s (interview, 2012-04-19) explanation that took into account strategic management of intellectual assets stems from a more strategic dimension that deals with strategies to manage intellectual capital and improve organizational performance, and according to Cooke, competitive advantage as well. Fagerhult-A’s (interview, 2012-04-25) explanation incorporated the documentation, storage and re-use of knowledge which suggests an organizational learning dimension of knowledge management as illustrated by Jashapara (2004), and discussed in Chapter 3, Section 3.3.2.

Taking into account the dimensions of knowledge management discussed in Chapter 3, Section 3.3.2, one can notice that each definition of knowledge management maintained by the interviewees adheres to at least one dimension of knowledge manage-
ment illustrated by Jashapara (2004). This suggests that knowledge management in the contexts of the interviewees is indeed a multidisciplinary field, and that it can be considered from a range of perspectives that can be employed to complement each other. This adds to the complexity of knowledge management, as it is further made evident by the lack of universally accepted theories on its definition and applicability, and the lack of substantial theoretical and empirical material (Chuang, 2004), as discussed in introductory chapter of this research (Chapter 1, Section 1.2).

On the other hand, this diversity of disciplines and perspectives adds to the strengths of knowledge management as a viable means to competitive advantage given its range of discipline roots and dimensions, and undermines claims that knowledge management resources are not useful (Stewart, 2002). As observed by Davenport and Prusak (1998) many prior knowledge management initiatives focused on a single discipline and perspective of knowledge management failed because they neglected the inherent interdisciplinary nature of knowledge management as a field of research and practice. This multiplicity of perspectives in knowledge management is not definite proof of an unfocused field, as some have put it (Wilson, 2002), but a testament to the multiple dimensions inherent in the field.

Dawson (interview, 2012-04-27) added to this explanation of knowledge management, asserting that knowledge management from his experience tends to be a mixture of three things: people, processes and technology. This is further evidence of the complexity of knowledge management and may provide insight as to why Davenport and Prusak (1998) observed many failed knowledge management initiatives that were unidisciplinary in focus. To be able to have a successful knowledge management initiative, these three facets of knowledge management have to be incorporated in a balanced way to cater for the needs of the company in context. Disregard for any of the facets usually results in failed initiatives.

So how then, how can knowledge management exploited in an organization to achieve competitive advantage?

The concept of knowledge management was discussed first because we consider it a primary necessity to understand what it is one is trying to do before actually attempting it. If organizations or entities are not familiar with a concept and its underlying assumptions, even implicitly, they have absolutely no chance of consciously practicing the concept in a real life situation. Practicing a task requires understanding of said task at its most basic level implicitly and/or explicitly. Only after understanding the concept can one begin to relate it to other known concepts to make sense of complex situations.
From the perspective of the dimensions of knowledge management by Jashapara (2004) - strategy, culture, organizational learning and systems and technology; and the three facets of knowledge management – people, processes and technology; we can look at the data gathered and examine how a company can achieve competitive advantage through knowledge management initiatives.

5.2 Processes in Knowledge Management

A perspective of knowledge management regards it as a collection of processes. These processes include the collection, storage, accumulation and sharing of knowledge in a given environment, as proposed by Jashapara (2004). These processes are crucial for the exploitation of knowledge, as it is the main aim of knowledge management. The effective management of knowledge can then translate to increased levels of organizational performance and competitive advantage.

5.2.1 Storage

Davila (interview, 2012-04-19), Dawson (interview, 2012-04-27), Cooke (interview, 2012-04-19) and Fagerhult-A (interview, 2012-04-25) all discussed the importance of knowledge storage in knowledge management endeavours and pointed out to various reasons for doing so. In Davila’s (interview, 2012-04-19) setting, knowledge storage was a way to reduce risk of knowledge loss in the company. Because the company is so dependent on knowledge, it focuses on ways of documenting its acquired knowledge in order to make it available to its employees, and minimize the risks it faces when an employee leaves the company. In this sense, the company builds a pool of knowledge extracted from its employees in order to be able to function effectively even if certain employees are no longer present in the company. In his case, and his company, knowledge storage serves as a bridge for flow and continuity in the organization in the absence of employees who initially possessed that knowledge.

Fagerhult-A (interview, 2012-04-25) also made references to the conscious efforts in his company to extract and document individual knowledge and skills. The reason for doing so in his case was to make knowledge available and easily accessible by organizational support systems when information is needed to make decisions. He also added that storage and availability of knowledge makes a company more transparent and the employees more aware of the state of their organization.
5.2.2 Accessibility

Another process in knowledge management is the accessibility of knowledge. Not only should the knowledge be stored, but it should also be made readily available to those who seek it. Davila (interview, 2012-04-19), Dawson (interview, 2012-04-27), Cooke (interview, 2012-04-19) and Fagerhult-A (interview, 2012-04-25) harmonized with the claims that accessibility to knowledge is indeed a cornerstone of knowledge management that goes hand in hand with storing the knowledge. After all, it is of very little consequence if knowledge is possessed but it cannot be accessed. A resource is only useful, if one can actually use it. In contrast, Dawson’s (interview, 2012-04-27) view of this varied slightly. He did concur with the importance of knowledge accessibility but he also added that this importance may vary from context to context. Some contexts would place a higher level of importance on knowledge accessibility than others, so in this light it would be difficult to state a universal rule on how important knowledge accessibility is in knowledge management. Dawson’s (interview, 2012-04-27) point of view is understandable, but what we regard as important here is the fact that knowledge accessibility is crucial in knowledge management, even though the exact level of important does undoubtedly vary from context to context.

When discussing with Dawson (interview, 2012-04-27), not only the question of the importance of accessibility was discussed but also the speed at which knowledge can be accessed. Not only is it prudent to have knowledge easily accessible, but also of great importance to make the processes by which the knowledge is accessed as simple and short as possible. The importance of such a simple and short process is made clear by an example of a situation where a decision has to be taken in a very short time frame – the simpler and faster it is to access the knowledge needed to make an informed decision the better for the organization. A timely decision can mean anything from a game-changing move in a market to a beneficial partnership or alliance. Accessibility and speed of accessibility also adds to transparency in an organization, as the information and knowledge is readily available, translating into openness and accountability.

Knowledge storage and accessibility go hand in hand with knowledge sharing as a main process in knowledge management is disseminating the knowledge to make it available when and where it is necessary. The knowledge processes discussed above are in close alignment with the knowledge management processes discussed by Jashapara (2004). He also alluded to these processes in his discussion of an integrated approach to knowledge management, and his views of organizational learning as a dimension of knowledge management that deals with the exploration, sharing and exploitation of knowledge at an organizational level.
5.3 Technology in Knowledge Management

Technology is the system aspect which serves as a support for knowledge management. Technology and systems also make up a dimension of knowledge management as argued by Jashapara (2004). The interview subjects all recognized a need for a technological artefact to support the processes in knowledge management: knowledge creation, storage, accessibility and sharing of knowledge in an organization. Even though Davila (interview, 2012-04-19) and Fagerhult-A (interview, 2012-04-25) in their respective contexts did not have a deployed knowledge management technological system they both expressed the need for such a system to improve the measure they currently have in place to support knowledge management processes.

The absence of technological knowledge management infrastructures however, does not mean that knowledge management processes are impossible to carry out, just that other non-technological based measures to collect, store and share knowledge have to be employed. This is usually in the form of informal networks and relationships and paper-based repositories, whose use has decreased tremendously due to the emergence of technologies that have replaced such measures. Cooke (interview, 2012-04-19) described such a system as an enabler of knowledge management processes, and not as an end in itself. This stance was also corroborated by Dawson (interview, 2012-04-27).

Much like the views of Jashapara (2004) on the systems and technology dimension of knowledge management this testimony corroborates with the views that systems and technological infrastructures are a necessary construct in successful knowledge management, and should therefore not be overlooked.

Dawson (interview, 2012-04-27) and Cooke (interview, 2012-04-19), in addition to recognizing a need for technological knowledge management infrastructures to support knowledge management processes, also added different points to consider. While this technology is seen as an enabler and support for knowledge management processes, the knowledge management system should not be seen as a purely technological construct – technology does not make the system and though rare, these systems do not have technology as an absolute requirement (even though it greatly facilitates it). These views are akin to Jashapara’s (2004) knowledge management dimension of systems and technology that serve as support for knowledge management activities.

Cooke (interview, 2012-04-19) also emphasized that the system in place to support knowledge management processes should be seen as an organic construct and will only be as effective as the people that use them. This leads to the discussion of people as an indispensable facet in knowledge management.
5.4 People in Knowledge Management

People could easily be seen as the main focus in knowledge management. Knowledge is a personal intellectual resource. Companies are run by people for people, be it themselves or others. It is therefore certainly no surprise that the discussion on knowledge management gets down to the people. Dawson (interview, 2012-04-27) brought up to the importance of the role of the people involved in a knowledge management initiative. To summarize his outlook, Dawson (interview, 2012-04-27) maintained that people are the core of knowledge management initiatives because they are the ones who should actually carry out the knowledge management tasks. The technology to support knowledge management processes may be state of the art and available for use but if the people who are meant to use it do not, then it is a wasted effort. Therefore, Dawson (interview, 2012-04-27) concluded, the people should be ready, willing and able to make use of the systems put in place to facilitate knowledge management.

If the people do not understand or appreciate the need for knowledge management efforts, failure becomes almost inevitable. Dawson (interview, 2012-04-27) illustrated this by drawing from his experience where failure was predominant in organizations where the employees were not ready or motivated to engage themselves in such initiatives. The importance of people in knowledge management initiatives cannot be overstressed as observed by Dawson (interview, 2012-04-27). People are indeed a central piece in knowledge management efforts.

Understanding the need for such organizational efforts and being prepared for them are preconditions for the success of knowledge management initiatives, and should be established before introducing a knowledge management project in a company. Simply getting people ready for a specific project is usually hard to do in an organization if there are no values, norms or systems in place that foster this kind of readiness throughout the organization. This is where organizational culture comes in. Culture plays a role in building an organization that is open to change and therefore more open to such organizational endeavours.

5.5 Culture in Knowledge Management

Culture, as discussed by Jashapara (2004) deals with underlying assumptions evident in implementation and change management efforts. Because a knowledge management initiative is an implemented change effort, the issue of culture arises from the interaction between the people. Davila (interview, 2012-04-19), Dawson (interview, 2012-04-
27) and Cooke (interview, 2012-04-19) highlighted the weight of culture in their respective settings. Davila (interview, 2012-04-19) explained that the environment in his setting was a very open and supporting one and adaptation was a central focus of organizational culture. Because the company is focused on innovation, the culture that has been built within the organization has been (and has had to be) one of readiness for change, openness and sharing of knowledge. The company encourages its employees to be open with each other and exchange ideas, and everyone understands that this is for the benefit of the company as a whole, and so they are happy to do so. Davila (interview, 2012-04-19) also reported support and trust as part of their organizational set of values and beliefs.

Dawson (interview, 2012-04-27), recalled from his experience derived from over a dozen knowledge management projects that companies with an adaptive and proactive organizational state of mind were more likely to succeed in knowledge management projects. This was because an adaptive and proactive culture is more ready and welcoming of change and this makes the knowledge management (and other change efforts) less forced upon the employees. A culture where the value of knowledge was understood by employees generally preceded successful knowledge management efforts.

The relationships and interactions between people over time make up culture in an organization, so a culture that nurtures change and encourages openness and sharing in a company is naturally more likely to make the company successful with initiatives that require a certain level of openness, sharing and motivation to change. A knowledge management project is an example of such an initiative so it requires a culture and setting ready, motivated and able to change. This evidence also conforms to Jashapara’s (2004) viewpoint in his discussion of culture as a knowledge management dimension, and one of the cornerstones for successful knowledge management efforts.

5.6 Significance of the Empirical Data to the Research

From the discussions with the interview subjects we identified a number of ideas analogous to the observations of Jashapara (2004) and the dimensions of knowledge management he proposed. In harmony with the dimensions of knowledge management, the evidence collected presents a number of points that collectively suggest a set of practices for how knowledge management can be used in a company to gain competitive advantage. After analysing the collected data through the theoretical perspective presented in Chapter 3, a number of arguments can assertively be made:
5.6.1 Research Question 1: Can knowledge management be used a strategic resource for competitive advantage?

Knowledge management can be used as a strategic resource to gain competitive resource. It is strategic in the sense that it has competitive value due to the uniqueness of knowledge and skills; it is difficult to replicate because of its abstract and implicit nature (Jackson, Hitt & DeNisi, 2003); it is durable in that knowledge can be stored in the brains or established systems of companies and can be accumulated and updated and it increases with use (Walters, Halliday & Glaser, 2002) and it is hard to substitute with other resources because of its implicit nature and contribution to organizational performance (as discussed in the beginning of this chapter).

In conformity with the views of the interview subjects who viewed knowledge management as a ‘the biggest asset in the company’, ‘a source of understanding that helps supports wiser decision-making’ and ‘an asset in the pursuit of competitive advantage and business objectives’ knowledge management can indeed be regarded as a strategic resource and it can be used in the pursuit of competitive advantage. It is important to note that just because it has the potential to effectively aid in the pursuit of competitive advantage, it does not mean that it does this indiscriminately. For it to be able to benefit a company more has to be done, and this was also the aim of this research, and is covered in the subsequent sections.

5.6.2 Research Question 2: How can knowledge management as a resource be exploited to achieve competitive advantage?

To illustrate how knowledge management as a resource can be exploited to gain competitive advantage, the following is a visual representation (Figure 10).
The model was named ‘Knowledge Management Implementation Model’ because it is an attempt to address the question of how knowledge management can be exploited to achieve competitive advantage, hence the name ‘implementation model’. The model is a result of the data collected from the interviews and analyzed through the theoretical vantage point of Jashapara’s (2004) knowledge management dimensions: strategy, organizational learning, culture and systems and technology. The model can be summarized as follows.

To have a successful knowledge management initiative, a number of conditions have to be met in an organization. These conditions, stemming from the dimensions of knowledge management are:

- A **strategy** that views knowledge management as a strategic resource and understands the potential benefits of a successful knowledge management initiative. The strategy has to be focused and aimed at exploiting the possibilities presented by knowledge management in order to have an edge over competitors. This strategy helps create and shape culture in an organization

- An **organizational culture** that nurtures openness, transparency and receptiveness to change and knowledge sharing. Culture affects and is affected by people and if these two affect each other positively (promoting change and knowledge management processes), then the inclination towards success becomes greater

- **Organizational learning.** These are organization-wide processes that deal with the exploration, sharing and exploitation of knowledge. Organizational learning
can be regarded as a collective of knowledge management processes dealing with knowledge from its discovery to its exploitation, and it is usually supported by a set of established systems

- **Systems and technology.** The set of systems and technological infrastructures that support organizational learning and knowledge management processes have to be in place, as they act as the backbone for knowledge management processes. As discussed earlier in the chapter, the systems are generally technology-based but not necessarily. What is important is that they effectively support knowledge management processes and make them as efficient as possible.

These dimensions should all be taken into account with ‘focus’ and ‘measurement’ in mind, which will be discussed in depth in Section 5.6.3.

When these conditions are in place and focused towards a common predefined goal, knowledge management has a higher likelihood of success in a company. In addition to being focused towards a common goal, these dimensions have to take into consideration the people in the company. Neglecting the people in a knowledge management effort more than likely results in total failure, and has to be avoided at all costs. At the end of the day the systems do not run themselves, the strategy does not create or execute itself, the culture does not spontaneously construct itself and organizational learning is not an independent practice. All these mechanisms depend on people to be established, run and maintained therefore it is of paramount importance that people are taken into consideration prior, during and after the launch of such an initiative. Only then, can a company anticipate benefits.

**Benefits of Knowledge Management**

Doing this can result in a number of benefits, as identified by the interviewees, and can be summarized as follows:

- Speeding organizational processes; reducing development time, production and decision-making time (Davila, J., interview, 2012-04-19)
- Saving time in organizational processes (usually spent in ineffective methods of communication and information sharing); serving customers faster and better (Fagerhult-A, interview, 2012-04-25)
- Reducing duplication of effort; increased innovation; saving money and increasing turnovers and supporting decision-making processes timely (Cooke, L., interview, 2012-04-19)

The benefits mentioned by the interviewee subjects are also stated by the Kaieteur Institute of Knowledge Management (2012) as potential benefits of knowledge man-
agement. This strengthens the claims that the benefits composed by the Kaieteur Institute of Knowledge Management are indeed accurate and knowledge management has a place in organizations. Such evidence supports the stance that knowledge management can be used as a strategic resource and its effective implementation does reap benefits.

5.6.3 Research Question 3: How can a firm ensure that it benefits from its knowledge management efforts?

Perhaps one of the highly important, and equally as complex aspects of knowledge management is ensuring that it actually delivers benefits in an organization. The most effective way to find out if these benefits have been realized is to measure their impact. Although knowledge management comes with promises of advantages to companies, these gains have yet to be universally cemented and accepted.

It would be reckless and imprudent to hastily associate benefits to investments without substantial proof. This is where measurement comes in. As discussed in Chapter 3, Section 3.5, measurement of knowledge management initiatives has been an issue of debate in the field (Shannak, 2009; Reid, 2010). This debate stems from the fact that because knowledge is such an abstract and hard-to-isolate variable, measurement becomes much more complex. One of the main criticisms towards knowledge management as explained by Ibrahim and Reid (2010) is that it is hard to define how ‘valuable’ knowledge management is it is even harder to establish mechanisms that measure the ‘value’ of knowledge management in an organization. This leaves the existing evidence of knowledge management lacking potency to demonstrate a clear and definite linkage between knowledge management and its potential benefits. The unclear relationship between knowledge management and organizational performance and competitive advantage feeds the views that knowledge management is just a fad and not a real management practice, such as the views of Wilson (2002) that states that knowledge management is nonsense.

However, today much has been uncovered in the field of knowledge management both from an academic and a practitioner perspective. This has resulted in a greater understanding and appreciation of knowledge management as a management practice. The results of this research are a step in that direction, of clarifying issues and criticism in knowledge management.

With no intention to appear brash, during the course of this research we have come across ideas on how to make the link between knowledge management and its potential benefits clearer and more distinct. In addition to the knowledge management implementation model suggested in Section 5.6.2, two underlying foundations for suc-
cessful knowledge management would have to be incorporated. The premises of this argument are ‘focus’ and ‘measurement’.

**Focus**

The success potential of knowledge management projects (and IT projects in general) can be increased by having a focused effort. This means that the introduction of a knowledge management initiative should be preceded by a predetermined focus on what the outcomes of the initiative are expected to be, and a plan of action to reach said goals. The main reasons for knowledge management project failure as investigated by Chua and Lam (2005) included poor management and control, lack of (or insufficient) executive support and unclear objectives. A focused knowledge management initiative minimizes these impediments to success and presents a company with better chances to achieve potential benefits. Focus, in this sense is the first precondition to a successful knowledge management initiative, guiding the whole initiative in the desired predefined direction.

**Measurement**

Focus goes hand in hand with measurement. If the initiative is focused and directed towards specific goals, it makes it possible to measure the actual impact of the initiative in relation to the pre-established set of goals. For example, if the knowledge management initiative is an attempt to lower operating costs and increase productivity and efficiency a company would first make an analysis of its operating costs, productivity and duplication of efforts prior to initiating the knowledge management project. This analysis would have to be clear and concise and an accurate appraisal of the costs of these *problems* (operating costs, productivity and duplication of efforts) would have to be made. This means in financial terms how much to each of these problems cost the company. This would be a first important step for measurement, so the appraisal would have to be as close to *reality* as possible.

Simplified example: Analysis prior to KM implementation

**Current costs: January 2012**

- Operating costs/ X period of time = 20 million SEK
- Productivity/ X period of time = 15 million SEK
- Duplication of efforts/ X period of time = 10 million SEK
- Total costs= 45 million SEK/ X period of time

With the *problems* presented in financial terms, it would be less complex to measure the impact of the knowledge management initiative because the appraisal and presentation in costs would render it measurable, as opposed to measuring knowledge itself which is an extremely difficult task. Instead of attempting to measure such an abstract
construct, the company would switch to measuring the direct observable results of the construct to make a more accurate assessment of the impact of the construct in relation to the predefined focus.

After the introduction of the knowledge management initiative and the same X period of time passed, the company would once again conduct an analysis of the company with regards to the same problems analyzed prior to the knowledge management project. Again, the problems would have to be appraised and presented in terms of costs in order to measure the impact of the project. An example of a possible scenario follows.

Simplified example:
Analysis after KM implementation
Current costs: January 2013
Operating costs/ X period of time = 15 million SEK
Productivity/ X period of time = 12 million SEK
Duplication of efforts/ X period of time = 6 million SEK
Total costs= 33 million SEK/ X period of time

Difference between post and pre knowledge management implementation
Operating costs/ X period of time (million SEK): 20 - 15 = 5
Productivity/ X period of time (million SEK): 15 – 12 = 3
Duplication of efforts/ X period of time (million SEK): = 10 – 6 = 4
Total difference in million SEK/ X period of time = 45 – 33 = 12

In this case, after the introduction of the knowledge management initiative, the company could measure, in financial terms, the impact of the knowledge management initiative with regards to the predefined problems. With this approach, a company can make a confident assessment of the impact of knowledge management and illuminate the blurry linkages between knowledge management and its value in companies. While the example used to illustrate this approach is overly simplified, it does serve to convey the underlying principles behind such an approach to knowledge management initiatives.

5.6.4 Significance of Focus and Measurement in Knowledge Management

Using a knowledge management implementation approach that employs focus and measurement can be very beneficial to companies attempting to make use of knowledge management to improve organizational performance and achieve competitive advantage. The focus ensures that the initiative is not simply introduced for gener-
ic unclear reasons but instead as a viable means to reach specific goals a company defines for itself. If there is a focus, a more effective plan of action can be devised and the risk of swaying from the main objectives during the implementation of the initiatives is reduced.

Measurement can ensure a number of things. As contended by Davenport & Beck (2001) what gets measured in a context gets attention. One of the functions of measurement is that it focuses attention on the phenomenon that is being measured. Once attention is focused on an activity, interest and enthusiasm toward that activity ensue. Once interest and enthusiasm are focused on an activity, chances of progress in that activity become greater due to the interest in it and the enthusiasm to do something about it. A knowledge management initiative could only gain from gaining more attention and enthusiasm from employees in a company.

Another reason measurement is significant is that understanding of what is being measured generally increases the more people get in contact with it. To be able to know if things are improving or getting worse after the introduction of an initiative one needs to gain more insight into the context and concepts at hand. Continuous measurement inevitably leads to a higher level of understanding of the entities being measured.

In addition, and perhaps more importantly, a company cannot manage what it cannot measure (Osborne and Gaebler, 1992). Measurement enriches the quality of decision-making processes and it supports the management of resources in a company. Information gathered from measurement processes can be used to make management decisions about how to run and improve certain organizational processes.

This proposition is by no means without imperfections though. First of all, not all problems are easy to state in financial terms, so it poses another challenge. If the appraisal of the problem is wrong then the observed impact will most likely be wrong. However, this does not suggest that the method is completely impractical; rather it indicates that the initial and final appraisal have to done accurately in order to make the measurement valid. Also, there are other factors that have to be taken into consideration during an organizational initiative of this nature. An undertaking of this magnitude is not and cannot be carried out in a rigidly controlled environment, so there are consequently other factors that affect the outcome in a particular context. Also, as a preliminary model of action, more work can be done to refine it, so this is simply a step in that direction.
6 Conclusions and Implications

This chapter portrays a synthesis of key points in this research. It also discusses the academic and practical implications of the research.

Knowledge management has been increasingly regarded as a viable means to enhance organizational performance and competitive advantage. Successful knowledge management initiatives have been documented and the field has gained a lot of attention over the past decade.

These views optimistic views however, have not be exempt from heavy criticism from academics and practitioners alike. Arguments have been made claiming that knowledge management is a fad and will eventually fade away like all previous fads have been made (Wilson, 2002). One of the reasons for this kind of argument is the lack of universally accepted models, and a ‘unifying theory’ of what knowledge management is and can do. Another and perhaps more important reason is that most accounts of knowledge management improving organizational performance and realizing competitive aims have been anecdotal and lack in robust evidence to support it (Chuang, 2004). This lack of substantial evidence to support the relationship between knowledge management and competitive advantage has hindered significant progress in the field, and the connection between these 2 concepts in theory and practice remains blurry.

The objective of this research was to explore the relationship between knowledge management and competitive advantage in a practical setting and understand how the former can contribute to the latter. Through discussions with academics and practitioners in the field, this relationship was explored and a number of interesting points were uncovered. Knowledge management can indeed be exploited as a strategic resource to gain competitive advantage. The answer lies in how the knowledge management initiative is conducted, and as a result of the research, a knowledge management implementation approach is proposed.

For knowledge management initiatives to be successful, they have to be conducted with special attention paid to the dimensions of knowledge management and the facets of knowledge management. The dimensions of knowledge management are strategy, culture, organizational learning and systems and technology. For knowledge management to be successful, a strategy founded in viewing knowledge management as a strategic resource and focused on exploiting its possibilities has to be in place. This strategy helps shape a culture that nurtures and motivates openness and transparency.
and understands the necessary preconditions for a successful knowledge management project. This culture helps in cementing values that promote knowledge management processes. Processes for organizational learning also have to be in place to deal with the creation, storage dissemination and exploitation of knowledge. These organizational learning processes are supported by a set of systems and technologies that make them possible and efficient and effective as possible.

These dimensions all have to take into account the people. After all, all these processes are put in place for people to use. Knowledge, being a concept intertwined with people, has to be managed in conjunction to the people and the people likewise. Neglecting people in such an endeavour promotes failure and should be circumvented at all costs. These prerequisites have to be fulfilled in a balanced manner without overlooking any.

Lastly, these balanced preconditions have to be implemented with focus and measurement as underlying principles. Focus ensures that the initiative is not introduced without specific objectives in mind but as a means to reach clearly defined and focused goals. Measurement promotes understanding of what is being measured. To be able to make accurate measurements, the variables measured have to be lucidly understood. Also, and perhaps of more importance, companies cannot manage what they cannot measure. Measurement supports management of resources and decision-making by feeding information of how the resources are run, their impacts and how to improve their use. Osborne and Gaebler (1992) expressed this excellently:

‘If you don’t measure results, you can’t tell success from failure. If you can’t see success, you can’t reward it. If you can’t reward success, you’re probably rewarding failure. If you can’t see success, you can’t learn from it. And, if you can’t recognize failure, you can’t correct it.’
6.1 Implications for Future Research

This fresh look at the relationship between knowledge management and competitive advantage is a step towards clarifying the ambiguities of the relationship between knowledge management and competitive advantage. For academics, it suggests fresh perspectives that can be taken when investigating knowledge management.

As this research made use of a cross-section study made primarily through interviews of knowledge management academics practitioners, deeper insight could be amassed using alternative methods. To investigate this topic in a more in-depth a longitudinal case study of a company stating from a pre to a post knowledge management implementation stage could be used. Because of the complex nature of this field, studies are continuously rendered less pertinent with the passage of time. Therefore, a longitudinal case study investigating the relationship between knowledge management, taking into account the dimensions of knowledge management, the people and founded of the principles of focus and measurement could result in substantial evidence, necessary for the advancement and the universal acknowledgment of knowledge management as a feasible and sustainable means to achieve competitive advantage. From the lessons learned in such a study, a step by step theoretical model on how knowledge management initiatives can be successfully introduced in companies could be suggested, concentrating on focused and directed efforts and measurement.

6.2 Implications for Practice

In practical contexts, the use of the knowledge management implementation model (Chapter 5, Section 5.6.2) could prove constructive. In such a setting companies could apply the ‘focus’ and ‘measurement’ principles in concurrence with the knowledge management implementation model which makes use of the knowledge management dimensions and people. This would promote a practical and focused approach to introducing knowledge management initiatives, and would help companies avoid swaying from knowledge management objectives by predefining the objectives and monitoring the implementation process so as to increase the chances of reaching them. This focus would also be complemented by the measurement principle, since the measurement would be done with regards to the predefined objectives that shape the focus.

In addition to this, the idea of quantifying issues in companies always catches the attention of senior management. A lot of problems in organizations are not addressed because management does not get a feel of how the problem really affects the company. Quantifying problems is a way to give management this feel. If the problem is expressed in financial terms not only does corporate management get a feel of how
the problem affects the company, but it also drives them to address the problem promptly. The perspective of this study can help companies’ direct attention to knowledge management by quantifying its contribution to companies.

In essence, in a practical sense the model and ideas conceived through the course of this research could be used as a practical implementation template for successful knowledge management initiatives. Putting these into practice however, warrants more research and inquiry.
References


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### Appends

#### Appendix 1 – Matrix of Knowledge Management Performance Indicators

Source: Šannak (2009)

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<th>Performance Indicator</th>
<th>Accesses</th>
<th>Arrangement and classification of knowledge</th>
<th>Application of knowledge</th>
<th>Attitude</th>
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<td>access to knowledge</td>
<td>availability of knowledge in information systems</td>
<td>number of site accesses</td>
<td>to what extent is the knowledge applied throughout organization</td>
<td>of knowledge sharing</td>
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<td>awareness of evaluation</td>
<td>baseline for maturity</td>
<td>calls to helpdesk</td>
<td>Channels enabling creative outlets to what extent the information systems enable channels for creative outlets, for instance flexible forums enabling attachments</td>
<td>community</td>
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<td>awareness of being evaluated</td>
<td>awareness of contribution to increased participation</td>
<td>previously set baseline</td>
<td>number of calls to helpdesk, preferably decreasing</td>
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<td>readability</td>
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<td>number of re-used contrib. related to total number of projects delivered</td>
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<td>cooperation with external experts</td>
<td>the amount of cooperation after having managed knowledge in organization</td>
<td>culture</td>
<td>Customer satisfaction</td>
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<td>Employee retention</td>
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<td>based on usefulness of the knowledge contribution</td>
<td>increased possibilities for networking with external partners</td>
<td>number of employees staying in the organization compared to previously</td>
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Appendix 2 – Interview Guide

In this interview we will be discussing a number of points that can generally be classified under the following:
What knowledge management is and knowledge as a strategic resource
Knowledge management within the organization: knowledge access, quality and distribution
Organizational culture with regards to knowledge and knowledge management

Competitive advantage
What competitive advantage is and the firm’s strategy to achieve it, e.g. cost, differentiation, niche

The value of knowledge management in an organization:
Financial value
Operational benefits/ Internal processes
Process improvement/ support e.g. decision making
Competitive value
Customer value
Culture-building

Theme 1 – Knowledge Management (KM) and Strategic Resources
- How would you define knowledge management in your context?
  - What would you say are the processes in knowledge management?

- What do you consider as you strategic resources in your organization?
  - Define strategic resources to the interviewee if need be
  - What makes a resource ‘strategic’/ criteria used when evaluating whether a resource is ‘strategic’ or not

- Would you consider knowledge management (which does include knowledge) as a strategic resource? Why/ How?
  - How important do you regard KM in your/an organization

- Do you have a KM system (implicit or explicit) in place for the purposes of knowledge management?
• Access to knowledge and the quality of knowledge
  - Access to knowledge: Availability of knowledge in Information Systems.
  Quality of navigation structure
  - Arrangement and classification of knowledge: If the knowledge is arranged
  in such a way that it facilitates finding what is sought after
  - Distribution of knowledge: Is knowledge distribution facilitated within the
  organization? How?

• Organization structure and culture
  - Are the knowledge management initiatives linked to strategic priorities of
  the organization?
  - Attitude of knowledge sharing
  - Culture
  - Support from management

Theme 2 – Competitive Advantage
• How would you define competitive advantage? What is competitive advantage
  to you/ your organization?

• Given that this is a business, what are your strategies for competing, and
  achieving a competitive advantage?
  - What is the firm’s competing strategy: Cost, Quality, Differentiation, Market
    Niche

• How important is knowledge management in the pursuit of your strategic
  goals?

Theme 3 – Value of Knowledge Management in Achieving Competitive Advantage
• How dependent is your/a contemporary organization dependent on knowledge
  (management)

• The effects of knowledge within the organization e.g. increased visibility, in-
  creased customer value, efficiency, work methods
• Profitability e.g. new businesses gained stemming from the contribution of knowledge

• Return on Investment: Savings, revenue gained due to knowledge management, profits, and more value

• Time, money and personnel saved due to managing knowledge

• Response time: Decrease of response times due to the facilitation of finding information

• Business process improvement: The contribution of managed knowledge to decision-making

• Do you think that knowledge management plays a role in achieving competitive advantage in your/an organization?
  - i.e how does knowledge enhance the overall organizational performance (and competitive performance) How?
Appendix 3 – Interview Consent Form

Interview Consent Form

Informed Consent

Name of Project: Knowledge Management as a Strategic Resource to Gain Competitive Advantage

Authors: Edelson da Glória Baltazar Buanahagi
         Akpotereghe Odoko

Contact Information: (removed for privacy reasons, but included in the copy sent to interviewees)

Procedure and Risks
We would like to record our interviews, with your permission, and use the recordings in our research. We will only record the interviews with your consent. Please feel free to express your views as much or as little as you want. You can decide not to answer a question, or to stop the interview at any time you want if you feel a need to discontinue it. If the interview is stopped, we can withdraw your contribution up until the time it is stopped. The tapes and transcripts will be regarded as property of the project. There are no known risks associated with your participation in this study.

Benefits
We hope that the results of this research will benefit the academic and professional community by providing insight into the field of knowledge management.

Compensation
Your participation in this research will not involve any payments to you, nor costs.

Confidentiality and Details of Participation
Please tick where you accept:

- I accept to being recorded during our interviews ___
- I agree to the usage of my name in your study for citation and reference reasons ___
- I would like to remain anonymous, and would prefer to be referred to by an alias ___
• I agree to receiving a transcript of our interview and reading through it to make sure my opinions have been represented the way I intended to express them

• I accept this research to be published in an academic journal or book, and would like to be informed of such actions before their publication

I hereby certify that I have been informed of the confidentiality clauses of the information collected for this research, and that I have been given satisfactory explanations concerning procedures about my participation in the study.

Date:

Name of Interviewee:
Appendix 4 – Interview with Javier Davila

Greetings

Theme 1

Interviewer: We could start by... Could you tell us a little bit about your company, and what you guys do?

Interviewee: Well we are a development company; we develop embedded systems or electronics, based on wireless applications. So we are very close to our customers and we... They come with an idea and we develop the whole idea and we create the sensors that transmit wireless data to a base station and from the base station to a portal and then we have all the data on the portal. From this we can watch what the sensors are obtaining from the environment. So basically that’s the kind of development we do here.

Interviewer: Ok. How long have you guys been operating?

Interviewee: The company was born in 2007, so five years or six years.

Interviewer: Alright. Well in the interview, we are going to be discussing (well since you haven’t read the document) we are investigating the relationships between KM and CA, starting from first the definition of KM because there isn’t a universally accepted one. A lot of people describe it in terms of a lot of instances; there isn’t one definition that all these academics and all these practitioners agree to. And then how this KM can affect either by supporting or hindering CA in a commercial sector, in a company in a commercial sector. So starting, in the context of this organization, we went through the website and it said it was a very knowledge intensive organization. It came across as an organization that is highly dependable on the knowledge they (you) create, the knowledge you obtain and all that. How would you define KM in the context of your organization?

Interviewee: Well as you said its very important for us, well the knowledge is very very important it’s actually, one of the most important things for us is we try to keep the employees. For us our biggest asset is the brain of that person. So it is very important for us to... the employee must feel very comfortable in his working area, it must be... it’s a key to succeed to keep the employee as long as they like to, as they can. So it’s like companies where it doesn’t matter who makes a job or not. As time goes by you accumulate more knowledge and more knowledge and that’s where you appreciate it in the value of the company. So we are a very small company, we don’t have an estab-
lished methodology of how to have this management but we know it is very very im-
portant for our success to keep this knowledge.

**Interviewer:** Well, in terms of KM a lot of companies of all sizes also do not have a
formal methodology KM but looking from outside(or) looking from inside there are
certain ways to determine if the company is first of all aware of this concept and prac-
tice of KM and if they do anything along those lines. So that been said, do you have
(or) does the company have any practices to create knowledge, to store knowledge
and to share the knowledge they have? Be it in an explicit (in form of a system) or im-
plicitly in the form of a culture. Do you have anything like that in the company?

**Interviewee:** Well, we are ... actually we are now trying to grow a little bit more, so we
are trying to put some activities of how to brainstorm. For example we are planning to
have meetings where we discuss new ideas and where we (everyone) can % support?@ probably new ideas of creating new products, or creating new things. But it’s
something that we are just starting to think, it’s not yet implemented. We don’t have
like a system where we manage that.

**Interviewer:** But, well that been said, you do store the knowledge you have somehow
and you do share that knowledge in between the members of the company?

**Interviewee:** Well, it’s very important to store the knowledge in the way of reducing
the risk in the company because if someone has to leave, we must be sure that we
have that knowledge documented so it’s something very important that sometimes
many companies don’t pay so much attention to. It’s in the documentation of the de-
velopment processes, hardware development, software development it must be doc-
umented. That’s a way to reduce risk and about sharing knowledge, it’s a small com-
pany so we don’t have.... It’s just let’s have a meeting, let’s have this... let’s have... and
that’s the way we do it. With our customers, we try to be very open and to discuss ide-
as and once we have an agreement with them but we are open to discuss our
knowledge.

**Interviewer:** Are you open in the same way inside the company? Amongst yourselves?

**Interviewee:** Yes yes... It’s very open, it’s a good environment, we feel comfortable
discussing any small thing, every detail in the development and I think there’s always
someone that knows better about something and you know that you can go with that
person and...
Interviewer: Well, is it in the event of a similar situation happening, is it easy to get a hold of that person and get a hold of that knowledge? Without going in circles basically?

Reiteration: If you need to do something that you do not know or you don’t have the immediate knowledge and you know somebody that does? I mean, and you need to find somebody that does. How hard is it to find that somebody?

Interviewee: It’s pretty easy because we are... I think it’s easy, it’s very easy. It’s very simple like I said, everybody is very friendly and they don’t want to keep’ the knowledge for themselves. I think we want to... as more as we discuss and we share the knowledge, it’s better for the company. We have better inputs and we create new ideas.

Interviewer: So you have this sharing culture inside the company?

Interviewee: Yes, sure!

Interviewer: As opposed to hoarding and everybody trying to keep their own knowledge?

Interviewee: Sure, for example you hear from a lot of (people) especially students that work on software that they like just to hold (back) what they know and they do not want to share. But here any single detail can be explained by the members of the company. So we don’t have any... it works well in that way.

Interviewer: Well, I guess it’s safe to say that this culture that you have, it enhances and improves the relationships between the employees in the organization. Not only because but also because there is this culture of sharing knowledge, and them this helps in nurturing relationships between the staff?

Interviewee: Well you could feel the support and you could feel that that person is going to be there for you professionally, so you trust and of course you have some kind of bonding with the person. Not only professionally, but you appreciate it’s nice to work with them, its productive and its... we come to a result at the end so everybody feels happy so... its important.

Interviewer: Do you have that same support from corporate? Well corporate in terms of the highest level of management?

Interviewee: Well, it’s just one more boss above me.

Interviewer: Alright, alright! So that’s a yes?
Interviewee: It’s no problem, and my boss also sometimes works as my resource in some other stuff. We do everything here as (one). We are resource or project leader, project manager, so we do a little bit of everything.

Interviewer: Alright. Well, do you think that is because of the size of the company or the culture in the company? Do you imagine that if you were a bigger company you would not have the same culture because there will be so much (many) hierarchical levels?

Interviewee: I think as companies grow, they must implement better or they have more processes, established processes. So it would change, it’s not really .... Of course it’s a bit our culture of sharing, that’s like how this company was born. The entrepreneur that started the company was (Vanner Xillis) and his idea is to share knowledge and share resources between companies. And that’s the main idea. It’s also part of our culture.

Interviewer: Do because of that central importance of well... to phrase it as a question instead, would you consider that knowledge as... what level of importance would you consider that knowledge in terms of the organization itself and the operations within the organization. How important is it to have this knowledge, and to have this knowledge managed effectively?
Reiteration: Like in the website it said that it was very knowledge intensive so how would you classify the importance of knowledge in your operations? For example a manufacturing company would....

Interviewee: Its number 1, for us having the knowledge is our biggest asset as a company.

Interviewer: Well, in terms of access to knowledge and the quality of knowledge, how available is knowledge in your documentations? If an employee were to look for certain knowledge or information about something, how fast or how available is that information to him?

Interviewee: I think currently it’s hard, it’s easier to go directly to the person, and then have some guidance from there. But we definitely need a system to... we need to... well as you said as we grow, then we have more and more projects, then we have to have a system to find the knowledge but currently we don’t have it.
Interviewer: So’ if I may ask, do you have some sort of conventional naming processes when you’re developing? Do you have some sort of guide to documentation that makes it easy for someone that comes(in) to understand that okay if you are going to do this you do this in 2 steps and that in 4 steps probably?

Interviewee: We are in a stage where we are trying to implement those things but we currently don’t have it. We are getting to a stage where we are starting to be stable in our economy, and then we are planning to grow. At the same time when you are starting to grow you have to establish all those things but currently we don’t do it. But it’s important to do it.

Interviewer: But, the technological systems aside, when you need that information, when you need that knowledge you go directly to someone instead of a database that has that information. Is it easy to identify, get a hold of and extract that knowledge from that someone that you need the knowledge from?

Interviewee: Yeah its easy, we know that that’s our strength to be fast when we have a problem and then the way to be fast is to try to be available. So we try to be available to everyone and we try to.... The company works with project leaders so the project leaders decide what should be done and what shouldn’t be done and according to that you could go and ask if someone is available but normally you can and so that’s the way of working.

Interviewer: Do all the employees of the company or at least the majority of the employees have an understanding of this importance? Of how important this knowledge is to the company? Is it clearly communicated and understood throughout the organization?

Interviewee: Well I think it’s understood by default that our biggest asset is the way that we know how to solve something and the knowledge we have on it. So yes, we try to just keep it inside (the company) and with our customers, but not try to just publish it and that everybody should know. We have a level of secrecy; we try to keep it just in house.

Interviewer: Well, you might not have it published, but you saying that the employees do know how important this is to the company even though it might not be written that knowledge is important as soon as you walk in the door. But do the employees have this at the back of their heads?

Interviewee: Yes...
Theme 2

**Interviewer:** Talking about how you guys compete, what is your competitive strategy? Do you focus on providing low cost services? Do you focus on a specific market niche, do you focus on providing a completely unique service or product?

**Interviewee:** I don’t think we really have competitors, because we try to find something that doesn’t exist - a totally new invention. So in that way there’s nothing in the market, we always try to bring unique products to the market. So in that way we feel, we try to get the patent first and then work on it. So we don’t have to be afraid of competitors. I think it’s more just to make it fast and try to get it out in the market as fast as possible.

**Interviewer:** How helpful is your reliance on knowledge and this management of knowledge in terms of the company trying to provide goods and services that have not existed or to a particular market that is uncatered for, how important is this knowledge?

**Interviewee:** Well, the knowledge that you have accumulated will make you invent something much much faster as time goes by. So in the beginning probably it was very hard to get an invention but as you get more experience and as you get more knowledge those inventions come. You have more inventions to combine and you have more ideas and knowledge to combine, so the project becomes faster. So it’s very important, the knowledge you have to make bigger and better products.

**Interviewer:** A lot of times these combinations and inventions you are talking about, will require some form or in some parts new knowledge. Do you have a way that you use to make sure that your employees gather this new knowledge and try to keep improving themselves in some sort of ways? Is there a convention for it?

**Interviewee:** That’s something important you said, it’s one of the important things about the company. It’s not just managing the knowledge but also expanding it and getting more. Well its part of the management of course, but not just keeping it but also expanding it. So for us its very important, always when we have a new idea, a new product, to make an investigation first and to try to get all the feedback. What do you need? What do you want? And also a lot of technical investigation, is it possible? What components do you need? So it’s always important to make these investigations before you start developing something, because it can be very costly if you start developing something without knowing what you are going into. So its very important to make these investigations and I think we as a company, the people that work here we that
that step is important. We cannot get into full developments until we have these in-
vestigations.

**Interviewer:** Could you briefly take us through the process that, suppose you’re trying
to introduce a new product or service in terms of acquiring the knowledge from the
customer, and well obviously you’d have to share ideas in the development stage with-
in the company with yourselves and with the company. How efficient is that commu-
ication? Or how do you do that communication? Do you have workshops or a lot of
meetings?

**Interviewee:** You mean when we introduce a new product? Or how is the process of
creating something new?

**Interviewer:** No. the knowledge chain I guess, if we could call it that?

**Interviewee:** Well, first of all there are two ways of working, one way is we get an idea
directly from the customer, or you act before and you have the vision of what the cus-
tomer needs. Of course it’s much better to know in advance, to know what the cus-
tomer needs and tell him hey you need this.

**Interviewer:** How do you find out what he needs before he...

**Interviewee:** Well, you have to have been working with the customer for a while I
guess, understand his needs, understand the system you are developing, understand
all the background all the problems and as you start understanding the customer
more, you will definitely start getting ideas of what to invent. Just before he has the
idea, so you already have a solution before he has even noticed it. It’s better because
you go faster to market, you even have more possibilities to own the new invention,
because sometimes the customer has the idea first so they would own the product
even though we developed it. So well its 2 parts, one that the customer gives an order
or that we tell him you need this and then we start the investigations. After the invest-
gations we have meetings between all the people involved and that could !@ up-
load_$ something and then we brainstorm and try to get a theoretical solution and
then go back to the customer and present it then if he likes it we can start looking
deeper into components and we can get deeper with the solution. So we start from
very general and we go into more details until we have a good solution.

**Theme 3**

**Interviewer:** Well in terms again of the value of this KM, again how dependent is your
company on knowledge and KM?
Reiteration: You said that’s your primary asset so I’m guessing you are very dependent on it.

Interviewee: Yes. Very dependent on it, knowledge is our biggest asset. If one employee needs to go, it’s a though scenario because there’s a lot of investments in that person.

Interviewer: What would you say are the benefits of an organization managing their knowledge effectively, fast and efficiently? In financial terms, how does this management of this knowledge benefit the company financially?

Interviewee: I think we are too small to get into…. One of the advantages of being so small is that we can act very fast, compared to huge companies. For example in a huge company the guy that has an idea has to come to the boss and that boss to the other boss and so on and at the end it took 3 months and the boss says no and the back again no and back again no and then you have to go back up again. So their communication is so slow. For us, the day we have the idea is the same day we start to work on the solution. So for us the advantage is that we are small and we are fast. And that makes us, in terms if you want to convert it to financial, well we have the possibility to start a project faster, to getting a product faster.

Interviewer: So in essence you are saying it greatly reduces your development time for a product or service?

Interviewee: Yes.

Interviewer: Well, I’m guessing that includes decision making, like you mentioned having all these decisions have to go through so many hierarchies, to this boss, to that boss, but in the case of the organization you get to, I mean when you have the knowledge to make a decision, you make a decision that much faster?

Interviewee: Yeah, it’s as I said about our company project leaders have all the knowledge about the customer, have all the knowledge about the company and they can make the decisions quite fast. If it’s not a very huge financial decision, if it’s a huge financial decision, it has to come to the CEO but that’s all. It’s not more than that.

Interviewer: Do you have any formal or informal ways to measure knowledge as an asset to your company? Well, at the end of the day to find out the contribution of certain knowledge. Do you have any ways to measure that?

Interviewee: ... no!
Interviewer: You said it helps in your development times because of the size of the company, because you have this culture of sharing and not hoarding information, because these decisions don’t have to take months and months to go through. How else within the company does this management of knowledge help you do what you do better or faster or cheaper?

Interviewee: Just talking about knowledge management? Or talking about other...

Interviewer: No. from the perspective of knowledge and KM.

Interviewee: Well it’s um… No I don’t think I can.

Interviewer: Fair enough.

Interviewer: Well I think we have covered most of what we’d like to cover, but in terms of the importance of knowledge and KM within the organization and helping the organization do what it does is there anything that you would like to add on the contribution of the knowledge, the importance of that knowledge, the value and things along those lines? Is there anything you would like to add? In terms of KM and what your organization does.

Interviewee: Well, I think just companies that are focused on knowledge are very important for these times, for example Google or for example all these developing companies like ford and Volvo and all those companies that develop things knowledge is very important and I think…. I haven’t thought about as a term of management actually but it’s quite interesting, the concept. I never saw it as management but I think it’s very important to have it as a culture inside of the company but not only that, also as a system and yeah! So I think it’s something that I didn’t think about, I think it’s good to implement it as a more standardized concept inside the company.

Interviewer: The problem it isn’t implemented so standard and like that is because first it’s quite a young concept that hasn’t gained any universal acceptance and second there isn’t any frame work to measure the contributions of knowledge management. Because when you’re talking about management, people just want to know how will this benefit my company? So since it’s so young, it’s hard for KM academics and practitioners to say well this is exactly how it benefits your company because it’s hard to measure knowledge and say because of this knowledge we got that result and so on. We understand that a number of companies and practitioners don’t even accept that correlation completely or accept that KM is management. You know, there’s quite a
number of academics that say all evidence that supports it is very unmethodical and it isn’t anything substantial like that. So well, that’s why we’re doing this at the end of the day to see if companies first of all know about this and if they know of the contributions of these practices. The practice of collecting, creating, storing, sharing knowledge and the organization learning. I mean, that is managing whatever knowledge they have and acquire. So if there is anything else?

**Interviewee:** No. it’s interesting, the concept and it is something to think about and I think something to consider.

**Interviewer:** Were you aware of the concept beforehand?

**Interviewee:** No. I hadn’t heard it.

**Interviewer:** To finish on a lighter note, as a company, if you were to choose when you treat your knowledge assets or your financial assets, where would you rather take a loss, a loss of knowledge assets or a loss of financial assets?

**Interviewee:** Well, I think that’s a question for the owners. if I owned the company, I would invest now that I’m young I don’t care to lose money but when I’m old I would probably want to leave the money I have earned so I don’t care about losing knowledge. So I think it’s about what the owners want to do with their money. Money is at the end what people want from a company. Or it’s a decision of when do you want it, do you want it now and little? Or do you want it later and maybe more.

**Closing**
Appendix 5 – Interview with Ray Dawson

Greetings

Theme 1

Interviewer: Shall we get started then... Before we jump into it, could you tell me a little bit about your involvement in the field of KM both academic and in practice.

Interviewee: Well, I’ve been actually a lecturer of Computer Science at the Loughborough University here in the UK. My involvement with KM - over the years I have been increasingly interested in the way in which people work with KM, working especially to find out with how things are developed and the like. I have spent a lot of time looking into companies and working with companies, and because of that I found KM (01:00) and I started looking more and more into that and doing research within the field of KM. My particular interest is in the actual implementation of these systems: how do they describe what needs to be done and how it should be done, and what makes some systems a success and some a failure. And so it’s trying to work out the practical aspects of actually implementing KM systems. And as a result, I have been involved with different companies on different aspects of KM ranging from small companies to big companies like Rolls Royce.

Interviewer: So, you have had first-hand experience in those companies, in the implementation of these KM systems...

Interviewee: Yes, a number of my PhD students have been sponsored by these companies and they had worked very closely with the companies afterwards, and nearly all of their time during their research studies

Interviewee: That’s quite interesting... In your view, how would you describe KM... From your vantage point, how would you describe KM?

Interviewee: The problem with KM I think is working out what is KM and what is information management. And my particular message may not agree with everybody. From my point of view, I believe KM is making use of information within a particular context. For example, it’s all very well known, for example: if one device moves faster than another device – you’ve got to know that that’s information. Then if you say, when you are solving a particular problem first you ask is it better than the other one (device) or not? It’s that knowledge in a particular context that makes knowledge rather than just information. For this reason, actually, I would say, I have come to uphold the definition of KM which tends to include a lot of information management as well... So information management I see it as being part of KM.
Interviewer: With that definition in mind, doesn’t that water down the field of KM, itself? Wouldn’t that make it a case for information management, and water down KM as a field of research and practice?

Interviewee: Not necessarily... The problem is, you can’t really do really do very good KM without good information management as well... And so some techniques for doing information management are actually very useful for KM because you need information to be able to use knowledge – because you can’t apply any contextual knowledge to information unless the information is of good quality itself.

Interviewer: In that sense, would you then consider information or knowledge as a company’s strategic resource in a commercial setting? Or both?

Interviewee: I probably wouldn’t make a distinction between the two, which means, to say the two together – so in that respect I would say both.

Interviewer: Why would think information/knowledge is such an essential resource to a commercial or non-commercial organization?

Interviewee: Basically, any company would do better if it knows what it is doing. And this implies that any company or person will do better if they know what they are doing. And so in a sense, it is really just having – knowledge leads to understanding, and usually you do better if you have knowledge available. In that respect that also applies to information, but knowledge is that one step further of actually having it to make sensible decision about things is a particular context. And if you know about things, if you have the understanding you can make better and wiser decisions, and that will inevitably be a good thing for your company.

Interviewer: You said earlier that you have been involved in KM implementation initiatives. What is a KM system? Is a KM system a (purely) technological artifact, or would you say that it is a set of processes...

Interviewee: KM tends to be a mixture, tends to be – not always: it tends to be a mixture of 3 things. It involves first of all technology, it also involves the people and the processes that go with that. So, to say that KM (system) is only technology will almost certainly mean it’s not really KM. People that try to get about solving problems in a company purely by applying technology usually fail.

Interviewer: In that regard, is the technological aspect of KM something that can be done without?
**Interviewee:** There are some things you can do in KM that does not involve technology. Most things do, but there are some things.

**Interviewer:** When we try to find out the value of KM in an organization, we came across a number of frameworks that had KPI. One of those indicators used when finding out the value of KM in an organization was how accessible knowledge is. How important would you say access to (quality) knowledge is to the success of the overall KM initiative?

**Interviewee:** You can say it has some value, but I do think it will vary from one context to another – just how much value it would have. I think you would find it very difficult to come up with a universal law or rule which says how much value it has.

**Interviewer:** But you do subscribe to the notion that access to the knowledge or information is indeed valuable to an organization?

**Interviewee:** Well yes. I mean it clearly makes sense that if you want to make a decision, say, then it clearly makes sense that if you have access knowledge that will help you with that decision – then that is clearly going to be an advantage.

**Interviewer:** Do you think that the speed at which this knowledge is transferred within an organization affects the decisions that can be made, or the decisions that are ultimately made?

**Interviewee:** Yes, because clearly if something comes up, and it (knowledge) is too slow to get a hold of – first of all people won’t bother... not only the speed of the knowledge coming to you once you have asked for it but the speed in which you can ask; in other words, if the system in such a way that you can use it easily to get what you want – that easily makes a huge difference as well. Because what happens when you have complicated systems, people do not bother to use them - they would just much rather ask somebody else.

**Interviewer:** I can see that happening. But in terms of ‘soft’ aspects in an organization: speaking about culture. Do you think that has an influence on KM initiatives?

**Interviewee:** Can be, yes. In fact, it’s very much so. I have worked with a number of different organizations. If you manage to get a sort of level or readiness for KM – there are some companies that just do not understand or appreciate the need for it at all. There are some where the higher management usually sees it, but I am talking about the actual workers. If the actual workers don’t actually see either the means for it or
have any desire to use it – then they are not in a very high state of readiness... Even if you were to introduce a KM system in that particular environment, you would probably find that you fail because of the lack of motivation among the staff to use it. So there has to be the right level of readiness to use it – other companies I have come across have been much more sophisticated as in they appreciate the value of knowledge and they appreciate the value of knowledge sharing – and that means obviously that knowledge can be shared and used that much more so yes.. Readiness for KM is important.

**Interviewer:** In the (KM) projects that you have been involved in, do you think that the KM system implemented helped somewhat foster a culture of collaboration between the staff in the organization, as opposed to its (the culture) state before the implementation?

**Interviewee:** You can... It depends on what you are trying to do and how you try to do it. An awful lot of KM systems fail. It all depends on how a KM system is introduced. Many systems will fail – a lot of systems will fail, and it’s often because they are introduced in the wrong sort of way. Mostly, what you really have got to do is to win people over to use it, and an optimal way to do it is to look and see what problem you are trying to solve – is it a problem that these people have? And if you can have a problem which is known, and you can help to solve it by sharing knowledge in a particular way, then you will get a willingness to use it and success as a result. So it depends on what you are using the KM (system) for. If you are just trying to introduce a KM system without trying to solve a particular problem that people have then they will not particularly use it, they will not end up sharing any knowledge despite the system. So you can put in for example a discussion forum to allow people to discuss problems – if people don’t think they have any particular problem then they will not use it and they will not share knowledge anymore.

If you put in a discussion forum as a particular solution for a particular problem where the workers themselves are aware that they have this problem and that they want to solve this problem – they will try to use the tool and as a result will end up sharing. So it all depends on what context you introduce it in and how you promote it and how you motivate people to use it – and used in the right way it can promote knowledge sharing. But it will not necessarily (automatically) do so and many systems fail.

**Interviewer:** Are there any other reasons that you have come across, as to why these systems fail, apart from them being implemented in wrong or in an inappropriate way?

**Interviewee:** Yes, there have been all sorts of reasons for these systems failing. It can be introduced in an inappropriate setting, but it is usually, actually more that they ha-
ven’t got the people on board. The people themselves are not interested at all. First you have to want to use it. There has to be the technology, people and processes in place for it. Also, processes to take advantage of the knowledge have also got to be in place. And you have got to have all three if you are going to have success.

**Theme 2**

**Interviewer:** As you have seen in the document I sent you – we aim to discuss the relationship between KM and competitive advantage, so I would also like for us to talk a bit about competitive advantage. From your vantage point, what exactly is competitive advantage?

**Interviewee:** Basically, it’s something that you have that others haven’t got, that will give you an advantage. That’s really when you have got something better than somebody else – simple as that really. What do you have that is better than somebody else’s – that gives you the advantage?

**Interviewer:** How important do you think KM initiatives are in the pursuit of competitive advantage in an organization?

**Interviewee:** I don’t think there is a straight answer to that. KM can be used much more effectively in some places than in others, so I don’t think there is a straight answer to your question.

**Theme 3**

**Interviewer:** To tap into this, we also found a number of performance indicators that companies used to find out if these initiatives were bearing any fruit in their respective settings. One of the indicators that they looked into, in terms of organizational performance was finding out what the KM initiative and/or system improve in the organization.

Reiteration: In terms or organizational performance, how can KM improve or benefit a company in terms of what they do to do what they do better?

**Interviewee:** The way I always tackle is I always start... Starting again: too many people when introducing KM just introduce KM because it’s a good thing and they just have a general belief that it will make things better. When its introduced in that way it tends to fail – because there are no measurable means for it and as a result there is no measurable success for it.

I tackle it in a different way - what I have always said to companies who have asked about KM I say ‘What problem are you trying to solve?’ And get them to focus on particular problems. And then I would ask them: How bad is your problem, how much is it
costing you? And then they would focus on how bad the problem is, how it is costing them...

So for example, if they are losing some business because different salesmen are not talking to each other – perhaps that’s a scenario. I then need them to estimate how many customers they are losing, what is the turnover they are losing, what is the profit they are losing.

In that way you have a cost of a problem, then when you insert KM initiatives you can now then actually measure the success in straight-forward cost ways – and say that this particular initiative has saved a particular amount of money because it has reduced *that* problem. Even if when you introduce the KM system, it has other benefits you can’t really count them because those benefits are not benefits that company was consciously after. So basically you focus on what problem you are trying to solve and if you can solve that problem then you can measure the benefits on your KM – you have a measure of success. And that would then work. Furthermore you will get people interested in doing it as well. If you do not have a particular problem to solve, you have no measurable means of any benefit that is gained from it. So if you start in the right way, if you introduce it in the right way you can see measurable benefits.

**Interviewer:** Well, that was the biggest problem we have had in trying to find out the benefits of KM. Most organizations did not have any way to measure how KM initiatives benefit them in any way. They did not have any financial measurements or otherwise to justify KM...

**Interviewee:** Exactly. So, they might try a few things out and not know whether they succeed or not and after a while the senior management loses interest and they don’t bother with KM anymore. Then it’s a big failure.

**Interviewer:** Indeed. Has that happened in any of the companies’ projects that you have been involved in?

**Interviewee:** Well yes, actually there was one we did right at the very early stages where we did a knowledge audit and found a particular problem that the company didn’t know they had – we found a way to solve it, and although the company agreed that it was a good solution and that they would do something about it – they never ever did. And the reason they never ever did anything about it, they never even installed the system, was simply: they didn’t know they had this problem beforehand, they didn’t own the problem, they didn’t care about the problem – and so the problem, they just forgot about it. So from my point of view that was a complete failure because nothing was done about it. So that was one where I had been directly involved in. I have been in others (projects) where they measure systems, which I was not directly
involved in... Some of those have failed, and in most cases it has been a case where some people think it was a success but many people think it is a failure – where they (systems) haven’t been used or used as much for its original purposes.

**Interviewer:** I don’t know if you are at liberty to discuss this but in the projects that you have been involved in, what would you say is the most important thing or things that a company must have, or must be ready to do in order for a KM or KM system implementation to be successful?

**Interviewee:** You’ve got to have buy-in from everybody, from senior management down to the grass roots people at the bottom. If they are not interested it’s not gonna happen. You’ve got to have a willingness by everybody at all levels to use it (KM system), and that is another reason why we tend to focus on what problem we are trying to solve because if there’s a problem that everybody wants to solve then everyone will want to solve the problem by using the system.

**Interviewer:** Suppose a company has not identified a specific problem that they are trying to mitigate using KM initiatives. What are the chances, if any, that a company will have a successful KM implementation if they haven’t identified specific problems, and if they just want to focus on doing what they do better, faster (e.g. having decisions made faster). If they haven’t had specific problems...

**Interviewee:** Less than 10%.

**Interviewer:** Wow, that is very pessimistic...

**Interviewee:** Well I think it is. I mean having said that, when you were describing that – if they decided that their decision making is taking too long, so they had to make the decisions faster: if that was the case then that might be the problem that they are trying to solve. If decision-making is an identifiable problem that everybody recognizes – it’s got to be a problem that people recognize, because then they want to solve the problem. If they haven’t got a problem then they don’t want to solve it so it means that systems will exist, for instance if you introduce a community of practice, a discussion forum or something like that you may find that it is used by a handful of people or just a few people because most of the rest aren’t interested, and so it might have a limited success. It’s not really the huge success that that everybody hopes for.

**Interviewer:** And how many KM projects have you been involved in, KM system implementation projects have you been involved in? I just would like to get a picture of where you draw your opinions and insight from...
**Interviewee:** I’ve had about a dozen direct first-hand working very closely with the companies – about a dozen projects. But also have been involved talking to other people, so the knowledge also comes from a slightly wider sphere as well... I mean, done about a dozen major ones... There have been smaller ones as well.

**Interviewer:** Of the projects you have been involved, what was the predominant technological artifact in a KM system... Was it mostly community forums? What else have you dealt with?

**Interviewee:** There were mostly disposed systems designs built for a particular purpose. Mostly not all... There was one system which was really a process for extracting knowledge out of people who are leaving the company – and it was an interviewing process. And so it didn’t really involve technology at all.

**Interviewer:** I think that was a good system in trying to keep the knowledge in-house in case for one reason or another, valued employees left the company. If the knowledge stays in the organization, there are less worries about people themselves leaving the organization.

**Interviewee:** Yes absolutely. That is a very good example and a very common example of a KM process in this particular case to try and save the knowledge as people leave, and many companies like to do that – and people like to do that and like to do it more than they can.

**Interviewer:** Is there anything in terms of measuring KM or the value and benefit it can bring to an organization that you would like to add?

**Interviewee:** I think I’ve said most of what I was gonna say because as I say, we have done most of our measurement of value by looking at it almost in a backwards way by saying: well ok, what problems are you solving? What problems do you have now that you did not have, or that you do not have now that you used to have? And as such, measurement is most important, and the one actually I find the only one managers listen to is in fact ‘money’. Basically the more it costs, the more money you are saving, the more they listen. And so, for instance, let’s take Rolls Royce: we did a project with them and we were able to show at the end of the project that we had saved an awful lot of money – it was many thousands of pounds – I won’t say how much.

**Interviewer:** Of course, I understand.
**Interviewee:** And as a result they wanted us to do extra and said, ‘come on in, we like you’... So if you want people to listen and to appreciate the value of anything - the only measurement that managers really care about is money. And I will give you an example of another one, this was a computer company – this was at the beginning... This was a big department with 100 people in it approximately, and it was a sales marketing department – and the question there was how do we get the experience of the people that know what they are doing to the people that don’t know what they are doing so much.

**Interviewer:** I think that is a classic problem in KM (transfer of tacit knowledge to explicit).

**Interviewee:** Absolutely. One of the aspects that came out of that when we looked at the problem was how much time did inexperience people spend looking for information. So we started at that. So we did some estimates and multiplied it by the number of people and the actual time and number of months and we were able to go back to them and say: Do you realize that this is costing you a quarter of a million pounds every year?

**Interviewer:** How much?

**Interviewee:** A quarter of a million. 250 000 pounds. Now, in Rolls Royce we did the same thing for different thing with another tool and we could show that people were wasting time amounting to 5 million pounds across the company – bear in mind Rolls Royce is a big company of course. Now, you come up with figures like that and people listen, and it also gives you a benchmark so in the computer company’s case they could work out how much it would cost to put in a new system to replace this (processes) and save time and save money. Because they knew how much the original problem was costing them. So even if they would only get rid of half the problem, they still could spend 100 000 pounds and still make a profit in one year. And then in subsequent years, of course, more profit. So, if you can come up with these figures in terms of money – how much you are saving in terms of the problem that exists – you have got a measure of success and people will listen to you when you measure the success. And you have to measure it in a way that managers understand – and that means it has to be in terms of money. It’s no use going to them and saying: you’ve had 20 000 conversations between people which means that they are collaborating more – so what does that mean?

The manager would say ‘yeah fine’. He knows that people are talking more but he has no feel. You go to them and say: because of those conversations you solved several problems which cost so much or you made more sales which cost so much – if you put
that cost in they understand it and know what you mean, and they are interested. Talk money.

**Interviewer:** In what capacity or post have you been involved in these KM initiatives?

**Interviewee:** You could say a type of consultant really because what happens is we get a PhD student and we get the student and talk to the company and find out what the company is interested in and get the student to work very very closely with the company, so closely that in many cases they work in the company’s premises and then come to the university from time to time. So, working in that way they are almost part of the team there – although they are university students they are part of the team at Rolls Royce or whatever, I mean Rolls Royce being an example of where we have done this. And so, we are part of the team, but we are also not part of the team because we are an independent organization. So I’m not quite sure how you define that, it’s a little bit like a consultant.

**Interviewer:** I guess I would be tempted to call it that too...
Out of curiosity is it common that academics are brought in to practical situations because of their expertise, knowledge, experience and research in a particular field?

**Interviewee:** I am not sure what you are trying to ask there.

**Interviewer:** Is it common that a company would come to your institution with a project in the field of say information systems and then they would call for a professor in the field or something of that nature...

**Interviewee:** No, I wouldn’t say it’s common. It’s very uncommon. The hardest part is making people realize they could come to the university – I just wish they would. When companies have problems they usually don’t even think of asking the university which is a great chain. So whenever I get contacts and I go visit the company I also look and ask questions and might see that: oh, we might be able to help you on that. It’s actually quite rare really.

**Interviewer:** But when that happens, are the results usually positive? Because of the discrepancies between theories and real life situations. So when that happens, how often is it successful?

**Interviewee:** Well, I have had a lot of success – but I think I don’t think like most academics do. Most academics will go to a company and say here, we have got a grand theory – we think this will be of use to you. And the company might say ‘oh well’ or
might be interested but not that much. We tend to go into the company and say have you got a problem – we can help you solve. What is your problem? What is it that you want to know? And then we will put in the research for it. So we always start with the problem that they’ve got. So in a sense I practice what I preach in terms of KM. What is the problem you are trying to solve...

Interviewer: I guess that works, instead of coming with ‘theories of saving money’ and they are completely different from what happens in the real world...

Interviewee: Exactly. I mean obviously I suppose built it out of my own methodology and way of working and sometimes that works well for me – so that when I go and talk to companies I know which direction the student working should working with them and how they should think about it – but every company is different. In some ways it’s sort of a general approach and not a well-defined methodology. I have written, a paper: 12 steps to implement KM which was fine – I’ll send you a copy. But you can’t really generalize that well – so having experience helps in that sense. So we built up this experience over the years – taking a problem-solving approach, I have found by far has been the most successful way of looking at it.

Interviewer: Well, if you can save Rolls Royce a couple of millions then definitely you are doing something right.

Interviewee: Exactly! Some of these ideas – I don’t know how these are, because quite often you have to base them a lot on estimates but the point is – an estimate is an estimate and is better than having nothing at all. And so you make the best of what you’ve got – and sometimes it’s really been quite convincing.

Interviewer: Now, I’m not sure you are in a position to divulge this information, but what other companies have you been saving money for?

Interviewee: Let’s see which ones I can tell you about… There’s a computer company we worked with – I don’t think I can tell you who they were. Let’s see what other ones we’ve had, there’s a small office supplier called the Danward Group; they are suppliers of office equipment and photocopiers and things like that – that one I can tell you about. Let’s have a look at the other ones – we’ve done some for British Aerospace, BAE systems they call themselves – a little bit for them. So there’s a few I can name...

Closing
Appendix 6 – Interview with Louise Cooke

Greetings

Theme 1

Interviewer: Just to get back on what the aim of the interview is, we are looking into KM and it’s quite a young knowledge area and there hasn’t been quite a lot of universally accepted research in the field, KM definitions and even its applicability and relevance in the commercial sector. This interview will cover KM and its value as a strategic resource within an organization - KM as a means of competing in a commercial sector, we will get back to that.

In essence, the value of KM and the relationship between KM and organizational performance.

Please tell me a little bit more about yourself in the context of KM.

Interviewee: First of all, I will tell you that my background is actually not in a commercial environment. My background is actually... sort of an academic librarian. So I was involved in the organization of knowledge, but obviously that has a relevance to KM and I also became very into virtual learning and the use of technology to support learning, so that’s where I’m coming from. But I then did my PhD which wasn’t in KM – I took an academic post in the department of information science and I was given a post as a lecturer in Information and KM. So I kind of increasingly focused my research in that area and also my teaching is in that area too. So as I have been doing so, I will perfectly frank with you – I have been learning about KM more and more myself and often been carrying research in that area....

Interviewer: How long did you say you have been actively involved in KM in terms of teaching and academia?

Interviewee: I think I will probably put that at the point in which I joined Loughborough University although I did teach at a university previously and supervised a number of projects in KM. I would really say it was from January 2006, so about 6 and a half years.

Interviewer: How would you define KM, to a layman?

Interviewee: In my teaching I am familiar with a number of definitions – and academic definitions. But I suppose I would conceptualize KM as the strategic management of intellectual assets of an organization in support of competitive advantage and organizational objectives. That’s sort of the basics of what it is, but within management I would
say that would encompass the acquisition, codification, storage, dissemination, sharing etc of knowledge.

**Interviewer:** And those would be the processes in KM?

**Interviewee:** Yes, I did look at the questions. I have to admit, I have not had time to read through all your questions – As soon as I saw that question I was thinking in terms of the creation, capture, dissemination, sharing...

**Interviewer:** You said that KM would be the management of intellectual assets in support of competitive advantage. So in that sense, would you consider KM being something that also contains knowledge, as a strategic resource in an organization?

**Interviewee:** Yes, although I can say that in many organizations it doesn’t get much recognition. Certainly, anybody working in the KM field would see that. I would just say that it is not just in support of competitive advantage: it’s also might be in support of business objectives and that might be slightly different. I’ve done work in the public sector and there the use of competitive advantage is....

**Interviewer:** But, we could say that even in the public sector companies do have to ‘compete’ in one way or another. Why do you think that there isn’t much recognition of this concept in terms of competing?

**Interviewee:** Well, I suppose in my experience, I think that public sector organizations don’t like to position themselves as being about competitive advantage. Of course they are trying actually to do what they need to do as cheaply and effectively as they possible can in that sense – certainly in the UK they wouldn’t tend to frame it so much in terms of competitive advantage. I could be wrong about that, but that is my experience.

**Interviewer:** I understand why the public sector would tend to restrain from looking at themselves as competing in their specific markets because, well then the issue of profiting comes in – and as they are companies that provide public services they are not really meant to be ‘profiting’ in the traditional sense. So I can understand why they do not want to ‘compete’...

**Interviewee:** Yeah, there is definitely a culture in the UK that you don’t consider public sector organizations as being about profit-making – and so that’s why the term isn’t used so easily.
**Interviewer:** Well, to the contemporary (for-profit) company, taking into account the high levels of competition and globalization, how important would the concept and practice of KM in such organizations

**Interviewee:** Well I think it may vary from organization to organization, it’s very difficult to say exactly the level of importance but in my experience, as I said, I visit quite a lot of organizations and visit students on industrial placements - and I’m finding that people are increasingly familiar with this discourse of KM – and it’s not such an alien concept as it perhaps was 10 years ago, and there may even be explicit departments or explicit posts that are charged with KM activities. So I think certainly it’s increasingly recognized as being important, but just as equally, I will find that things I would consider as KM activities are being undertaken in some organizations but they don’t actually recognize them as KM per se. They are just doing what they think they need to do.

**Interviewer:** In terms of the definitions of KM, would you say a KM system is a system because of its technological components or is it a system as long as it supports the practice of KM (in terms of processes) in terms of knowledge creation, storage, sharing and all that...

**Interviewee:** Well, I think there are all kinds of systems that are in place in organizations and from that point of view I could give examples from the university perspective. In effect, what I would call KM systems – they wouldn’t be explicitly recognized. For instance, we have student information systems, things like institutional repositories, library management systems and so on – and really their purposes/processes align quite well with KM... but they wouldn’t be regarded as KM systems if you see what I mean...

**Interviewer:** Well, when I was reading into KM, I was trying to find a framework that could be used to measure the performance of KM initiatives in organizations. I did not find a universally accepted framework for this measurement, but I did come across a number of models/frameworks that had a number of KPI that I ultimately put together to make up what we consider as our own take on KM measurement framework – taking all these KPI from the frameworks we looked into. They mentioned that access to knowledge and the quality of that knowledge would be one important aspect of a KM system, again a KM system not necessarily being a technological infrastructure, but just the processes involved in managing knowledge itself.

**Interviewee:** I would agree with that. I think that that is appropriate to mention. Again, in my teaching I try to emphasize that a system is only a system and it would only be as effective as the people that are using the systems... and it is more important to see it
as a more organic thing... the processes that you are trying to do and an enabler, but it’s not the end in itself. Having KM system is not an end in itself – managing knowledge is and end it itself.

Interviewer: I notice that you place a great emphasis on this KM not being a technological system per se, but more a practice, a number of processes that ultimately make up this whole KM initiative.

Interviewee: Very often there will be a range of different technological platforms, tools that come together to support this overall process. But it is always the process that is more important, yes. (than the technology itself) (Here she views technology as a support to KM not as a KM system per se)

Interviewer: Could you tell me more about KM in your specific context. Do you view KM as this powerful tool not necessarily to compete but, in terms of its processes i.e creation, capture, storage, sharing. Do you still view this as applicable in a non-commercial sector, such as yours?

Interviewee: First of all I have to say that I can’t speak on behalf of Loughborough University, I am not the person who holds overall responsibility for KM processes in the university, this is not an institutional perspective. I will give you my own individual answer to that which is: yes, I do think it is equally as important in this kind of sector, and in fact what is a university if not a (lacking a better word) ‘creator’ of knowledge. We should be the place where knowledge is born and knowledge is created and knowledge is disseminated and so on. So, if we’re also not having ways of managing that knowledge, and making sure that it is effectively processed/managed we are failing at our key role. So, yes I do think it’s very important but on a more day-to-day basis. We’re also having to manage the daily activities of the university and many of those functions will require knowledge, in terms of how we do this, how this is being done, what we know about this etc etc... so it is just as important.

Interviewer: From where you stand, how is the accessibility of knowledge in your institution in terms of ease of acquiring required information and knowledge

Interviewee: There are some very good practices, but there are also some gaps. I have found this in academia, wherever you work – there is always quite a reliance on a level of tacit knowledge. I have not yet come into an academic post where there is an effective manual, including the rules regarding how do we do this and that and so on. An awful lot of it, it’s still the case that you pick up on the job. Having said that, we do have technological systems we have access to – electronic journals for academic
knowledge and so on. The day-to-day processes of the university still require an element of learning-as-you-go as you and try to gain knowledge from your colleagues and so on. I think it is also true to say that there is an element of knowledge hoarding that goes on in universities sadly.

**Interviewer:** Sad indeed. Given that this tacit knowledge by virtue is difficult to identify, how easy is it in your case to get a hold of an individual that has this tacit knowledge if need be

**Interviewee:** I found its one of those tacit problems, that it’s very easy if you know what you don’t know or you know what you need to know – then it’s not difficult. I could go to any of my colleagues in the department and say what do I do about this, how is this done... the problems is the things that you don’t know that you need to know. It might be rules in terms of not being supposed to write on student drafts when we are marking – nobody actually tells you that. So you find out by default. But if you don’t know what you don’t know you don’t go and ask anything. So I think there is an awful lot of that – and as I said that it was my experience in my previous universities as well – it’s not something that is exclusive to this university... But we still haven’t found an effective way of really enabling people to hit the ground running knowing all that they need to know.

**Interviewer:** In terms of the structure that supports KM and the culture in your institution, what is the attitude and culture pertaining to KM. You mentioned that there is a lot of knowledge hoarding. I guess it’s not so positive

**Interviewee:** We’ll, I don’t know whether I’d say a lot. Maybe to say ‘a lot’ of hoarding is perhaps an overestimation – but certainly there are pockets of hoarding and I think it’s partly because of the way that we are appraised and measured and monitored and so on... which means that universities sadly moved away from a cooperative culture to a more competitive culture, and I think that this has had a negative impact on knowledge sharing. Again, I can’t speak for every department in the university but I think I have seen an increase in that sort of thing – people being protective over what they are prepared to share.

**Interviewer:** I suppose they are protective because they have a general understanding of the potential of knowledge management, and they tend to keep it to themselves

**Interviewee:** Well, I’d say it’s true across universities – I mean going back to years ago: universities certainly were... you were all collaborating with each other, you were all in it for the same thing and if somebody else was interested in your discipline you’d want
to tell them everything that you know and they would want to do the same and it was very very open. But because of the competitive funding arrangement in place now from the government level, it means that there is a tendency to be more competitive rather than collaborative even though we do sometimes find ourselves collaborating.

Interviewer: But are there any formal attempts from the university itself to have these collaborative platforms in the university among the employees in terms of sharing knowledge

Interviewee: Perhaps less so at the university’s instigation, but the funding councils have been trying to promote interdisciplinary research and so they have tended to make initiatives available in order to bring people together, and I have just been on a research visit with colleagues to other departments, and that was funded by one of the research councils on what they call the ‘Bridging the Gap’ initiative, and it was exactly about bringing people together, In terms of the university, there are sometimes events where they would try to get people from different departments together and within departments. Again, I can really only speak for my own department. The nearest thing that I could say is that we are going to be moving into new premises in the latter half of the year – and there has been a conscious decision made to incorporate breakout areas and collaborative spaces and initiatives to encourage sharing and discussions. So there is some recognition of the importance of KM, yes.

Interviewer: Have those attempts successfully nurtured relationships between different disciplinary departments?

Interviewee: Yes, I think it would be fair to say... I felt certainly that I have made contacts with people that I would hope to work with in the future. I think it is very open and so on...

Theme 2

Interviewer: Moving on to the matter of competitive advantage. I want to discuss this also because when you defined KM you mentioned that one of its aims would be to support competitiveness in the pursuit of competitive advantage (in a commercial sector?)

Reiteration: When you defined that KM among other things, would help companies compete, and that competitiveness would help a commercial (for-profit) companies gain advantage over its competitors. In that sense, when would you say that a company has a competitive advantage over its competitors in a market?
Interviewee: Well, I guess it is sort of, that they are positioned as a market leader, that obviously they have the biggest customer base – that might be seen as competitive advantage. You might see it in terms of actually being able to produce more efficiently, more effectively, being able to innovate more efficiently or more successfully. Basically, being the dominant market leader I suppose.

Interviewer: So, this advantage would be in terms of customer base or effective production...

Interviewee: I mean, thinking of that in terms of the university – we want to be able to recruit better students than our competitors; we want them to see Loughborough as the place to come if you want to study this or that. We want to be the leading university in that regard. We are at the moment for student experience the top university in the UK. But, that also implies that we are also able to manage our finances effectively, it implies that we are able to do what we need to do but do it cheaper.

Interviewer: So if I am made to understand correctly, a brief summary would be to provide quality education using the least amount of resources – the highest possible quality compared to other universities, using the least amount of resources.

Interviewee: Yes, I think that sort of summarizes it...

Interviewer: And how about matters of the cost of the university – does it mean that you would also be aiming at providing this quality education at a relatively lower price than fellow universities

Interviewee: That’s a very difficult one actually in universities, because there is a perception that sometimes – you probably won’t be aware of this – but there has been a lot of debate and controversy about student tuition fees in the UK and what universities should charge and so on and so forth. There is a perception that if you charge a lower fee then prospective students will see it as being a lower quality education if you see what I mean. So they equate cheapness with low quality. So, it isn’t necessarily a goal to actually provide cheaper education, but obviously to be able to provide quality in a more cost-effective way, so that it is more profitable in terms of our financial resources which then enable us to improve infrastructure etc which kind of keeps that cycle of quality going. I think it would be more...

Interviewer: I think I understand what you mean...
**Interviewee**: So in terms of your question about the firm’s competing strategy, it might be much more about quality and to some extent possibly about differentiation and market niche, rather than cost...

**Theme 3**

**Interviewer**: In terms of the value of KM in an organization aiming to compete, how dependent is your organization on knowledge from your point of view. I know that is a central...

**Interviewee**: It’s a critical resource. I mean, in our case it’s not just KM but effective information management and KM are really important. I mean, we couldn’t do what we do if we didn’t have that in place.

**Interviewer**: Do you see the effects of this KM and information management visibly in the institution

**Interviewee**: I wouldn’t say it’s visibly articulated, no. But I think it’s something that happens, but it isn’t necessarily explicitly recognized.

**Interviewer**: So you can say that there aren’t any formal attempts at measuring this (KM performance)?

**Interviewee**: No, I don’t think there is... I am not aware of that at all...

**Interviewer**: This will probably stem from your experience and opinion, but from a commercial perspective how would you suppose an organization measures KM initiatives.

**Interviewee**: That’s a very difficult one, and one that hasn’t really been solved. There are sort of all kinds of ways in which people try to do so, by trying to measure RoI and so on... It might be in terms of increased customer satisfaction, it might be in terms of lowered costs, it might be in terms of an increased rate of innovation – but you (as) you know it’s very difficult to prove any kind of causal relationship. It may even be anecdotal, I’m sure you are familiar with that: the story of Xerox and all these cases... So it’s very difficult, but things like benchmarking and balanced scorecard can be used – but at large I don’t think anybody has really come up with the solution to proving RoI...

**Interviewer**: I think that’s one of the biggest problems in the field that we came across actually because there would be mentions of increases in RoI and profitability and that being tied to KM – but the evidence presented to back that up would often not be sub-
substantial enough to firmly connect these 2 (KM and competitive advantage) by causality...

**Interviewee:** It is a difficult one...

**Interviewer:** So, because of this, we are looking at all these KPIs used by a number of companies in their KM initiatives and projects... But an interesting thing we came across (which I don’t think I sent to you in the interview draft) – KM success has been described in terms of how much (or to what extent) of each of the KM processes a company performs.

Reiteration: Well, they had their KM processes which include the creation of knowledge repositories, enhancing knowledge, managing knowledge, dissipating knowledge and all that... And in each of these processes, they examined to what extent a company for example, how much a company enhanced a knowledge environment and culture, and if the company in that sense scored ‘higher’ in enhancing a knowledge environment and it also did well in creating knowledge repositories and disseminating knowledge, then the ‘sum’ of all these ‘points’ would be the score in terms of their application and use of KM. And if the ‘score’ was high and this lead to a relative increase in profit and customer satisfaction then they would connect this as a result of KM through causality – but again it also didn’t provide the level of substantiality that...

**Interviewee:** Well, the thing is that you can’t control other variables, you can’t control market changes, you can’t control economic changes – you can’t control all these other things that might actually impact organizational performance – so I think it’s still very very difficult, and there is a danger that if you go too far down the KPI you’re really just measuring inputs and outputs – so it still has not gotten into that holy grail of what difference this (KM) makes. So it is difficult...

**Interviewer:** It is difficult indeed. Not meaning to ask for a solution, but what kind of steps does an organization or academia take in the direction of having this concept recognized first, and consequently have appropriate performance metrics...

**Interviewee:** Again, I think that’s a very difficult question to ask in a single, one size fits all – because I think it is very dependent on the specific initiative and organizational context. So there may be certain areas where you can actually do benchmarking, a before and after – and demonstrate where changes have been made... But equally there are areas where I actually genuinely believe that there will be more qualitative data... The anecdotal is actually more relevant, and provides a better framework. There are all kinds of specific cases: speaking in terms of social network analysis for instance – that’s...
a very good way where you can show a change in relationships as people are talking to each other... how integrated the organization is – but that’s only used in terms of a particular context where your particular issue is that you are trying to improve communication. And it still doesn’t tell you anything about the quality of that communication or the effect of that improvement in communication on the bottom line... You know, I think you have to take each of these situations on its own merits and look at the various mechanisms that you might use to measure any kind of change... I do believe measurement is important and without it you can’t prove your worth, and you won’t get the kind of results that you want... It’s a bit of a fudge but...

**Interviewer:** Your answer to my first question in the definition of KM, you had this competitive aspect of as in KM supporting competitiveness and competitive advantage... To a layman, how would this KM increase or support or improve an organization’s competitiveness...

**Interviewee:** Well, for instance it reduces duplication of effort... You know, if everybody knows what everybody else is doing or what has been done in the past or how something has been solved in the past then you don’t put a lot of resources in repeating the same kind of exercise. If you are enabling people to talk to each other and share what they know, then you are potentially increasing sharing of ideas which leads to innovation... you are learning from previous mistakes, you increase organizational learning, organizational memory and you hopefully ensure that people don’t make the same mistake again and so on... So there are all kinds of ways in which potentially it may improve competitive advantage – just having better customer relationship management knowledge is going to enable you to better marketing... and lots of ways...

**Interviewer:** From a financial perspective, how would you say that this (KM) would help a company save money, or make more money...

**Interviewee:** Well, as I say, I think that is kind of inherent in what I said before... Obviously, if you are doing things like reducing duplication of effort you are going to save money. I have heard of R&D departments where 2 separate teams were working on exactly the same project, not knowing that the other was doing exactly the same thing... That’s just because, well it’s a major organizational issue – and you wouldn’t expect to find that, and I’m sure it’s replicated elsewhere... That’s because organizational knowledge and KM is so poor. So yes I think there is potential... though I can’t see it so easily from a university perspective. It’s not much about saving money, it’s more about improving what we do, I suppose...
**Interviewer:** In terms of supporting decision making and maximizing informed decisions...

**Interviewee:** Once again, I am a strong believer that in making decisions, you are aiming for perfect information or in this context perfect knowledge. Now obviously you never do actually achieve that state of perfect knowledge, but if you do at least have access to all the relevant information and knowledge, then you are going to make a better, more informed decision... And as I said, in particular, if you know what decisions have been taken in the past, and why they have been taken or why they have not been taken, why alternatives were rejected and so on... We don’t tend to be good at keeping that kind of knowledge or making that kind of knowledge accessible, so I think that there is certainly room for a lot of improvement there. It would have a have had a big impact...

**Interviewer:** I believe we have covered the gist of what I intended us to cover, but in terms of the relationship between KM and competitive advantage, is there anything that you would like to add, anything I might have overlooked and you would like to comment on it...

**Interviewee:** No, I think we have probably covered just about the full range there actually. I am very happy, if you have other questions you could just email me, if there is something that occurs to you later that we might have omitted – I don’t think I have any particular questions to ask you. Obviously I wish you well in your research.

**Closing**
Appendix 7 – Interview with Fagerhult-A

Greetings

Interviewer: could you please give us a little bit of a background about the company Fagerhult?

Interviewee: Yes. It is a global company, with different companies in a couple of other countries; we have operation units in Sweden in 2 sites. We have the brand Fagerhult, that’s the original brand for us, there we produce products for the Fagerhult brand and we also have a production site in Sushu china, which also produces products for the Fagerhult brand. Then we have sales companies in Europe for the Fagerhult brand, and over time we have bought some companies and also brands. So, we have a company called “Whitcroft” in England, they work with their own brand “Whitcroft” but they also buy Fagerhult products from us and sell them in England. The same in Germany, we bought a company called LTS, they have their own brand and they also have begun to buy products from Fagerhult and are selling them in Germany. We are focused on indoor out door and retail segment and it is just for business lighting not for consumers at home as well. We also have products for hospitals like equipments for gas and electric stuff (appliances) in the rooms, and also lighting of course. So that is a little bit about Fagerhult, we also have a little company in Australia called eagle lighting. It’s the same case, we bought a company that has their own brand eagle lighting, but they are also selling products for Fagerhult in Australia. Those companies that have been bought (acquired), they still remain independent companies, and they have not been integrated into the Fagerhult group when it comes to IT or when it comes to processes or products. They still work very much as they did before the acquisition, but they also sell our products. They are new channels for selling Fagerhult products. Then we come to corporate IT which I am responsible for, we can say that we are still working for the operation units and the sales companies for the Fagerhult brand. When it comes to Whitcroft, LTS and eagle lighting, we are not managing those sites concerning IT. They have their own IT departments, and they are not integrated into the Fagerhult group.

Interviewer: So they remain independent in their IT operations?

Interviewee: Yes. They are still going very well, they are doing fine business but they are on their own.

Interviewer: Could you briefly give a definition of KM in your own context? How do you see KM?
Interviewee: For me it is to in some way document knowledge and to define how we can reuse this knowledge in our teams, by individuals in IT and also in different processes in the IT department.

Interviewer: So the most important part of KM in your view is the reuse of knowledge?

Interviewee: Yeah, to define knowledge and to have it from the head down to a system and to document it in some way. To be able to share it with other team members, so we will not be dependent on individuals. We want to share knowledge to be more independent.

Interviewer: I would like to ask first as a company, and then breaking it down as an IT group of the company, how do you use KM?

Interviewee: We don’t talk much about KM today. Shall I be honest, nothing at all almost! But of course we try to get the knowledge out from our individual competences and down into documentations, down into our support systems and to be able to share that knowledge within the group or within the IT team. That’s very important for us, but we don’t talk about KM and how we should develop KM. It is more like how can we document processes? How can we document routines and so on? to not be dependent on individuals and to be able to work with different kinds of things in the IT department.

Interviewer: By this do you mean that you don’t have an explicit system for managing knowledge, but is there an implicit system for it?

Interviewee: We don’t have a special system for it because... In IT we have 2 or 3 ways, in our system for handling support we describe a problem, and we also try to describe the solution to the problem. That is some kind of knowledge that we try to reuse and that’s in a database in our support system. When it comes to other competences we try to document in Microsoft Word, in Microsoft PowerPoint, and in different kinds of documentation systems. Our knowledge, our processes, our routines, our documentations around setting up things or configuration of things, but we don’t have any specific system for KM.

Interviewer: How available is this knowledge that you gather to different members of the organization, is it easy for them to access this knowledge?

Interviewee: No it isn’t, because we are still working with file servers, folder structures and so on. It’s not so easy to find information; it’s hard to search for information. What we are trying to do is get some kind of web portal solution or a database solution
like MS SharePoint. We have the platform but we have not been able to move information into that platform yet. On there you can make information visible in a better way and you can also get search opportunities in a much better way. Right now we rely very much on file servers.

**Interviewer:** then if we take it in the context of workgroups, how easy is it for members of the group to get access to information about whatever they are working on as a group?

**Interviewee:** let's take our support group, they are five persons, it's about communicating. Where can I find information? Where do we save our documents about things? Where do I find solutions to that problem? And so on. Of course it is much easier in a little group, then you can always ask and they can tell and you can by that find information. It can be on a file server or it can be in the support system. But when it comes to a new member in the team, it's not easy to just find information because then you must have some introduction, you must really be aware of how we save our documents and where it is on the file server. We are not transparent; it is not very good that at Fagerhult it is not easy to find information.

**Interviewer:** Given that this information is not easy to find, it still has to be well stored so that when you find it, it is easy to understand. Do you have some sort of documentation conventions that you use?

**Interviewee:** We have folder structures on the file servers, where we try to see that if it's that kind of documentation it shall be stored there and if it's another kind it should be stored here, but it's not as easy as on the internet. We can't just search.

**Interviewer:** So, how is the inter-departmental knowledge sharing within the organization, how easy is it for somebody coming from for example the marketing department to be able to request some specific kind of knowledge form the IT department for instance?

**Interviewee:** It's not so easy, what should we say?. If we take form the marketing department to the product development department for example, then it's like we have almost all the information stored on file servers. Then, you must try to understand how products and brands store their information, which folder structure do they have on the file server, and how you can find information in that structure. That's not so easy because it takes time to really understand how the structure is, where the documentation is stored and how to find it. So it is hard, because if you have information in sharepoint for example, you can always just search for it, search for this, search for
that and then you get up to 10 suggestions and you can say ok I think I need that, and then you can read it. We are not yet there with our internal information.

**Interviewer:** So basically now, if you are moving from one department to another you actually need a guide because you are going in blind?

**Interviewee:** Yes.

**Interviewer:** Interestingly, while we were reading about your company, we saw that you have a lighting academy, and this lighting academy is supposed to create and store knowledge in a way that is usable by the company and its customers, right?

**Interviewee:** Yes.

**Interviewer:** How then in your opinion has this academy really worked?

**Interviewee:** They educate both internal staffs and also customers, in how we design lighting and how we develop lighting and so on. But I don’t think they have a knowledge database that is reachable for internal staff after education. They are sitting in the same problem, we don’t have a solution that supports knowledge management, we don’t have like a web solution with Google, I think they also will have to either every staff that goes to the education (training) will have information with them on a usb stick or something, or they have a folder on the file server where they can say we have saved information about FLA (lighting academy).

**Interviewer:** Then basically it’s still like most parts of the company are still isolated when it comes to knowledge sharing?

**Interviewee:** Yes, mostly because we don’t have any KM system that we can search and is easy to get information from. So it’s hard work, you need emailing, telling where the information is, storing on file servers, we of course have some of our information on internet sites with general information about lighting and lighting solutions, but that’s the situation right now.

**Interviewer:** Given that knowledge is central to the core of the company, how does management deal with the problem of knowledge and the problem of managing it?

**Interviewee:** I don’t really know about managing knowledge, but when it comes to paying attention to sharing internal information through our intranet and to spread information internally, it’s given very low attention right now. We focus on reaching the customer, selling, and innovation and so on. When it comes to developing internal so-
lutions and in that case also to be able to share knowledge, it is lowly prioritized. Therefore, we are using an intranet which I think is 11 or 12 years old now and is not as helpful as it was when it was introduced, it’s really time to take it up to a new level, a modern level. We are looking very much out to customers, to know our customers, and to sell more lighting and so on. To handle the information system on the other hand is not very prioritized, and therefore we need very many phone calls to be able to do your work. How was it with this? Where can I find information about that kind of thing, then he can tell you oh you’ll find in that area or I can send you an email or the sort. It’s very much like this but we manage, it takes some time and we have tried to present a business case of that because if we have a better system for sharing information, it will save very much time from making phone calls and disturbing people and so on. It is still very hard to...

**Theme 2**

**Interviewer:** When it comes to competitive advantage, you are competing as it is because in the Nordic region you are the leader in lighting solutions, that’s a very big position because you actually have to keep up the pace because there are companies who are of course trying to catch up with you. So, how does knowledge or KM, the creation of new knowledge or trying to internalize this knowledge help you on the CA front?

**Interviewee:** That is a very hard question for me to answer, because that’s a management question how they deal with that challenge. From the IT point of view, I really don’t know how they face that. Of course they know that it’s important to be a leader, to cooperate, to share knowledge to really get in pole position. But we don’t have systems today that support that and that must be a challenge for them. I think needs a lot of sharing and meetings with teams to share information, to call each other, to email, to keep up information flows but we don’t have any good database for knowledge that is easy to access.

**Interviewer:** So does that mean that on the competitive front you can’t say how that helps?

**Interviewee:** No, I know that it (knowledge) is really a keyword for our company to be a leader in knowledge, to be expert, to really not selling products but more like selling lighting solutions with very connected competent knowledge. It is very important for us but how we are dealing with knowledge, how we search for information and how we find information; I don’t know how they handle it really. I think they will have to search on file servers, in folders, they will have to telephone each other very much to get information, and they will have to email. Asking things like you met with that cus-
tomer yesterday, how did it go? I think that is how they deal with it, but you should really talk with management, the director of a sales company or a sales leader or something. They can tell you more about the business view of it.

**Interviewer:** Ok. As an IT department, because you have to constantly look at how you compete against other IT departments of other companies, maybe not really in the sense of competing against them but you have to see how good your processes are. How then does your reuse of knowledge, and your trying to find new knowledge help you with delivering your service for example when it comes to support?

**Interviewee:** There we try to document everything into our support system, it should be easy to find information there, to find problems we’ve had before, how we solved the problem at that time etc. there we are working with a support system, and now we are trying to build logical structures of where we store information today, Information about architecture, guidelines, policies and so on.

**Interviewer:** So that means that at least the IT department is in some way trying to work out their own KM base?

**Interviewee:** A little bit, I can say we just have the support system right now that supports in some way, where we can search for information and so on. Otherwise, for all team leaders or managers, it is about finding a good file structure where you can store information and it can be as easy as possible to find it.

**Interviewer:** Moving on from that, there are a couple of places from which a company can gain competitive advantage, as a company would you say that your CA strategy is focused on cost, providing higher quality, on the differentiation of your brand or carving out a market niche for yourselves?

**Interviewee:** I think we are profiling ourselves as producing with high quality and based on knowledge. Those are two keywords for the company overall. Of course internally we are very cost focused, to really press down the cost, to be able to also have a price level that is good for our products of course. Externally, we are proud of our products, we are proud of our knowledge, and we try to really position ourselves as a company that provides products with good designs, high quality and with very much knowledge in the background.

**Interviewer:** So, that means to the best of my knowledge right now you focus on quality and cost?
Interviewee: Yeah, quality and I think knowledge because knowledge is ....what we communicate to our customers is very much about quality and knowledge.

Interviewer: Knowledge will work for you in terms of differentiation. So you focus on quality, cost and differentiation, does the market niche not bother you at all?

Interviewee: I don’t know what you really mean by market niche.

Interviewer: I mean like trying to cover a particular market area or trying to open up a new market area.

Interviewer: Ok. As I said before we are focused on providing indoor solutions, outdoor solutions and retail solutions. Those are our 3 focus areas for lighting, that’s very clear.

Interviewer: So most important from what you have said to the best of my knowledge is quality, the quality of you products has to be really high?

Interviewee: Yes, but I can’t say that’s the most important, because that is also a management question. From the IT view, my view of it is that we are talking always about knowledge, knowledge! Knowledge!! Knowledge!!! Then of course when we have good knowledge, our products should be high in quality and also delivered on time, delivery precision is very important, so I can’t point out the most important thing. As I read in that book (company hand book) we are very focused on knowledge, it’s not the product so much, its more about our knowledge to build good solutions.

Theme 3

Interviewer: Given that there is no real KM system in place, and your company is quite dependent on knowledge, how does that really work?

Interviewee: I think it works with people who are really working hard to do their business every day, you know you have to email, you have to phone, you have to search for information but you don’t have it very well supported, but we have persons who are very driven and really like the work. Of course you can manage without a system at the bottom, you can always get information in some way, but it is not as easy as it could be if you have a system in the bottom that supports you.

Interviewer: So, then as an It department how would you say that your some worth implied KM has saved you anything in terms of time, personnel or money?
**Interviewee:** I think we also know in the IT department that we could do more, when it comes to making knowledge more available because sometimes the knowledge is in someone’s head, and when this person is not here we don’t have that knowledge, and then we have to try to reach this person. We then realize that we have to document this knowledge in some way. Of course we want to have more in sharepoint, which could be searchable and more easy to access, but we haven’t come that far yet. So, right now us in the IT department we know we could do more about accessing knowledge. We struggle with “privatization”, our budget and so on, and always there could be other things that are more important than building a system for knowledge. So, what can I say, we know it is important, we try to do as much as we can with the support system, but we as the rest of the Fagerhult group have much more to do when it comes to having the information easy to access, and easy to find.

**Interviewer:** Given that there is a renewed clamor for greener solutions and more cost efficient solutions for lighting generally, how much priority is given to employee education, employee training, or helping the employees to improve their knowledge as a comeback for creating new knowledge for the company?

**Interviewee:** I know that in that case we have started up this FLA, I don’t think that is very common for companies our size perhaps, but that’s one signal that we are really focused on knowledge and they are working with educating our sales men and those who are coming up with new innovations about things, we are having a strong focus on the new LED technology which will help possibly to decrease energy and so on. So I think we are making efforts to educate and to come further with that technique, but when it comes to how we can get this knowledge down in a system, and how we can have it easy to access, there we are not so good. It’s much in the heads of all the very good staff we have.

**Interviewer:** I want you to focus on as a department, how often do you send out people for training and re-training maybe to seminars and things like that?

**Interviewee:** In the IT department, we have a goal that every employee in the department should undergo some education every year, and then it is up to the staff to come with suggestions that I want to go to that seminar in Gothenburg because it is in my area and it could be useful for me. So, we try to go to seminars and to follow the developments in the IT area, and we also try to send people to education but I think one education per year is the goal that we have to be able to keep up the level. Then we also try to work in networks, go to seminars and so on.
Interviewer: So let’s go to the issue of support and deployment of new IT products, how has your reuse of knowledge or knowledge that you tried documenting helped in reducing the time it takes for these processes?

Interviewee: We are also not good in taking experiences of what we have done before, when we have run a project when it comes to implementing a new IT system of course you struggle with many things during that implementation and afterwards we try to have a follow-up meeting where we try to identify what were the big issues in the project, what we can take with us to the next project, we have a meeting where we try to focus those things. Then it comes to perhaps a protocol meeting note, and then when we start the next project perhaps we just look at what we had for experience in the last project and we try to take those experiences with us in the next project but not so very developed.

Interviewer: Then when it comes to knowledge about your customers how does it help when you have more knowledge or a better knowledge about your customer, how does that help with providing them with solutions?

Interviewee: I think that is one thing we are focused on right now, because we have it as a strategy to know more about our customers, to have customer insight, to know what their needs are. It is the same there, we don’t have a system to analyze or document that today, CRM systems are normally used and we don’t have it in our sales companies in the Nordic countries, so right now we are trying to implement a CRM system to be able to document more about our customers, and to have knowledge about the customers. We don’t have this system today but that is something that we are trying to implement right now.

Interviewer: To clarify a couple of things, how easy is it for the It departments within the Fagerhult group to communicate and cooperate among themselves given for example the language barrier that exists between the It department in china and the one here in Sweden?

Interviewee: The language is quite simple I will say, because its English so that’s not a problem. We have IT departments here in Habo, it is the corporate IT functioning within Fagerhult. Then we have IT departments in those companies that we have bought, but we don’t communicate with them very much because they are very self-dependent, and we have no common systems right now. Then we have the IT departments in china, which we are a little bit more integrated with, we have some communication with that department but they are not using out IT systems. They have their own systems in china so it’s not that hard integrated and we have no common pro-
cesses or common communication. So, the corporate IT is really sitting here, we are 13 persons and it is easy for us to communicate. then we have IT contacts in different sales companies who are our speaking partners when it comes to IT questions but they are not parts of the It department, they are normally working with business. So, we could definitely be better at communicating things with the business because the intranet is no so well developed and today its very much emailing form communicating and then we try to use our intranet for some important communication. That is how we try to do it today.

**Interviewer:** As a whole, what do you think the contribution of KM will be if the company finally decides to deploy a KM system that unifies all the departments in helping them to share information more easily and to document knowledge more easily. What do you think the overall effect will be on the efficiency and the effectiveness of the company?

**Interviewee:** I think it is an important area and I think definitely it will save very much time. I think today you can always get information but, it will take you some time. By emailing, by making phone calls to come to the right person who can give you the information but if you had a KM system where you really could search for information and get information in an easy way, it would really save time and make us much more faster to serve our customers. That’s the big point I think.

**Interviewer:** So, on the competitive front do you think it will give you more advantage as a strategic resource?

**Interviewee:** Yes, I think so. But then the business case is hard because it costs money to implement it and benefits. You must calculate how much time you will save and how much faster we can respond to the customer, what that is worth you know. We struggle with it today but then we manage because we are still number 1 in the Nordic countries and we are I think number 3 in Europe, and managements says what’s the problem? We manage today why should we invest in another system? We can be even better, they say ok how much does it cost and what are the benefits. Then we think it’s more important to upgrade the business systems perhaps. I think it will be really good but you will always have to face the business case and it is hard to come up with it.

**Interviewer:** The main problem is that knowledge in itself cannot be pointed directly to some sort of gain, you can’t say because of this particular knowledge we gain here for instance we were able to make 1 million SEK. So I think that is also one of the downsides to making the business case because you can’t also quantify it (knowledge) and I think management always wants to see figures.
Interviewee: Yeah of course.

Interviewer: If we do this we get an increase of 35%, but you can’t say that solidly.

Interviewee: No. we have the knowledge in the group, you can always reach the knowledge because if you make a phone call to this guy, he has the knowledge but ok maybe I can’t reach him today, I will have to reach him tomorrow. Ok I lost a day. If this information had been accessible through an IT system more or less, ok I have gained one day, I could answer my customer today instead of tomorrow, but what is that worth?

Interviewer: Financially?

Interviewee: Yes financially, did we lose the business? Or ok it was ok to come back the next day. So I think that’s the problem today, we manage but we struggle with it. It takes phone calls, it takes emails, and it could be much more easier to find knowledge and information but then you must define the business case and it’s always hard. We have tried sometimes, and then it’s all about information over all but then information or less knowledge.

Interviewer: In the end I will try to give a brief summary of what I gathered from what you said. Knowledge is a basic strategy central to the operations of the company, and there is no explicit system in place for managing this knowledge but you actually do put your documentations in some kind of file repository where if you then find a person who knows where it is you can then find it.

Interviewee: Yes.

Interviewee: also its is not a management priority to create some kind of KM system as they believe you can make do using what you have as is right now?

Interviewee: Yes.

Interviewer: Ok, and then you really cannot say if it saves you money or not with how you document your knowledge right now, you cannot put out a figure on how well it helps you.

Interviewee: That’s the problem, because of course we would save time, and we would save money, but how much and should we do business in that case if we have the system. So I think if we have a really good intranet, with modern technology, that
makes it easy to publish and easy to search, it will really help us not only in the IT department but also in the group to find information in an easy way but that is lowly prioritized right now and we manage, we struggle with it but we still manage to get the knowledge needed by reaching the right guy, making those phone calls and so on. So I think that is where we are today.

**Interviewer:** In closing is there anything you want to add about the importance of KM or the accompanying knowledge or the overall interview?

**Interviewee:** No, I think we have talked through the main parts of it.

**Closing**