CHAPTER 1: INTRODUCTION AND BACKGROUND

In this introductory chapter, background relating to the Department of Housing[1] will be provided. Other issues to be discussed will include the research problem investigated, the key questions asked and the conceptual framework for the study.

1.1 Introduction

Governments are faced with the challenge of utilizing resources in an inventive and cost-effective manner in an attempt to address the multitude of needs that exist (Jonker 2001). Jonker (2001) argues that a new paradigm is required to bring about a number of reforms which need to be undertaken to enhance the efficiency and customer orientation of public services. Becerra-Fernandez, Gonzalez and Sabherwal (2004:353) suggest that knowledge management (KM) provides a new paradigm for decision making. Morey (1998) states that managing knowledge in the long-term can bring success to both the individual and the organization. This is particularly so because in the 21st century, regarded by many as having a 'new' knowledge-based economy, knowledge is regarded as a key solution to many problems (Hylton 2005; Hinds and Pfeffer 2003:3; Pipek, Hinrichs and Wulf 2003:111 and Stone 2000: xiii).

It is not surprising that KM has become an important focus for many organizations in order for them to be successful in today's business environment. Wiig (2004: xxiii) points out that: "knowledge management provides a particular opportunity to help people work more effectively and intelligently in support of enterprises in which they invest their own and their families' future and on which they depend for their livelihood". This has seen public sector agencies throughout the world following private sector initiatives of implementing knowledge management. However, despite the fact that KM is important, many organizations are still reluctant to undertake it, due to a high rate of failure (Hylton 2002a; Hylton 2002b). The high failure rate can be attributed to the failure to incorporate the K-Audit (as Hylton prefers to call a knowledge audit) in each and every KM initiative or programme. Failure to do so is considered the most important reason for poor KM outcomes and consequent failed efforts (Hylton 2005). Many government departments and agencies have considered ways to best use knowledge resources to improve their business (Australian Government Information Management Office (AGIMO) 2004).

[1] After the 2009 Elections the new South African cabinet changed the Department's name from the Department of Housing to the Department of Human Settlements.

The South African government has also taken the initiative to embrace the KM concept. This is evident in a comment made by the then Minister of Public Service and Administration, Geraldine Fraser-Moleketi when she said:

> As government we have, however, made a lot of progress in improving the lives of citizens and there are many pockets of success and excellence in the public service that bear testimony to that. We therefore need to put in place appropriate mechanisms in our respective organizations to showcase these successes and create platforms to share and exchange knowledge (DPSA 2003).

This comment was a call to alert other government departments and agencies to include knowledge management principles in their objectives. Although managing knowledge is not the only solution to the improvement of service delivery, it can play a very significant role. According to Makwetla, (the Premier of Mpumalanga) (2004), managing knowledge is important because "if we cannot learn from our own experiences, how can we learn from anyone else? If we do not know what we already know, how do we identify new areas of learning, and adapt the knowledge of others to our realities?"

In this proposed study the knowledge audit method will be used to assess the KM potential at the National Department of Housing. The knowledge audit is the undisputable first major step in a KM initiative (Hylton 2002b:4; Strategic Direction 2006:17 and Liebowitz, Rubenstein-Mantano, MaCaw and Browning 2000). A knowledge audit identifies the core information and knowledge needs in an organization (Skyrme 2002). It also provides vital information for the development of effective knowledge management programmes and initiatives that are directly relevant to the organization's specific knowledge needs and current situation (NeLH 2001). "It investigates and analyses the current knowledge environment and reports on the current corporate 'knowledge health'" (Hylton 2002c:1). Furthermore it measures the risks and opportunities faced by the organization with respect to corporate knowledge.

1.2 Brief background of the Department of Housing

The Department of Housing operates at three distinctive levels namely national, provincial and municipal. All three levels complement each other in that they work to achieve one vision of building a nation housed in sustainable human settlement with access to socio-economic infrastructure. The proposed study will focus on the National Department of Housing (the Department). During the initial stages of the study the Department consisted of four main components namely:

- Ministerial and Parliamentary Support,

- Deputy Director-General: Chief of Operations (Director-General Office)
- Deputy Director-General: Strategic Support
- Deputy Director-General: Policy and Programme Management.

However the Department underwent a restructuring process and expanded to include the following branches:

- Chief of Operations
- Research and Policy
- Service Delivery
- Corporate Support
- Chief Financial Officer
- Ministerial Office
- Director-General's Office.

In 2001 the Directorate: Information Management [which fell under Chief Directorate: Housing Sector Performance, but now part of Chief Directorate Management Information Services (MIS)] proposed that the Department should establish what was termed the Housing Knowledge Centre (Information Management Directorate 2001). This Housing Knowledge Centre was intended to be used for the management of best practices, knowledge sharing and development, that is the effective management of knowledge within the Department. The Directorate proposed to conduct research to answer the following questions about their knowledge management (KM) initiatives:

- What are the best practices in the organization?
- Why does the organization need to adopt a KM strategy?
- What are the critical success factors for deploying a KM strategy?

Unfortunately the proposed research was never conducted. The answers to the above questions would have been answered had a knowledge audit been conducted. Hylton (2002c) states that a knowledge audit measures the risk and opportunities which relate to an organization's corporate knowledge. She further warns that a KM programme or system should never be implemented without such an audit being conducted. The proposed study attempts to conduct such an audit at the National Department of Housing.

1.3 Preliminary literature study and reasons for choosing the topic

The literature review will be used to define the role of KM in an organization and how organizational culture can promote or discourage KM initiatives. Furthermore it will also look at what role technology plays in a KM initiative. It will also seek to elaborate on the role of the knowledge audit in a KM initiative. Finally the reasons for choosing the topic will be outlined.

1.3.1 Brief definition of KM

It is reasonable to firstly define knowledge before mentioning anything about KM. Newell, *et al* (2002:3) pointed out that the term 'knowledge' is an intrinsically ambiguous and equivocal one. Indeed there are numerous definitions of knowledge but they all arise from the transformation of data into information, then the latter into knowledge. Marchand and Davenport (2002:168) define knowledge as "information within people's minds… [which is] highly valuable; because humans create new ideas, insights and interpretations and apply these directly to information use and decision making". Cortada and Woods (2000:13) add that "it originates and is applied in the mind of the knower".

Managing knowledge according to Haas, Aulbur and Thakar (2003:179) means to "know what is known, who knows it, how it has been applied, and how it can be further leveraged, and shared". Maponya and Ngulube (2007:77) further explain that "the philosophy behind managing the knowledge that people have is to develop and implement appropriate strategies and values to enable participants within an organization or community to create, share and apply knowledge to achieve their goals". Many companies are beginning to feel that the knowledge of their employees is their most valuable asset (Davenport 1998). The above definition of knowledge results in the two common types of knowledge which are tacit and explicit knowledge. Tacit knowledge is a hidden type of knowledge that is normally gained through socialization with the environment (Al-Hawamdeh 2003:23). Explicit knowledge refers to knowledge that can be expressed, captured, and documented in the form of publications.

KM scholars agree that there is no single universally accepted definition of knowledge management; the definition varies with the purpose of implementation. According to Coakes (2003:93) KM is defined as an important task for individuals, groups, and organizations, as it adds value to the existing data and knowledge. The World Bank (2001) cited by Al-Hawamdeh (2003:21) defined KM as "the management of knowledge through systematic

sharing that can enable one to build on earlier experiences and obviate the need for costly reworking of learning by making the same repetitive mistakes". This definition by the World Bank clearly highlights the most important role of KM namely to enable the sharing of knowledge. The National Electronic Library for Health (NeLH) (2005a) agrees stating that "one of the primary aims of KM is to promote the sharing of knowledge among employees". That is "the success of a KM programme ultimately depends on the sharing of knowledge" (Bouthillier and Shearer 2002:16). Al-Hawamdeh (2003:98) pointed out that "knowledge sharing is a social activity that can be measured by the level of interaction among people within the organization". Al-Hawamdeh (2003:98) further states that employees in an organization have to interact with each other and/or external people to acquire knowledge.

1.3.2 How can organizational culture promote or discourage KM initiatives?

According to KMWorld (1999) "studies are beginning to show that one of the major factors behind the failure of KM implementations is the failure to manage culture change". KMWorld proposed that in order to leverage and maximize the benefits of KM, ten steps are necessary. Among them is the need to assess the organization's culture and readiness to change. "Organizational culture impacts on the behaviour of members of the organization in general and … their willingness to share knowledge" (Maier 2004:24). It forms one of the success factors in the implementation of KM within the organization (Al-Hawamdeh 2003:102). It takes time to become established and will require a similar amount of time and influence to be changed and altered (Al-Hawamdeh 2003:102). This implies that a KM initiative must be perceived as an introduction of a new culture in an organization, which will not be accepted overnight but will require a huge effort to instil it. Bearing this in mind, there are "cultural enablers" (Al-Hawamdeh 2003:103) that promote KM practices and cultural barriers (Al-Hawamdeh 2003:111) which discourage or inhibit the KM practices in an organization. Examples of cultural enablers are: learning from experience, leadership and trust, and cultural barriers include a lack of communication, lack of trust and lack of incentives.

1.3.3 The role of technology in KM initiatives

The use of information technology (IT) to collect, organize and process information about knowledge is important in developing KM capabilities (Marchand and Davenport 2002:169). According to Webb (1998:5)

> Technology is seen to play a central role in the [KM] process, providing a sophisticated facility by which to store, organize and index details of wide-ranging expertise for future retrieval and ultimate contribution to the corporate good.

Among IT tools, the intranet is the best known tool used to support KM (Huysman and de Wit 2003:33). As a result many organizations are beginning to see their intranets becoming powerful knowledge management systems (Steven 2000 and Hylton 2002d:2). However, moving to develop and deploy knowledge in the most effective way and facilitate the flow of knowledge across an organization requires more than just technology (Chatzkel 2003:159) as implied in the discussion of culture above. In other words technology does not hold all the answers to KM (Davenport and Prusak 2000: viii). Technology is only an enabler of KM efforts and not the whole process (Yelden and Albers 2004:6; Hylton 2002b:2; Huysman and de Wit 2003:33 and Tyler 2003:203). This was emphasized by the Eastern Cape Premier, Ms Bhalindlela, when she stated that "our Government in the Eastern Cape gives high priority to information technology as an enabler for information and knowledge management" (Office of the Premier, Eastern Cape Provincial Government 2004). In other words KM is not purely about technology (Dow Jones InfoPro Resource Center 200?) but it is facilitated by technology.

1.3.4 The role of a knowledge audit in a KM initiative

The knowledge audit (K-Audit) is defined by Stuhlman (2000) as "the formal process in the determination and evaluation of how and where information [and] knowledge is used within the organization". Wiig (2004:337) also defines it as "the survey and characterization of the status of knowledge in an organization". It is vital to look at the role of the K-Audit in an organization.

The role or purpose of the K-Audit in a KM initiative is to scientifically measure and evaluate the current corporate knowledge-wealth, both evident and hidden, so that the right KM programme can be planned and implemented, in the most cost effective way (Hylton 2002a). Furthermore according to Maponya (2003:39) a complete or detailed knowledge audit offers a wide comprehensive examination, review, assessment and evaluation of an organization's knowledge abilities, its existing knowledge assets, and resources and its knowledge management activities. Hylton (2002a) states that the knowledge audit process measures and assesses the level of efficiency of knowledge flow, from creation and capture, to storage and access, to use and dissemination, to knowledge sharing and even knowledge disposal.

Wiig (1995:112) pointed out that, in general, the knowledge audit can be used in the following ways:

- Explore managers' and professionals' thoughts about managing knowledge
- Prepare managers and senior professionals for KM by making them aware of the issues while soliciting their opinions and perspectives
- Explore present in-house KM practices, solicit perspectives on their adequacy and efficiency, and obtain suggestions for improvements.

After the above measurements and assessments have been made, a series of opportunities for a knowledge programme should be apparent (Yelden and Albers 2004). Because every business (organization) is unique, the KM initiatives that each undertake are therefore also unique (Yelden and Albers 2004:3). This was further echoed by Hadebe (2006) when stating that caution should be taken in "ensuring that KM initiatives are informed by real section needs". In other words there is no one-size-fits-all - the best practice in one organization might not be considered the best practice in other organization(s). It is therefore important for every organization to initiate KM suited to its mission and vision.

1.3.5 Reasons for choosing the topic

The National Department of Housing wishes to become a "Knowledge Housing Bank" (Directorate: Information Management 2001). This is the kind of thinking which has led to the transformation of the World Bank to become a "Knowledge Bank" and one of the leading KM institutions (Gwin 2003:1; Carayannis and Laporte 2002:1; Stone 2000 and Davenport and Prusak 2000:x). Since the Department did not conduct a K-audit prior to implementing its KM initiatives, this audit is essential to assist in laying strong baseline information in order to revive KM initiatives. According to Hylton (2002b:8) a knowledge audit will prove to be useful for an organization that has already initiated or implemented knowledge management, as a means of check listing or benchmarking its progress. This will assist in the creation of KM initiatives which will ultimately enhance the knowledge sharing culture (Directorate: Information Management 2003/2004).

The findings from the proposed study will assist the Department in having valid baseline information to be used in formulating new KM strategies and/or reviving existing KM initiatives. Maponya and Ngulube (2007:75) stated that a "knowledge audit is the first step in developing a knowledge management strategy". It will also assist in broadening the literature on conducting a knowledge audit prior to implementing KM initiatives. Moreover it may

also encourage other public institutions to implement KM initiatives that will suit their business strategies.

1.4 Research problem, purpose and key questions to be asked

The research problem, purpose and key questions for the study will be discussed in this section.

1.4.1 The Research problem to be investigated

The Department had planned to initiate a KM programme, which was aimed to capture, organize, store, access, share, and use knowledge (Directorate: Information Management 2001). Unfortunately the programme did not succeed and the reasons for the failure are unknown. However, observable evidence for the failure of the KM initiative is the fact that the intranet (known as the InfoHub) remains unused. It was designed for the sharing, organizing and capturing of knowledge within the Department. Secondly, there was poor attendance from the staff at the few workshops organized to promote the KM plans. Furthermore, the person who was leading the KM initiative left the Department without documenting the progress made with the KM initiative plans. As a result there was no one to encourage participation from the staff. Another reason for the failure could be that the team involved in implementing the KM programme did not conduct a knowledge audit prior to implementation. According to Hylton (2002b:1) many of the mistakes of both the early and more recent adopters of KM can be traced to the serious oversight of not including the knowledge audit in the overall KM initiative. She forewarns "a knowledge management programme or system should never be implemented without a knowledge audit having been conducted" (Hylton 2002c:1).

1.4.2 Purpose of the study

The purpose of the study was to conduct a knowledge audit at the National Department of Housing, so as to redevelop its KM strategies and subsequently revive its KM programme.

1.4.3 Key questions to be asked

To achieve the purpose of the study the following key questions were formulated:

- What is the level of awareness of the Department staff toward KM?
- Do junior staff and management know about the Department's effort to implement a KM programme? If yes, would they support it?
- What are the KM opportunities within the Department?

- What is the level of knowledge sharing in the Department?
- What are the knowledge sharing barriers?
- What are the communication tools and resources that can assist in enhancing KM?
- Do employees utilise the InfoHub?

1.4.4 Conceptual framework within which the research project will be conducted

As noted, the knowledge audit lays a solid foundation for any KM programme (Choy, Lee and Cheung 2004:69). In other words it must be the first step in any KM initiative (Hylton 2002a, 2002b, 2002c, 2003, 2005; Chowdhury 2006; Jones 2002:4; Strategic Direction 2006:17 and Liebowitz, *et. al*. 2000), to evaluate the current state of any knowledge management practices. The frame of reference for the proposed study will be drawn from the Hylton knowledge audit methods which are discussed in section 1.6 below. This will be supported by the Al-Hawamdeh (2003) frame of reference. It must be noted that these are not the only sources. Al-Hawamdeh (2003) looked at the issues which are fundamental to the success of any KM initiative within an organization. Among the issues Al-Hawamdeh (2003) looked at are knowledge sharing, organizational culture and the role of technology in KM. These issues will be key to this study. They will be discussed bearing in mind the three important components which define KM: people, technology and processes (Maponya 2006, NeLH 2005b and Doyle 2006). These three components according to NeLH (2003) "will at all times be acting as either enablers of or barriers to, the effective knowledge management". Therefore, according to Stevens (2000), it is prudent that a knowledge audit be conducted to evaluate these components. The lessons from the National Research Foundation (NRF), Development Bank of Southern Africa (DBSA) and Medical Research Council (MRC) will be useful as the prominent South African organizations that have successfully nurtured KM

1.5 Research methodology and methods

The survey research method was used as an instrument to conduct the K-audit. It is worth noting that the survey method used did not constitute a complete audit but is only the first stage of a full and comprehensive K-audit. According to Hylton (2004) "the questionnaire-survey and proceeding interviews are only the first, and indeed the easiest stages of the 'proper' knowledge audit".

1.5.1 How to conduct a knowledge audit

There are a variety of approaches for conducting a knowledge audit that have been proposed, with varying levels of coverage and detail by Hylton (2002), KeKma Ltd (200?), Boone

(2001), NeLH (2005), Wiig (1995), Lingham (2004) and Liebowitz, *et. al* (2000). According to Hylton (2002b: 7) there are three steps which must be followed:

- *Knowledge audit level 1: KAL-1*

"We call it the questionnaire-survey entailing knowledge audit level 1: KAL-1, which is the first level of the complete-comprehensive knowledge audit". The participants of the questionnaire-survey are employees of the organization. Most importantly at this level the organization can decide to continue or postpone any further audit.

- *Knowledge audit level 2: KAL-2*

At this point the knowledge audit focuses on face-to-face interviews with employees most especially those who had participated in the questionnaire-survey.

- *Knowledge audit level 3: KAL-3*

This stage which involves conducting a knowledge inventory, building a knowledge map, charts the flow of knowledge and conducts a knowledge gap analysis.

KeKma Ltd (200?) in Figure 1 below reveals the sequence which must be followed to attain a good and complete knowledge audit. Although various knowledge audit methods show similarities, the Hylton method will be adopted in the purposed study. The *KAL-1* step was conducted for the purpose of the study. It consists of stages 2 and 3 of the KeKma Ltd K-audit method. Skyrme (2002) supports this choice by stating that the "knowledge audit identifies the core information and knowledge needs and uses in an organization". The reason for not completing the knowledge audit method steps is solely based on the scope of the study which is a short dissertation. It is anticipated that the further steps will be completed in-house.

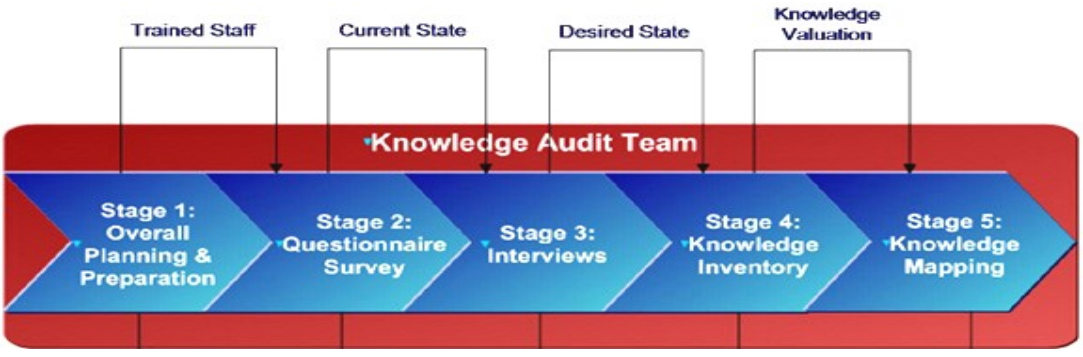

Figure 1: The knowledge audit methodology roadmap (KeKma Limited (200?).

1.5.2 Population

The population for this study consisted of 406 members of staff from the Department of Housing. However for the study 399 members of staff were used (excluding 1 Director–General and 5 Deputy Director–Generals they will be interviewed for the completion of stage 3 see Figure 1 above).

1.5.3 Sampling

A stratified random sampling method was used to sample the population for the study. Junior Staff, Deputy Directors, Directors and Chief Directors' strata were identified.

1.5.4 Data collection methods

The questionnaire as a data collection instrument was used to collect the data. The instrument was pre-tested prior to being distributed.

1.6 Data analysis

The SPSS programme and to some extent Microsoft Excel were used. The qualitative data was analyzed and coded using content analysis namely conceptual analysis.

1.7 Structure of the dissertation

A brief outline of the remainder of the theses is now given:

Chapter One: Introduction and background of the study. This chapter provided the conceptual background and rationale of the study. The key questions were provided. Furthermore a brief literature review and method of how the K-audit will be conducted were provided.

Chapter Two: Literature review of the study. This chapter will provide an overview of the role of KM and its processes in an organization. Furthermore it will look at how organizational culture can promote or discourage KM initiatives and the role of technology in a KM initiative. In this chapter the role of the knowledge audit will be looked at. These issues are fundamental to the success of any knowledge management initiative within any organization.

Chapter Three: Methodology of the study. This chapter will discuss in detail the methodology and how the knowledge audit method was used to conduct the study. Furthermore it will give details of how the data was collected and analysed.

Chapter Four: Presentation of results. This chapter will present the results of the study. The graphs, tables and percentages will be used to interpret and present the results.

Chapter Five: Interpretation of the results. This chapter will present a discussion of the results building on the literature review presented in Chapter two.

Chapter Six: Conclusions and recommendations. Conclusions and recommendations as they relate to the research questions will be made. Suggestions for further research will be given.

1.8 Summary

Chapter one introduced the study as well as provided the background information on the Department of Housing KM efforts. The rationale, brief preliminary literature review and reasons for undertaking the study were provided. Furthermore the purpose and key question of the study were presented It also outlined the proposed structure of the thesis.

CHAPTER TWO: LITERATURE REVIEW

This chapter will look at the knowledge management (KM) literature in support of the study.

2.1 Knowledge management

The concept of KM has been acknowledged for a long time, mostly in an informal manner (Cong and Pandya 2003:26). Many people tend to use the term information and knowledge interchangeably. Therefore, the distinction between data, information and knowledge is important (O'Riordan 2005:6) to understand the KM concept and clear up any confusion. Figure 2 below illustrates data, information and knowledge relationships which Hicks, Dattero and Galup (2006:20) and O'Riordan (2005:6) refer to as a knowledge hierarchy. However O'Riordan (2005) includes wisdom in the hierarchy, which was named the DIKW (data, information, knowledge and wisdom) hierarchy by Rowley (2007:164). The distinction between data, information and knowledge is provided below.

Data: is simply defined as raw facts (Cong and Pandya 2003:26) or chunks of facts (Gamble 2001:43) such as figures, names and addresses (Giannetto and Wheeler 2000:3; Bennet and Bennet 2003:6). "These may be held by an organization in many forms but need some form of interpretation or application to be used" (Giannetto and Wheeler 2000:3). Examples of data in the context of the Department of Housing would be number of houses, number of beneficiaries, number of informal settlements, and maps to mention just a few.

Information: can be described as "data plus message or 'processed' data, that is, data that has been interpreted and presented in a usable form, perhaps with an explanation of how to use it or with a context" (Giannetto and Wheeler 2000:3). This is echoed by Cong and Pandya (2003:26), when stating that "for data to be of value they must be processed (put in a given context)". In short, information is data that is endowed with meaning and purpose (Gamble 2001:43). Referring to the examples made above, information may be the number of houses delivered in the financial year 2007/8, or a number of beneficiaries who received houses from the year 1994 to 2007.

Knowledge: "is a fluid mix of framed experience, value, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information" (Nickols: 2000:13). Furthermore, it involves beliefs and values, creativity, judgment, skills and expertise, opinions and previous experience (Giannetto and Wheeler

2000:4). It is important to note that knowledge originates and is applied in the mind of the knower (Cong and Pandya 2003:26). Relating to the practical situation from data and information, one can now have knowledge of which municipalities or provinces contribute more or less to housing delivery. Therefore the causes of good or poor housing deliveries can be studied so that the lessons of best and worse practice can be shared by all stakeholders to prevent previous mistakes and to promote best practice in order to enhance housing delivery.

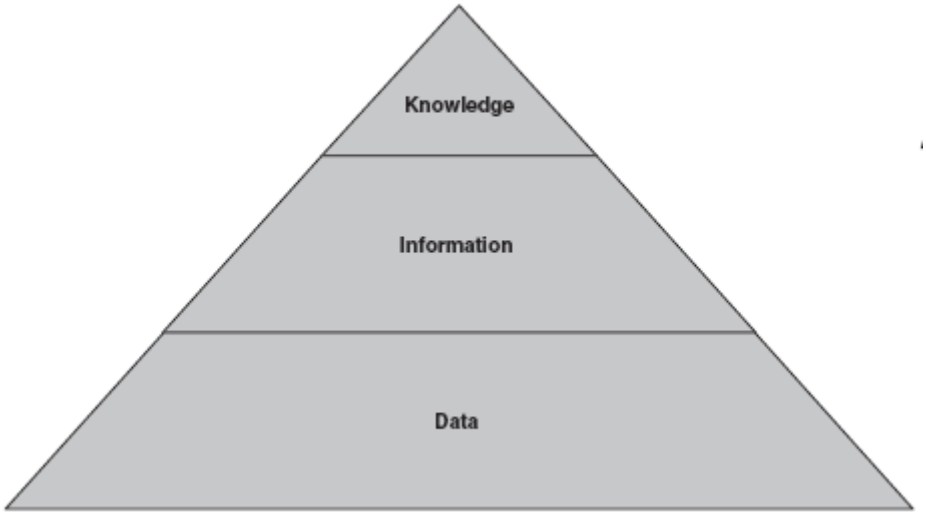

Figure 2: Knowledge hierarchy (Hicks, Dattero and Galup 2006:20)

2.1.1 Types of knowledge

Knowledge is often classified into two different types; explicit and tacit (Cong and Pandya 2003:27) and (Nonaka 2007:165).

Tacit knowledge is defined as knowledge that has not been documented and made explicit by one who uses and controls it (Organization for Economic Co-operation and Development (OECD) 2000:18). It comes from an individual's personal experience and is affected by their beliefs, values and perspectives (Giannetto and Wheeler 2000:4). It is said to be highly personal (Cong and Pandya 2003:27; Nonaka 2007:165), thus making it difficult to communicate or share with others (Clark 1999). According to the OECD (200:128) "tacitness has its roots in complexity and variation in quality". Its complexity and variation in quality lie in the fact that it is hard to formalize and therefore, difficult to communicate to others (Nonaka 2007:165). In other words "it is deeply rooted in action and in an individual's commitment to a specific context …" (Nonaka 2007:165). The danger of tacit knowledge is

that most people sometimes are not aware of the importance and value of the knowledge they possess.

Explicit knowledge is defined as knowledge that can be described, documented and shared amongst individuals (Giannetto and Wheeler 2000:4) as "it is easily captured, stored and communicated" (Henczel 2000:213). As a result, it may be indirectly communicated between people in the form of text, video, sound, software and so on (Giannetto and Wheeler 2000:4).

Looking at the above mentioned types of knowledge, one might be tempted to suggest that many organizations might benefit from their identification. That is, transforming tacit to explicit can be useful, and it can result in reuse of explicit to become tacit. This can be compared to a wheel which moves up and down, down and up. Nonaka (2007:165) clearly elaborates the relationship between these two types of knowledge when stating that "the distinction between tacit and explicit knowledge suggests four basic patterns for creating knowledge in any organization", which are:

- *From tacit to tacit* – sometimes, one individual shares tacit knowledge directly with another. This works well for communicating and sharing tacit knowledge but that knowledge will never become explicit, to be easily accessed by other people in the organization.
- *From explicit to explicit* – an individual can also combine pieces of explicit knowledge into new knowledge. This happens when one collects various aspects of information contained in manuals from units in an organization to produce one organizational manual as a consolidated report,
- *From tacit to explicit* – an individual may spend some time with an expert to learn how he or she perform his or her tasks and from there produce a document of how to do these tasks. This is an important pattern especially if the experts are not permanently employed or they are about to retire from an organization.
- *From explicit to tacit* –other employees begin to internalize explicit knowledge through the learning process (Jashapara 2004:9), that is, they use it to broaden, extend and reframe their own tacit knowledge.

A knowledge audit might assist in determining which pattern is viable for the Department. Since knowledge is perceived as intangible, among the four patterns mentioned above tacit to

explicit can make knowledge more accessible and usable. This might be possible if the organizational culture is conducive to promoting knowledge sharing.

2.1.2 Goals for KM in an organization

One needs to know what can be attained by implementing KM in an organization. To manage knowledge means to know what is known, who knows it, how it has been applied, and how it can be further leveraged and shared (Haas, Aulbur and Thakar 2003: 179). Maier (2004:110-111) provided more detailed goals of KM initiatives. These include:

- *Identify existing knowledge* – the aim is to make existing knowledge transparent, to give an overview of the knowledge existing in the organization.
- *Improve documentation of existing knowledge* – knowledge is supposed to be embedded in (enhanced) documents
- *Change (part of) organizational culture* – the aim is to establish an environment conducive to more effective knowledge creation, transfer, and use. (More details about organizational culture will be discussed later in this chapter.)
- *Improve communication and cooperation* – this goal is about facilitating knowledge transfer between individuals. Furthermore communication is supported both within and between formal working groups, teams or projects with an emphasis on peer-to-peer, bilateral communication as opposed to the distribution of knowledge in the sense of a broadcast to every employee.
- *Improve training, education and networking of newly recruited employees* – the integration of newly hired employees into the organization's work processes as well as their socialization to the organization's norms and values should be accelerated.
- *Improve training and education of all employees* – this goal is about developing skills of employees for example by supporting mentoring, learning from 'peer groups', communities, and best practice groups,
- *Improve retention of knowledge* – the goal is to capture knowledge before it leaves the organization, for example, through reserving time for employees facing retirement to externalize knowledge and to socialize with their successors or peers, or through retaining alliances with employees after they have left, for example through consulting.
- *Improve access to existing sources of knowledge* – the aim is to provide access to documented knowledge and /or to connect knowledge seekers and knowledge providers. For an example the yellow pages or expert finder can improve accessibility of experts that can be used to share tacit knowledge.

- *Improve acquisition or purchasing of external knowledge* – in this case, knowledge external to the organization is targeted. In other words consultation of experts in the field of work that is required to be completed. The effort to retain that knowledge should be made.
- *Improve distribution of knowledge* – this goal aims at a better support, transfer or broadcasting of knowledge to interested (known and unknown) other members of the organization (also referred to as "knowledge push")
- *Improve management of innovations* – this goal targets primarily a better management of the results achieved by the organization's departments for research and development. For example, the avoidance of unwanted multiple development of the same concept.
- *Reduce costs* – some KM concepts, especially technology, also provide opportunities for cost reductions, for example, reductions in organizational redundancy due to double development, by reduced use of paper due to electronic storage and transfer of documents or travel expenses due to teleconsulting.

2.1.3 Barriers to KM initiatives

There are a few main reasons why KM initiatives fail, one needs to note them before implementation of KM. Firstly, human and cultural issues are key for the success or failure of KM initiatives (Oltra 2005:81). Secondly, in the case of public service organizations, is the fact that words such as "innovation" and "knowledge management" are not usually associated with public service (City of Johannesburg 2005) therefore employees feel threatened by participating. Thirdly the focus might be too much on the technology rather than the people and business processes. Lastly there might be insufficient interest by senior managers. Hylton (2002b) states other reasons for KM failure:

- More often than not the knowledge management initiatives and objectives were not properly or clearly scoped and even the short term ones were not clear
- Poor communication
- Lack of commitment and lack of support across the enterprise
- The knowledge management was too technological-centric and the people element was all too often ignored or side-stepped
- The absolute link between knowledge and business processes where it is created and used has not been clearly understood or appreciated.

2.1.4 What not to do with regard to KM

KM has lot of benefits as shown above; moreover caution needs to be taken so as not to rely solely on KM for all organizational development. Liebowitz (2006:65) provides advice on what not to do when implementing KM. The following are some of suggestions given:

- Do not force-fit user requirements to the KM system
- Do not call every technology tool a KM tool
- Do not convince people that KM will answer all their problems
- Do not over promise
- Do not develop KM in isolation from business strategy
- Do not say you are a KM expert without proper education and training on KM methodologies, techniques, processes, and tools

2.1.5 How to implement successful KM initiatives

KM practitioners must constantly communicate their subject. Communication can involve demystifying, selling, explaining, justifying and making KM real and understandable. This is usually in order to gain support, resources and to overcome stereotypes/perspectives. According to Al-Hawamdeh (2003:22) "organizations that succeed in KM are likely to view knowledge as an asset and to develop organizational norms and values which support the creation, retention, and sharing of knowledge". Gryskiewicz (2006:28) provides six principles which according to him are the framework for how KM can be inserted into an organization. The six principles of KM as according to Gryskiewicz (2006:28) are as follows:

- *Knowledge is personal*, it requires trusting relationships in the organization to share and use it.
- *Capturing knowledge*, it does not ensure an increase in performance, but is an essential step toward the KM process: this process is the codification and subsequent transfer of the captured knowledge between individuals that leads to increased performance within organizations.
- *Acceptance of KM* comes by connecting people who need knowledge with those who have it.
- *Technology* is a necessary, but alone insufficient, component to effective KM within an organization. It is a function of knowledge transfer and must be adapted to an organization.
- *KM learning events* focusing on helping individuals and teams learn before, during and after a work project, are the best ways to ensure that short term performance is improved within an organization

- *A key component* to the successful delivery of KM solution is going where the energy exists within an organization. It can be assumed that resistance to change and innovative solutions will always exist within an organization. Given this assumption, it is important to take time and seek out early adopters who are willing and enthusiastic. Finding these areas will provide the necessary support and momentum in the development of a successful KM solution.

All in all, the organization's current KM health should be assessed before proceeding to implement KM (Hylton 2002b). According to Hylton, "the strategy for the knowledge management initiative would be based on solid evidence of the current knowledge status or 'knowledge health' of the company or organization and how best to implement effective knowledge management".

2.2 Important KM components

The NeLH (2005b); Doyle (2006:21) and Cong and Pandya (2003:30) stated that people, technology and processes are three important components to be borne in mind when developing a KM environment. Echoing the above sentiment Hylton (2005:3) points out that KM is multi-faceted and multi-disciplined, and is concerned with, and embraces the people, processes and technology that are within and aligned to the organization. On the other hand, Gwin (2003:33) stated that a knowledge-sharing system needs to take an integrated approach to technology, people and processes. Like Gwin above, Garfield (2006:11) considered these three components (people, process and technology) as knowledge sharing components – see Figure 3 below:

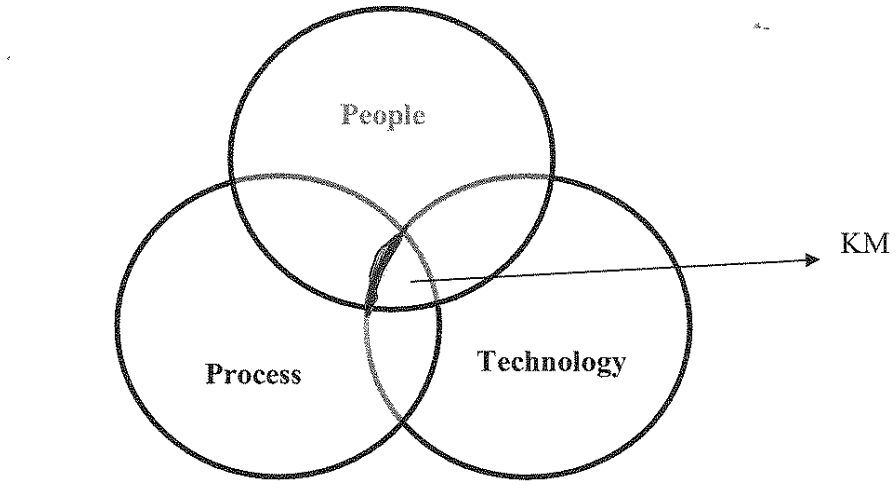

Figure 3: The relationship between people, process and technology

Elaborating on these components Cong and Pandya (2003:30) stated that "KM focuses on people and organisational culture to stimulate and nurture the sharing and use of knowledge; on processes or methods to locate, create, capture and share knowledge; and on technology to store and make knowledge accessible and allow people to work together without being together". These components "will at all times be acting as either enablers of or barriers to, effective knowledge management" (Cong and Pandya 2003:30). Maponya (2006) adds that people comprise both multidisciplinary teams, groups working together to solve common business problems and individual employees in an organization. These three components are often compared to the legs of a three-legged stool; and if one is missing the stool will collapse. However, one leg, namely, people, is viewed as being more important than others (NeLH 2003). Liebowitz (2006:64) claimed that "KM is about 80 percent people, process, and culture, and the other 20 percent is technology". However Collison and Parcell (2001:18) stated that KM is about getting a balance of people, process and technology.

2.2.1 People and organizational culture

"KM is firstly and foremost about a people issue" (Hylton 2000c). According to Cong and Pandya (2003:30) "the success of KM initiatives depends upon people's motivation, their willingness, and their ability to share knowledge and use the knowledge of others". This encompasses the organizational culture, that is "getting an organisation's culture (including values and behaviours) 'right' for KM is typically the most important and yet often the most difficult challenge" (Cong and Pandya 2003:30).

Al-Hawamdeh (2003) argues that the "culture is inherently a way of life and practice of doing things in a certain way or in a certain manner". Therefore, "Organisational culture refers to the pattern of beliefs, values and learned ways of coping with experiences that have been developed during the course of an organization's history, and which tend to be manifested in its material arrangement and in the behaviours of its members" (Brown 1998:9 Cited by Maier 2004:189).

According to Schein (1984:3) cited by Maier (2004:189), "organization culture is a pattern of basic assumptions that have worked enough to be considered valid, and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to problems of external adaptation and internal integration". Maier (2004:189) further adds that an organizational culture in general greatly influences how an organization handles knowledge.

Organizational culture is normally reflected in the organization's corporate structure, leadership, management style, learning experience, and norms and practices (Al-Hawamdeh 2003: 103). Furthermore, it influences the perception of the employee about the type of knowledge deemed as important. The culture that should be promoted should encourage knowledge sharing in the sense that "if I help you today maybe you will help me tomorrow" (Gamble 2001:8). An organization's primary focus should be on developing a knowledge-friendly culture and knowledge-friendly behaviours amongst its people, which should be supported by the appropriate processes, and which may be enabled through technology (NeLH 2003).

2.2.1.1 Goals of organizational culture in KM

KM initiatives may aim to change an organization's culture for improved knowledge sharing and creation (AGIMO 2004:6). Furthermore this often entails shifts from internal competition to collaboration, risk taking, and building trust within and between organizations' employees.

According to Maier (2004:24) concepts, such as trust, norms and standards, unwritten rules, symbols, are investigated under the lens of organizational culture. These concepts are shared by members of an organization and provide orientation in a complex world. Organizational culture is to a large extent an implicit phenomenon and thus hardly observable and open to interpretation (Maier 2004:24). Organizational culture impacts on the behaviour of the members of the organization in general and their willingness to share knowledge (Maier 2004:24-25).

Rosenstiel (2000:153f cited by Maier 2004:190) emphasizes that "cultural change might also be one of the goals of the KM initiative, for example, to improve the openness towards new ideas which is often seen as a requirement for successful management of knowledge". Maier (2004: 112) states that among other goals, organizational culture should aim to:

- *Reduce (non-labour) cost*: reduce cost, improve communication and cooperation, improve acquisition or purchasing of external knowledge, improve distribution of knowledge,
- *Improve productivity*: improve education, training and networking of newly recruited employees, improve training and education, improve communication and cooperation, improve distribution of knowledge,
- *Improve growth of the organization* and *improve speed of innovation*: improve management of innovations,

- *Reduce business risks*: improve the ability to react to environmental changes, especially the ones stemming from fluctuation, improve retention of knowledge improve training, education and networking of newly recruited employees, identify existing knowledge, externalization, improve documentation of existing knowledge, improve access to existing sources of knowledge,
- *Improve employees satisfaction and motivation*: change (part of) the organizational culture,
- *Improve product quality*: improve documentation of existing knowledge
- *Improve customer satisfaction, and/or service delivery quality*: improve communication and cooperation, identify existing knowledge, improve distribution of knowledge, and
- *Improve scheduling, reduce running time, improve meeting of deadlines*: improve communication and cooperation, improve distribution of knowledge.

2.2.1.2 Organizational culture enablers and barriers for KM initiatives

Certain aspects of organizational culture can promote or hinder the handling of KM in an organization. Al-Hawamdeh (2003) explores them further as depicted in Figure 4 below. Al-Hawamdeh (2003) refers to organizational culture as 'culture'.

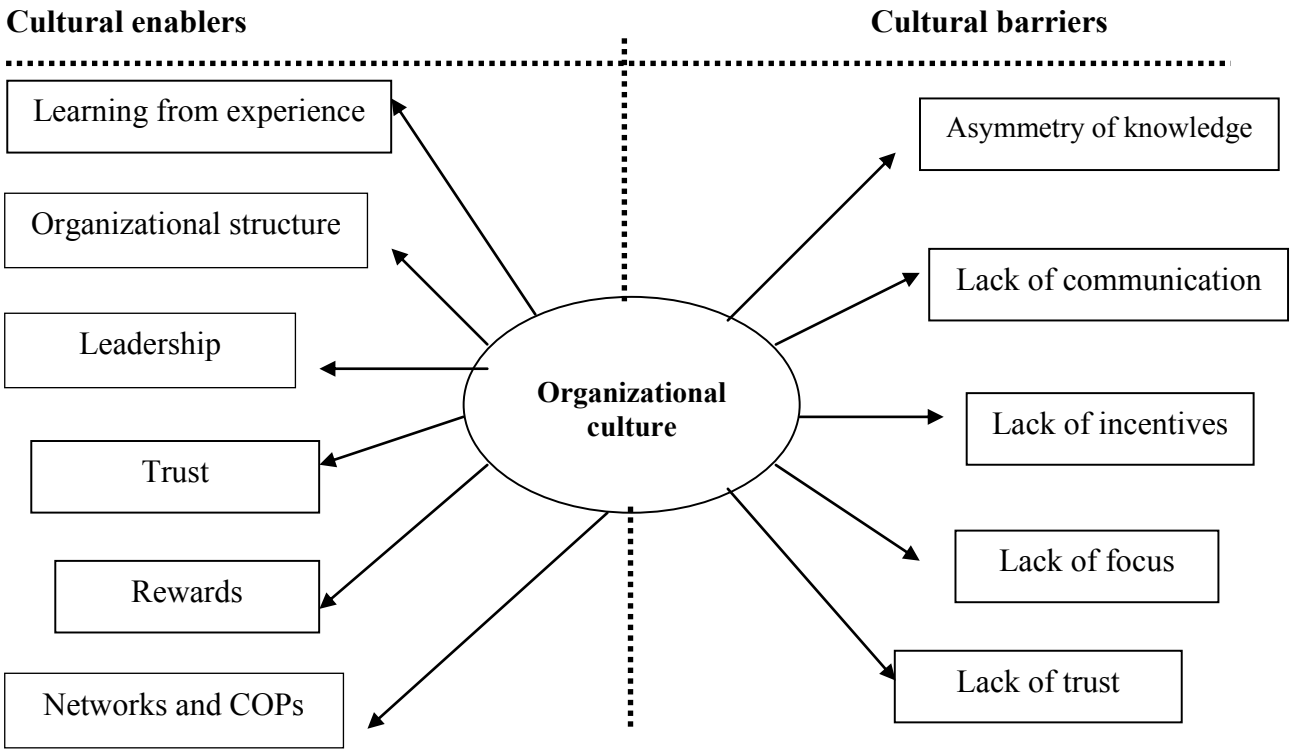

Figure 4: Organizational cultural enablers and barriers (Al-Hawamdeh 2003: 104)

2.2.1.2.1 Cultural enablers

Cultural enablers are those characteristics of the organization that promote KM. They play a significant role in enhancing successful and productive KM initiatives. Cultural enablers are not limited to the ones discussed below.

- *Learning from experience*

According to Al-Hawamdeh (2003) learning happens continuously in a person's life. People who are working in the organization learn from mistakes they concede, others learn from other people's mistakes while others learn from their previous experiences. In other words "productive learning does not only occur in the classroom but also outside of formal education since people continue to learn at work and through formal and informal training on the job" (Al-Hawamdeh 2003). The organizations that do not penalise employees who commit mistakes by encouraging them to learn from their mistakes have a conducive KM enabling culture. According to Maxwell (2000), "failure is the hallmark of success, without failure there would be no great successes". Therefore for an organization to learn, a willingness to learn has to be rooted in the organization's culture (Al-Hawamdeh 2003:104).

- *Organizational structure*

Organizations have different reporting structures such as hierarchical or matrix. Hierarchical structure has several routes to the head of an organization who is mostly the sole decision maker. A matrix structure provides other managerial levels with responsibilities to make informed decisions. No matter what the structure is KM can benefit all organisational structures. Giannetto and Wheeler (2000:26) state that "KM is not a stand alone process or initiative but it should be an integral part of the infrastructure of the business". For a KM initiative to succeed the organization has to incorporate it into its organizational culture.

- *Leadership:* Top management

Leadership or management style can determine the success of a KM initiative in an organization. According to Al-Hawamdeh (2003: 107) "[i]n a knowledge management context, management's commitment and continued support should be a prerequisite". That is leaders play a crucial role in building and maintaining an organizational culture of learning (Crawford 2005:9). According to Yeh, Lai and Ho (2006:794) KM implementers need strong support from top management to make the KM programme a success, because it is possible that during the process they will encounter resistance from employees. Senior management support is crucial if you are to gain buy-in from all personnel in the organization (Rose 200?:

11). Supporting this, the success of the World Bank's KM initiative can be based on the fact that the implementers had the support of the top Bank officials, including the President and Vice President for Human Development Network (Carayannis and Laporte 2002:13).

Senior managers in an organization should be accessible to junior employees and they must share knowledge amongst themselves as well (Gianneto and Wheeler 2000:17). Since managers cannot force people to share their knowledge, but can only give their support, because KM depends heavily on the willingness of people to take part in it (Huysman and de Wit 2003:45). Senior managers, according to Gianneto and Wheeler (2000:17), must be seen to believe in and support the philosophy behind KM. Davenport and Prusak (2000:167) illustrated the role of senior manger in KM when stating that "at Texas Instruments, for example, sharing best practices became a strong focus after the concept was strongly endorsed by Jerry Junkins, then the firm's CEO".

Davenport and Prusak (2000: 177) stated that it is impossible to transform the organization through KM unless the top management is standing on the front lines of KM and with the KM personnel. According to Webb (1998:5), as with all good management practices, the climate in which KM is able to operate effectively will need to be created through clear statements from top management. Both management and staff members in an organization should work together for KM to be successful. Liebowitz (2006:64) named this mutual relationship top-down and bottom-up approaches

According to Liebowitz (2006:64) "KM needs both top-down and bottom-up approaches to be successful in an organization". Elaborating what is meant by the above terms Liebowitz (2006:64) stated the following:

- Top-down refers to starting the KM initiative with senior leadership and pushing it down through the organization.
- Bottom-up refers to situations in which potential KM users see the value in KM and tell their managers, who in turn enlighten senior leadership as to the value of KM. In other words all the organization's employees will play a vital part in supporting and creating a conducive environment in which to implement KM.

This bidirectional enthusiasm enables an organization to realize the full potential of KM (Liebowitz 2006:64).

- *Trust*

Trust is very important in a KM initiative, since without trust one cannot openly share one's knowledge with colleagues. If the employees trust their managers, understand the direction in which the organization is heading and, importantly, feel that they themselves are trusted, the propensity to work in a more knowledge enlightened manner will increase (Ellis 2005:105). As Arrow (1971) cited by OECD (2000:17) points out, "you cannot buy trust, if you could it would have no value whatsoever". Gamble (2001:195) states that in an effective group, where trust is high, recognition of peers, and of other members of the community, provide a background of trust. That is an organizational culture which is shaped by the level of trust between employees on the one hand and between employees and management on the other (Al-Hawamdeh 2003:107). Hawamdeh (2003:108) emphasizes that "an atmosphere of mutual trust must exist" for the organizational culture to support a KM initiative. According to DeTeinne, Dyer, Hoopes and Harris (2004: 32) "the degree of trust employees have in both the organization itself as well as in co-workers essentially determines the extent to which they participate in both open dialogue and free flow of knowledge".

- *Rewards, recognition and motivation systems*

Organizations have different means of rewarding, recognising or motivating their employees. In some instances monetary value in the form of performance bonuses, salary increases or overtime is used as a reward or motivation. Recognition can come in the form of certificates, medals, and employees of the month and so on. Everyone in the organization, whether a knowledge worker or not, possesses knowledge that has potential to generate value. However, it is believed that the motives for sharing knowledge will tend to differ between these two groups of employees. One of the most important challenges …is therefore to design and implement effective recognition mechanisms for a worker who does not know (yet) that they are knowledge workers, as well as those who are not knowledge workers at all, but still possesses knowledge and expertise that can be potentially valuable to the organization (Ellis 2005:112). At Siemens, a reward and recognition concept was developed to overcome initial barriers and to accelerate adoption of knowledge sharing (Davenport and Probst (2002).

- *Informal networking and communities of practices (COPs)*

It is well known that organizations are not the same - some are big and some are small. A small organization has the advantage that almost all their employees know each other, while the big organization might have many branches which limit the interaction among its employees. Nevertheless people meet during coffee or smoking breaks or socially after work

and talk thus facilitating the development of informal networks. These networks are informal in the sense that they are not organized - people meet and voluntarily share knowledge. Such networks can be formalised to establish what is named as communities of practices. According to Cong and Pandya (2003:31) "C[O]Ps are knowledge centres of an organisation wherein a group of individuals with similar work responsibilities but who are not part of a formally constituted work team; create, share and use knowledge". An organizational culture that favours informal networks and COPs has good potential to succeed with its KM plans. COPs can be a broader means of sharing tacit knowledge (Cong and Pandya 2003:31).

Cultural enablers need to be promoted to support a KM enabling culture. However, one needs to be aware of cultural barriers and efforts should be made to overcome them.

2.2.1.2.2 Cultural barriers

Cultural barriers hinder the successful implementation of KM. Rectifying and overcoming them assists the organization to implement an informed KM initiative. The following cultural barriers are discussed:

- *Asymmetry of knowledge*

According to Hawamdeh (2003:111), "asymmetry of knowledge takes place when knowledge does not flow from one part of the organization to another". In other words one unit of an organization does not fully understand what another unit is doing. There is duplication of effort in one organization due to asymmetry of knowledge. This can also be caused by people who like to work in silos; they do not share their knowledge. Documenting knowledge or having information sessions where units talk about what they are doing can solve the problem.

- *Lack of communication:*

Working in silos results in a lack of communication among employees. That might hinder the KM initiative, since if knowledge management is not well communicated to the employees it might not be successful. Employees can feel threatened by it. The maxim 'Knowledge is power' still rules many people. Bergeron (2003:45) suggests that knowledge managers need to evangelize KM by motivating employees to accept KM by illustrating how it will benefit the organization. Some employees will not voluntarily reveal all their timesaving techniques, especially if these have been determined through their own know-how to fulfil their job requirements more quickly or accurately (Bergeron: 2003:55). This has led Bergeron

(2003:56) to note that "this reluctance to share the real core of information isn't limited to business but is also prevalent in academia, which is established around KM principles". Therefore people need to be encouraged to freely share their knowledge for the benefit of the organization, since the true value of knowledge is through sharing.

- *Lack of incentives*

Organizational culture which does not recognise, motivate or reward employees can hinder the KM initiative. Hawamdeh (2003:113) points out that "knowledge is a valuable resource and, as with any other type of asset, people will be very reluctant to give it away for free". Organizations should rather develop a motivation system of rewards to recognise the people who share their knowledge with others. In this way, knowledge sharing will become part of key performance assessment indicators.

- *Lack of focus*

Organizations that hope to successfully implement KM should make KM visible to its employees. According to Hawamdeh (2003:114), "[t]he absence of organization mission and business objectives might lead to failure in many knowledge management practices within the organization".

Gamble (2001) provided other organization cultural barriers other than the ones that were mentioned by Al-Hawamdeh:

- Some people worry that giving away personal expertise means giving away power and influence,
- Some resist asking questions to those outside their organization
- Others refuse to put information on a database because they are worried that they will be overwhelmed with requests for help from strangers,
- Pressure of work is a factor that affects many people's lives and taking additional roles in the form of a help desk might appear to hinder the achievement of personal goals.

Politics is another notable cultural barrier to hinder knowledge management initiatives. According to Bergeron (2003:184), "virtually every KM initiative involves the challenge of navigating through a maze of internal corporate politics". According to him the example might be powerful internal stakeholders who may find it in their best interest to squash a KM initiative because it threatens their control of information, which they may view as a source of their power.

Therefore cultural barriers need to be noted and minimized. Ellis (2005:64) stated that "organizations…need to be managed in such a way that people are willing and able to contribute their knowledge voluntarily as tacit knowledge (that which the owner knows) cannot be 'dragooned'".

2.2.2 Knowledge Processes

There are various processes to be followed when one is embarking on a knowledge management programme. According to Liebowitz (2006:27) and Cong and Pandya (2003:31) the following are KM processes:

- Knowledge identification and capturing:

  Identification – determining core competencies and recognising strategic capabilities and knowledge domains, assess the expertise level for each knowledge domain, and focus on bridging the gap between the existing and needed knowledge (Cong and Pandya 2003:31).

  Capturing – attempt to obtain needed knowledge from both inside and outside sources to formalise and document the obtained knowledge (Cong and Pandya 2003:31). Practically, tacit knowledge might be captured in the meeting as records, or via emails, group-discussions, and communities who formally or informally share knowledge and record it (Skyrme 2002). Captured knowledge needs to be assessed to obtain that which seems more appropriate to the workings of an organization.
- Knowledge storage – this includes organization and classification of captured knowledge to add to the organizational memory (Cong and Pandya 2003:31).
- Knowledge sharing – this involves communicating knowledge and building and nurturing a knowledge sharing culture (Liebowitz 2006: 27). The knowledge captured is ready to be shared with those who need it (Skyrme 2002 and Cong and Pandya 2003:31).
- Knowledge application – this includes incorporating and re-using knowledge in an organization (Liebowitz 2006:27) in performing the tasks such as solving problems making decisions, researching ideas and learning (Cong and Pandya 2003:31).
- Knowledge creation –as the result of application, one discovers new knowledge through a variety of processes such as surveys, best practise, research, pilot studies and data mining (Cong and Pandya 2003:31).

Of the KM processes mentioned above, this study will focus on knowledge sharing. Sharing knowledge leads to identification of knowledge, and then it should be captured to be applied and interpreted by other employees in order to create new knowledge.

2.2.2.1 Knowledge sharing

Knowledge sharing is the human behaviour that describes the exchange of knowledge (Stuhlman 2004:8). The real task for KM is to connect people to people to enable them to share what expertise and knowledge they have at the moment (Crawford 2005:10). This is echoed by NeLH (2005a), when stating that, "sharing is often one of the first things to be carried out in a knowledge management initiative". In other words "the success of a KM programme ultimately depends on the sharing of knowledge" (Bouthillier and Shearer 2002:16). Often people who share the same work culture can communicate better and transfer knowledge more effectively than people who do not (Prusak and Davenport 2000:100). The above sentiment has led Bouthillier and Shearer (2002:33) to point out that "knowledge management, as it is practiced really means facilitating the sharing of tacit knowledge".

The environment has to be conducive to allow people to share knowledge. People, who smoke, eat and play sports together tend to know each other better and they can exchange knowledge in the process. In other words people want to know about each other's background, for example, where someone had previously worked, what their interests are, and so on. That means knowledge sharing involves the transfer of knowledge from one (or more) person to another one (or more) person (Bouthillier and Shearer 2002:15). Sharing of knowledge is crucial when new employees arrive since they can build on the existing knowledge (Bouthillier and Shearer 2002:15). Hinds and Pfeffer (2003:31) provide different types of knowledge sharing and these are mentioned below:

- *Knowledge retrieval* – knowledge sharing from the organization to the individual has the purpose of retrieving existing organizational knowledge;
- *Knowledge exchange* – knowledge sharing from one individual to others has the purpose of exchanging existing individual's knowledge. Individuals learn from other people to accumulate and develop new knowledge and expertise; and
- *Knowledge creation* – knowledge sharing among individuals has the purpose of generating new knowledge.

According to Riege (2005:19) "there are various organizational levels at which knowledge sharing occur". Firstly, it is within and between business functions, secondly in formal and informal approaches, and lastly in two delivery methods, namely tacit and explicit.

Knowledge sharing processes cannot be limited to the operational level only; much of the knowledge is also shared among managers (Hinds and Pfeffer 2003:47). This means people will contact each other to exchange knowledge or to effectively refer to a person who can help (Hinds and Pfeffer 2003:45). That is "… when everyone knows what everyone knows, people will contact each other to exchange knowledge" (Huysman and de Wit 2003:45).

2.2.2.1.1 Enablers of knowledge sharing

According to NeLH (2005a) "experience is increasingly showing that people are generally willing to share, but they need a supportive, encouraging and safe environment in which to do so". As stated earlier people are the centre of KM, that is, KM places a strong emphasis on the need for humans to communicate in order to make knowledge sharing work" (Seeley and Davenport 2006:10). The authors go on to say that "It is well-known that successful knowledge management relies heavily on people - people who create and share knowledge, people who manage knowledge, and people-related culture and behaviour" (Seeley and Davenport 2006:11). The emphasis here is that people lie at the heart of KM (Pearlson and Saunders 2004:300). Because if people in an organization know each other better and build interpersonal relationships, it would be conducive for knowledge sharing (Fitzpatrick 2003:99). That is, according to Fitzpatrick (2003:99) having a good sense of others, their skills, status, personalities and current work load can help people to communicate more.

People by nature love to share knowledge, the desire not to share knowledge, according to Hylton (2002:6), is unnatural and artificial which is a situation which brings fear and a feeling of being under-valued. According to Fung (2006:32) "motivating and aligning people is at the heart of the success of any corporate change initiative, and KM is no different". While many organizations attempt to drive change at the mass level from the start, Fung (2006:32) states that "the most effective change is to start at the individual level and infectiously spread to others".

Davenport and Prusak (2000) have portrayed KM as marketing a business. They argue that KM is the service which needs to be sold to the client - the client being the employees and other stakeholders. They concluded that "knowledge [management] initiatives that ignore the dynamic of markets (and of course human nature) are doomed to fail" (Davenport and Prusak 2000:26). Davenport and Prusak (2000) suggested that in the exchange of knowledge there should always be a seller (someone who possesses knowledge), buyer (a knowledge seeker) and broker (the knowledge manager).

2.2.2.1.2 Barriers to knowledge sharing

Knowledge sharing barriers can be huge obstacles in establishing KM initiatives in an organization. Therefore knowledge audits can assist in identifying some barriers that need to be solved for KM to take place. Garfield (2006:10) mentions ten reasons why people don't share their knowledge, and the solutions thereafter as shown in Table 1 below.

"The biggest challenge for many organizations today is how to encourage their staff to share knowledge" (Al-Hawadeh 2003:10). In some instances, "it appears that the greatest inhibitor to knowledge sharing is the syndrome 'knowledge is power'" (Skyrme and Amidon (1997) as cited by Webb 1998:8). As is pointed out by NeLH (2005a) people "compete for jobs, salaries, promotions, recognition, status, power, budgets, and resources,…" Reluctance to share knowledge is strongly condemned by Gianneto and Wheeler (2000:17) when they point out that "if people feel that 'knowledge is power' and managers are known to keep things within their departments so that they can out perform other departments, then work must be done ahead of any introduction of knowledge management to encourage people to share knowledge more freely."

Table 1: Barriers and solutions to knowledge sharing (Garfield 2006:10)

Barriers (reasons for not sharing knowledge)	Solutions
They don't know why they should do it	Have the leader of the organization communicating regularly on knowledge sharing expectations, goals and rewards
They don't know how they have to do it	Regularly communicate and conduct training, and knowledge fairs
They don't know what they are supposed to do	Establish and communicate clear knowledge-sharing goals
They think the recommended way will not work	The KM leaders, knowledge brokers and other members of KM team have to convince people in small group or one-on-one by showing them that it does work
They think their way is better	Share regular stories of how others are benefiting from sharing knowledge using recommended ways
They think something else is more important	Get all first level managers to model knowledge sharing behaviour for their employees, and to inspect compliance to knowledge sharing goals with the same fervour as they inspect other goals.
There is no positive consequence to them for doing it	Implement rewards and recognition programs for those who share their knowledge
They think they are doing it	Assign people to work with each communities and organizations to show them how to use the recommended ways and how they work better than other ways
They are rewarded for not doing it	Work with all managers in the organization to encourage them to reinforce the desired behaviours and stop rewarding the wrong behaviours.
They are punished for doing it	Align knowledge sharing processes and goals with other critical processes and performance goals

Taking note of knowledge sharing barriers and solutions mentioned above, an organization can implement a successful KM initiative. Having looked at knowledge sharing an

organization might need to know the role that KM can play and the organizational goals that can be achieved by implementing KM.

2.2.3 The role of technology in a KM initiative

While KM is a relatively recent field of study, attempts to use technology to capture and manipulate knowledge have been underway for decades (Davenport and Prusak 2000:125). KM is comprised of "the practices and technologies which facilitate the efficient creation and exchange of knowledge on an organization-wide level in order to enhance the quality of decision making" (Delphi 1997:12 cited by Maier 2004:53). According to Gamble (2001:71) "…the technology should cut across organization boundaries and reflect shortcuts to results".

Clyde (2005) argues that KM and computer technology are inseparable. "Computer-based technology has transformed the way individuals and organizations accomplish knowledge work by amplifying, complementing, leveraging, and (in some cases) improving on innate human knowledge handling capacities" (Clyde 2005:47). Furthermore Clyde (2005:47) emphasizes that "much of this progress has been either stimulated by or enabled by advances in computing technology. Gwin (2003:36) echoed Clyde's (2005) sentiment that KM and technology cannot be separated when stating that in the World Bank "from the start, the knowledge [management] initiative has included a heavy emphasis on the Bank's information technology…" However, it should be noted that the technology is just an important enabler to knowledge sharing (Cong and Pandya 2003:31); people's behaviours are what make effective knowledge sharing and use (Gwin 2003:37). The was echoed by Strategic Direction (2006:17) when stating that "technology is an important part of the KM process as it can facilitate the access to information and transfer of knowledge but the needs of people must remain foremost". "As a result several steps were taken to create a work environment in which staff would be encouraged to share knowledge routinely" (Gwin 2003:37).

Information communication technologies (ICTs) have been closely associated with the development of the great majority of KM initiatives (Hayes and Walsham 2005:54). Gryskiewicz (2006:28) stated that "technology has the ability to share knowledge across a large organization, quickly and easily, bridging boundaries that typically exist in the knowledge transfer" that is technology has become a core enabler for almost all business and informational processes-workflows and vital knowledge is now captured and embedded in information technology systems (Fung 2006:32). Fung warned that the cart should not be put before the horse, by putting more emphasis on technology in a KM initiative. The IT system

should be designed to enable easy sharing of knowledge across functional domains (Fung 2006:33). By so doing the technology will be able to support the KM initiative. If technology is to foster the effective utilization of the range of knowledge in an organization, it has to be able to support not only access to explicitly documented knowledge, but most importantly, tacit knowledge held by individuals (Yiman-Seid and Kobsa 2003:327). That is possible by developing yellow pages or employees' directories.

Bouthillier and Shearer (2002:26) in their case study found that international private sectors and public sectors rely heavily on technology to facilitate knowledge sharing. This finding was questioned by Hylton (2005:3) when stating that "knowledge management is not a high-profile 100m, 200m or 400m sprint, where the brawn and glamour of raw power and muscles (i.e. technology) is the main precursor or driving force to successes". According to Hylton (2002b:3) "the technology-centred approach to knowledge management solutions and implementation has been, arguably, the single most damaging element of knowledge management in practice". According to her it is wrong for KM adopters to focus on technology rather than on people. However, the existence of some non-technological factors does not mean that we should ignore or dismiss technology from consideration in KM research or KM practice (Holsapple 2005:51). Furthermore according to Holsapple (2005:50) "we really cannot fully appreciate KM practices and possibilities without paying attention to technology. If we were to eliminate technology from consideration, then modern knowledge management is gutted. Traditional KM success stories such as Buckman Labs, K'Netix and Ernst & Young's Ernie would disappear. They are technologically based".

Computer-based technology has tremendously enriched KM and is becoming increasingly important in KM efforts that aim to keep an organization competitive (Holsapple 2005:50). This was echoed by Davenport and Prusak (2000:44) when they pointed out that technology especially "networks and desktop computers, with their ability to connect people, store and retrieve virtually unlimited amounts of content, can dramatically improve knowledge market efficiency". Technology is the prerequisite for any KM, since it very difficult to try and implement KM without it (Gamble 2001:163). While it does not make KM "work" or guarantee the actual willingness to share, it can, however, facilitate and enable connections and communication.

Technology can expand access and ease the problem of getting the right knowledge to the right person at the right time (Davenport and Prusak 2000:143). By supporting "networks of

knowledge workers in the creation, construction, identification, capturing, acquisition, selection, valuation, organization, linking, structuring, formalization, visualization, distribution, retention, maintenance, refinement, evolution accessing, search and last but not least the application of knowledge the aim of which is to support the dynamics of organizational learning and organizational effectiveness" (Maier 2004:83). It enables people to share knowledge, through web-based and intranet technologies (Liebowitz 2006:64). IT has provided us with a number of possible solutions for sharing recorded human knowledge via e-mail, intranets and knowledge bases" (White 2004).

2.2.3.1 Intranet as a technology for KM initiatives

Intranet is defined as "a Local Area Network and/or Wide Area Network constructed as an internal website and is secured behind company firewalls" (Hylton 2002d:9). In other words it works as a private web that exists within an organization but it is not available to outside users (Gianneto and Wheeler 200:53). It is used to support the internal communication in the organization. According to Telleen (1996) the intranet is not only a powerful communication medium but also a knowledge base. An intranet in the context of KM is defined by Hylton (2002d:2), as "an important information and knowledge management enabling tool, allowing employees, across the board, to efficiently and effectively gather, transfer, and share information and knowledge and to streamline business process, in a secure, collaborative environment". As indicated earlier in this chapter, not all KM solutions lies with technology Gianneto and Wheeler (2000:47), emphasize that technology will only support KM; ultimately an organization's employees are the ones that will make it a success.

According to Gamble (2001:163), some of the benefits for using the intranet as a knowledge base are:

- It lowers the communication costs, related to printing, mailing and processing of documents.
- It can improve productivity by making information more widely and quickly accessible.
- It can facilitate higher team productivity by creating a collaborative working environment, allowing for rapid implementation of solutions by making transparent the use of the knowledge bases.

This will be only possible by allowing all employees to have access to the intranet and by having a user-friendly system, which is able to search key words. Maier's (2004:83)

emphasis is that "it should be noted that one does not need to buy new technology to start a KM initiative as the existing technology can be used to kick start the KM.

2.2.3.2 E-mails

In KM e-mails can play a huge role, as Groff and Jones (2003:37) asked "where do you turn to find the critical e-mail that contains promised but undelivered service?" The answer to that question is e-mail's archive. That shows that communicating using e-mails can be tool for knowledge sharing and storage (in some extent). "E-mail is growing source of information and knowledge exchange in most jobs…" (Groff and Jones 2003:26).

Having looked at how crucial technology is in the KM initiative; it must be borne in mind that it has some limitations.

2.2.3.3 Limitations of technology in KM initiatives

Many authors have warned not to rely too much on the technology during the implementation of a KM initiative. According to Davenport and Prusak (2000:142) technology is the not the whole KM component and they list some of the limitations of technology:

- Technology alone will not (and the others below) make a person with expertise share it with others
- Technology alone won't get an employee who is not interested in seeking knowledge to start searching for it
- Technology alone won't create a learning organization or knowledge –creation organization
- Technologies rarely promote knowledge uses.

Maier (2004:56) concludes that " … even though many authors regularly put emphasis on the (individual and organization) human side of KM, it is technology that all too often is employed as an enabler, a catalyst, a vehicle to complement or implement the concepts that should change the way organizations handle knowledge". However, as mentioned earlier, KM is about getting a balance of people, process and technology.

2.3 Role of the knowledge audit

As stressed previously, the knowledge audit is the first step in the successful implementation of KM (Gianneto and Wheeler 2000:37; Boone 2001). The knowledge audit measures the efficiency and effectiveness of the leveraging of knowledge (Hylton 2002a: 4) and also

characterizes any pattern of formal and informal knowledge-sharing (Dow Jones and InfoPro Resource Center 200?). According to Choy, Lee and Cheung (2004:70) "[m]ost organizations launch KM initiatives without first measuring whether the organization is ready for doing so or not". This omission of the knowledge audit leads to a high failure rate of KM initiatives, since a knowledge audit is the strong foundation or building block for a successful implementation of KM initiatives (Giannetto and Wheeler 2000:37). Adding to what has been mentioned regarding K-audit from the previous chapter, Gianneto and Wheeler (2000:38), stated that the information gained from a K-audit will assist the organization to:

- Develop a knowledge/information strategy
- Make decisions about intranet contexts
- Assess requirements for knowledge and information management skills.

A key part of the knowledge audit should be to access factors that potentially inhibit or promote knowledge sharing (Maponya 2003:40). According to Maponya (2003:87), it is important for people to be able to locate information and knowledge that is needed to carry out their required tasks. Therefore developing procedures that facilitate the identification, flow, learning and sharing of knowledge will become essential.

Webb (1998:23) summarizes the role of the knowledge audit as follows:

> "The [knowledge] audit is an extremely valuable tool for planning a new process or activity. But it can also be seen as something for long-term use and not just part of the initial stage of implementation. It offers a useful way of regularly updating yourself on what is happening throughout the organization, keeping in touch with colleagues about their activities and needs, and puts in place a means of wider knowledge-and information-sharing across departments and functions, making it possible to maximize the potential of these assets in achieving the organization's objectives" .

Adding to the above summary by Webb (1998), Henczel (2000:225) states that a knowledge audit has two main objectives which are:

- To identify the 'people' issues that impact on knowledge creation, transfer and sharing. These include the communication issues that enable or prevent knowledge transfer, and the cultural and political issues that impact on the success of knowledge management strategies.

- Identify which knowledge can be captured, where it is needed and can be reused, and to determine the most efficient and effective method to store, facilitate access to and transfer of knowledge.

2.4 Benefits of conducting a knowledge audit

It has become apparent that KM can add great value to an organization. Many benefits of conducting a knowledge audit do exist. According to NeLH (2001) a knowledge audit, amongst other benefits,

- Helps the organization to clearly identify what knowledge is needed to support overall organizational goals and individual and team activities.
- Provides a map of what knowledge exists in the organization and where it exists, revealing both gaps and duplication.
- Provides the map of knowledge and communication flow and networks, revealing both examples of good practice and blockages and barriers to good practices
- Provides an inventory of knowledge assets, allowing them to become more visible and therefore more valuable, measurable and accountable, and giving a clearer understanding of the contribution of knowledge to the organization's performance.

2.5 Previous research

It appears that there are very few academic studies conducted on knowledge audits, despite a Google search yielding 36,900 hits (Google 2008). Also searched was the SABINET database (current and completed dissertations). Few academic studies directly relevant to the present research were found.

Maponya (2003) has developed a knowledge audit. However, her model was for a different context (estuaries) as compared to the focus of the proposed study. Maponya's study involved the Tyolomqa estuary in the Eastern Cape and she named the environment as a non-traditional or non-formalised structure. The study employed a focus group with semi-structured questionnaires for data collection.

Schwikkard (2002) looked at a private profit orientated organization. In her study, leaders and selected employees were perceived as experts within the individual entities. The focus of the study was based on the content management that is explicit knowledge and return on investment (RIO) rather than assessing the KM opportunities within the whole organization.

Boone (2001) employed a knowledge audit method that was exclusive to the Air force supply officers, and therefore can only be suitable for other Air force supply officers from other countries. However Boone's (2001) study was useful in pointing out that the knowledge audit supports KM in any area. Furthermore Boone utilised Liebowitz et al's (2000) questions as the basis of the study questionnaire – something which was done in the present study.

2.6 Summary

This chapter looked at the broader benefit of implementing KM in an organization. It looked at the KM components (people, process, technology) on how they influence the success of KM. Organizational culture as an enabler or barrier to KM, was also examined.

CHAPTER THREE: METHODOLOGY

Like any other research conducting a knowledge audit should be conducted according to correct social research techniques. In this study, social research techniques will be integrated with knowledge audit methods. There are two broad types of research, namely, quantitative and qualitative. According to Neuman (2003:542) quantitative research methods deal with information in the form of numbers. In other words, quantitative research involves collecting numerical data (Neuman 2000:33), and results can possibly be generalized.

The proposed study will use mainly a quantitative research methodology. Types of quantitative research methods include case studies and surveys. Within these quantitative methods the survey method will be used in this study as a foundation to conduct a knowledge audit. This chapter will discuss the survey method and outline the population and sampling approach used. The data collection and analysis will then be discussed. Finally, the issue of how to conduct a knowledge audit will be described.

3.1 Survey

Survey research is a quantitative social research method in which one systematically asks many people the same questions, then records and analyzes their answers (Neuman 2003:546). De Vaus (1996:7) states that "survey research is one method of collecting, organising and analysing data". Dane (1990:120) summarizes survey research as follows, "survey research involves obtaining information directly from a group of individuals. More often than not, it includes interviews or questionnaires. But it is important to keep in mind that the use of interviews and questionnaires do not by themselves define a survey method. According to Dane (1990:120) there are three different types of information that may be obtained from surveyed respondents: facts, opinions, and behaviour. According to Neuman (2006) there are more than three aspects which can be obtained when one is employing a survey. Neuman (2006:273) maintains a survey can assist in answering questions about behaviour, attitudes/beliefs/opinions, characteristics, expectations, self-classification and knowledge. These aspects will be key for the study.

Survey techniques are often used in descriptive research (Neuman 2000:34; Babbie and Mouton 2001: 232). "The researcher who conducts a descriptive study wants to determine 'the nature of how things are'" (Leedy and Ormrod 1985: 210). Neuman (2000:22) points out that the outcome of a descriptive study is a detailed picture of a subject. Furthermore a

descriptive study presents a picture of types of people or social activities, and it focuses on "how" and "who" questions ("How did it happen?" "Who is involved?"). These are the main reasons why the study employed the survey research method to assist in conducting a knowledge audit. Boone (2001:44) further adds that "survey instruments can be used to measure the perceived level of knowledge of survey participants".

3.2 Population

In survey research a large target population is often used, which makes sampling very important (Betram 2003:61). The population for this study was 399 members of staff from the Department of Housing. To reduce errors associated with sampling the researcher can choose to include the whole population in the study. However, since the proposed study was a short dissertation a sample was drawn from the population of Junior Staff as shown in Table two below. The sample should be representative of the population. This is the reason that the probability sampling method was used.

3.3 Sampling

The ultimate purpose of sampling is to select a set of elements from a population in such a way that descriptions of those elements (statistics) accurately portray the parameters of the total population from which the elements are selected (Babbie and Mouton 2001:175). Bailey (1982:95) adds "…the correct sampling size is dependent upon the nature of the population and the purpose of the study". In other words the aim of sampling is to get a representative sample, or small collection of units or cases from a much larger population, such that the researcher can study the smaller group and produce accurate generalizations about the larger group (Neuman 2000: 195). Ngulube (2005:132) further elaborated that, "no matter how good the question asked and no matter how elegant the analysis, little knowledge will be gained if the sample itself is poorly designed and executed". By studying the sample it is hoped to draw valid conclusions about the larger group (Ngulube 2005:132).

3.3.1 Types of sampling

There are two major types of sampling methods, namely, probability and non-probability (Babbie and Mouton 2001: 166). Although the study used probability sampling, both will be briefly discussed below.

3.3.1.1 Non-probability sampling

In non-probability sampling, representativeness is not the priority. It is used in social research that is conducted in a situation where researchers cannot select the kind of probability sample they want to use (Babbie and Mouton 2001: 166). Non-probability sampling is mostly used by qualitative researchers (Neuman 2000: 196; Neuman 2006:220). According to Neuman (2000: 196) there are seven types of non-probability samples namely: haphazard, quota, purposive, snowball, deviant case, sequential and theoretical sampling. It is not the aim of the study to look at non-probability sampling. Rather the focus will be on probability sampling.

3.3.1.2 Probability sampling

In most cases probability sampling is known as random sampling**.** This is a method of sampling in which the researcher uses a random number table or similar mathematical random processes so that each sampling element in the population will have an equal probability of being selected (Neuman 2006:227). It involves the selection of a random sample from a list containing the names of everyone in the population one is interested in studying (Babbie and Mouton 2001: 160). Babbie and Mouton (2001: 173) further state that "a basic principle of probability sampling is that a sample will be representative of the population from which it is selected if all members of the population have equal chances of being selected in the sample". In probability sampling, every element in the population has an equal chance of being selected (Ngulube 2005:132). In other words "probability sampling implies the use of random selection, which eliminates subjectivity in choosing a sample" (Fink 2003:10). Probability sampling procedures comprise simple random sampling, systematic random sampling, stratified random sampling; proportional stratified random sampling, and cluster sampling (Neuman 2006:241; Fink 2003:10-14; Ngulube 2005:132). In this study stratified random sampling was used.

- *Stratified random sampling*

A stratified sample is defined as "a random sample in which the researcher first identifies a set of mutually exclusive and exhaustive categories, divides the sampling frame by categories, and then uses a random selection to select the cases from each category" (Neuman 2006:231). Furthermore according to Bailey (1982:90) "it is obtained by separating the population elements into non-overlapping groups, called strata, and then selecting a simple random sample from within each". Clarifying this Berg (1998:228) adds that "it is

used whenever researchers need to ensure that a certain segment of the identified population under examination is represented in the sample".

A researcher needs to have sufficient information to be able use stratified random sampling. The reason being that to divide samples each stratum needs to have the same cases. It ensures that an appropriate sample is drawn from homogenous subsets of the population (Babbie and Mouton 2001:191). The population is divided into subgroups, or strata, and a random sample is then selected from each subgroup (Fink 2003:11). Strata should be chosen based on the available evidence that they are related to the population. According to Neuman (2006:231), this will guarantee representativeness of strata within a sample and decrease the probable sampling error (Babbie and Mouton 2001:191). That is it produces samples that are more representative of the population than simple random sampling. Stratified random sampling was used in this study, to attain better representativeness from the population sampled.

3.3.2 Sample frame

A sample frame is defined as the actual list of sampling units from which the sample is selected (Babbie and Mouton 2001: 174). According to Ngulube (2005:133), it is the foundation of the population on which the selection process is designed. The population in the study was sampled using a GroupWise address book as a sample frame. The sample frame advantage is that it categorises the population as everyone (only Junior Staff), Chief Directors, Directors, and Deputy Directors. The population was sub-divided into strata and simple random sampling was then employed to select the required sample.

The sample frame did have one limitation. At the time of the study, the Department was undergoing a major restructuring process which included promotions and the appointment of new employees. In the process some employees left the Department. Although the system was updated it might not have been possible to find promoted personnel who had had their rank changed on the GroupWise system. For example the person who was director before and appointed to be chief director might still appear as director on the GroupWise address book. It is the opinion of the researcher that these kinds of instances would have been very few and should not have affected the validity of the overall sampling process.

The total population of the Department of Housing was 406 members of staff (determined via the Department's GroupWise database on 18 August 2008). Table 2 below reflects the strata that were used for the sample and the size of the sample drawn from each stratum – a total sample of 288 respondents. The sampling table in Payne and Payne (2004:203) was used to inform the sample drawn for the proposed study.

Table 2: Population, sample size and response rate

Strata	Population size	Sample size	Response	Response rate (%)
Chief Directors	22	22	8	36
Directors	43	43	17	40
Deputy Directors	46	46	17	37
Rest of the staff	288	169	51	30
Total	**399**	**280**	**93**	**33**

3.3.3 Sample selection

The sample was selected from strata as shown in the table above. The sample size determined how many representatives were selected from each stratum. Thereafter simple random sampling was used to select the required sample of Junior Staff. As can be seen Chief Directors, Directors and Deputy Directors were not sampled, rather the whole strata was used.

3.4 Data collection method

The data collection instrument that was used was the questionnaire.

3.4.1. Questionnaire

According to Wiig (1995:102) focused knowledge surveys and audits can be conducted using questionnaire-based surveys. The major purpose of a questionnaire-based knowledge survey is to obtain information to develop a broad overview of the organization's knowledge situation and to identify areas which require priority management attention. Questionnaires may be paper-based or PC-based, or be distributed over mail or computer networks (Wiig 1995:103). The questionnaires for the proposed study were paper-based, and were made up of closed and open-ended questions (see below) with the former predominating. There was one questionnaire for each level of staff and while all the questionnaires were largely similar in terms of questions asked, there were some questions relating to a specific level of respondent.

Advantages of the questionnaire

Questionnaire based surveys have a number of advantages. These include the fact that the questionnaire is relatively inexpensive to administer and it allows a large number of respondents to be surveyed in a relatively short period of time as compared to other data collection tools (Powel 1997:97). Furthermore, responses to questionnaires, particularly responses to close-ended questions, are easy to compare and analyze, one can get lots of data and they can be completed anonymously (McNamara 1999). As noted, questionnaires can consist of open-ended or closed questions, or both.

- *Disadvantages of the questionnaire*

Disadvantages of questionnaires include the following: Respondents can easily intentionally or unintentionally ignore mailed or e-mailed questionnaires which results in low response rates. According to Czaja and Blair (2005) "it is easy for respondents to skip questions they do not understand or do not want to answer". Furthermore, questionnaires can be restricting because they often rely on highly structured questions which can be limiting (de Vaus 1986:7). However, open-ended questions can help minimise that restriction.

3.4.2 Pre-testing

Pre-testing the questionnaire is one of the tools that may be used to test the consistency of the instrument. Even an experienced researcher may make a mistake; therefore "no matter how many questions we borrow from others; we must always pre-test the questionnaire before we start data collection" (Czaja and Blair 2005:20). The instruments used in this study were pre-tested on staff members that were not part of the sample. A total of four respondents comprised the pre-test: two respondents at Junior Staff level and one each at Deputy Director and Director level.

No significant problems were experienced by the respondents. However, some questions were clarified for example: Do your colleagues know what it is that you are good at? That was question was modified to: Do your colleagues know your area of expertise in terms of your job? Also "library" was added to options to the question: Please circle the information system you have previously used or currently using to acquire information.

The questionnaires that were finally used in the study are listed in Appendices B, C and D.

3.4.3 Administering the questionnaires

As stated above the questionnaires were paper-based, and were made up of closed and open-ended questions. The researcher personally delivered the questionnaires to respondents who were in the same building as his office. For those staff members in other buildings their questionnaires were sent through the internal mailing system. The respondents were given three months to respond to the questionnaires. Due to the slow return rate, a follow-up was made. According to Babbie and Mouton (2000: 260) follow-up can be done in several ways. The researcher visited respondents and reminded them through emails. A follow-up has been suggested as a means of increasing return or response rates (Babbie and Mouton 2000:261).

3.4.4 Response rate

Babbie and Mouton (2000:261) stated that "the consensus of response rate of 50 per cent is adequate for analysis and reporting". Although a low response rate can create bias and weaken validity (Neuman (2001:266), Neuman (2001:268) does argue that "a response rate of 10 to 50 per cent is common on mail surveys". The study yielded a response rate of 33 per cent as stated in Table 2 above. The low response rate can be attributed to the fact that the survey was conducted during the first three months of the year: In January a number of people are on holiday and the months of February and March are close to the end of the financial year – a period when staff are particularly busy. In retrospect, the distribution of the questionnaires could have been better timed but time constraints in terms of completion of the study necessitated distribution as soon as possible.

3.5 Data analysis

The collected data was analysed using the SPSS package and content analysis. Open-ended questions were analysed using content analysis. Once this was done, they were entered into SPSS for further analysis together with closed questions. Content analysis and SPSS will be briefly discussed below.

3.5.1 Content analysis

Content analysis has been defined as "any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (Holsti 1969:14). According to Denscombe (1998) cited by McNabb (2002:414) "content analysis is a method of analyzing the content of written documents, transcripts of films, videos and speeches, and other types of written communication". According to Neuman (2000: 293) "with content analysis, a researcher can compare content across many texts and analyze it with quantitative

techniques (e.g. charts and tables)." Neuman (2000: 293) further states that "in the content analysis, a researcher uses objectives and systematic counting and recording procedures to produce a quantitative description of the symbolic content in a text".

3.5.2 SPSS

SPSS is a powerful package that performs statistical analyses of quantitative data (McNabb 2002:240). Numeric data is recommended for SPSS usage. SPSS and to a lesser extent MS Excel were used to analyse the collected data. According to Graziano and Raulin (2000: 93) "statistics are powerful tools for organizing and understanding data." Furthermore they provide ways to represent and describe groups, summarize results, and evaluate data. Statistics are used to organise and manipulate quantitative data into readable graphs, charts and tables (Neuman 2006:343). Data coding, entering of data into SPSS and data cleaning are important steps for successful data manipulation and each will be briefly discussed.

3.5.2.1 Coding of data

The closed and open ended questions need to be coded to be entered into SPSS. This is clearly stated by de Vaus (1996: 233) "computer analysis typically requires that people's answers to questions or their own observations be converted into numbers. This conversion process is called coding". Coding can be defined as means of systematically reorganizing raw data into a format that is machine-readable (Neuman 1997:295). On the other hand coding can be defined as "… the process of assigning a code or symbol, preferably a number, to each possible answer to a particular question" (Cant 2003:252). Coding involves allocation of codes to the answers to each question or variable and producing a code book.

- *Allocation of codes*

A researcher can decide to code the data before or after data collection. De Vaus (1996:233) refers to this as pre-coding and post-coding. Pre-coding means placing code categories, (e.g. 1 for male, and 2 for female), on the questionnaire (Neuman 1997:295). Unlike open-ended questions which cannot be known, all closed-ended questions should preferably be pre-coded (Cant 2003:155). In terms of the present study, post-coding was done for the open ended questions with the assistance of a codebook.

- *Codebook*

A codebook can be defined as "…a document that describes the location of a variable and lists the code assignments to the attributes composing those variables" (Babbie and Mouton 1998:415). The authors' further state that a codebook serves two essential functions: firstly it is a primary guide used in the coding process; secondly it is the guide for locating variables and interpreting codes during the data analysis. According to Neuman (1997:295) "if a researcher did not pre-code, his or her first step after collection data is to create a codebook". As noted above, in terms of the present study a codebook was developed for the open ended questions.

3.5.2.2 Data entry

SPSS requires data to be entered in a numerical format as stated above.

3.5.2.3 Data cleaning

When data has been entered into SPSS they need to be cleaned in case of unforeseen human error which might have occurred during the data coding and input. De Vaus (1996:245) warned researchers that "no matter how much care is taken there will always be some errors either in the coding or in the entering of a set of codes on to the computer". Neuman (1997:297) echoed the above sentiment by stating that "a researcher who has a perfect sample, perfect measures, and no error in gathering data, but who makes errors in the coding process or in entering data into a computer can ruin a whole research project". That means "after very careful coding, a researcher checks the accuracy of coding, or 'cleans' the data" (Neuman 1997:297). In short data cleaning involves checking all variables for wrong or impossible codes.

3.6 Ethical consideration

Participation by respondents in a survey is voluntary (Neuman 2001:283). The cover letter explaining the purpose of the research and clearly stating that "participating in this research was voluntary" was attached to all questionnaires (see Appendix A).

3.7 Evaluation of the methodology

Reliability and validity are two methods used to evaluate the research methodology. Reliability means dependability or consistency (Neuman 2000:164); that is when a particular technique is applied to the same object would yield same the result each time provided there is no change in the phenomenon of that object (Babbie and Mouton 2001 119). Validity

according to Babbie and Mouton (2001:123) "refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration". It refers to how well an idea about reality 'fits' with actual reality" (Neuman 2000:164),

There are three types of reliability measurements, test-retest, split-half and using established measures (Babbie and Mouton 2001:121-122). On the other hand there are four types of validity: face, criterion-related, construct and content validity (Babbie and Mouton 2001:122-123). Pre-testing of the instrument was used to test the validity of the instrument use in the study. However Neuman (2000:164) noted that "perfect reliability and validity are virtually impossible to achieve".

3.8 Summary

Chapter three comprised the research methodology. In line with the knowledge audit the survey method was used. Questionnaires were used as the data collection instrument. Stratified sampling was used to sample the Junior Staff population. No sampling was done with regard to the Chief Directors', Directors' and Deputy Directors'. SPSS and Microsoft Excel were used to analyse the data.

CHAPTER FOUR: RESULTS

This chapter will consist of the presentation of the results of the study. The results will be presented in the form of tables. The results will be presented in the same sequence that the questions were asked on the questionnaires from all strata. Lastly the significant results will be highlighted.

4.1 Demographic Questions

Question1

What is your gender?

Table 3: Gender variation

Level	Male		Female		Total	
	No.	%	No.	%	No.	%
Chief Directors	5	62.5	3	37.5	8	100
Directors	5	29.4	12	70.6	17	100
Deputy Directors	13	76.4	4	23.6	17	100
Junior staff	19	37.3	32	62.7	51	100

As shown in Table 3 above the majority of respondents on the Director level are women.

Question 2

What is the term of your position?

Table 4: Term of the position

Level	Permanent		Contract		No response		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	7	87.5	1	12.5	0	0	8	100
Directors	15	88.2	1	5.9	1	5.9	17	100
Deputy Directors	17	100	0	0	0	0	17	100
Junior staff	44	86.3	7	13.7	0	0	51	100

It is interesting to note that almost all staff have permanent positions and all Deputy Director respondents are permanent employees as shown in Table 4 above.

Question 3

How long have you been working for the National Department of Housing?

Table 5: Years worked in the National Department of Housing

Level	Less than a year		1-2 years		3-4 years		5-10 years		More than 10 years		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Chief Directors	2	25	0	0	1	12.5	2	25	3	37.5	8	100
Directors	3	17.6	2	11.8	6	35.5	3	17.6	3	17.6	17	100
Deputy Directors	3	17.6	2	11.8	6	35.5	2	11.8	4	23.5	17	100
Junior Staff	12	23.5	18	35.3	10	19.6	4	7.84	7	13.7	51	100

As shown in Table 5, the respondents at the Chief Director level have more than five years service in the Department, which means they possess a wealth of experience. In contrast, 30 (58.8% of the total 51) Junior Staff have been working in the Department for less than three years.

Question 4

What is your current position?

Chief Directors, Directors and Deputy Directors respondents' positions are as shown in Table 4 above. However Junior Staff employees have different positions as illustrated in Table 6 below.

Table 6: Position of respondents at Junior Staff level

Level	Total	
	No.	%
Chief Planners	3	5.9
Assistant Directors	6	11.8
Senior Secretaries	8	15.7
Secretaries	1	2.0
Personal Assistants	5	9.8
Senior Administrators Officers	6	11.8
Administrators Officers	2	3.9
Senior Clerk	1	2.0
Clerks	2	3.9
Interns	2	3.9
Senior Securities Officers	1	2.0
Securities Officers	1	2.0
Cleaners	2	3.9
IT Help Desk	1	2.0
Transport Fleet Controller	1	2.0
Chief Network Controller	1	2.0
Receptionist/Switch Board Operators	2	3.9
Office Manager	1	2.0
Call Centre Agent	1	2.0
Senior Personnel Officer	1	2.0
GIS Technician	1	2.0
Labour Relations Officer	1	2.0
Senior Librarian	1	2.0
Total	**51**	**100**

It is interesting to note that even cleaners were part of the respondents who participated in the study as shown in Table 6 above.

4.2 Knowledge management awareness and perception

Question 5

Have you ever heard about the term knowledge management (KM)?

Table 7: Awareness of staff about knowledge management

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	8	100	0	0	0	0	8	100
Directors	16	94.1	1	5.9	0	0	17	100
Deputy Directors	16	94.1	1	5.9	0	0	17	100
Junior staff	28	54.9	23	45.1	0	0	51	100

As shown in Table 7 above, the majority of Management have heard about KM whereas only 28 (54.9%) of Junior Staff have heard about the term.

Question 6

If yes to the above, where did you hear about it?

Those respondents (in Table 7 above) who have heard about the term KM were requested to select their source of information about KM. Some respondents selected more than one source.

Table 8: Source of information about KM

Source where one heard about KM	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	0	0	0	0	0	0	1	3.6
Department of Housing	2	25.0	11	68.8	10	62.5	14	50.0
Learning institution	2	25.0	6	37.5	4	25.0	6	21.4
Conference	3	37.5	6	37.5	3	18.8	1	3.6
Short course	0	0	4	25.0	2	12.5	3	10.7
Other	3	37.5	2	12.5	2	12.5	3	10.7
Total	**8**	**125.0***	**16**	**181.3**	**16**	**131.3**	**28**	**100**

* Multiple responses received

As shown in Table 8 above the majority of Directors, Deputy Directors and Junior Staff have heard about KM from the Department of Housing. It must be noted that some respondents heard about KM from more than one source.

Question 7

In your view, can lack of knowledge affect your work performance?

Table 9: Indications on whether lack of knowledge can affect employees' performance

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	8	100	0	0	0	0	8	100
Directors	16	94.1	1	5.9	0	0	17	100
Deputy Directors	17	100	0	0	0	0	17	100
Junior Staff	50	98.0	1	2.0	0	0	51	100

Only one Director and Junior Staff members felt that a lack of knowledge can not affect their work performance as shown in Table 9 above.

Question 8

Do you think employees would benefit if more structured and more regular modes of knowledge sharing were introduced in the Department?

Table 10: Employees benefiting from systematic knowledge sharing

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	8	100	0	0	0	0	8	100
Directors	15	82.2	1	5.9	1	5.9	17	100
Deputy Directors	17	100	0	0	0	0	17	100
Junior Staff	51	100	0	0	0	0	51	100

As shown in Table 10 above, all Chief Directors, Deputy Directors and Junior Staff agreed that employees can benefit from the introduction of more structures and more regular mode of knowledge sharing, only one director believe not.

Question 9

Do you think employees should receive incentives for sharing knowledge?

Table 11: Employees receiving incentives for sharing knowledge

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	3	37.5	3	37.5	2	25.0	8	100
Directors	9	52.9	7	41.2	1	5.9	17	100
Deputy Directors	10	58.9	5	29.4	2	11.8	17	100
Junior Staff	20	39.2	25	49.0	6	11.8	51	100

The majority of Junior Staff are against rewarding employees for sharing their knowledge as shown in Table 11.

Question 10

If yes to the above question, how do you suggest this should be done?

Table 12: Incentives for sharing knowledge

Suggested incentives	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	0	0	1	11.1	2	20.0	8	40.0
Acknowledgements	1	33.3	2	22.2	0	0	1	5.0
Book vouchers	1	33.3	1	11.1	1	10.0	1	5.0
Bonuses	0	0	2	22.2	1	10.0	1	5.0
Awards	0	0	2	22.2	5	50.0	0	0
Free lunch	0	0	1	11.1	0	0	0	0
Time off	0	0	0	0	1	1.0	1	5.0
Other (e.g. mentorship, trainings)	1	33.3	0	0	5	50.0	8	40.0
Total	**3**	**100**	**9**	**100**	**10**	**140***	**20**	**100**

* Multiple responses received

As shown in Table 12 above, although a variety of incentives were suggested as reward for sharing knowledge "book vouchers" were suggested by respondents at all levels.

Question 11

Are you aware of Management Information Services' (MIS) KM initiative in the Department?

Table 13: Level of staff awareness of KM initiative

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	4	50.0	4	50.0	0	0	8	100
Directors	12	70.6	5	39.4	0	0	17	100
Deputy Directors	5	29.4	11	64.7	1	5.9	17	100
Junior staff	17	33.3	33	64.7	1	2.0	51	100

As shown in Table13 above the majority of Directors are aware of MIS's KM initiative.

Question 12

Would you support such an initiative?

Table 14: Support of KM initiative

Level	Yes		No		Don't know		No response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Chief Directors	6	75.0	0	0	1	12.5	1	12.5	8	100
Directors	17	100	0	0	0	0	0	0	17	100
Deputy Directors	16	94.1	0	0	1	6	0	0	17	100
Junior staff	40	78.4	1	2.0	9	17.6	1	2.0	51	100

As shown in Table 14 above, all Directors felt they will support the KM initiative even those who indicated that they are not aware of the MIS KM initiative in Table 13 above.

Question 13

If you answered yes or no above, please give a reason/s for your answer.

Table 15: Reasons for support of KM initiative

Reasons	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	2	33.3	5	29.4	6	37.5	8	19.5
It will improve/enhance work performance	1	16.7	4	23.5	1	6.3	8	19.5
It will benefit the organization	2	33.3	2	11.8	2	12.5	0	0
Knowledge is power	1	16.7	0	0	2	12.5	7	17.1
Assist in open sharing of knowledge	0	0	4	23.5	3	18.8	1	2.4
It will improve access to information	0	0	2	11.8	1	6.3	2	4.9
It will keep staff informed	0	0	0	0	1	6.3	11	26.8
I will participate in knowledge sharing	0	0	0	0	0	0	3	7.3
Total	**6**	**100**	**17**	**100**	**16**	**100**	**41**	**100**

As can be seen in Table 15 above a variety of reasons were given for supporting the KM initiative. The reason which elicited the highest responses was because "It will improve/enhance work performance".

4.3 Knowledge sharing barriers and opportunities

Question 14

List the specific categories of knowledge you need to do your job better.

Table 16: Categories of knowledge needed by employees to perform their job better

Categories of knowledge needed	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	**4**	**50.0**	**2**	**11.8**	**5**	**29.4**	**15**	**29.4**
Departmental policy, and legislations related	3	37.5	4	23..5	3	17.6	4	7.8
Monitoring and evaluation and research related	1	12.5	3	17.6	1	5.9	1	2.0
Project management and housing projects	1	12.5	1	5.9	1	5.9	2	3.9
Management decisions and Departmental strategies and plans	1	12.5	4	23.5	3	17.6	4	7.8
Human resources related	0	0	3	17.6	0	0	0	0
Financial and economics related	0	0	3	17.6	0	0	6	11.8
Other units work and general housing and stakeholder information	2	25.0	4	23.5	2	11.8	5	9.8
Administration knowledge (e.g. report writing)	0	0	0	0	3	17.6	16	31.4
Total	**8**	**100**	**17**	**141***	**17**	**105.8 ***	**51**	**103.9**

* Multiple responses received

Table 16 above shows the variety of knowledge needs, 37.5% of Chief Director respondents need knowledge related to Departmental policies and legislation while 31.4% of Junior Staff respondents need administration knowledge.

Question 15

Do you have the necessary knowledge services available to assist you in completing your given task(s)?

Table 17: Knowledge services available for completing given tasks

Level	Always		Often		Seldom		Never		No		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Chief Directors	1	12.5	6	75.0	1	12.5	0	0	0	0	8	100
Directors	4	23.5	12	70.6	1	5.9	0	0	0	0	17	100
Deputy Directors	4	23.5	9	53.0	4	23.5	0	0	0	0	17	100
Junior staff	9	17.6	27	52.9	9	17.6	4	7.8	2	3.9	51	100

It is interesting to note that even though there were different levels of perception regarding availability of knowledge services to complete the given tasks, none of the Chief Directors, Directors and Deputy Directors felt the knowledge services were never available.

Question 16

Have you ever needed assistance with regard to a work related problem?

Table 18: Needing work related assistance

Level	Always		Often		Seldom		Never		No response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Chief Directors	1	12.5	4	50	3	37.5	0	0	0	0	8	100
Directors	2	11.8	10	58.8	5	29.4	0	0	0	0	17	100
Deputy Directors	2	11.8	8	47.1	6	35.3	1	5.9	0	0	17	100
Junior staff	3	5.9	31	60.8	16	31.3	0	0	1	2.0	51	100

It was surprising to note that there was one particular Deputy Director who has never required assistance in his or her job as shown in Table 18 above**.**

Question 17

If you circled Always, Often or Seldom above, who do you normally approach when you need assistance with a work related problem?

Table 19: Person approached for work related assistance

Categories of knowledge at risk	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	2	25.0	0	0	1	6.3	1	2.0
Supervisor	0	0	7	41.2	10	62.5	27	54.0
Colleague in your Directorate	0	0	5	29.4	5	31.3	17	34.0
Colleague within the Department	0	0	9	52.9	4	25.0	9	18.0
External person	5	62.5	1	5.9	1	6.3	4	8.0
All above options	1	12.5	4	23.5	0	0	6	12.0
Total	**8**	**100**	**17**	**152.9***	**16**	**131.4**	**50**	**128.0**

* Multiple responses received

As show in Table 19 above the majority of Chief Directors prefer to consult external persons for work related solutions. While the majority of Deputy Directors and Junior Staff prefer to consult their supervisors.

Question 18

How satisfied are you with your ability to acquire knowledge to accomplish your given task?

Table 20: Perceptions regarding the ability to acquire knowledge to complete given tasks

Level	Very satisfied		Satisfied		Fairly satisfied		Not satisfied		No response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Chief Directors	1	12.5	3	37.5	4	50.0	0	0	0	0	8	100
Directors	2	11.8	11	64.7	3	17.6	1	5.9	0	0	17	100
Deputy Directors	2	11.8	9	52.9	5	29.4	1	5.9	0	0	17	100
Junior staff	7	13.8	15	29.4	21	41.2	7	13.8	1	2.0	51	100

As shown in Table 20 above, all Chief Director level respondents are satisfied with their abilities to acquiring knowledge although with different degree of satisfaction.

Question 19

Has anyone approached you with their work related problem(s)?

Table 21: Approached for work related problem

Level	Yes		No		No response		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	7	87.5	1	12.5	0	0	8	100
Directors	16	94.1	1	5.9	0	0	17	100
Deputy Directors	16	94.1	1	5.9	0	0	17	100
Junior staff	45	88.2	5	9.8	1	2.0	51	100

Table 21 above shows the majority of respondents in all levels have been approached.

Question 20

If yes to the above question; did you assist him or her?

Table 22: Assistance of others

Level	Yes		No		No response		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	7	100	0	0	0	0	7	100
Directors	16	100	0	0	0	0	16	100
Deputy Directors	14	87.5	2	12.5	0	0	16	100
Junior staff	45	100	0	0	0	0	45	100

It was surprising to note there were respondents at Deputy Director level positions who did not want to assist others, as shown in Table 22 above. The reasons for not assisting them are stated below.

If you answered No above could you please give a reason(s) why?
The two respondents who stated that they did not assist others gave the following reasons:

"It could be that I do not have information requested or do not know how to go about getting it".

"I am not going to support incompetence. If the person is presenting himself as expert in a field, and she or he asks me to solve his problems, I won't help. [However] if it is a general problem and I can assist, I will gladly assist".

Question 22

What do you do with the knowledge you accrued from completed tasks or projects?

Table 23: What is done with knowledge accrued?

Level	Share it with colleagues		Don't share it		Discard it		No response	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	8	100	0	0	0	0	0	0
Directors	14	82.3	1	5.9	0	0	2	11.8
Deputy Directors	1	70.6	5	29.4	0	0	0	0
Junior staff	47	92.1	3	5.9	0	0	1	2.0

As show in Table 23 above, the majority of respondents report that they were sharing their accrued knowledge with their colleagues.

Question 23

What did you do with the report or document generated on the task or project?

Table 24: What is done with the report or document?

What done	Chief Directors		Directors		Deputy		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	0	0	0	0	0	0	4	7.8
Save it as an electronic file	6	75.0	16	94.1	13	79.5	35	68.6
File it as hard copy	6	75.0	8	47.1	12	70.6	21	41.2
Discard it	0	0	0	0	0	0	0	0
Other (e.g. submit the report)	1	12.5	2	11.8	2	11.8	5	9.8
Total	**8**	**162.5***	**17**	**153.0**	**17**	**169.1**	**51**	**127.4**

* Multiple responses received

Closely looking at Table 24 above, the vast majority of respondents were saving their documents or reports as electronic files. It should be noted that some respondents were saving their documents or reports both electronically and in hardcopy.

Question 24

Do your colleagues know your area of expertise in terms of your job?

Table 25: Colleagues knowledgeable of respondent's expertise

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Directors	11	64.7	1	5.9	5	29.4	17	100
Deputy Directors	12	70.6	1	5.9	4	23.5	17	100
Junior staff	36	70.6	4	7.8	11	21.6	51	100

As noted in Table 25 one would expect that employees in one unit know each others expertise so that they can consult each when need be. However as can be seen, this is not always the case with six of respondents answering "No" and a further 20 indicating that they do not know.

Do your subordinates know your area of expertise in terms of your job?

This question was only included in Chief Directors questionnaire (see appendix C).

Table 26: Subordinates knowing of job expertise of the Chief Director

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	6	75.0	0	0	2	25.0	8	100

It would be expected that Chief Directors inform their subordinates about their expertise in term of their jobs, as shown in Table 26 above. That would make it easier for subordinates to consult them.

Question 25

What knowledge don't you have and would like to have to do your job better?

Table 27: Categories of knowledge one would like to have to do their job better

Categories of knowledge wanted	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	5	62.5	5	29.4	6	35.3	15	29.4
Policy and legislation	2	25.0	3	17.6	4	23.5	9	17.6
Research	2	25.0	3	17.6	0	0	3	5.9
Human resources related	1	12.5	1	5.9	1	5.9	0	0
Financial, budgeting, and procurement	0	0	4	23.5	2	11.8	4	7.8
Project management	0	0	1	5.9	3	17.6	4	7.8
Departmental and stakeholder information	0	0	0	0	0	0	5	9.8
Administration skills (e.g. writing skills)	0	0	1	5.9	4	23.5	20	39.2
Total	**8**	**125***	**17**	**105.8**	**17**	**117.6**	**51**	**117.5**

* Multiple responses received

As can be seen in Table 27 above a variety of knowledge needs were given. Junior Staff need "Administration skills" while Directors need "Financial, budgeting and procurement" related knowledge.

Question 26

In your view what are the knowledge sharing barriers within the Department?

Table 28: Perceived knowledge sharing barriers in the Department

Knowledge sharing barriers	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
No response	1	12.5	3	17.6	4	23.5	15	29.4
Working in silos	2	25.0	6	35.3	5	29.4	12	23.5
Lack of communication	1	12.5	5	29.4	2	11.8	14	27.5
Time constraints	1	12.5	3	17.6	0	0	3	5.9
Lack of trust	2	25.0	1	5.9	3	17.6	6	11.8
No motivation or acknowledgement	0	0	0	0	3	17.6	2	3.9
Total	**8**	**112.5***	**17**	**105.9**	**17**	**100**	**51**	**102**

* Multiple responses received

Although a variety of knowledge sharing barriers were mentioned, "Working in silos" prevailed, as shown in Table 28 above.

Question 27

What are the mechanisms that might be used to encourage knowledge sharing in the Department?

Table 29: Mechanisms to encourage knowledge sharing

Mechanisms to encourage knowledge sharing	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	3	37.5	4	23.5	5	29.4	16	31.4
Workshops and training	1	12.5	0	0	2	11.8	11	21.6
Frequent communication	2	25.0	7	41.2	7	41.2	16	31.4
Structured system to share knowledge	2	25	5	29.4	2	11.8	6	11.8
Establishing a forum	0	0	1	5.9	2	11.8	2	3.9
Acknowledgement	0	0	0	0	1	5.9	3	5.9
Total	**8**	**100**	**17**	**100**	**17**	**111.9***	**51**	**106**

* More than 100% means multiple responses received

A variety of mechanisms were suggested. "Frequent communication" prevailed as the mechanism that can used to encourage knowledge sharing in the Department as shown in Table 29 above.

Question 28

What crucial knowledge is at risk of being lost because of personnel turnover and lack of knowledge sharing?

Table 30: Knowledge that is at risk

Categories of knowledge at risk	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	2	25.0	6	35.3	6	35.3	29	56.7
Institutional memory	5	62.5	7	41.2	8	47.1	12	23.5
Tacit knowledge	1	12.5	0	0	1	5.9	3	5.9
Management decision	0	0	1	5.9	0	0	0	0
Policy development	0	0	0	0	2	11.8	2	3.9
Projects information	0	0	3	17.6	0	0	2	3.9
Research conducted	0	0	1	5.9	1	11.8	4	7.8
Total	**8**	**100**	**17**	**105.9 ***	**17**	**111.9**	**51**	**101.2**

* More than 100% means multiple responses received

Institutional memory has been identified as the knowledge that is at risk of being lost by the majority of Chief Directors, Directors and Deputy Directors level respondents as shown above in Table 30.

Question 29

Is there a good working relationship between you and your supervisor?

Table 31: Good working relationship between respondents and their supervisors

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Deputy Directors	14	82.4	0	0	3	17.6	17	100
Junior Staff	37	72.5	3	5.9	9	17.6	51	100

As stated in Table 31 above, some Junior Staff (3 or 5.9%) indicated that they do not have a good working relationship with their supervisor. In the Chief Directors and Directors' questionnaire the above question was not included. However, Directors were asked if there was a good working relationship between them and their subordinates.

Table 32: Good working relationship between Director level respondents and their subordinates

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Directors	17	100	0	0	0	0	17	100

All Director level respondents claim to have a good working relationship with their subordinates as indicated in Table 32 above.

Question 30

Is there a good working relationship between you and your colleagues?

Table 33: Good working relationship among colleagues

Level	Yes		No		Don't know		None response		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Directors	16	94.1	0	0	1	5.9	0	0	17	100
Deputy Directors	14	82.4	0	0	3	17.6	0	0	17	100
Junior staff	45	88.2	1	2.0	2	3.9	3	5.9	51	100

There is a healthy working relationship among colleagues as show in Table 33 above.

Chief Directors were not asked the above question, however their questionnaire asked whether they promote knowledge sharing or not. If they answered yes the further question was how they promote knowledge sharing as shown below.

As a manager do you promote knowledge sharing in your Chief Directorate?

Table 34: Promotion of knowledge sharing by Chief Directors

Level	Yes		No		Don't know		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	8	100	0	0	0	0	8	100

All Chief Directors claimed to promote knowledge sharing as shown in Table 34 above. The follow-up question was, if yes, how do you promote knowledge sharing in you Chief Directorate?

Table 35: Means of encouraging knowledge sharing

Categories	No.	%
Meetings	6	54.5
Sub-ordinates share project tasks	1	9.1
Reports	2	18.2
Support attending of launches and research	1	9.1
Encourage them to share	1	9.1
Total	**11**	**100**

Meetings were mentioned by 54.5% of Chief Directors as a common means of promoting knowledge sharing in their Chief Directorates as shown in Table 35 above.

In question 31 to 42 respondents were given a list of statements regarding forms and location of knowledge and information in the Department and were asked to indicate the extent of their agreement or disagreement with them. The results are given in Table 37 to 40 below with each table depicting a specific job level.

Table 36: Chief Directors' responses relating to form and location of knowledge and information

Statement	Strongly Agree		Agree		Disagree		Strongly Disagree		Don't know		No response	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
There are clear channels for acquiring knowledge to complete a given tasks/project	0	0	4	50.0	3	37.5	0	0	1	12.5	0	0
Communication channels are open	0	0	2	25.0	5	62.5	1	12.5	0	0	0	0
Senior managers encourage the open sharing of knowledge	4	50	0	0	3	37.5	1	12.5	0	0	0	0
There is a culture of reliance on external knowledge sources	0	0	3	37.5	4	50.0	0	0	1	12.5	0	0
There is a culture of self-reliance, initiative and using one's background knowledge	0	0	6	75.0	2	25	0	0	0	0	0	0
I know where to obtain information and knowledge required to do my job	1	12.5	7	87.5	0	0	0	0	0	0	0	0
People feel free to consult each other regarding their work	1	12.5	3	37.5	3	37.5	1	12.5	0	0	0	0
People regularly share information and knowledge informally	1	12.5	3	37.5	3	37.5	1	12.5	0	0	0	0
I would benefit from templates to help me easily capture knowledge that has been learned from conferences and meetings	1	12.5	5	62.5	2	25.0	0	0	0	0	0	0
I would benefit from processes to help me contribute in knowledge sharing	0	0	7	87.5	0	0	1	12.5	0	0	0	0
I have knowledge in areas that I know the Department could benefit from but I don't know how to make available	0	0	1	12.5	6	75.0	0	0	1	12.5	0	0
People meet socially outside work to share knowledge	0	0	0	0	5	62.5	1	12.5	2	25.0	0	0

A majority (62.5%) of Chief Directors' level respondents disagreed with the statement that "Communications channels are open" while 50.0% strongly agreed that Senior Managers are encouraging the open sharing of knowledge as shown in the Table 36 above. Also 50.0% of Chief Directors disagreed with the statement that "There is a culture of reliance on external knowledge sources".

Table 37: Directors' responses relating to form and location of knowledge and information

Statement	Strongly Agree		Agree		Disagree		Strongly Disagree		Don't know		No response	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
There are clear channels for acquiring knowledge to complete a given tasks/project	1	5.9	7	41.2	8	47.1	1	5.9	0	0	0	0
Communication channels are open	2	11.8	8	47.1	6	35.3	0	0	1	5.9	0	0
Senior managers encourage the open sharing of knowledge	1	5.9	6	35.3	6	35.3	3	17.6	1	5.9	0	0
There is a culture of reliance on external knowledge sources	6	35.3	6	35.3	3	17.6	1	5.9	1	5.9	0	0
There is a culture of self-reliance, initiative and using one's background knowledge	1	5.9	10	58.8	2	11.8	2	11.8	2	11.8	0	0
I know where to obtain information and knowledge required to do my job	5	29.4	10	58.8	2	11.8	0	0	0	0	0	0
People feel free to consult each other regarding their work	3	17.6	9	52.9	3	17.6	1	5.9	1	5.9	0	0
People regularly share information and knowledge informally	3	17.6	5	29.4	2	11.8	3	17.6	4	23.5	0	0
I would benefit from templates to help me easily capture knowledge that has been learned from conferences and meetings	4	23.5	10	58.8	1	5.9	1	5.9	1	5.9	0	0
I would benefit from processes to help me contribute in knowledge sharing	7	41.2	10	58.8	0	0	0	0	0	0	0	0
I have knowledge in areas that I know the Department could benefit from but I don't know how to make available	5	29.4	6	35.3	5	29.4	0	0	1	5.9	0	0
People meet socially outside work to share knowledge	1	5.9	4	23.5	5	29.4	2	11.8	5	29.4	0	0

As can be seen in Table 37 above nine Directors respondents differ with the statement that "There are clear channels for acquiring knowledge to complete a given tasks/project". However 10 Directors concur with the statement that "Communication channels are open". It is noted that nine Directors did not think senior management encourages the open sharing of knowledge.

Table 38: Deputy Directors' responses relating to form and location of knowledge and information

Statement	Strongly Agree		Agree		Disagree		Strongly Disagree		Don't know		No respons	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
There are clear channels for acquiring knowledge to complete a given tasks/project	3	17.6	5	29.4	7	41.2	2	11.8	0	0	0	0
Communication channels are open	2	11.8	5	29.4	8	47.1	2	11.8	0	0	0	0
Senior managers encourage the open sharing of knowledge	2	11.8	4	23.5	7	41.2	3	17.6	1	5.9	0	0
There is a culture of reliance on external knowledge sources	4	23.5	11	64.7	1	5.9	0	0	1	5.9	0	0
There is a culture of self-reliance, initiative and using one's background knowledge	3	17.6	12	70.6	2	11.8	0	0	0	0	0	0
I know where to obtain information and knowledge required to do my job	5	29.4	11	64.7	1	5.9	0	0	0	0	0	0
People feel free to consult each other regarding their work	1	5.9	7	41.2	6	35.3	0	0	3	17.6	0	0
People regularly share information and knowledge informally	1	5.9	6	35.3	5	29.4	1	5.9	4	23.5	0	0
I would benefit from templates to help me easily capture knowledge that has been learned from conferences and meetings	4	23.5	9	52.9	2	11.8	1	5.9	1	5.9	0	0
I would benefit from processes to help me contribute in knowledge sharing	2	11.8	13	76.5	2	11.8	0	0	0	0	0	0
I have knowledge in areas that I know the Department could benefit from but I don't know how to make available	2	11.8	7	41.2	6	35.3	1	5.9	1	5.9	0	0
People meet socially outside work to share knowledge	6	35.3	6	35.3	1	5.9	0	0	4	23.5	0	0

As shown in Table 38 above, there was much disagreement from Deputy Directors' respondents with the following statements: "There are clear channels for acquiring knowledge to complete a given task/project" (53% either disagreeing or strongly disagreeing), "Communication channels are open" (59%) and "Senior managers encourage the open sharing of knowledge"(59%).

Table 39: Junior Staff responses relating to form and location of t knowledge and information

Statement	Strongly Agree		Agree		Disagree		Strongly Disagree		Don't know		No response	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
There are clear channels for acquiring knowledge to complete a given tasks/project	5	9.8	18	35.3	14	27.5	5	9.8	6	11.8	3	5.9
Communication channels are open	6	11.8	26	51.0	9	17.6	5	9.8	2	3.9	3	5.9
Senior managers encourage the open sharing of knowledge	3	5.9	14	27.5	21	41.2	6	11.8	5	9.8	2	3.6
There is a culture of reliance on external knowledge sources	7	13.7	18	35.3	7	13.7	2	3.9	13	25.5	4	7.8
There is a culture of self-reliance, initiative and using one's background knowledge	1	2.0	29	56.9	7	13.7	2	3.9	11	21.6	1	2.0
I know where to obtain information and knowledge required to do my job	10	19.6	28	54.9	6	11.8	2	3.9	2	3.9	3	5.9
People feel free to consult each other regarding their work	5	9.8	20	39.2	15	29.4	4	7.8	6	11.8	1	2.0
People regularly share information and knowledge informally	4	7.8	24	47.1	16	31.4	4	7.8	1	2.0	2	3.9
I would benefit from templates to help me easily capture knowledge that has been learned from conferences and meetings	15	29.4	29	56.9	2	3.9	1	2.0	3	2.9	1	2.0
I would benefit from processes to help me contribute in knowledge sharing	13	25.5	32	62.7	1	2.0	1	2.0	2	3.9	2	3.9
I have knowledge in areas that I know the Department could benefit from but I don't know how to make available	5	9.8	21	41.2	16	31.4	0	0	6	11.8	3	5.9
People meet socially outside work to share knowledge	3	5.9	9	17.6	14	27.5	10	19.6	14	27.5	1	2.0

More than half of the Junior Staff respondents disagreed with the statement that "Senior managers encourage the open sharing of knowledge" (53%). Of interest is that quite a high percentage of respondents (39%) disagreed with the statement that "People regularly share information and knowledge informally."

4.4 Tools

Question 43

Please circle the system you have previously used or currently using to acquire information.

Table 40: Systems used to acquire information

Information system used	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	0	0	0	0	1	5.9	2	3.9
InfoHub	4	50.0	6	42.2	10	58.8	25	49.0
Housing Subsidy System (HSS)	4	50.0	4	23.5	4	23.5	7	13.7
Housing Urbanization Information System (HUIMS)	1	12.5	2	11.8	3	17.6	2	3.9
Department of Housing website	6	62.5	12	70.1	12	70.1	26	51.0
Internet search engine	6	62.5	12	70.1	16	94.1	21	41.1
Library	0	0	6	42.2	10	58.8	20	39.2
None of these systems	0	0	1	5.9	0	0	3	5.8
Other (e.g. external service provider)	0	0	1	5.9	0	0	0	0
Total	**8**	**237.5***	**17**	**271.7**	**17**	**328.8**	**51**	**207.6**

* Multiple responses received

The Department of Housing website was the most used system across all levels of staff, while HUIMS was the least used information acquiring system as show in Table 40 above. However it must also noted that all respondents preferred to use a combination of the systems especially InfoHub, Department of Housing website, Internet search engines, and the Library.

Question 44

Can you access InfoHub on your computer?

Table 41: Access InfoHub on computer

Level	Yes		No		Don't know		No		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Chief Directors	7	87.5	1	12.5	0	0	0	0	8	100
Directors	13	75.5	4	24.5	0	0	0	0	17	100
Deputy Directors	10	58.9	5	29.4	2	11.8	0	0	17	100
Junior staff	36	70.6	11	21.6	3	5.9	1	2.0	51	100

The vast majority of respondents have access to InfoHub as shown in Table 41 above. However five respondents did not know whether they had access or not.

Question 45

If yes to the above question, is the information on the InfoHub useful?

Those who responded "yes" in Table 41 above were asked whether information on the InfoHub is useful or not.

Table 42: Information on InfoHub useful

Level	Yes		No		No response		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	6	85.7	1	14.3	0	0	7	100
Directors	4	30.8	4	30.8	5	38.4	13	100
Deputy Directors	8	80.0	2	20.0	0	0	10	100
Junior staff	23	63.9	10	27.8	3	8.3	36	100

As shown in Table 42 above, the vast majority of Chief Directors and Junior Staff found information on the InfoHub useful. However a total of 17 respondents (across all levels) felt that the information was not useful.

Question 46

If no, could you please explain why not?

Those 17 respondents in Table 42 above who felt information was not useful were asked to provide reasons.

Table 43: Reasons why information on the InfoHub is not useful

Communication Mechanics	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
No response	0	0	0	0	0	0	1	10.0
Information irrelevant or outdated	1	50.0	3	60.0	1	50	8	80.0
Difficult to access information	1	50.0	2	40.0	1	50	1	10.0
Total	**2**	**100**	**5**	**100**	**2**	**100**	**10**	**100**

The Chief Director respondents gave two reasons as shown in Table 43 above. The majority of 13 respondents felt that information on the InfoHub was irrelevant or outdated.

Question 47

Have you ever received assistance with InfoHub?

Table 44: Assistance received with InfoHub

Level	Yes		No		No response		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	5	62.5	3	37.5	0	0	8	100
Directors	10	58.8	6	35.3	1	5.9	17	100
Deputy Directors	9	52.9	8	47.1	0	0	17	100
Junior staff	23	45.1	27	52.9	1	2.0	51	100

Table 44 above indicates that the majority of Junior Staff have not received assistance with InfoHub.

Question 48

If no, would you like to have InfoHub training?

Table 45: InfoHub training need

Level	Yes		No		No response		Total	
	No.	%	No.	%	No.	%	No.	%
Chief Directors	1	33.3	2	66.7	0	0	3	100
Directors	5	83.3	1	16.7	0	0	6	100
Deputy Directors	7	87.5	1	12.5	0	0	8	100
Junior staff	19	70.4	8	29.6	0	0	27	100

Table 45 above indicates that the majority of respondents who had not received assistance with InfoHub would like to receive training on it.

Question 49

For work related communication, which communication mechanism(s) do you normally use?

Table 46: Communication mechanisms

Communication mechanisms	Chief Directors		Directors		Deputy Directors		Junior Staff	
	No.	%	No.	%	No.	%	No.	%
Telephone	6	75.0	16	94.1	15	88.2	48	94.1
E-mail	8	100	17	100	17	100	47	92.2
Face-to-face	5	62.5	14	0	14	82.4	40	78.4
Other (e.g. paper)	0	0	0	0	0	0	1	2.0
Total	**8**	**100**	**17**	**100**	**17**	**100**	**51**	**100**

As shown in Table 46 above, e-mail is the most used while face-to-face is the least used communication mechanism in the Department.

4.5 Comments or concerns regarding KM in the Department

Question 50

If you have any other comment(s) concerning KM within the Department of Housing please do so below.

No Chief Directors, 13 Directors, 13 Deputy Directors and 37 Junior Staff respondents did not respond to Question 50. The comments of those staff who did respond are listed in Table 47 below.

Table 47: Comments or concerns regarding KM in the Department

Comments	Directors		Deputy Directors		Junior Staff	
	No.	**%**	**No.**	**%**	**No.**	**%**
Communicate departmental achievements	1	25.0	0	0	0	0
KM strategy should be developed	1	25.0	0	0	2	14.3
Appreciation on KM efforts	2	50.0	1	25.0	1	7.1
There must be Branch websites and central filing system	0	0	1	25.0	0	0
Information sessions should be conducted	1	25.0	1	25.0	3	21.4
Training needs	0	0	0	0	4	28.6
Fear to share knowledge	0	0	0	0	1	7.1
Bad tendency of generalising information	0	0	0	0	1	7.1
Cooperation amongst Department's units	0	0	0	0	1	7.1
Make information available on the InfoHub	0	0	0	0	1	7.1
There is a high turnover the KM will be affected	0	0	1	25.0	0	0
Total	**4**	**125***	**4**	**100**	**14**	**100**

* Multiple responses received

As shown in Table 47 above a variety of comments and concerns were put forward. Five respondents suggested that "Information sessions should be conducted" in order to communicate KM related information.

4.6 Summary

Chapter four presented the results of the study. The results to each question were presented and tables were used to illustrate the results. The results are discussed in the following chapter.

CHAPTER FIVE: DISCUSSION OF RESULTS

The purpose of the study was to evaluate the knowledge management initiatives at the National Department of Human Settlements using the knowledge audit method, so as to redevelop its KM strategies and subsequently revive its KM programme. This chapter will discuss the results as presented in the previous chapter. The key questions as listed in Chapter one will serve as focal points for the discussion.

5.1 What is the level of awareness within the Department staff towards KM?

It is important that before the implementation of KM, the KM practitioner understands the level of staff awareness of KM. Assuming that everyone knows (or does not know) about KM is not recommended as much time and effort can be wasted on the basis of an incorrect assumption. Furthermore, successful implementation of KM initiative is contingent on a number of factors including level of staff awareness. The knowledge audit is thus important in terms of determining the level of staff awareness of KM. According to Liebowitz (2006), in their organization they had devoted the first year to creating KM awareness campaigns at all levels of the organization and educating people about KM.

When asked whether they had ever heard about the term knowledge management all respondents at Chief Director level, 94.1% of respondents at Director and Deputy Director level and only 54.9% of Junior Staff level respondents had heard about the term KM. When asked where they heard about the term knowledge management from, interestingly 50% of Deputy Director and Junior staff level respondents have heard about KM within the Department. In contrast only 37.5% of Director and 25% of Chief Director level respondents had heard about KM from within the Department. This shows that the Department has been making some effort to popularise KM. However there is a need to speed up this process particularly as far as Junior Staff level is concern. According to Liebowitz (2006:65) "educating employees about KM should be a part of KM management team's strategy." Furthermore "some scepticism of KM will exist, and others will just be ignorant of what KM is all about". There is need to give KM tutorials to further educate the organization about KM.

5.2 Do Junior Staff and management know about the Department's effort to implement a KM programme and if yes, would they support it?

As stated by Liebowitz (2006) above, educating employees about KM should be a part of the KM management team's strategy. When asked if they were aware of the Management Information Services (MIS) Chief Directorate's effort to implement a KM programme, 70.6% of Directors respondents were aware of this, while only 29.4% of Deputy Director level respondents were aware. One can except that few Junior Staff level respondents know about the MIS KM initiative, since 58% of them have been in the Department for less than three years. The lowest portion of Deputy Director level respondents know about the KM initiative as they have been in the Department for more than three years, given the fact that the idea of KM was initiated by 2001. However, when asked whether they would support it, all Directors, 94.1% of Deputy Directors, 78.4% of Junior Staff and 75% of Chief Directors responded that they would support the KM initiative.

5.3 What are the KM opportunities within the Department?

KM opportunities can be attributed to the organizational culture of that organization. It is expected that the more years one has worked in the organization the more knowledge one has accumulated about the organization. Thus the person will be in a position to understand the organization's culture better. The Department seems to have employees who should be in a good position to understand its culture since six or 75% (Chief Director), 12 or 70.6% (Director), and 12 or 70.6% (Deputy Director) respondents have been there more than three years. The majority (30 or 58.8%) of Junior Staff level respondents have been in the Department for less than two years. Therefore the blending of new and senior employees' knowledge could create the potential environment for KM. This can be possible when senior employees share their knowledge with new employees. As mentioned in Chapter three above, sharing of knowledge is crucial when new employees arrive, since they can build on the existing knowledge.

When asked whether their colleagues know of their expertise, 70.6% (Deputy Director) and (Junior Staff) respectively and 64.7% (Directors) level respondents felt their colleagues know of their expertise. Seventy five per cent of Chief Director level respondents mentioned that their subordinates know their (Chief Directors) area of expertise. Employees knowing who knows what is an important element in terms of KM. Hysman and de Wit (2003:45)

stated that "…when everyone knows everyone, people will contact each other to exchange knowledge".

It is vital that the aim of KM is well communicated to employees so that they can understand "...why they should do it" (Garfield 2006:10). Respondents at the level of Chief Director (87.5%), Director (58.8 %), Deputy Director (76.5%) and Junior Staff (62.7%) agreed that they can contribute to knowledge sharing, when asked if they can benefit from a process to contribute to knowledge sharing activities. This indicates the opportunities for KM, since KM is primarily about sharing knowledge.

When asked whether they possess knowledge that can benefit the Department, the majority of Director, Deputy Director and Junior Staff level respondents stated that they do possess some knowledge in areas where the Department can benefit. This shows good opportunities for KM, since employees can share other knowledge that is needed by the Department if they know how to do so. That can be possible since most employees save their reports and documents as electronic files, as well as hard copies. Disseminating and storing such information and sharing that knowledge might be easier using e-mails and the InfoHub.

As stated in Chapter two above, if people meet socially after work and thus facilitate the development of informal networks. This is vital for the success of KM since those networks can be a means of sharing tacit knowledge (Cong and Pandya 2003:31). The results indicate that employees from the Department do meet, to a very lesser extent though. One can build on those informal engagements outside the working environment to promote the importance of KM.

Liebowitz (2006) stated that a lack of trust will promote a knowledge-hoarding culture instead of a sharing one, because trust supports the KM process. When asked about the state of relationship with their supervisors, 82.4% (Deputy Director) and 72.5% (Junior Staff) level respondents felt they have a good working relationship with their superiors. On the other hand, all Director level respondents claim to have a good relationship with their subordinates. As for relationships among colleagues 94.1% (Director), 82.4% (Deputy Director) and 88.2% (Junior Staff) level respondents felt the relationship with their colleagues was good. This suggests good working relationships which are conducive for

KM, because if the employees trust their managers and also feel that they themselves are trusted the knowledge sharing will increase (Ellis 2005:105).

5.4 What is the level of knowledge sharing in the Department?

According to Bouthillier and Shearer (2002:15) in Chapter two, knowledge sharing involves the transfer of knowledge from one person to another person. Therefore a key part of the knowledge audit should be to access factors that potentially inhibit or promote knowledge sharing (Maponya 2003:40). When asked who they approach with their work related problems, 62.5% of Chief Director level respondents prefer to consult external people. At Director, Deputy Director and Junior Staff level, some of the respondents have multiple contacts. A substantial number of respondents, 31.3% of Deputy Directors and 22% of Junior Staff level respondents consult with their supervisors. It is worth noting that a further 22.0% of Junior Staff respondents also consult with their colleagues within their Directorate. The above indicates that knowledge sharing does exist in the Department, which is good for a KM initiative to succeed. Since "the success of KM initiatives depends upon people's motivation, their willingness, and their ability to share knowledge and use the knowledge of others" (Cong and Pandya 2003:30).

When asked if they have been approached by others for a work-related problem almost all respondents at all levels said they have been approached, and only a small fraction, namely, 12.5% (Chief Director), 5.9% (Director), 5.9% (Deputy Director) and 9.8% (Junior Staff) level respondents have never been approached. One would have expected all managers (especially Chief Director and Director) to have been approached since they can be perceived as knowledge sources. This question was followed by checking whether respondents were willing to assist those who approached them. All respondents in Chief Directors, Directors and Junior Staff levels that have been approached did assist those who approached them. That was good for KM because according to Tannenbaum and Alliger (2000:15) if people do not share what they know; there is generally little knowledge to manage. However, 12.5% Deputy Director level respondents did not. One of the interesting reasons given for not assisting those who approached was not to support incompetence. Such reasons for not sharing knowledge should be condemned, because knowledge sharing is the heart of KM (Tannenbaum and Alliger 2000:15).

If people know who to consult when needing work-related assistance and in return they assist those who consult them that can create a good environment for knowledge sharing. This culture should be promoted to encourage knowledge sharing in the sense that "if I help you today maybe you will help me tomorrow" (Gamble 2001:8).

As mentioned in Chapter two, management plays a vital role in the success of KM. According to Al-Hawamdeh (2003: 107) "[i]n a knowledge management context, management's commitment and continued support should be a prerequisite". Therefore, when asked whether senior managers do promote KM, 35.3% Directors, 41.2% Deputy Directors and 41.2% of Junior Staff level respondents all disagree. These percentages are high. However, all Chief Director respondents claimed to promote knowledge sharing with meetings as the dominant means of sharing knowledge. As stated in Chapter 2 above, senior management support is crucial if one is to gain buy-in from all personnel in an organization. The results show that more "buy-in" with regard to promoting KM from the senior management within the Department is needed. However KM needs both top-down and bottom-up approaches to be successful in organizations (Liebowitz 2006:64). That is both the management and the subordinates should play a major role in knowledge sharing for KM to prosper.

5.5 What are the knowledge sharing barriers?

In an organizational context, organizational memory may reside in people's minds, during staff turnover or retirement, this precious organization memory may be lost for ever (Jashapara 2004;73). In the Department institutional (organizational) memory has been identified by 62.5% of Chief Directors, 41.2% of Directors and 47.1% of Deputy Directors, as knowledge that is at risk of being lost due to personnel turnover. Means to share this type of knowledge need to be put in place before staff leaves the Department. As stated in Chapter two, according to Bouthillier and Shearer (2002:16) "the success of KM programmes ultimately depends on the sharing of knowledge". Therefore, before any KM initiative, one needs to verify what are current existing knowledge sharing barriers that need to be noted before implementation of KM. Skyrme and Amidon (1997) cited by Webb (1998:8) state that "it appears that the greatest inhibitor to knowledge sharing is the syndrome 'knowledge is power'". However in this study "working in silos" (23.5% of Directors); "lack of communication" (29.4% of Directors) and "lack of trust" (25% of Chief Directors) were provided as knowledge sharing barriers within the Department. However

5.9% of Junior Staff level respondents did mention 'knowledge is power'. This syndrome was condemned by Gianneto and Wheeler (2000:17) who stated that "if people feel that 'knowledge is power' and managers are known to keep things within their departments so that they can out perform other departments, then work must be done ahead of any introduction of knowledge management to encourage people to share knowledge more freely".

Sharing complex knowledge requires time (Hinds and Pfeffer 2003) as stated in Chapter two above. In this regard 12.5% of Chief Directors, 11.8% of Directors and 2.0% of Junior Staff level respondents did mention time as a knowledge sharing barrier. However, other barriers also need to be noted before KM implementation.

As stated in Chapter two, if there are any knowledge sharing barriers that exist, work must be done ahead of any introduction of KM initiatives to remove or reduce them. Among many suggested mechanisms to assist in encouraging knowledge sharing, 17.6% of Director level respondents felt frequency of communication important. Furthermore, 17.6% of Deputy Director level respondents mentioned conducting regular information sharing sessions. Interestingly, 5.9% of Junior Staff level respondents felt that older staff need to share knowledge with new staff. Fortunately the result shows there is a good distribution of older and newer employees, which suggests that there is a possibility that they can learn from one another.

Due to the syndrome 'knowledge is power', people are selective in externalising their knowledge (Huysman and de Wit 2003: 43). According to Mentzas, Apostolou, Abecker and Young (2003:13) incentives help to reinforce the value of knowledge sharing. The majority of Directors (52.9%) and Deputy Directors (58.9) level respondents were in favour of compensating employees for sharing their knowledge. Just under half of Junior Staff level respondents (49.0%) see no need to compensate employees for sharing knowledge. Respondents who felt that employees should receive incentives for sharing their knowledge suggested various incentives. Among the suggested incentives the following were interesting: paid bonuses, time off, acknowledgement, taken out for free lunches, and being awarded book vouchers. The literature in Chapter 2 above stated that employees need to be motivated for them to share their knowledge. At Siemens, a reward and recognition concept was developed to overcome initial KM barriers and to accelerate an adoption of knowledge

sharing (Davenport and Probst 2002). Hawamdeh (2003) mentioned that most organizations have different means of rewarding, recognising or motivating their employees. Monetary value in the form of bonuses, pay raise, overtime or recognition in the form of medals, certificates and employee of the month can be used as rewards.

5.6 What are the communication tools and resources that can assist in enhancing KM?

When developing knowledge exchange, according to Groff and Jones (2003:117) "the first place to begin with is the information capture part of the operation". Employees use different tools to acquire information, with the majority of respondents at all levels preferring not to use a single information acquiring tool but various combinations, such as the InfoHub, the Departmental website, internet search engines, the Housing Urban Information Management System (HUIMS) and the Housing Subsidy System (HSS). As shown in the previous chapter Departmental websites and search engines were the most used systems while HSS and HUIMS were the only systems that were less used by respondents at all levels. The reason for the lesser usage of HSS and HUIMS can be attributed to the fact that not all employees have been granted access to them.

How employees communicate internally is vital to the group's ability to resolve issues (Groff and Jones 2003:103). Likewise for KM to be successful communications between and among employees is vital. Different communication mechanisms are used for work related communications and reporting. In the Department the majority of respondents at all levels (Chief Directors 62.5%, Directors 76.5%, Deputy Directors 58.8% and Junior Staff 70.5%) use the combination of telephone, e-mails and face-to-face interaction. That means the three mentioned communication mechanisms can and should be used in supporting KM initiatives. According to Groff and Jones (2003:12), most knowledge currently being exchanged or shared in companies is transferred via face-to-face communication. However looking closely at the results, e-mails were the most used means of communication at the Department. This was not surprising since Groff and Jones (2003:26) stated that "e-mail is a growing source of information and knowledge exchange in most jobs…"

5.7 Do employees utilise InfoHub?

An intranet (in this case InfoHub) as stated by Hylton (2002d) in Chapter two is "an important information and knowledge management enabling tool, allowing employees, across the board, to efficiently and effectively gather, transfer and share information and

knowledge…" When asked whether they could access InfoHub or not, the majority of respondents at all levels (Chief Directors 85.7%, Directors 75.5%, deputy Directors 58.9% and Junior Staff 70.6%) mentioned that they do have access to InfoHub. Surprisingly, 11.8% of Deputy Directors and 5.9% of Junior Staff level respondents did not know whether they could access InfoHub on their computer or not. That means they have never utilised InfoHub. When asked whether information on InfoHub was useful or not, the majority of respondents at Chief Director (85.7%), Deputy Director (80.0%) and Junior Staff (63.9%) levels found information on InfoHub to be useful, but there are respondents in all levels who found it not useful. Among the reasons given for why the information on the InfoHub was not useful, respondents stated that they found the information on InfoHub to be outdated.

As stated by Maier (2004:83) in Chapter 2 "it should be noted that one does not need to buy new technology to start a KM initiative as the existing technology can be used to kick start the KM process". Furthermore according to Telleen (1997) the intranet is not only a powerful communication medium but also a knowledge base. When asked whether they have received any InfoHub assistance, 62.5% of Chief Director, 58.8% of Director and 52.9% of Deputy Director level respondents had received InfoHub assistance while 52.9% of Junior Staff had not. On whether they needed training on InfoHub, as one can expect, a majority of respondents 83.3% of Directors, 87.5% of Deputy Directors and 70.4% of Junior Staff would like such training. However (and again surprisingly) 66.7% of Chief Director respondents did not want InfoHub training. It is vital that people are assisted with their intranet usage, because "technology is able to support not only access to explicitly documented knowledge but most importantly tacit knowledge held by individuals" (Yiman-Seid and Kobsa 2003:327).

5.8 Comments and concerns about KM in the Department

Various comments and concerns were mentioned by the respondents as shown in Table 47 from previous chapter. The most interesting ones being that there should be branc websites (intranets) which can be used as knowledge and information centres for the Branches. Since the intranet is not only a powerful communication medium but also a knowledge base. The advantage of branch intranets is that, they can determine who can have access to their information and knowledge available in their websites. That is done by providing codes to access them. The branches best and worse practice can be stored there. It was also mentioned that there should be a retention plan and open sharing of knowledge. This was fitting because

institutional (organization) memory has been mentioned as the most lost knowledge in the Department,

5.9 Summary

Chapter five discussed the findings of the results using key questions asked in Chapter one. It was noted that staff and management were aware of KM and they can support KM initiative. The respondents did note the knowledge sharing barriers which can hinder KM success. However, they also suggested a variety of mechanisms that can be used to encourage knowledge sharing. The majority of respondents at Chief Director, Director and Deputy Director do have the access to InfoHub. The result reveals that e-mails, telephones and face-to-face interaction were used for work related communications.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

This chapter will look at how the study has answered the key questions and will also recommend the possible means to enhance KM initiatives in the Department. Lastly it will suggest future research opportunities. To begin with, a brief summary of the study so far will be given.

6.1 Summary of the study

Chapter one introduced the study as well as provided the background information on the Department of Housing KM efforts. The rationale, brief preliminary literature review and reasons for undertaking the study were provided. Furthermore the purpose and key question of the study were presented It also outlined the proposed structure of the thesis.

Chapter two, the literature review, looked at the broader benefit of implementing KM in an organization. It looked at the KM components (people, process, technology) on how they influence the success of KM. Organizational culture as an enabler or barrier to KM, was also examined.

Chapter three discussed the research methodology. Inline with the knowledge audit the survey method was used. Questionnaires were used as the data collection instrument. Stratified sampling was used to sample the Junior Staff population. No sampling was done with regard to the Chief Directors', Directors' and Deputy Directors'. SPSS and Microsoft Excel were used to analyse the data.

Chapter four presented the results of the study. The results to each question were presented. Tables were used to illustrate the results.

Chapter five discussed the findings of the results using the key questions asked as listed in Chapter one. This discussion was done in the light of relevant points from the literature.

6.2 Conclusions

What follows are the conclusions of the study as they relate to each of the research questions.

6.2.1 What is the level of awareness of the Department staff toward KM?

The majority of respondents across all levels knew about the term knowledge management. However, it must be noted that there were some (mainly from Junior Staff) who were not aware of it.

6.2.2 Do junior staff and management know about the Department's efforts to implement a KM programme, if yes, would they support it?

Respondents seem to be aware of the Department's KM programme. However there were those who do not know. Interestingly, the vast majority mentioned that they will support such an initiative.

6.2.3 What are the KM opportunities within the Department?

The findings suggest that there are good opportunities for KM within the Department. For example, there are many senior employees who are probably in a better position to understand the organizational culture of the Department as compared with new employees in the Department. They can their share knowledge and teaching new employees about the culture of the Department (how things are done for example, reporting trends, writing of memoranda and the like). It was noted that vast majority of respondents felt that they can benefit from all means that can assist them in sharing their knowledge. This is an opportunity for KM in the Department as employees are willing to participate in knowledge sharing. Finally, respondents mentioned that they have good working relationships with their supervisors, colleagues and their sub-ordinates which are conducive to the success of KM. Lastly, as the majority of respondents (Chief Directors 87.5%, Directors 58.8 %, Deputy Director 76.5% and Junior Staff 62.7%) are willing to share their knowledge this again points to good opportunities for KM within the Department.

6.2.4 What is the level of knowledge sharing in the Department?

The level of knowledge sharing in the Department is good. Since respondents across all levels felt that they do have the necessary knowledge to assist them in completing their jobs. Furthermore, they do consult their supervisors and colleagues if they need work related assistance; some also consulted external people. Finally, most respondents have been consulted and most were willing to assist those who consulted them. This shows that there is a knowledge sharing culture in the Department, although some senior managers were not seen as encouraging the open sharing of knowledge.

6.2.5 What are the knowledge sharing barriers?

Respondents did note many knowledge sharing barriers with "work in silos" and "lack of communication" as the most common barriers. Therefore mechanisms that might encourage knowledge sharing were suggested with frequent communication being highly recommended.

6.2.6 What are the communication tools and resources that can assist in enhancing KM?

Although respondents preferred to use various means to acquire their information, the departmental website, the InfoHub, search engines and the library were all noted. Less noted were HSS and HUIMS. Telephone, e-mails and face-to-face interactions were all highly used as a means of communication. This suggests that they can all play a pivotal role in disseminating knowledge within the Department.

6.2.7 Do employees utilise the InfoHub?

Respondents do utilise the InfoHub although the majority of Junior Staff did not have access to the InfoHub. However they have the opportunity to attend InfoHub training. Those that have access felt information in the InfoHub was useful, while some felt it was not useful. Various reasons as to why information in the InfoHub was not useful were given, the notable one being that the information was outdated.

One can conclude that there are good signs for the need to implement KM in the Department since some of the KM elements (such as knowledge sharing) already exist although, they are not formalised.

6.3 Recommendations

The purpose of the study was to conduct a knowledge audit the National Department of Housing, so as to redevelop its KM strategies and subsequently revive its KM programme. In terms of the purpose, the following recommendations were made:

- The InfoHub, notice boards, internal newsletter (called *Communiqué*), Directorate meetings, general staff meetings, and information sessions are some of the various mechanisms that can be used to familiarise employees about what KM is and how they can support it.

- The KM initiative should be communicated to all employees in order to get their support. That is buy-in from senior managers is very important, therefore the MIS Chief Director needs to reveal KM plan from their management meetings to gain buy-in. Furthermore, the Director-General needs to endorse KM initiatives and talk about it during staff and management meetings.

- It will be vital that during orientation of new employees in the Department, a KM manager is called to promote and encourage the culture of knowledge sharing and the means by which it can be done. New employees also need to be introduced to all units so that they can know where to acquire assistance when their job requires it.

- While it is evident that the sharing of knowledge does take place, employees could be given more support and encouragement to share their knowledge. This can be by Chief Directorate's or Directorate's intranet portals where employees can list their contacts, completed projects, and current or running project progress. There should be published employees' profiles on the InfoHub. The profile should have and not be limited to: passport size photos, qualifications, current and previous positions and organizations worked for, tasks, and hobbies. It is easier for people who share a common interest to communicate. Search engines on the profile database should be more user-friendly in such a way that employees type for example 'knowledge management', and get people with KM knowledge in their profile.

- The Department needs to organise social events (such as team building exercises) where employees can meet informally and talk to each other. This can create a conducive environment for knowledge sharing and for people to get to know each other. Although such events might have financial implications, it is important that they are pursued.

- Telephone, e-mail and face-to-face interactions can be used as a means of disseminating knowledge among colleagues. The following needs to be done to enhance communication tools:
  - GroupWise (the email program) and telephone extensions need to be updated.

- Units whether in Chief Directorate, Directorate, or Sub-directorate level need to have weekly, monthly, or quarterly meetings to share their unit's knowledge.
- All people should have access to the InfoHub and those who have never used the InfoHub before should be given InfoHub training. All new employees should be provided with InfoHub training during the induction process since the InfoHub can be used as a KM technology which can assist in knowledge dissemination and storage. The InfoHub needs to be updated and upgraded to meet KM activities such as discussions, uploading of employees profiles and frequently asked questions. In other words it can be used as a knowledge base.

6.4 Future research

The following is suggested for further research:

- The knowledge audit needs to be completed. In this regard interviews need to be conducted. The knowledge inventory needs to be completed. Finally, a knowledge map must be constructed. The present study has provided the base for this to be done.
- After the KM strategy has been re-developed and implemented one can conduct a post-knowledge audit to determine whether the KM strategy has met its intended objectives.

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APPENDICES

Appendix A: Cover letter

This cover was attached to all questionnaires

Knowledge Audit Questionnaire

Dear participant.

You are cordially invited to participate in this research titled: *Conducting a knowledge audit at the National Department of Housing (the Department).*

The purpose of this research is to assist the Department to establish baseline information which will enhance the knowledge management (KM) initiative within the Department. Conducting a knowledge audit will provide the Department with an idea of how much effort is needed to enhance this initiative which is encompassed by a knowledge sharing culture.

Kindly note that you will be anonymous as names of participants will not be required. Please further note that participation in this research is voluntary.

With each question please circle the chosen response. Where no options are given please write your response in words.

Your participation in this research will be highly appreciated. Thank you in advance for taking the time to complete this questionnaire. It should take no longer than 20 minutes to complete.

Once you have completed the questionnaire, please deposit it in the box labelled "Questionnaire Returns" in the library.
Many thanks.

Xolani Dube (Extension 1352)

Appendix B: Junior Staff and Deputy Directors' questionnaire

Demographic Questions

Please circle the chosen option

1. What is your gender?

a. Male b. Female

2. What is the term of your position?

a. Permanent b. Contract

3. How long have you been working for the National Department of Housing?

a. Less than a year
b. 1-2 years
c. 3-4 years
d. 5-10 years
e. More than 10 years

4. What is your current position? _____

Knowledge management awareness and perception

5. Have you ever heard about the term Knowledge Management (KM)?

a. Yes b. No

6. If yes to the above, where did you hear about it?

a. Department of Housing
b. Learning institution (please specify) _____
c. Conference
d. Short course
e. Other (please specify) _____

7. In your view, can lack of knowledge affect your work performance?

a. Yes b. No c. Don't know

8. Do you think employees would benefit if more structured and more regular modes of knowledge sharing were introduced in the Department?

a. Yes b. No c. Don't know

9. Do you think employees should receive incentives for sharing knowledge?

a. Yes b. No c. Don't know

10. If yes to the above question, how do you suggest this should be done?

_____
_____

11. Are you aware of Management Information Services' KM initiative in the Department?

a. Yes b. No c. Don't know

12. Would you support such an initiative?

a. Yes b. No c. Don't know

13. If you answered yes or no above, please give a reason/s for your answer.

_____
_____
_____
_____

Knowledge sharing barriers and opportunities

14. List the specific categories of knowledge you need to do your job better.

_____
_____
_____
_____

15. Do you have the necessary knowledge services available to assist you in completing your given task(s)?

a. Always b. Often c. Seldom d. Never

16. Have you ever needed assistance with regard to a work related problem?

a. Always b. Often c. Seldom d. Never

17. If you circled Always, Often or Seldom above, who do you normally approach when you need assistance with a work related problem? (You can choose more than one)

a. Supervisor
b. Colleague in your Directorate
c. Colleague within the Department but in another Directorate
Someone outside Department (please elaborate)

_____
_____

18. How satisfied are you with your ability to acquire knowledge to accomplish your given task?

a. Very satisfied b. Satisfied c. Fairly satisfied d Not satisfied

19. Has anyone approached you with their work related problem(s)?

a. Yes b. No

20. If yes to the above question; do you assist him or her?

a. Yes b. No

21. If you answered No above could you please give a reason/s why?

_____
_____
_____

22. What do you do with the knowledge you accrue from completed tasks or projects? (Please check all that apply)?

a. Share it with colleagues
b. Don't share it
c. Discard it

23. What did you do with the report or document generated on the task or project?

a. Save it in an electronic file on your personal computer
b. File it as hard copy and save it in a box file
c. Discard it
d. Other (please specify) _____

24. Do your colleagues know your area of expertise in terms of your job?

a. Yes b. No c. Don't know

25. What knowledge don't you have and would like to have to do your job, better? Please consider all aspects of your job, including administrative tasks, policies and procedures.

_____
_____
_____
_____

26. In your view what are the knowledge sharing barriers within the Department?

_____
_____
_____

27. What are the mechanisms that might be used to encourage knowledge sharing in the Department?

_____
_____
_____

28. What crucial knowledge is at risk of being lost because of personnel turnover and lack of knowledge sharing?

_____
_____
_____

29. Is there a good working relationship between you and your supervisor?
a. Yes b. No c. Don't know

30. Is there a good working relationship between you and your colleagues?
a. Yes b. No c. Don't know

Please indicate to what extent you agree or disagree with the following statements by ticking the relevant option

Forms and location of knowledge in the Department	a. Strongly Agree	b. Agree	c. Disagree	d. Strongly Disagree	e. Don't know
31. There are clear channels for acquiring knowledge to complete a given tasks/project					
32. Communication channels are open					
33. Senior managers encourage the open sharing of knowledge					
34. There is a culture of reliance on external knowledge sources					
35. There is a culture of self-reliance, initiative and using one's background knowledge					
36. I know where to obtain information and knowledge required to do my job					
37. People feel free to consult each other regarding their work					
38. People regularly share information and knowledge informally					
39. I would benefit from templates to help me easily capture knowledge that has been learned from conferences and meetings					
40. I would benefit from processes to help me contribute in knowledge sharing					
41. I have knowledge in areas that I know the Department could benefit from but I don't know how to make available					
42. People meet socially outside work to share knowledge					

Tools

43. Please circle the system you have previously used or currently using to acquire information. (You may circle more than one)

a. InfoHub (Intranet)
b. Housing Subsidy System (HSS)
c. Housing Urbanization Information System (HUIMS)
d. National Department of Housing Internet (www.housing.gov.za)
e. Internet search engine (e.g. Google, Yahoo) _____
f. Library
g. None of the above
h. Other (please specify) _____.

44. Can you access InfoHub on your computer?

a. Yes b. No c. Don't know

45. If yes to the above question, is the information on the InfoHub useful?

a. Yes b. No

46. If no, could you please explain why not?

_____
_____
_____.

47. Have you ever received assistance with Info Hub?

a. Yes b. No

48. If no., would you like to have InfoHub training?

a. Yes b. No

49. For work related communication, which communication mechanism(s) do you normally use? (You may circle more than one)

a. Telephone
b. E-mail
c. Face-to-face interaction
d. Other (please specify) _____

50. If you have any other comment/s concerning KM within the Department of Housing please do so below.

_____
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THANK YOU FOR TAKINGYOUR THE TIME TO COMPLETE THIS SURVEY

Appendix C: Directors' questionnaire

Demographic Questions

Please circle the chosen option

1. What is your gender?
a. Male b. Female

2.What is the term of your position?
a. Permanent b. Contract

3. How long have you been working for the National Department of Housing?
a. Less than a year
b. 1-2 years
c. 3-4 years
d. 5-10 years
e. More than 10 years

4.What is your current position? _____

Knowledge management awareness and perception

5.Have you ever heard about the term Knowledge Management (KM)?
a. Yes b. No

6.If yes to the above, where did you hear about it?
a. Department of Housing
b. Learning institution (please specify) _____
c. Conference
d. Short course
e. Other (please specify) _____

7.In your view, can lack of knowledge affect your work performance?
a.Yes b. No c. Don't know

8. Do you think employees would benefit if more structured and more regular modes of knowledge sharing were introduced in the Department?
a Yes b. No c. Don't know

9.Do you think employees should receive incentives for sharing knowledge?
a. Yes b. No c. Don't know

10. If yes to the above question, how do you suggest this should be done?

11. Are you aware of Management Information Services' KM initiative in the Department?
a. Yes b. No c. Don't know

12. Would you support such an initiative?
a. Yes b. No c. Don't know

13. If you answered yes or no above, please give a reason/s for your answer.
_____
_____
_____
_____

Knowledge sharing barriers and opportunities

14. List the specific categories of knowledge you need to do your job better.

_____
_____
_____
_____

15. Do you have the necessary knowledge services available to assist you in completing your given task(s)?

a. Always b. Often c. Seldom d. Never

16. Have you ever needed assistance with regard to a work related problem?

a. Always b. Often c. Seldom d. Never

17. If you circled Always, Often or Seldom above, who do you normally approach when you need assistance with a work related problem? (You can choose more than one)

a. Supervisor
b. Colleague in your Directorate
c. Colleague within the Department but in another Directorate
d. Someone outside Department (please elaborate)

_____
_____

18. How satisfied are you with your ability to acquire knowledge to accomplish your given task?

a. Very satisfied b. Satisfied c. Fairly satisfied d Not satisfied

19. Has anyone approached you with their work related problem(s)?

a. Yes b. No

20. If yes to the above question; do you assist him or her?

a.Yes b. No

21. If you answered No above could you please give a reason/s why?

_____
_____

22. What do you do with the knowledge you accrue from completed tasks or projects? (Please check all that apply)?

a. Share it with colleagues
b. Don't share it
c. Discard it

23. What did you do with the report or document generated on the task or project?

a. Save it in an electronic file on your personal computer
b. File it as hard copy and save it in a box file
c. Discard it
d. Other (please specify) _____

24. Do your colleagues know your area of expertise in terms of your job?

a. Yes b. No c. Don't know

25. What knowledge don't you have and would like to have to do your job, better? Please consider all aspects of your job, including administrative tasks, policies and procedures.

_____
_____
_____
_____

26. In your view what are the knowledge sharing barriers within the Department?

_____
_____
_____

27. What are the mechanisms that might be used to encourage knowledge sharing in the Department?

_____
_____
_____

28. What crucial knowledge is at risk of being lost because of personnel turnover and lack of knowledge sharing?

_____
_____
_____

29. Is there a good working relationship between you and your Sub-ordinates?
a.Yes b. No c. Don't know

30. Is there a good working relationship between you and your colleagues?
a. Yes b. No c. Don't know

Please indicate to what extent you agree or disagree with the following statements by ticking the relevant option

Forms and location of knowledge in the Department					
	a. Strongly Agree	**b. Agree**	**c. Disagree**	**d. Strongly Disagree**	**e. Don't know**
31. There are clear channels for acquiring knowledge to complete a given tasks/project					
32. Communication channels are open					
33. Senior managers encourage the open sharing of knowledge					
34. There is a culture of reliance on external knowledge sources					
35. There is a culture of self-reliance, initiative and using one's background knowledge					
36. I know where to obtain information and knowledge required to do my job					
37. People feel free to consult each other regarding their work					
38. People regularly share information and knowledge informally					
39. I would benefit from templates to help me easily capture knowledge that has been learned from conferences and meetings					
40. I would benefit from processes to help me contribute in knowledge sharing					
41. I have knowledge in areas that I know the Department could benefit from but I don't know how to make available					
42. People meet socially outside work to share knowledge					

Tools

43. Please circle the system you have previously used or currently using to acquire information. (You may circle more than one)

a. InfoHub (Intranet)
b. Housing Subsidy System (HSS)
c. Housing Urbanization Information System (HUIMS)
d. National Department of Housing Internet (www.housing.gov.za)
e. Internet search engine (e.g. Google, Yahoo) _____
f. Library
g. None of the above
h. Other (please specify) _____.

44. Can you access InfoHub on your computer?

a. Yes b. No c. Don't know

45. If yes to the above question, is the information on the InfoHub useful?

a. Yes b. No

46. If no, could you please explain why not?

_____
_____
_____.

47. Have you ever received assistance with Info Hub?

a. Yes b. No

48. If no., would you like to have InfoHub training?

a. Yes b. No

49. For work related communication, which communication mechanism(s) do you normally use? (You may circle more than one)

a. Telephone
b. E-mail
c. Face-to-face interaction
d. Other (please specify) _____

50. If you have any other comment/s concerning KM within the Department of Housing please do so below.

_____
_____
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THANK YOU FOR TAKINGYOUR THE TIME TO COMPLETE THIS SURVEY

Appendix D: Chief Directors' Questionnaire

Demographic Questions

Please circle the chosen option

1. What is your gender?
a. Male b. Female

2. What is the term of your position?
a. Permanent b. Contract

3. How long have you been working for the National Department of Housing?
Less than a year
a. 1-2 years
b. 3-4 years
c. 5-10 years
e. More than 10 years

4. What is your current position? ……

Knowledge management awareness and perception

5. Have you ever heard about the term Knowledge Management (KM)?
a. Yes b.. No

6. If yes to the above, where did you hear about it?
a. Department of Housing
b. Learning institution (please specify) ……
c. Conference
d. Short course
e. Other (please specify)……

7. In your view, can lack of or availability of knowledge affect your work performance?
a. Yes b. No c. Don't know

8. Do you think employees can benefit by sharing knowledge?
a.Yes b.. No c. Don't know

9. Do you think employees should receive incentives for sharing knowledge?
a.Yes b. No c. Don't know

10. If yes to the above question, how do you suggest this should be done?
……
……

11. Are you aware of Management Information Services' KM initiative in the Department?
a. Yes b. No c. Don't know

12. Would you support such an initiative?
a. Yes b. No c. Don't know

13. If you answered yes or no above, please give a reason/s for your answer.
……
……
……

Knowledge sharing barriers and opportunities

14. List specifically the categories of knowledge you need to do your job better.

……
……
……
……

15. Do you have the necessary knowledge services available to assist you in completing your given task(s)?

a. Always b. Often c. Seldom d. Never

16. Have you ever needed assistance with regard to a work related problem?

a. Always b. Often c. Seldom d. Never

17. If you circled Often or Seldom above, who do you normally approach when you need assistance with a work related problem? (You can choose more than one)

a. Supervisor
b. Colleague
c. Friend within the Department but in another Directorate
d. Someone outside Department
e. Other (please elaborate)……
……..……

18. How satisfied are you with your ability to acquire knowledge to accomplish your given task?

a. Very satisfied b. Satisfied c. Fairly satisfied? d Not satisfied

19. Has anyone approached you with their work related problem(s)?

a. Yes b.. No

20. If yes to the above question; do you assist him or her?

a. Yes b. No

21. If you answered No above could you please give a reason/s why?

……
……
……

22. What do you do with the knowledge you accrue from completed tasks or projects? (Please check all that apply)?

a. Share it with colleagues
b. Don't share it
c. Discard it

23. What did you do with the report or produce document on the task or project?

a. Save it in an electronic file in your personal computer
b. Save it in a personal paper file
c. Save it in a secure departmental paper file
d. Discard it
e. Other (please specify)……..

24. As a manager do you promote knowledge sharing in your Chief Directorate?

a. Yes b. No

25. If yes to the above question, how do to promote it?

……
……
……

26. Do your subordinates know your expertise in terms of your job?
a. Yes b. No c.Don't know

27 . What knowledge don't you have and would like to have to do your job, better? Please consider all aspects of your job, including administrative tasks, policies and procedures.
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28. In your view what are the knowledge sharing barriers with the Department?
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29. What are the mechanisms that might be used to encourage knowledge sharing in the Department?
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30. What crucial knowledge is at risk of being lost because of personnel turnover and lack of knowledge sharing?
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Please indicate to what extent you agree or disagree with the following statements by ticking the relevant option

Forms and location of knowledge in the Department					
	a. Strongly Agree	b. Agree	c. Disagree	d. Strongly Disagree	e. Don't know
31. There are clear channels for acquiring knowledge to complete a given tasks/project					
32. Communication channels are open					
33. Senior managers encourage the open sharing of knowledge					
34. There is a culture of reliance on external knowledge sources					
35. There is a culture of self-reliance, initiative and using one's background knowledge					
36. I know where to obtain information and knowledge required to do my job					
37. People feel free to consult each other regarding their work					
38. People regularly share information and knowledge informally					
39. I would benefit from templates to help me easily capture knowledge that has been learned from conferences and meetings					
40. I would benefit from processes to help me contribute in knowledge sharing					
41. I have knowledge in areas that I know the Department could benefit from but I don't know how to make available					
42. People meet socially outside work to share knowledge					

Tools

43. Please circle the system you have previously used or currently using to acquire information. (You may circle more than one)

a. InfoHub (Intranet)
b. Housing Subsidy System (HSS)
c. Housing Urbanization Information System (HUIMS)
d. National Department of Housing Internet (www.housing.gov.za)
e. Internet search engine (e.g. Google, Yahoo) _____
f. None of the above
g. Other (please specify) _____.

44. Can you access InfoHub on your computer?

a. Yes b. No c. Don't know

45. If yes to the above question, is the information on the InfoHub useful?

a. Yes b. No

46. If no, could you please explain why not?

_____
_____
_____.

47. Have you ever received assistance with Info Hub?

a. Yes b. No

48. If no., would you like to have InfoHub training?

a. Yes b. No

49. For work related communication, which communication mechanism(s) do you normally use? (You may circle more than one)

b. Telephone
c. E-mail
d. Face-to-face interaction
e. Other (please specify) _____

50. If you have any other comment/s concerning KM within the Department of Housing please do so below.

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THANK YOU FOR TAKINGYOUR THE TIME TO COMPLETE THIS SURVEY