Readiness for knowledge management implementation: the case of the KwaZulu-Natal Provincial Department of Public Works in Pietermaritzburg

by

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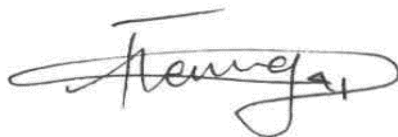
2018

DECLARATION

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ABSTRACT

A knowledge management (KM) readiness assessment is essential before implementing a KM initiative within an organization. The KwaZulu–Natal Department of Public Works (KZN DPW) Head Office (HO) in Pietermaritzburg was chosen as the case study. The main purpose of this study was to investigate the extent to which the KZN DPW demonstrates readiness to implement KM through the assessment of KM enablers present within its components. This study's objectives were to investigate if there is awareness of KM within the Department; determine whether the Departmental culture supports KM practices; examine the Departmental structure influence towards KM implementation; assess the Departmental strategic plan towards the promotion of KM implementation; and explore the communication tools and human resources available for effective KM within the Department. The study contributed to the need to implement KM initiative across governmental departments, both at provincial and at national level. Additionally, the study also contributed to the body of knowledge and literature on KM, especially in the context of KwaZulu-Natal.

The socialization, externalization, combination and internalization (SECI) model underpinned the study to conceptualize the influence of the dynamic process of knowledge conversion to organizational efficiency towards service delivery. The mixed method approach was used, where both the qualitative and quantitative methods were adopted, with latter predominant. The targeted population consisted of 81 respondents from KZN DPW HO with particular interest on four sections namely: strategic management; human resources; information technology; and monitoring and evaluation. Quantitative data was collected from seventy-seven respondents, which consisted of employees from junior to deputy director level; qualitative data was collected from four Directors of each section. A census of the study population was taken; data for both approaches was collected simultaneously. For qualitative approach, structured interviews were conducted, consisting of standardized, open-ended questions; and for quantitative approach, survey questionnaires consisting of closed questions were distributed. Quantitative data was analyzed using Statistical Package for the Social Science (SPSS) and qualitative data was analyzed through content analysis. The analysis of quantitative and qualitative data were done separately.

The findings of the study revealed that the KZN DPW is practising KM informally and there is high level of awareness for KM. The preservation and sharing of knowledge through computer

files or folders was identified as one of the practices commonly used to manage knowledge within the Department. It was unclear whether the Departmental culture will be favourable towards the implementation of KM initiative since there was lack of common perspective regarding this matter. The findings also showed that the KZN DPW' structure is hierarchical in nature, which will be problematic for the success of the KM initiative if implemented as KM requires a less rigid structure. The Department's strategic plan does promote the management of knowledge as it encourages employees to create and preserve knowledge for better service delivery; however, there is a deficiency in terms of ensuring that a formal initiative to achieve this is implemented.

The findings also revealed that there are basic communication tools available within the Department though the ICTs required for an effective KM initiative still need to be acquired. It was also revealed that a KM unit as well as the Chief Knowledge Officer (CKO) does not exist within the KZN DPW, which impacts negatively on the success of KM initiative due to the absence of personnel or unit dedicated to oversee its progress when implemented. This study therefore concluded that the KZN DPW holds certain features required for an effective KM and is ready to implement a KM initiative. However, as some of the key issues such as KM enablers are not yet conducive towards the success of the initiative, the Department will need to improve them further before the formal implementation of KM.

Recommendations to help the KZN DPW to be effectively ready to implement KM initiative included increasing awareness of KM across the entire Department; developing further all KM enablers and establishing a KM directorate managed by a CKO. Furthermore, incorporating the formal implementation of a KM initiative in the Department's strategic plan and in the employees' personal development plan (PDP), conducting exit interviews when employees leave the Department and review these interviews regularly, implementing formally a KM initiative was also recommended. Suggested areas of research included conducting the same study with other KZN provincial departments and private organizations to determine their readiness to implement KM and to compare findings. A knowledge audit within KZN DPW before implementing KM initiative was suggested as another area of study as well as a further study to determine the effectiveness of the initiative after being implemented.

ACKNOWLEDGEMENTS

DEDICATION

This dissertation is dedicated to my daughter, who will forever be in my heart:

Azi Jessie Mkhize
(08 July – 19 August 2014)

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LIST OF ACRONYMS AND ABBREVIATIONS

AHOD	Acting Head of Department
ASC	Aeronautical Systems Centre
BSBA	Bachelor of Science in Business Administration
CFO	Chief Financial Officer
CKO	Chief Knowledge Officer
CoPs	Communities of Practices
DAFF	Department of Agriculture, Forestry and Fisheries
DPSA	Department of Public Service and Administration
DPW	Department of Public Works
FCIO	Federal Chief Information Officers
GITOC	Government Information Technology Officers Council
HO	Head Office
HOD	Head of Department
HR	Human Resources
HRM	Human Resources Management
IC	Intellectual Capital
ICT	Information and Communication Technology
ICTs	Information and Communication Technologies
IT	Information Technology
KM	Knowledge Management
KZN	KwaZulu – Natal
M & E	Monitoring and Evaluation
MBA	Master Degree in Business Administration
MC	Master of Commerce
MIM	Master of Information Management
MIS	Master of Information Studies
MP	Master of Philosophy
MPA	Master of Public Administration
MSCM	Master of Science in Contract Management
MUST	Mbeya University of Science and Technology
NHS	National Health Service
OECD	Organisation for Economic Co-operation and Development

OTP	Office of the Premier
PA	Personal Assistant
PDP	Personal Development Programme
PHD	Doctor of Philosophy
RSA	Republic of South Africa
SBU	Strategic Business Unit
SECI	Socialization, Externalization, Combination and Internalization
SM	Strategic Management
SPSS	Statistical Package for Social Science
SWOT	Strengths, Weaknesses, Opportunities and Threats
TPB	Theory of Planned Behaviour
UKZN	University of KwaZulu–Natal
USA	United States of America
UTAUT	Unified Theory of Acceptance and Use of Technology

CHAPTER 1: INTRODUCTION

1.1 Background of the study

The impact that today's global economy has on organizations is realized in the modifications in the way they operate, and thus organizations needs to have endless phases of transformation for it to be seen as effective. Biswas, Khan and Biswas (2017:66) noted that public sector organizations are lagging behind in the implementation of knowledge management (KM). Lodhi and Mikulecky (2010:107) cautions that public sector organizations lacking in KM may find it challenging to preserve process effectiveness when faced with organizational restructuring. In most cases, departmental restructuring is undertaken to improve efficiency for service delivery, as today's government departments' measure is not within the magnitude of jobs provided, but by the efficiency of its service delivery (Republic of South Africa (RSA) 1996). However, this process comes with different risks, one of them being the loss of an organization's key resources such as employees' knowledge, which is itself important for effective service delivery (Minnaar and Bekker 2005).

The White Paper on Transforming Public Service Delivery (RSA 1995) requires government departments to adhere to certain principles with respect to the deployment of staff in the new departmental structures. One of those principles is to promote efficiency, effectiveness and an unhindered continuation of services (RSA 1995). Policy framework contained in this White Paper stipulates that public sector should be transformed through rationalization and restructuring to transform service delivery. However, Gaffoor (2008:2) points out that the problems experienced in government departments concerning service delivery are associated with the implementation of these policies.

Over the past few decades, organizations have gone through three rings of change, namely reengineering, delayering and restructuring (Kermally 2002:51). The idea behind organizational reengineering is to analyze organizational processes and the various activities involved within each process to eliminate activities that did not add value to services delivery to customers (Kermally 2002:51). Delayering involves changing to a structure deemed suitable to sustain the success of the organization, while organizational restructuring involves changing the structure of the organization and the roles and responsibilities of employees for effective service delivery (Kermally 2002:53-54). Organizational restructuring is the ring of change that

is the focus of the current study. All of the ongoing organizational changes affect employees one way or another.

As a result, employees may be resistant to the changes because of the related loss of position, confidence and understanding that emanates with them (Rubin, Oehler and Adair 2013). The rise in uncertainty amongst staff, as well as the measure of disruption to their work may affect organization's productivity and lead to delays in service delivery. This is because resistance to change is informed by fear of the unknown which results in employees not being willing to support or participate in the change initiative (Van Tonder 2004:184).

Betchoo (2016: 111) lists the following as factors that lead to the resistance to change in the public sector:

- Unavailability of unity during restructuring and lack of reliability on new work processes may yield to misunderstanding and cause hostile behavior;
- Anxiety and insecurity about a different work setting cause people to be intolerant towards new work processes;
- Individuals from organizational sections may observe negative insinuations which may produce opposition to restructuring;
- People at an organization's different levels may perceive change differently; and
- Weakening the human factor value in the process of change may also lead to opposition to change.

Throughout the process of change, Osborne and Brown (2005:56) note that governments departments are expected to respond to citizens' demands for more sophisticated, timely and flexible service delivery. Moreover, public sectors are regularly at the lead when it comes to implementing different tactics to computerize the management of knowledge (Young et al. 2013:3). However, they are unable to adapt to the rapidly changing society surrounding them because they are not yet making the paradigm shift required of them that has been brought about by the information revolution (Minnaar and Bekker 2005). Within the new paradigm, resources such as information are required for effective management so that organizations can efficiently satisfy and deliver the expected level of service (Minnaar and Bekker 2005).

Furthermore, public sector organizations have to embrace new standards that place the management of intangible resources like information at the core of their strategies (McEvoy, Ragab and Arisha 2017:37). In the current economy, information is highly important and most businesses are realizing that knowledge can lead to competitive advantage (Ehlers and Lazenby 2010:16). Even though the notion of competitive advantage is traditionally associated with the private sector, the public sector should likewise be considering the importance of information and its management as a key resource to mobilize service delivery and improve organizational performance (Minnaar and Bekker 2005; Gaffoor 2008).

The public sector is now expected to improve its performance to respond to challenges that comes with the new knowledge economy by transforming its structures, processes, procedures and culture of job performance for efficient delivery of service (Betchoo 2016:109). This can be accomplished by executing a KM approach, which has been effectively used all over the globe in the business sectors. KM includes systematic approaches to designing processes that oversee the use of knowledge resources to fulfill organizational goals (Becerra-Fernandez, Gonzalez and Sabherwal 2004:2).

1.2   Brief background of the KwaZulu-Natal Department of Public Works

The Department of Public Works (DPW) is a public sector organization that offers wide-ranging construction infrastructure facilities to the various departments of KwaZulu-Natal's (KZN) regional management. It depend on the excellence of its service delivered to attract other client departments to employ the Department of Public Works to fulfil their construction needs. This Department is focused on transforming itself into an organization of excellence. This encompasses fundamental changes in every facet of the organization and its programmes, including governance, performance management, policy and planning, as well as service delivery (KZN DPW 2006: 2-4). The Department has four regions that are operating under the Head Office (HO), namely: the EThekwini, Midlands, North Coast and UMgungundlovu region.

In the hope of improving service delivery, it was decided in 2016 that a new organizational structure should be implemented and that there would be migration from the old to the new structure. In order to support high performance work processes, it is essential that the public sector ensure that there are plans and strategies to retain organizational knowledge in both tacit

and explicit, before and after restructuring to avoid negative outcomes (Sitlington 2012:122). A formal KM initiative is one of such strategies that can assist to preserve organizational knowledge as it empowers public sector organizations to become accustomed rapidly to their processes according to their present conditions (Lodhi and Mikulecky 2010:107). However, a formal KM initiative does not currently exist within KZN DPW and hence the need for this study to investigate the extent to which this Department is ready to implement KM after the recent restructuring process.

Before the implementation of the new structure, the Department consisted of four main components, namely:

1. Operations;
2. Immovable Management;
3. Corporate Services; and
4. Chief Financial Officer (CFO) Office.

Even though the number of components remained the same after the implementation of the new structure, the Operations component's name changed to Infrastructure Maintenance and Technical Support and some sections were moved from one component to another.

The present study focuses on the four sections falling under the Corporate Services component namely: strategic management; human resources; information technology; and monitoring and evaluation. These sections were selected because they are more significant to the operation of the Department and for the reason that they may be involved with the technical aspects and planning of implementing KM as a departmental initiative. Nevertheless, this initiative requires commitment and determination from all organizational members.

1.3 Preliminary literature review

Bless and Higson-Smith (2000:155) state that a literature review is an incorporated summary of existing works related to the current research question; it enables researchers to know what others have said about the same topic and what research has been done previously. In this study, the literature available in books, databases, journals, theses and websites was reviewed to define and understand the role of KM and its processes in organizations. This enhanced the

researcher's knowledge on the topic being explored and assisted in avoiding duplication of previous studies, thereby stimulating new ideas that the researcher could explore.

In the current study, the reviewed literature further enabled the researcher to identify gaps in terms of the instruction of KM within the public sector in the province of KwaZulu-Natal. Even though there is a growing awareness of KM in the public sector at large, its importance in terms of achieving organizational goals still needs to be emphasized (Dube 2009), hence the importance of the current sturdy.

Studies on how KM enablers within organizations affect the successful implementation of KM initiatives were also evaluated. Furthermore, the literature review revealed a few studies that looked at the importance of KM after organizational restructuring. This was the crux of the study: to examine the role and value of KM following the organizational restructuring in the KZN DPW. A comprehensive literature review is provided in Chapter Two.

1.4   Brief definition of key concepts

The next description of terms were vital to elucidate the framework in which they have been applied throughout the study.

1.4.1   Knowledge management

Although KM is currently been applied generally in businesses, public sectors, societies and new organizations, the meaning of KM differs (MingYu 2002). That is why different authorities (Jashapara 2004; Dalkir 2005; Slagter 2007; Hylton 2008) have put forward different explanations of what constitutes KM. However, the working definition that applies to this study includes that of Prytherch (2000:424) which state that KM involves the process of collecting, consolidating, storing and exploiting knowledge held within an organization, particularly knowledge known to individuals (tacit knowledge), as well as the general store of known knowledge (explicit knowledge). This process typically depends on the use of technological infrastructures such as the intranet to store and access knowledge (Prytherch 2000).

1.4.2   Knowledge management enablers

Lee and Choi (2003:181) defined KM enablers as organizational mechanisms, which foster knowledge consistently by stimulating KM practices. Furthermore, these enablers also facilitate the provision of infrastructure necessary to increase efficiency of knowledge processes to improve organizational performance. In a similar manner, Yeh, Lai and Ho (2006) also defined KM enablers as mechanisms for organizations to develop their knowledge and stimulate the internal creation of knowledge, as well as the sharing and protection of this knowledge.

1.4.3 Public sector

According to Arora (2011:166), a public sector refers to the operative organizations and components at the national, government, municipal and local levels of the government. It consist of organizations and the complete openly controlled or openly funded administrations, initiatives, and other units that distribute free agendas, properties, or facilities (Dube 2011:3).

1.4.4 Organization

An organization is a structure of coordinated actions of workforces functioning supportively to a mutual objective underneath certain power and management (Scott and Mitchell 1972:36). For the purpose of this research, an organization refers to public sector departments.

1.5 Statement of the problem

As indicated above, information or knowledge can lead to competitive advantage, therefore organizations need to rethink their strategic focus to take into account such information or knowledge. KM thus is also seen as a strategic tool (Omotayo 2015) and needs to be managed per the organizational strategy (David 2011). Therefore, KM should reflect in every organization's strategy as it shapes the design of organizational structure to improve performance. KM has a significant impact on improving performance as it is strategically aligned to the creation, organization, and sharing of knowledge to avoid "reinvention of the wheel" by employees to complete tasks. This is becoming increasingly important in the public sector as performance is now measured by improved service delivery to clients, rather than by the amount of revenue raised or the amount of employment provided. The South African government's White Paper on Transformation of Service Delivery (RSA 1997) stipulates the need for the public sector to implement a service delivery strategy.

The KZN DPW implemented a new organizational structure and began its migration from the old organizational structure as from 1 February 2017, in anticipation of improving efficiency in service delivery. This was undertaken after a process of restructuring of the Department, followed by an extensive exercise of consultation, matching and placing employees according to their skills and competencies. During the meeting that was held to announce the implementation of the new structure, the researcher, who is a librarian within the Department, observed that there was shortage of clearness on what is anticipated from employees. Moreover, how performance assessment will be conducted in view of their transfers from one section to another, as well as in light of the changes in some job titles.

Employees complained that they would be overloaded with work because their support systems will no longer be adequate. Child (1988) warns that after restructuring, executive resolutions might take longer and when provided, they might lack value since crucial knowledge was delayed to be conveyed to the management, which in turn delays service delivery. This is because the lack of clear liability concerning decision-making may lead to a loss of clarity and effective communication regarding new decisions, which subsequently results in increased perceptions of role ambiguity and work overload (Olson and Tetrick 1988:374). During the process of restructuring, even if no employees lost their job, the Department could have been at risk of losing valuable knowledge and skills. As advised by the former Minister of Public Works, Nxesi (2015:80), there is a need to mainstream KM across the DPW to ensure that important knowledge, information and skills are maintained at all times in order to improve service delivery. Since the KZN DPW has not yet formally implemented KM across its Department to acquire these benefits, this study then suggested exploring the extent to which the Department demonstrates readiness for the implementation of KM to improve service delivery.

The extensive literature review revealed only few studies in the South African context that are related to the current study. Gaffoor (2008) investigates the readiness of the public sector to implement KM, an investigation that indicates a need for further research to be conducted especially in departments within South Africa's provinces. Mosala-Bryant (2015) study focused specifically on exploring knowledge sharing practices at a provincial level; however, further research was required in order to explore in more breadth and depth the availability and implementation of KM practices in the public sector.

1.6 Research objectives

The current study's broad objective was to investigate the extent to which the KZN DPW demonstrates readiness to implement KM through the assessment of KM enablers present within its components.

The study's objectives were therefore to:

1. Investigate if there is awareness of KM within the Department;
2. Determine whether the Departmental culture supports KM practices;
3. Examine the Departmental structure influence towards KM implementation;
4. Assess the Departmental strategic plan towards the promotion of KM implementation; and
5. Explore the communication tools and human resources available for effective KM within the Department.

1.7 Research questions

The following research questions were posed in order to achieve the study's objectives:

1. What is the level of awareness concerning the concept of KM?
2. How does the departmental culture support KM practices?
3. What impact does the organizational structure have on KM?
4. How does the organizational strategic plan promote KM?
5. What are the communication tools and human resources available for effective KM within the DPW?

1.8 Significance of the study

The literature attests to the widespread failure to weigh the level of readiness within organizations concerning the implementation of KM approaches (Jalaldeen, Karim and Mohamed 2009; Mohammadi, Khanlari and Sohrabi 2009; Mohd Zin and Egbu 2010). Hylton (2008) also emphasizes that conducting readiness assessments before implementing KM initiatives is important in order to avoid failure of the KM programme. Many mistakes made

by early and recent implementers of KM can be traced to the serious oversight of not including readiness assessments as part of their overall KM initiative.

To address this gap, the above scholars recommend the employment of various readiness assessment models such as KM enablers, engagement with critical factors and others, indicating where organizations need to focus before implementing KM. This study therefore examined the KM enablers recognized by Yeh, Lai and Ho (2006) namely: organizational culture; human resources; information technology; organizational structure and strategic planning as important factors to be considered before implementing KM. These models assisted the researcher to select the Departmental sections to be included in this study with regard to conducting the KM initiative readiness assessment with the DPW.

Based on the reviewed literature, it was evident that KM implementation readiness assessments within organizations are generally undertaken largely within the private sector. Therefore, conducting a study to assess readiness of provincial governmental departments became important in order to work towards successfully implementing KM initiatives within the public sector. The study provided an opportunity to explore KM practices that were currently being employed within these departments and to see how they affected the delivery of services to citizens. The researcher's assumption was that the findings of the study would encourage the DPW and other provincial departments to consider implementing KM for the more efficient and effective service delivery.

1.9 Limitations and key contributions of the study

This study was conducted with a special focus on the KZN DPW HO, located in Pietermaritzburg. As indicated above, the Department has four regions that are operating within the province; however, the investigation only included employees from the HO employed within the four selected sections from the Corporate Services component of the DPW, namely: strategic management; human resources; information technology; and monitoring and evaluation. This limitation was necessary because the inclusion of all DPW employees to gather comprehensive data would have been logistically impossible, given the study's time and financial constraints. The assumption here was that, what is undertaken at the HO can automatically be implemented in the other regional offices of the KZN DPW, and even in other governmental departments.

The study was a valuable contribution to the field of KM implementation in the public sector as it provided an evidence-based account of the Department's readiness to implement KM by:

- Demonstrating whether there is general understanding of KM within the DPW;
- Discovering whether the DPW management is committed to implementing KM;
- Revealing whether the Department has appropriate IT infrastructure and human resources in place to support KM implementation; and
- Revealing whether the Departmental organizational structure is conducive to implementing KM practices.

Moreover, the study contributed to the body of knowledge and literature on KM implementations in the public sector, especially in the context of KwaZulu-Natal.

1.10 Conceptual framework and research methods

This study was constructed under auspices of the knowledge category model brought forward by Nonaka and Takeuchi (1995). The researcher selected this model because it was considered to be a robust model in the field of KM. The model presents organizations with four ways in which knowledge is transformed when individual and organizational knowledge interrelate with each other (Nonaka and Takeuchi 1995:62). The modes were referred to as socialization, externalization, combination, and internalization (SECI). A detailed description of the conceptual framework will be presented in Chapter Three.

This descriptive case study design employed a mixed methods approach which is equally a technique and method for undertaking a research study that consist of gathering, evaluating, and mixing quantitative and qualitative enquiry in a particular study (Creswell 2008:9). Data collection for both methods were done concurrently; however, data collection is dominated by quantitative method. The study considered a case study approach to be appropriate as the researcher aimed at providing a thorough explanation of the KZN DPW level of readiness to implement KM initiative (Babbie and Mouton 2001).

KZN DPW employees from the above selected sections were targeted respondents in this study. According to (Atwaru 2017), during the time of study, there were 77 employees from these

sections and each section consisted of 1 Director, the Head of Department (HOD) was to form as part of the respondents. Gay and Airasian (2003:113) advised that if the targeted population for the study is less than 100, then no sampling is required, therefore, census of the whole population was deemed appropriate. Structured questionnaires were personally distributed among junior staff and interviews were scheduled with the all the Directors.

The data emerging from the quantitative and the qualitative collection instruments respectively were each analyzed separately. The quantitative data was analyzed using descriptive statistical analysis via the application of the Statistical Package for Social Science (SPSS), while content analysis was employed to analyze the qualitative data. For ease of data analysis, quantitative questions were allocated codes before the data was collected and for qualitative questions, collected data were grouped by type so that a code could be applied. A more detailed description of the research methodology is provided in Chapter Four of this study.

1.11 Research ethics

When conducting a study, social researchers must always think about the ethical repercussions and know about the predicaments that comes with the study (Matthews and Ross 2010:71). The ethical considerations that need to be taken into account look at the social and moral values involved when undertaking a research study, with particular interest in how participants will be treated. Research ethics provide researchers with morals that regulate their approach to participant and conduct   during the research (Louw 2014:263). The researcher conducted the current study as per the guidelines provided by the University of KwaZulu-Natal (UKZN) Research Ethics Policy (UKZN 2014). Concerning ethical issues that affected the participants in the current research, the researcher was granted permission to conduct the study by the HOD, KZN DPW.

Participants to this study only included adult people; therefore, consent on each participant was sought through the covering letters of the data collection instrument before they agree to be involved in the study (See Appendix C and D). The letters informed the participants about the nature of the study and its importance; they were made aware that participation is voluntarily and they could withdraw at any time should they wish to do so. The procedures of data collection and instruments used were not harmful physically and psychologically to

participants. During the analysis and reporting of research results, participants' names were not mentioned to protect their identity as the researcher had promised confidentiality.

1.12 Structure of the dissertation

The present study consists of seven Chapters.

This Chapter introduced the study by providing background information. A brief overview of the KZN DPW was presented. Key concepts that the study was based on were defined. The problem statement was explained, while the research objectives and questions were also stated. In addition, the conceptual framework, the methodology used, the significance of the study, its limitations and ethical issues were discussed.

Chapter Two explores scholarly literature to provide general idea behind KM and its processes in organizations. The importance of implementing KM in a public sector organization is provided in this Chapter as well as the importance of implementing KM after restructuring. The organizational benefits of implementing KM after organizational restructuring is also addressed and discussed. The Chapter also examines the ways in which KM enablers as contributing factors affect the successful implementation of KM initiatives within organizations. An explanation of importance of conducting a readiness assessment before implementing KM is also provided. The practice of KM in the South African public sectors was identified as well as KM practices in different public sectors. Detailed review and discussion on scholarly articles that studied the impact of organizational restructuring on service delivery was provided.

Chapter Three introduces and explains the conceptual framework within which the study was constructed. Furthermore, it elaborates on how the framework guides and supports the study.

Chapter Four presents the methodology and methods adopted by the researcher in order for this study to answer the research questions. The Chapter also contains how data reliability and validity was achieved, data analysis procedure and ethical matters.

Chapter Five presents the results using graphs, tables and percentages to showcase the data emerging from the study.

Chapter Six discusses the findings of the study from the quantitative and qualitative data presented and analyzed in Chapter Five.

Chapter Seven concludes the study and provides recommendations associated with the research questions. Suggestions for further investigation are also given.

1.13 Summary

This Chapter introduced the context from which the study was established. The manner in which how today global economy has changed the way organizations operate has been highlighted, together with the impact of organizational restructuring on service delivery. The pre- and post-restructuring organizational structure of the KZN DPW was highlighted to offer a better understanding of the study background. A summary of the problem under investigation, questions aimed to be answered by the research and research objectives were also specified. Definitions of key terms were provided to clarify the background in which they have been used. Highlights of the literature employed, as well as of the conceptual framework and research methodology applied to this study were given. Research ethics related to the study were explained. The study's significance and limitations were also discussed. This Chapter ended with an outline of the structure of the dissertation. The following Chapter discussed in detail the reviewed literature related to this study.

CHAPTER 2:   LITERATURE REVIEW

2.1   Introduction

The aim of conducting a literature review in any research study is to ensure that the researcher has read widely around the subject under study to broaden his or her knowledge base in his or her research area. This helps a researcher to know what other researchers have found regarding related queries, including ideas that already exists and more importantly, the present gaps in the relevant body of knowledge (Kumar 2011). According to Howard (2014:101), "a literature review works as a point of reference for researchers to connect and contrast their findings, which helps to determine the most important issues to focus on and guide your research in the right direction". A researcher conducts a literature review for various reasons with an aim of achieving certain goals. Neuman (2014:126) presents the following as the central objectives of a literature review:

- To exhibit awareness with a body of knowledge and create reliability;
- To point out the trail of past investigation and how a up-to-date the current study is connected to it;
- To incorporate and edit what has been identified in an area of study; and
- To acquire knowledge from your peer and produce new perceptions.

2.2   The nature of knowledge management

Knowledge Management (KM) is not new to organizations (Dalkir 2005; Badimo and Buckley 2014), although it was not termed as such and nor was it practiced as has been the case in recent times. Organizations manage knowledge through structured and informal processes alongside one another. Structured knowledge processes are the planned, organized and systematic ways of gathering and distributing knowledge, while informal knowledge processes are the natural and deliberate ways of gathering and disseminating knowledge (Hoe 2006). However, the challenges faced by organizations in today's socio-economic context require a more structured and coherent approach to managing knowledge (Payne and Sheehan 2004:5). For millennia, workers have exchanged ideas and expertise on the job (Hansen, Nohria and Tierney 1999) so that knowledge and the way it is managed has remained to a degree unchanged over the centuries (Jashapara 2004).

However, with the introduction of computer technology in organizations, the way knowledge was being conveyed was bound to change. That is why in the mid-1990s, individuals and organizations made a conscious effort to begin to utterly consider about controlling what they know: this action came to be recognized as "knowledge management" (Davenport and Volpel 2001:212). Dalkir (2005:21) states that there is no universally recognized explanation of KM; however, organization should respectively describe KM in relation to its own objectives. A broadly acceptable definition is that KM is the actual learning progression which is linked to discovering, exploiting as well as the distribution of individual and organizational knowledge by using applicable technology and traditional settings to improve an organization's intellectual resources and performance (Jashapara 2004:309).

According to Dalkir (2005:7), KM is related to knowledge as well as information. Therefore, the distinction between data, information, and knowledge is important, as these terms are not interchangeable (O'Riordan 2005:6). This study uses the data, information and knowledge hierarchy, which is a concept employed by various authorities (Davenport and Prusak 1998; Chaffey and Wood 2005) to describe the relationship between data, information, and knowledge, as indicated in Figure 1 below. The difference among data, information and knowledge is presented below.

Data: Data can be defined as the content that can be observed (Dalkir 2005:7); data is raw material that provides information without context (Groff and Jones 2003). Data comprises of insights (which can or cannot be precise), and single-handedly, data embodies raw facts or statements and might as a result lack meaning (Becerra-Fernandez, Gonzalez and Sabherwal 2004:12; Kermally 2002:47). Data becomes information when we add meaning to it.

Information: Information is a subcategory of data, the distinction being that it has context, relevance and purpose (Becerra-Fernandez, Gonzalez and Sabherwal 2004:13). Poddar (2010) views information as data organized with a purpose. Meanwhile, Groff and Jones (2003:3) mentions that information is data given meaning by way of context. Furthermore, this context represents analysed data in such a way that the raw data is manipulated to obtain meanings in the form of trends or patterns in the data (Dalkir 2005: 7). That is why Kermally (2002:177) advices that information should be used to build on organizational knowledge since data alone is not useful.

Knowledge: Dalkir (2005:7) states that in comparison to data and information, knowledge is a more personal approach of knowing and is naturally built on practical or individual standards, observations and understanding. Knowledge exists from understanding gained through experience or study, the complete application of information and data, combined with the skills that a person possibly has, capabilities, theories, insights, obligations and enthusiasms (Groff and Jones 2003; Grey 2005). Knowledge is equivalent to information and data but knowledge has the greatest depth of the three and is the utmost valued because it facilitates actions such as decision-making (Becerra-Fernandez, Gonzalez and Sabherwal 2004). Therefore, knowledge provides the organizational capability to perform tasks and be productive (Kermally 2002). Alavi and Leidner (1997:6) states that this knowledge then turn out to be information yet again once it is spoken or transferred to others in writing, computerized, articulated, or other means. It is through knowledge that data is analysed and information used.

Figure 1. Data, Information, and Knowledge Hierarchy (Chaffey and Wood 2005)

Figure 1: Data, Information, and Knowledge Hierarchy (Chaffey and Wood 2005:224)

According to Tiwana (1999:58), there are two broad categories of knowledge, namely, tacit knowledge and explicit knowledge. The distinction between these categories of knowledge is provided below:

Tacit knowledge – Tacit knowledge is the 'know how' knowledge, known as knowledge of the mind because it comes from the individual intelligence, experience and skills (Poddar 2010). Tiwana (1999) concurs by stating that this type of knowledge is mainly developed through a process of trial and error encountered in practice. According to Kermally (2002:58), tacit

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knowledge can practically be difficult to articulate to others, as it is personal in nature. This type of knowledge can only be transferred from one individual to another through socialization, dialogs and meetings.

Explicit knowledge – Explicit knowledge is regarded as the 'know that' knowledge; it is that knowledge established in manuscripts, catalogues, manuals or any other information resources (Poddar 2010). Unlike tacit knowledge, explicit knowledge is easily communicated between human beings because it is expressed, recorded and transferred through the creation of documents, reports and memos (Kermally 2002).

The distinction between these categories of knowledge shows how knowledge is an important asset in any organization, be it the tacit knowledge within employees or the explicit knowledge within an organization, knowledge is greatly valuable in organization's growth as well as innovation. The interactions between tacit and explicit knowledge are important as these lead to the creation of new knowledge to improve organization's efficiency (Nonaka and Konno 1998:42). Nonaka (2007:165) affirms that the interaction between these categories of knowledge presents patterns of knowledge creation that can be beneficial in any organization.

Nonaka and Takeuchi (1995:61) also believe that individual knowledge is generated and extended over social collaboration among tacit and explicit knowledge; they called this collaboration "knowledge conversion". The four ways of knowledge conversion that were postulated by Nonaka and Takeuchi (1995:62) namely socialization, externalization, combination and internalization (SECI), function individually and together create new knowledge (either tacit or explicit). The four ways of knowledge conversion are discussed in detail in Chapter Three.

The above-mentioned interactions can only be achieved when organizations implement, embrace KM initiative and its practices in their daily routines. KM practices contains knowledge creation, knowledge sharing, knowledge dissemination and knowledge retention. KM as an assessment of 'intellectual qualities', highlights distinctive foundations and possible blockages that hinders information flow to be used effectively (Bansal 2000:4). Simply put, the culture of knowledge sharing as one of KM's core practices in organizations should be promoted to ensure effective results from KM initiatives.

2.2.1 Knowledge creation

According to Al-Hawamdeh (2003:1) and Nonaka and Konno (1998:42), knowledge creation is a gradual process of adding value to previously existing knowledge through innovation and of creating organizational knowledge through the exchange of the knowledge that already exist within the organization. Serban and Luan (2002:12) state that knowledge creation can occur through a variety of means such as meetings or an informal discussion between employees. That is because knowledge resides mostly in people's heads (Bansal 2000:3); therefore applying tacit knowledge to organizational problems can create new knowledge. It is for this reason that Von Krogh (1998:136) cautions that the real formation of knowledge places strains on the manner in which employees communicate to each other inside the organization. Zaim (2006:6) notes that knowledge formation is not a logical progression that can be prearranged and organized, as the creation of explicit knowledge is deeply stimulated by social practices.

During the process of creating knowledge, employees may develop untrusting behaviours, endless opposition, and biases in providing and receiving information and a negative attitude towards assisting others, which jeopardize sharing individual knowledge successfully. To overcome such challenges, Yeh, Lai and Ho (2006:798) advice that the organization's management should build a culture in which access to information is easy, as culture governs the manner in which people do things and conduct themselves within an organization. However, Wong (2005:267) warns that it can be very challenging to develop a culture with great standards towards knowledge and inspire its formation, distribution and usage. This is because it is through culture that organizations create a context where employees can interact socially to create and share knowledge (De Long and Fahey 2000).

2.2.2 Knowledge dissemination

Knowledge dissemination is how the shared knowledge is managed within organizations in such a way that employees are encouraged to act on the received knowledge, thereby creating new knowledge (Yang 2005). Once created, knowledge should be disseminated so that its development will not be limited. Payne and Sheehan (2004:10) advise that people must be able to find the knowledge they need to stop them from repeating mistakes already made by others. This indicates the importance of capturing and organizing new knowledge, as according to Serban and Luan (2002:12); knowledge can be easily lost or not used if it is not captured.

The fact that information is being sourced from different people means that diverse ideas are streaming into the organization and need to be organized, to determine where and how these ideas will be used. For KM to be effective, the transformation of an individual's tacit knowledge to explicit knowledge is required, as access to this knowledge is through other people (Payne and Sheehan 2004:10). In their study, Pretorius and Steyn (2005) found that knowledge dissemination happens through paper documents and information technology systems. Therefore, publications, presentations, websites and libraries are the most obvious forms of dissemination of knowledge and can encourage knowledge sharing.

2.2.3 Knowledge sharing

According to Bragge and Kivijarvi (2011:219), knowledge sharing is a procedure through which information is transmitted between people, as well as amongst individuals within the organization. Knowledge sharing is also seen as those "activities of how organizational members exchange their knowledge to improve organizational learning capacity, stimulate the creation of new knowledge and, eventually, improve its effectiveness" (Buckova 2015:393). However, people do not practice knowledge sharing easily and certain aspects concerning the sharing of knowledge need to be determined before a person is willing to share. These aspects include what an employee will gain for sharing their hard-earned knowledge; consequently, expectation plays a vital part in sharing knowledge.

Stenmark (2001:21) believes that individuals will not transmit their knowledge without a particular inspiration, and they always offer it with great apprehension for what they could achieve or lose by such an exchange. In fact, Al-Hawamdeh (2003:10) argues that the biggest challenge for many organizations today is how to encourage their staff to share knowledge. Omotayo (2015:14) indicates that the importance of sharing knowledge needs to be constantly communicated to the employees. However, Syed-Ikhsan and Rowland (2004) advise that knowledge sharing require teamwork between individuals towards their mutual benefit (organizational performance) because without circulation, information will not be transmitted to another individual.

Before a formal KM initiative can be implemented, organizations should "encourage employees to share their knowledge informally, while gradually introducing recordings of the processes

and procedures" of knowledge sharing so that employees can learn and understand the tangible benefits thereof (Mpofu 2011:12415). Dube and Ngulube (2012:70) indicate that organizations should ensure that knowledge-sharing strategies are available to alleviate the effect of bad influences on the progression of information distribution.

This is important, as "the critical outcome of knowledge sharing is the creation of new knowledge" (Al-Hawamdeh 2003:81). However, societies perceive knowledge as having control and have concern when they have to distribute their knowledge as they feel like they will lose their reputation and marketability (Tiwana 1999; Federal Chief Information Officers (FCIO) Council (2001). Thus, Kok (2004) advises that individuals within the organization need to form a routine of offering their intellectual capital and knowledge to be reprocessed, to improve existing knowledge resources attentively.

Similarly, Girdauskienė and Savanevičienė (2007: 42) conclude that knowledge sharing should become a routine and not some special action, furthermore, when knowledge sharing becomes a routine process, it becomes a part of culture. It also becomes a norm of behaviour characteristic to the entire organization. Different ways to share knowledge as suggested by FCIO Council (2001:13) include creating a knowledge map, which can be added to and is accessible to all employees, establishing communities of practice (CoPs) and identifying best practices and lessons learned within the organization. CoPs are groups of employees with a common goal to achieve organizational objectives, they deepen their knowledge and experience by interacting to find and create value of shared information to solve organizational problems (Wenger 2000:4-5). At a later stage, this group develops a common body of knowledge practices and approaches.

Finally, Dube and Ngulube (2012:70) caution that all employees should understand the procedure of knowledge sharing so that they do not doubt the process, but instead create trust within the organization. Ultimately, employees should be able to utilize the shared knowledge to create new knowledge.

2.2.4   Knowledge retention

Given the amount of change within organizations today, such as organizational restructuring, one important element of KM approach is that of knowledge retention (Evans 2003:17).

According to Liebowitz (2010:87), knowledge retention deals with ways in which organizations can control existing knowledge to produce value as well as saving organizational' knowledge base. This is done by implanting information in a database so that it shows some persistence over a long period (Argote, McEvily and Reagans 2003:572).

De Long and Davenport (2003:51) advise that the first step in retaining critical organizational knowledge is identifying essential knowledge that might be at risk. Other scholars such as Frigo (2006) and Liebowitz (2010) suggest that organizations should start by creating individual profiles early in their workers' employment life span even before the retiring stage, as their departure may severely affect organizational performance based on lost knowledge and expertise. Hayward-Wright (2009:1) indicates that knowledge and information audit could be beneficial when determining which information is essential to individuals, teams or the organization for retention.

The study by Baguma, Ragsdell and Murray (2014) provides first-hand indication that individuals within the organization are vital as they are main representatives in knowledge preservation and advises that determinations to preserve knowledge should begin almost immediately when an individual is in employment. Such a strategy should be built into a planned organizational programme and surrounded within a KM structure so as to ensure that every employee is aware of it and is able to participate whenever necessary (Hayward-Wright 2009).

Liebowitz (2011:2) addresses the importance of having key pillars underlying a knowledge retention strategy:

- Strong top-down management approach that will provide moral support in knowledge retention activities and provide financial capitals;
- Using reliable knowledge preservation devices such as systematization (systems-oriented collection approaches) and personalization (people-to-people connection) approaches;
- Creating appreciation and compensation structure which integrate techniques to be aware of and reward people for demonstrating knowledge sharing behaviours; and
- Using retired employees as role players in knowledge retention activities.

Furthermore, the following elements are viewed as critical for fostering and facilitating the knowledge retention process within organizations (Hayward-Wright 2009; Doan, Grundstein and Resenthal-Sabroux 2011):

Top management support refers to the support by the management by means of participating in the practice, thereby encouraging employees to get involved and by providing additional resources when required.

Knowledge retention strategies must include technical solutions that help capture, store, and share knowledge as well as human solutions such as a work-culture development that promotes staff retention (Frigo 2006:83).

Organizational culture, if healthy and productive, creates a work setting of reliance, common admiration and exposed channels to communicate amongst individuals, where the atmosphere stimulate and sustain information dissemination and learning to create new knowledge.

Human resource practices in organizations assist in creating an environment that encourages employees to share knowledge, positioning employees according to their skills and abilities for better productivity. This may also include employees' training and the development of their careers. Moreover, when employees retire, a lack of accurate documentation and systematization of tacit knowledge could result in organizations losing valuable knowledge (Suresh 2002:4).

Information and Communication Technologies (ICTs) must be used to facilitate the process of knowledge retention.

2.3 Importance of implementing knowledge management in a public sector organization

Generally, the main reason for implementing a KM initiative in any type of organization is to increase productivity and the manner in which service is distributed to the targeted consumers. In public sector organizations, Osborne and Gaebler (1993) suggested that citizens must be taken as their consumers and serve them with courtesy. In order to do this effectively, public sector organizations must be goal and consumer focused (Ndou 2004:2). One of the goals of a

public sector is to ensure that there is "timely provision of the right information, at the right time and the right place" (Buckova 2015:391). The results of the study conducted by OECD (2003:6) revealed that, the actual functioning of public sector organizations is determined by how successful is the acquirement and distribution of information amongst the citizens. In addition, O'Riordan (2005:13) stated that gaining access to information as well as transparency is critical to the citizens; as it empowers them, which results in the public sector to become a more citizen centered organization (Maude and Ncume 2012:580).

McEvoy, Ragab and Arisha (2017: 45) reasons that future public sectors should be less of a mystery and more of a transparent service, which will benefit citizens' interest. The public sector has large quantities of information, as they are the main creator of data and knowledge; however, if these are not properly managed, it may prove difficult to link this knowledge for better service delivery to the citizens (Maude and Ncume 2012:580). Arora (2011:167) emphasized that it is important for public sector knowledge to be managed sufficiently early and at all times with the intention of connecting citizens to the government, and vice versa, as a way of involving them on government procedures and decisions. Citizens' interest on the quality and quantity of information generates a definite assumption for the need of KM to be implemented in public sector organizations (Buckova 2015:391).

Traunmüller (2012:2) emphasized that if KM can be implemented in a public sector organization, it could enhance quite numerous managerial activities due its broad scope; for example, constructing organizational knowledge warehouse which helps in supporting managers in making decisions faster and can be used as back up during the planning process. Maude and Ncume (2012:579) also pointed out that public sectors should implement KM initiative as they deal with important information and data that requires being thoroughly packaged and well protected. Henry (1974:191) added that the management of knowledge "ensures that new information is applied intelligently in the analysis and rectification of public problems." Likewise, KM in the public sector organization makes an effort to contribute towards tackling particular and complicated problems in exchanging information that exist within the organization and their employees (Maude and Ncume 2012:580).

Cong and Pandya (2003:29) stated that there is a possibility for a public sector organization effectiveness and competitiveness to be truly reinforced in today's revolutionary world if KM initiative is implemented. According to Romanelli (2017:561), modern public sector

organizations must improve and revolutionize essential procedures through the management of information and knowledge. Al-Khouri (2014:26) and Riege and Lindsay (2006:25-26) listed some additional potential reasons why it is important to implement KM initiative in a public sector organization:

- Get the best out of competences through all public services by linking silos of information across diverse levels of the organization;
- Fostering innovation or enhance old-fashioned methods to increase general performance and take advantage of on a broader, more incorporated, and easier reachable knowledge base;
- Improving responsibility and justifying risk by taking knowledgeable resolutions and resolving problems quicker, through the help of accessible combined, transparent information throughout the entire organizational sections; and
- Providing improved and more cost-effective essential services such as improving relationship with and receptiveness to the citizens.

However, scholars such as Cong and Pandya (2003:32) and Romanelli (2017:561) noted that the implementation of KM initiative is still in the early stage particularly in the public sector organizations. This may not be so surprising since government organizations are often thought to be late comers in management reforms, sometimes for good reasons such as policy continuity (OECD 2003: 5). On the other hand, the implementation of KM initiative within any public sector organization must expect challenges associated with cost, organizational culture, structure change, and so on (Edge 2005:45).

2.4 Importance of implementing knowledge management after restructuring

During organizational restructuring, the rate at which knowledge is lost is at its greatest and organizations could benefit from finding a practical method to avoid losing knowledge when going through the restructuring process (Meakins 2003:286). As discussed earlier on, KM as a practical approach involves knowledge acquirement, formation, alteration, preservation, handover, dissemination, and application among the organization and its employees (King 2009). Poddar (2010:8) mentions that the fundamental idea of KM is to control and recycle information resources that has been within the organization so that employees will pursue most used methods of completing tasks instead of repeating mistakes previously done.

MingYu (2002) asked why it is important for organization to implement KM, in present investigation; this enquiry can be adapted to ask, "Why it is imperative for a public sector to implement this modern method to control knowledge after restructuring?" Nagarajan, Ganesh and Sundarakani (2009:4) provide an answer to this question. In their statement, they stated that the main purpose for KM approach is to acquire both the organizational and personal knowledge concerning, talents, procedures, clients, department, guidelines, techniques, etc., available within the organization in an organized way to make it available to all employees on a "who needs what basis". After restructuring, organizational and personal knowledge may be at great danger of being misplaced, for example due to changed communication channels, or new and different operating processes, or because of technological challenges brought about by the restructuring.

The aim of KM is to maintain a constant progress of service delivery through the improvement and sharing of organizational knowledge throughout the organization (Hussain, Lucas and Ali 2004). Another scholar assumed that KM could aid to accelerate the provision of service, which is a main concern for the South African Government currently (Mphahlele 2008:4). The supreme mutual objectives inspiring organizations to be determined to improve the control of information consist of recollecting essential skills, refining client service and enhancing transformation (MingYu 2002: 78). However, organizational restructuring can elicit a loss of talent through resignations, while customer service can be hampered because of changes, processes and practices within the various divisions of an organization. In addition, innovation can be stifled in an unfamiliar and unsupportive new organizational context.

King (2009:4) also mentions the KM goals of leveraging and improving the department's information resources to effect healthier information practices, enhanced departmental conducts, improved choices and enhanced departmental achievements. Again, organizational restructuring can disturb particular organizational behaviours, since trust and confidence arise. This further highlights the need to embark on a KM initiative after organizational restructuring has taken place. Kermally (2002:2) and Dalkir (2005:18) advise that organizations should pay more attention to managing knowledge currently because of the prevalence of organizational complexity and the convergence of technology with this complexity. MingYu (2002:78) concurs, stating that the final intention of KM is to adjust swiftly to the changing circumstances to increase efficiency as well as productivity. The multifaceted nature of present-day

organizations and the interplay of this reality with advancements in IT further indicate that a post-restructuring KM initiative is essential.

According to Tiwana (2002:5-6), the following are some of the reasons why organizations should consider a KM initiative:

- Irregular markets demand 'planned desertion';
- Through KM organizations control transformation so that they will not be controlled by it;
- It would be easy for an organization to repeat a mistake if it is not recorded, and
- Employees move along with their knowledge – the greatest treasured knowledge, abilities and experiences in an organization are within individuals.

In addition to the above, Figure 2 below illustrates the reasons why organizations are engaging in KM initiatives. Following a restructuring process, many of the aspects pointed to in Figure 2 are impacted – again highlighting the particular need for organizations to engage with the management of knowledge in an ordered, structured, targeted and strategic way.
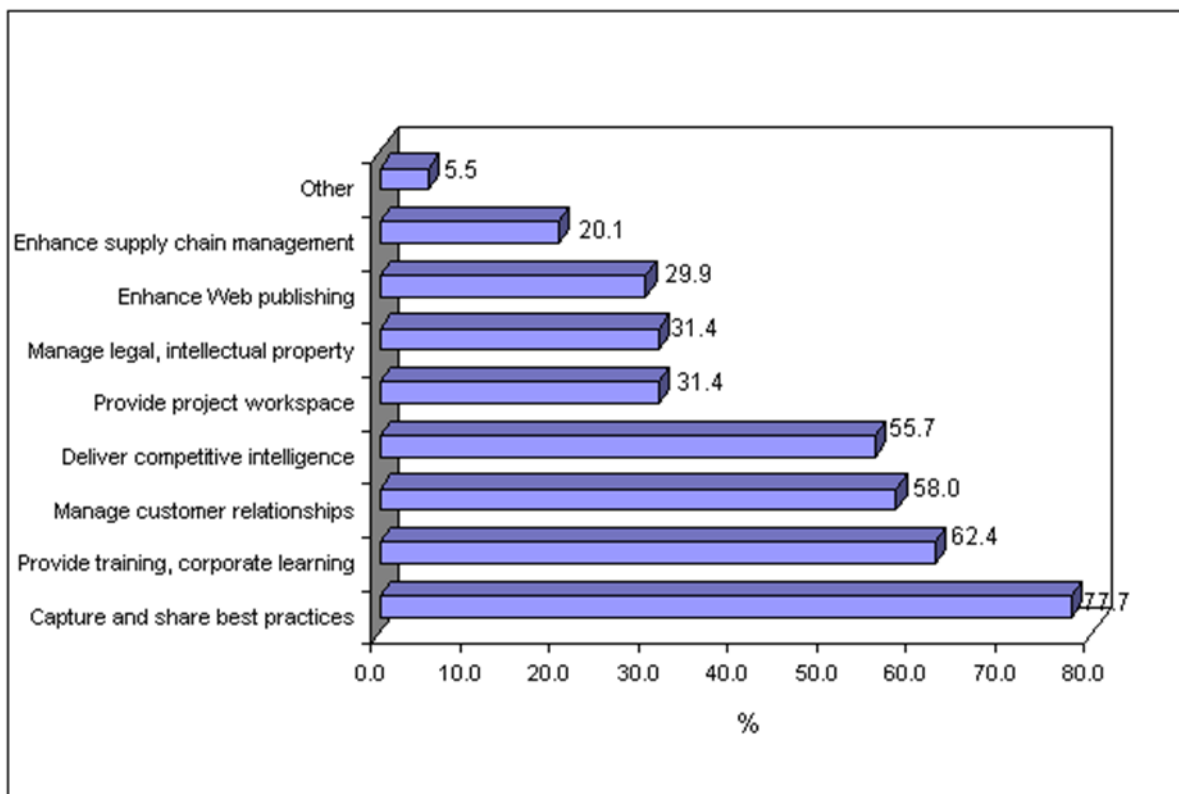
Figure 2: Organizational' reasons for implementing KM initiative (MingYu 2002:78)

The study conducted by Biygautane and Al-Yahya (2011:11) presented similar reasons for implementing KM initiatives among a variety of organizations in Dubai. Biygautane and Al-Yahya (2011:11) state that, among these Dubai-based organizations, KM aims to improve their organizational achievement; increase in-house productivity and service provision; simplify exchange of ideas between employees from their inner or outer organizational branches; and to improve how they preserve information resources using appropriate devices. All of these KM aims are of heightened importance in the turbulent post-restructuring period when communication may be hampered and intellectual capital may be lost or not stored in a manner that will facilitate its optimal use, leading to potentially declining organizational performance, inefficiency and weakened service delivery.

2.5 Organizational benefits of knowledge management

According to Nagarajan, Ganesh and Sundarakani (2009) the essential organizational benefits of KM are the increased capability to gathering and consolidating explicit knowledge, active distribution of information through teamwork and enhanced knowledge steadiness throughout the restructuring process. Cong and Pandya (2003) and Biygautane and Al-Yahya (2011) state that the interests of KM are able to transpire at dual points: personal and organizational. On a personal level, workers can learn better by working together and sharing what they know, thereby creating new knowledge that can improve their performance, furthermore they are better prepared for change (Becerra-Fernandez, Gonzalez and Sabherwal 2004:54). At the same level, Tiwana (1999) feels that effective KM can deal with the threat of job mobility for employees holding critical parts of organization's tacit knowledge.

At an organizational level, Skyrme (2011) identifies a hierarchy of the benefits of KM as follows:

1. Rewards from more resourceful dispensation of information, containing:

- quicker recovery of facts enabling better and faster decision making
- minimizing duplication by avoiding making the same mistakes twice
- knowing who knows what and who is doing what by taking advantage of existing expertise and experiences

- improved quality of information which helps making the organization's best problem solving experiences reusable
- easily reached modern philosophy and paramount existing information which stimulate innovation and growth, leading to:

2. Departmental rewards, comprising competences and efficiency through:

- distribution of worthy and top practices to improve service delivery
- enhanced control on organizational risk
- preservation of tacit knowledge before professionals leave their job or stop working
- save the public's time and dispensation of facts leading to:

3. Rewards to outside clients and shareholders, containing:

- enhanced consumer provision and fulfilment, and
- better value for money.

According to Shockely (2000:58), KM may assist the organization continually even after restructuring as it enriches the process of gathering and processing more knowledge. After restructuring, a successful process can create a conducive atmosphere for organizational learning (Muppidathi 2016). Organizational learning is viewed as a goal of KM as it includes processes of implanting newly created tacit knowledge to organizational knowledge (King 2009:3). As Garvin (1993:78) puts it, the absence of learning within the organization allows individuals to repeat old practices, costing money and time.

Argote and Miron-Spektor (2011) define organizational learning as a change within an organization that occurs when employees put their experience into action and learn from one another and past failures and achievements. They further indicate that organizational learning processes are centred on KM practices, as discussed above. The study by Buheji et al. (2014:666) found that KM has a positive influence towards organizational learning as creating strong practice of gathering the combined knowledge and intellectual capital enables the organization to establish proper programmes that close skill gaps while enhancing proficiency.

Garvin (1993:81) outlines the five forms of organizational learning as follows:

Solving difficult issues in an organized manner - this action relies on solving problems from certain viewpoint, which entails the attitude an organization has towards a particular problem and the methods it uses to improve the quality of the service delivered. The underlying ideas of the quality movement of an organization include insisting on information, rather than assumptions, as background for decision-making (Garvin 1993:81).

Knowledge testing - this action includes the methodical examining for and trying different knowledge, typically inspired by growing opportunity and increasing prospects, not by existing problems being faced (Garvin 1993:82).

Experimental learning - Garvin (1993: 85) stated that organizations are required to evaluate their accomplishments and disappointments, measure them thoroughly, and keep a record of what has been learned in a method that is exposed and accessible to workers.

Learning from others – this activity enlighten employees to understand that, occasionally, the greatest influential perceptions emanate from observing your outer setting, which enable one to produce fresh viewpoint (Garvin 1993:86).

Spreading knowledge – a learning organization is the one that will allow knowledge to transmit speedily and professionally within an organization, as philosophies have great influence when broadly shared, rather than through being held by only a few employees (Garvin 1993:87). A learning organization is an organization capable of generating, obtaining, and transporting knowledge, and adjusting its conduct to emulate new knowledge and intuitions (Garvin 1993:80).

According to Garvin (1993:91) "these actions promotes learning by demanding workers to struggle with new information and to deliberate its effects," which could be custom-made to organizational goals and objectives. Therefore, in order for organizations to develop learning abilities, a KM approach should be implemented since it can act as a transformation mechanism in an organization to create a learning organizational culture (Qureshi, Gardezi and Whitty 2016:114).

2.6   Organizational knowledge management enablers

The reviewed literature indicates that researchers have used a variety of indicators in assessing readiness for KM in different organizations. Many scholars commonly use KM enablers or critical success factors for the evaluation; other scholars introduced a new model or presented a tool that can be utilized to contemplate the organizational eagerness for a KM initiative implementation. However, this study only focused on KM enablers because as organizational mechanisms, they stimulate KM practices that was important as the current study aimed at interconnecting these enablers with organizational performances to establish credibility towards KM implementation.

According to Theriou, Maditinos and Theriou (2011:102-103), KM enablers are the key factors that determine the effectiveness of KM within an organization. These factors not only stimulate knowledge creation, similarly, they inspire individuals to give out tacit knowledge and practices with others (Yeh, Lai and Ho 2006). The availability of KM mechanisms demonstrate that the department is prepared to implement the KM approach to a degree (Holt et al. 2004). Kimani's (2013: iii) study found that effective KM application needs the elevation of a supporting surroundings where the departmental principles, arrangement, management and policy, technology infrastructure are the foundation. Different scholars have considered a variety of enablers in assessing readiness to implement KM (Yeh, Lai and Ho 2006; Gaffoor 2008). Several studies assessing readiness to implement KM have been conducted, mainly in the private sector internationally (Wong 2005; Mohammandi, Khanlari and Sohrabi 2009; Nagarajan, Ganesh and Sundarakani 2009; Shahidi, Abdolvand and Harandi 2015; Sultan and Bach 2015).

Within the South African context, studies that evaluated the readiness of a public sector before implementing KM were limited. However, studies related to the present research focused within South Africa were preferred because of their relevance. At national governmental level, the Department of Public Service and Administration (DPSA) (2008) has embarked on a journey to ensure that the case for and benefit of KM in government departments is understood in relation to the environments they operate in. A need existed to investigate readiness for KM in provincial government departments as they provide services, monitor and support local governments, which is the focus of daily services received by citizens of the country. The current study aims to fill this gap. As opposed to the local government, provincial government

encourage the expansion of local government ability to support municipalities to achieve their purposes and accomplish their specific matters. From the reviewed literature, both international and local, this study considers organizational culture; human resources; information technology; organizational structure and strategic planning as important enablers for implementing knowledge management.

Gaffoor (2008) conducted a qualitative case study focused on measuring willingness for the application of KM in local government at the Stellenbosch Municipality. Gaffoor's (2008) study observes that very few scholars (Schutte and Barkhuizen 2015; Gaffoor and Cloete 2010) have probed on the function of KM in the public domain and particularly at local government level. To conceptualize the contribution of KM to organizational efficiency, Gaffoor's (2008) study considered the use of various KM models: intellectual capital models, knowledge category models and socially constructed models. These models were chosen because of the view that a successful KM initiative is reliant on the collaboration among different features (Gaffoor 2008:23). In this study by Gaffoor (2008), KM was viewed as a programme that call for stable obligation and enthusiasm from the entire organization. However, three directorates in particular were selected to be studied, namely corporate services, strategic services and financial services. The study considered five KM enablers: corporate culture, human resources, information technologies, strategy, leadership, and organizational structure to assess the municipality's readiness to implement the KM approach. Interviews conducted were focused on the senior personnel of the three directorates selected and employees at the lower level were not considered.

The study revealed that, generally, the identified KM enablers appear to be supportive of KM efforts. However, the greatest challenges the municipality will face in becoming a knowledge organization would be attaining top management support and establishing an organizational culture of sharing knowledge (Gaffoor 2008:65). In addition, the human resources and technology infrastructure presented within the Stellenbosch Municipality are to some extent conducive to the implementation of knowledge management. The study concluded that, for an organization to achieve an effective KM process and attain the desired benefits, KM mechanisms need to be sufficiently established and must be cooperative with one another (Gaffoor 2008; Gaffoor and Cloete 2010).

To evaluate the importance of organizational culture in implementing a KM approach in South African organizations, Ndlela and Du Toit (2000) discuss the importance of corporate culture in the establishment of KM initiatives. They recognize different definitions of what constitutes organizational culture. However, they propose what they say is the best definition, which states that organizational culture has to do with shared values in a group, and is a basic building block to KM approach as well as a powerful motivating force to the success of KM approach (Ndlela and Du Toit 2000). They further argue that the organizational culture often becomes the missing link that could ensure successful innovative efforts within an organization. Key organizational processes, technology, the social system, formal arrangements and other factors were identified as the phenomena that shape organizational culture. Ndlela and Du Toit (2000) also highlighted the need for organizations implementing KM not to ignore but rather to consciously acknowledge the impact of organizational culture in the success of KM initiatives.

In the pursuit to determine the organization's position in relation to KM enablers, Feltman (2012) investigated the prevalence of KM in the Department of Agriculture, Forestry and Fisheries (DAFF) in South Africa to enable its delivery on its mandate. The study looked at the key success factors for KM implementation; information technology infrastructure, knowledge creating and a sharing culture, top management support and KM strategy being linked to business strategy. The study regarded these factors as critical to the success of an organization in making knowledge available. A survey was applied to gather data from the forty-two participants in DAFF. Generally, the findings highlighted that DAFF's leadership, culture, information technology infrastructure and strategic alignment are not appropriate for KM. Therefore, recommendations as guiding principles related to these various key success factors were offered to assist DAFF to move towards the successful implementation of KM (Feltman 2012:128).

Jalaldeen, Karim and Mohamed (2009) presented a conceptual model that integrated knowledge conversion theory (Socialization, Externalization, Combination, and Internalization (SECI), KM enablers and individual acceptance models. The presented model was established by incorporating KM infrastructure and Unified Theory of Acceptance and Use of Technology (UTAUT) (Jalaldeen, Karim and Mohamed 2009:128). The paper put forward a model that could be utilized to evaluate the willingness of an organization to implement KM and the enabling features for KM initiative execution. The authors also included a tool that can be utilized by other organizations to assess eagerness to implement KM. However, this tool still

needs to be validated in other organizational contexts, employing different samples and research methodologies. The instrument was tested using forty-six academic staff members.

Jalaldeen, Karim and Mohamed (2009) concluded that the expected organizational performance from a KM process could be influenced by organizational structure, information technology infrastructure and organizational culture. The authors also believe that readiness to implement a KM process will lead to the formal implementation of KM, as anticipated through the Theory of Planned Behaviour (TPB). The TPB foresees a person's objective to participate in a conduct at a particular period and environment. It theorizes that a person's conduct is determined by behaviour purposes, where the purposes are a meaning of three factors: a person's attitude concerning conduct, personal standards, and professed behavioural control. Usually, the stronger the purpose to participate in a conduct, the same is to be expected on the presentation (Ajzen 1991:181). The paper acknowledges that the idea of organizations' willingness to implement KM initiative has to be explored empirically from other perspectives using different research approaches (Jalaldeen, Karim and Mohamed 2009:129).

To assess readiness for KM in organizations, Shahidi, Abdolvand and Harandi (2015) examined whether the effective factors on the valuation of the readiness for activating KM system are identical in all organizations. The conceptual model of the study contains organizational culture, individuals, IT infrastructure, knowledge process, senior management commitment and strategy. Created hypotheses were associated with each conceptual model and questionnaires distributed to managers and knowledge workers in three different organizations. The objective of the study was to run a specific model in various organizations to investigate whether a general model of readiness is applicable is all organizations. The results shows that different factors affect various organizations and therefore, factors that determine readiness of one organization may not necessarily produce the same results in another organization.

In the United States of America (USA), another study by Trent (2003) was conducted to evaluate the effect of organizational culture as an enabler on the readiness for KM implementation in a governmental organization. The study assessed the readiness of the Aeronautical Systems Centre (ASC) to implement KM programmes through organizational culture. This relevant governmental department had developed KM initiatives, and ASC was involved in the early implementation planning. The study viewed knowledge as an intellectual capital that should be given value, along with physical and financial capital. According to Trent

(2003:7), the goal for an organization to manage their knowledge is to capture and maintain all intellectual capital that is valuable to it, so that it is useable throughout the organization and does not disappear through the shortcomings of human memory or turnover of personnel. The key purpose of this research was to decide whether the culture within the ASC currently exhibited a level of readiness for change to facilitate successful implementation of KM projects.

Change management was highlighted as critical and the organization's readiness for change would thus determine the successful implementation of these projects. Using organizational culture to assess readiness for KM implementation, the results showed that the ASC population exhibited an overall readiness for change. Twenty-two identified variables were employed to measure readiness for change through a survey, and based on the data; sixteen of these variables were determined to be reliable measures for change readiness. Management support, participation, the communication climate, and change commitment were regarded as contributing factors to an overall culture of readiness for change (Trent 2003:52). The study encouraged the need for the organization to increase management support, as well as to enhance the workforce's participation in the implementation of KM projects (Trent 2003), since their role is not only to ensure successful implementation of the approach but also its effective use by different departments (Yeh, Lai and Ho 2006).

Sin, Goh and Eze (2009) conducted an investigation using a case study of a firm in Malaysia to examine the function of KM enablers in improving efficiency within the organization. The study identified four broad categories of KM enablers, namely: strategy and leadership, corporate culture, people and information technology. They urged organizations to recognise that KM enablers are critical factors that need to be developed within an organization because these enablers are the driving forces to solidify KM (Sin, Goh and Eze 2009). Data was gathered using interviews, observation and document analysis. The findings of the investigation back up the outcomes obtained by other scholars regarding the supportive role of KM enablers for effective KM initiative implementation.

Lee and Choi (2003) developed a research model to indicate interconnections of various KM factors. Their model highlighted a few major factors, which are considered, variables to explain a large proportion of the variance in KM. These variables include enablers such as organizational culture, structure, people, and Information Technology (IT); and processes such as knowledge creation was adopted in this study and it was linked to intermediate outcome such

as organizational performance. The study referred to organizational beliefs as the imperative feature for effective KM; they viewed organizational structure as an element, which may encourage or inhabit KM; they believe that people create organizational knowledge; and technology contributes to KM (Lee and Choi 2003). The study embraced a process-oriented perspective of knowledge using the knowledge creation model (SECI model).

Lee and Choi's (2003) study was the first to establish the process-oriented perspective and integrative view of knowledge management. They developed a processual and integrated research model in order to compensate for the gap left by other researchers who explored only the relationship between the factors in isolation. Data was collected through surveys from 58 firms studied to test the model. The study was restricted to Korean organizations and generalizability from a Korean background to other nations could be uncertain (Lee and Choi 2003:210). The results exposed that there is a credible link between knowledge creation, specifically organizational creativity, and performance, while the study also indicated that trust has an impact on the way an organization creates knowledge.

To assess readiness for the implementation of a KM strategy in a construction organization, Mohd Zin and Egbu (2010) examined KM strategies and their importance for organizations to implement a successful KM initiative. They concluded that in order for organizations to guarantee a creative and constructive application of KM, it is necessary for them to conduct first a business analysis. That is, there should be a link between the KM strategy and the wider strategy of the organization. Furthermore, their discussion also concluded that actual KM application in construction firms rest on numerous aspects, including organizational beliefs, the function of technology, upper administrative backing, the function of human resources, departmental arrangement and management (Mohd Zin and Egbu 2010:796).

2.7   KM enablers as contributing factors to successful KM implementation

Based on the above reviewed literature, it is clear that for departments to be completely equipped to progress on an effective KM application there is a need to be attentive toward the main contributing factors that will enable this process to function optimally (Mohd Zin and Egbu 2010). As alluded to previously, for the aim of this investigation, the KM enablers include organizational culture, human resources, information technology, organizational structure and

leadership, and strategic planning based on organizational strategy. These are discussed in detail below.

2.7.1   Organizational culture

Kucza (2001:27) indicates that organizations need a strong supportive culture to allow for the active contribution and dissemination of knowledge. Organizational culture represents the standards and principles that control the conduct of employees and their way of doing things (Becerra-Fernandez, Gonzalez and Sabherwal 2004:40). In the same manner, Akpinar and Akdemir (1999: 336) state that organizational culture is the sum of individual opinions, shared mind-sets, values, and norms within the organization. Davenport and Prusak (2000) mentioned organizational beliefs plays a critical role in a KM initiative, and a determining factor of successful KM implementation that governs the manner in which people work and conduct themselves within a department. However, it can be very challenging to develop a culture that greatly puts emphasis on knowledge and encourage its conception, distribution and use (Wong 2005:267).

As indicated above, De Long and Fahey (2000:117-123) determine four methods in which culture affects knowledge construction, transfer plus usage. Firstly, culture determines which knowledge is deemed to be of value and worth creating, transferring or using, and which is not. The second manner in which culture perform an important function is when knowledge is transferred as it defines the relationship between personal knowledge and that knowledge of the organization, decisive on who is likely to engage in information transfer, and to whom knowledge is likely to be transferred. Thirdly, culture largely controls the application of knowledge in particular situations by creating the context of social interaction. Finally, bringing all the various aspects of KM together: the creation, validation, and distribution of knowledge are all the results of culturally determined processes.

However, the culture of an organization should be welcoming towards KM as no quantity of technological equipment, information content or great development plan will yield to effective KM initiative (Davenport, De Long and Beers 1998:53). Hence, Kermally (2002:105) identifies four categories of culture, which assist in identifying a KM friendly form of organizational culture:

- In a collaborative culture, employees enjoy sharing knowledge and helping one another.
- In a cooperate culture, the degree of interpersonal communication is low because employees only share knowledge when necessary.
- In a co-existence culture, employees tolerate each other because they have to, which results in the flow of knowledge being very restricted.
- In a conflict culture, there are hidden agendas and constant backbiting, which result in a KM initiative unlikely to succeed.

According to Hasanali (2004:60-61), there are a number of cultural barriers associated with the introduction of KM friendly organizational culture. These are as follows:

Lack of common perspectives – For the process of KM and knowledge sharing to be a success, employees and managers need to have a common perspective and common vision concerning the implementation of this new process.

No formal communication – In organizations, communication plays a key role in getting almost anything done. This implies that the implementation of KM should be communicated with employees so that they will not be reluctant to engage in sharing knowledge. If they feel left out during the implementation of process and do not see the importance of participating, then they will also fail to take part in the sharing of knowledge (De Long and Fahey 2000).

Non-optimal use of time – KM processes should be designed to accommodate the employee's work patterns in such a way that the processes, roles and technologies designed for the purposes of KM should save employees time when doing their tasks. Otherwise, they will resist the implementation of a KM programme. Sufficient time should also be allowed for the employee to master the processes, roles and technologies with which he or she must engage (Hasanali 2004:60).

Finally, a KM friendly organizational culture is one in which the wellbeing of the organization is directly linked to that of the employees. This result in a perception that the organization owns knowledge and that this knowledge is to the benefit of all employees, which in turn, leads to a greater level of knowledge sharing, thus increasing productivity within an organization. Should an organization lack a culture that is favourable and cooperative to knowledge distribution, any KM programme is likely to be unsuccessful (Mohd Zin and Egbu 2010:793). Therefore, the

organizational culture is obliged to make alteration from that of stashing knowledge towards that of sharing knowledge (Suresh 2002:3).

2.7.2   Human resources

Drucker (1993) acknowledges that an organization's human resources (HR) constitute its most important form of capital. That is why it is important for an organization preparing to implement KM to consider Ajzen's (1991) theory, which stressed the importance of measuring organizational readiness for KM by considering the factors linked to individual acceptance. This is because, according to Shirazi, Mortazavi and Azad (2011:167) individual variables affect workers' viewpoints towards KM approach, and therefore it is essential for HR guidelines and practices to take a leading role in enabling active KM initiative (Suresh 2002). Indeed, the implementation of KM may require a significant adjustment in the way in which individuals within the organization thinks (Suresh 2002:3).

To encourage an attitude of individual acceptance towards the concept of KM in organizations, the human resource management (HRM) can contribute as follows, as suggested by Armstrong (2006: 181):

- assist in growing a clear culture that puts value on the organizational norms and lay emphasis on the significance of information distribution;
- stimulate an environment of assurance and belief among employees;
- give direction on the plan and improvement of organizations which enable information distribution by way of social layout and CoPs, and collaboration;
- advise on providing guidelines and facilities, which guarantee that esteemed workers who might play a part in knowledge formation and distribution, are appealed and preserved;
- provide guidance on techniques of encouraging individuals to hand out tacit knowledge and recompense people perform such act (Suresh 2002);
- generate procedures for departmental and personal learning, which will create new knowledge and help in sharing it.

According to Aziri, Veseli and Ibraimi (2013:1042-1043), the role of HR is to contribute to the organization's ability to be able to utilize its knowledge for improved productivity. Figure 3

below illustrates how HRM influences KM to increase efficiency among employees for improved service delivery.

Responsibilities of an active HRM:	Elements of HRM structure:	Generic KM behaviors:
Recognize conducts required for knowledge centered rivalry	Jos policy (roles, careers)	Acquire knowledge
Corporate education	Staffing recruitment, selection, release	Create knowledge
Make sure employees are encouraged to participate in required conducts	Performance measurement (of individuals, teams, work unit)	Share knowledge
Offer chances for workforce to conduct themselves as required	Training and development	Apply knowledge
Facilitate knowledge	Rewards	Update knowledge
	Organizational culture	Leverage collective knowledge

Effectiveness of individuals, teams, work units

Sustainable competitive advantage for organization

Figure 3: HRM influence on KM (Adapted from Jackson, Denisi and Hitt 2003; Poddar 2010)

Suresh (2002:1) notes a considerable similarity concerning HR and KM since:

- the formation of knowledge is through the action of a human and handling humans is done by HR; and
- KM is concerned with controlling intellectual and invisible resources, and HRM is concerned with controlling the foundations of such possessions.

Poddar (2010) feels that HR is better positioned to act on the part of an active enabler and to provide encouraging supports intended for KM. That is, HR activities should facilitate the sharing of knowledge and motivate employees to turn their tacit knowledge to organizational explicit knowledge (Suresh 2002:4).

2.7.3   Information technology

Anantatmula and Kanungo (2011:263) mentioned that KM has gained prominence due to advances in Information Technology (IT) and its extensive use in organization to leverage knowledge into productive purposes. IT is a general title that contains the procurement, handling, preservation and sharing of information of all types: textual, numerical, graphical and sound in all application areas such as an organization (Prytherch 2005:386). According to Lopez, Peon and Ordas (2009:114), IT infrastructures are the mechanisms and capitals that support the organizational processes in the use of information; it includes elements such as hardware, software and support staff. The FCIO Council (2001: 17) states these mechanisms are significant when the accessibility to knowledge is increased, because they lessen the period and energy of workers to preserve knowledge and to facilitate interaction with each other. Meanwhile, Wong (2005:269) indicates that IT enables employees to rapidly search for, retrieve and access information, which supports collaboration and communication within the organization and improved service delivery.

Davis' (1989) theory on perceived usefulness and perceived ease of use of IT infrastructure shows that individuals have a tendency to utilize or not utilize IT appliances to the degree they be certain it will assist them accomplish their works better (perceived usefulness). Furthermore, people can believe that the application of IT tools is too difficult to operate which will outweigh the benefit of using it (perceived ease of use). Considering the fact that we are in the era of the knowledge economy; Dube and Ngulube (2012:73) uphold that information dissemination and discussion depend on IT infrastructure aimed at enabling knowledge formation, consolidating, administration, dissemination and preservation. Al-Hawamdeh (2003:2) stated that the word 'knowledge-based economy' ascend after the acknowledgement of the place of knowledge and technology in the new economy, which leaded to the increased reliance on knowledge and innovation in the creation of products and services.

Therefore, organizations should consider the challenges that will hinder IT's effectiveness of use, such as information overload, employees lacking the skills to operate the tools, whether employee training is required, the evolution of technological tools and their maintenance in order to provide sufficient services to organizations (Cabrera and Cabrera 2002). It should be emphasized however, that KM should be concerned with not only the use of IT for controlling information; rather KM is largely a modern approach of thinking about contemporary organizations as a whole (Mohd Zin and Egbu 2010).

According to Kok (2004:4), IT infrastructures are about generating straight contacts between individuals over applications like automated post, social media, networking and other forms of mailing, they also deal with preserving knowledge in catalogues and other kinds of storehouses. The following are organizations' potential weaknesses when providing an IT infrastructure for knowledge sharing. The failure to address these issues may result in the process of KM implementation to be unsuccessful (Hasanali 2004:63-65):

Use of the wrong approach – This is the error of those who are in charge of KM implementation within the organization, matching KM systems and IT requirements with the objectives of KM for the organization is essential. For example, if employees do not share knowledge because of a lack of communication, then the knowledge manager should ensure that the IT system being used promotes communication.

Lack of common platforms – When purchasing systems for KM, there should be a mutual agreement as well as understanding between all decision-makers. The KM steering committee can play the leadership role in terms of choosing which IT systems to buy. This will ensure that all IT systems "speak to" one another. IT infrastructures should also target to stimulate conversations particularly amongst divisions of the organization that are physically divided.

Complicated technology – The developments of IT infrastructures is continual and organizations can become confused concerning which one would be the most suited for their needs as regards the implementation of a KM initiative. There should be an ease of use of IT tools to ensure the effectiveness of KM as it is an ongoing process which will be hindered by complex or cumbersome IT processes (Hasanali 2002:3).

Inadequate training in using the technology – IT is best in recording and disseminating organizational knowledge by forming mutual platforms used to acquire information such as practical handbooks, customer and organizational address book (Warner 2015:5). If employees are not trained properly to use IT infrastructures, they will it difficult to participate in the process of implementing KM and may even lose interest altogether. During the KM process, organizations must take steps to ensure that knowledge and associated IT is used appropriately by to achieve organizational goals (Gold, Malhotra and Segars 2001:187-188). Top management can encourage and support the process of improved KM and IT usage by means of participation.

Hasanali (2002:3) argues that organizations need to have stable technology infrastructure to allow workers to disseminate knowledge broadly; with IT support, a KM initiative can be made easy. However, for an effective and efficient KM initiative to be ensured, organizations need to ensure that they have the optimal IT infrastructure, at the same time being mindful about the overall budget, as implementing a KM programme can be costly (Simmons 2013).

2.7.4 Organizational structure and leadership

Akpinar and Akdemir (1999: 336) state that a structure is the preparation of tasks and liabilities that define individual job level and the association among employees within the department. Organizational structure refers to how organizations coordinated their employees and teamwork (Carpenter, Bauer and Erdogan 2010:308). Senior and Fleming (2006:79) define the arrangement of an organization as "the way that a particular organization functions." While Stacey (2003:62) states that, "the organization is arranged officially in the manner of classifying accountability on particular tasks; on whom should one apply their powers; and who is to be responsible to whom; a structure is the chain of command for directors, the foundation of power, and the acceptability of resolutions and activities."

Therefore, when implementing a KM initiative, Gold, Malhotra and Segars (2001:188) and Young et al. (2013:5) point out that it is imperative that departmental structures be formed for malleability as a replacement for strictness, to stimulate the knowledge dissemination and teamwork through all departmental borders. This is because organizational structure directly affects KM, as it is the key feature of the entire KM process and an imperative element for its achievement (Davenport and Volpel 2001; Alawamleh and Kloub 2013; Gerlard et al. 2013; Gonzalez and Martins 2014; Steiger, Hammou and Galib 2014; Wahba 2015). Hence, an active organizational arrangement will enable professional associations among several units within the department to expand the operational productivity inside the organizational components (Alawamleh and Kloub 2013:520). Furthermore, organizational structures suited for KM are those structures that adapt to their environment, promoting ease of communication and the ability to respond quickly to changes (Young et al. 2013). Formalized or categorized structures have a habit of constraining the original procedure as they concentrate more on replication; thin structures are more amenable to the attainment and sharing of information (Gonzalez and Martins 2014:143).

The current study focussed on five organizational structure types due to their relevancy as identified by Steiger, Hammou and Galib (2014:44-46), namely: the adhocracy, strategic business unit (SBU), functional, and matrix organizational structures.

Adhocracy – This type of structure is commonly found in young, dynamic and relatively simple organizations where top management are determined to achieve organizational goals (Steiger, Hammou and Galib 2014:44). However, there is a strong sense of adaptability to new processes.

SBU structure – In this type of structure, formalization is important. Formalization "refers to the number of written rules, procedures, instructions, communication channels of information and lines of authority" (Senior and Fleming 2006:79). Organizations operating under this structure consider top-management as the decision makers and employees have little range of choice regarding how they conduct their work processes, which may result in employees being less satisfied with their jobs, especially if they believe that the work processes being insisted upon by management are not optimally efficient or effective (Steiger, Hammou and Galib 2014:45).

Divisional structure – the distinct partitions of the organization fundamentally determine the management of the entire organization (Steiger, Hammou and Galib 2014:45). Structures like these are usually incorporated in the private enterprises. Under the divisional structure, the potential for the fragmentation of KM practices is high since the management of knowledge is controlled inside the organizational sections because knowledge is distributed depending on the sectional requirements. Transmission of important information all through the department is thus fragmented (Steiger, Hammou and Galib 2014: 45).

Functional Structure – with this type of arrangement, great importance is placed on the workers specialized expertise (Steiger, Hammou and Galib 2014:45). It is democratic by nature, as employees are allowed to express their views, think freely and take risks to encourage learning. However, the organization operating under this structure may develop a routine to position employees based on their usual expertise and knowledge, which in turn yield to obstinacy regarding the employee and the department equally (Steiger, Hammou and Galib 2014:45).

Matrix Structure – This arrangement permits a department to be receptive in vibrant and multiple settings (Steiger, Hammou and Galib 2014:46). This structure is a blend of divisional and functional structure characteristics as it allows learning and risk taking, allowing the organization to be innovative. Furthermore, organizations operating under this structure have the ability to create and manage knowledge effectively (Steiger, Hammou and Galib 2014:46).

Leadership is about the procedure of encouraging people in the direction of achieving organizational goals (Naylor 2004:354). In fact, leadership ensures success in almost any initiative within an organization (Hasanali 2004:58). Leadership exist in the chief administration level and it is the regulator of KM initiative within a department, as it ensures the arrangement of KM approaches with the vision as well as the mission of an organization (Rollo 2002). It is through the organizational leaders that supporters of KM who assist in the effective application of the KM initiative are identified (Young et al. 2013). Therefore, visionary leadership is critical to the implementation of KM initiative for organizations to achieve its desired goals (Mohd Zin and Egbu 2010:794).

Without leadership to lead the pace, any initiative to manage knowledge may fail (Rollo 2002:26). According to Kermally (2002:102), both the leadership and all employees of an organization should share and internalize the same values to create a strong bond between them, and in this way, employees will be willing to communicate freely in order to transfer their knowledge. Furthermore, a leader in any type of organization should serve as a coach; release information and encourage knowledge creation; take part in the learning organization, and reward and recognize the efforts of his or her staff in the KM initiative (Kermally 2002:102).

2.7.5   Strategic planning

According to Khodadadi and Feizi (2015:161), strategic planning is a process to determine what an organization needs to accomplish over a given time and to outline the organization's strategy to prioritize methods, including KM, for achieving that mission. Meyer and Botha (2000:53) and Ramohlale (2014) indicate that the organization's planned strategy must partake the next basics:

- Aims and difficulties that may be tackled by KM;
- Method through which KM will be introduced within the organization;

- Implementation plan;

- Overall budget;

- Cost benefit analysis;

- Correct quantities and skills inside its human capitals to regulate the policies through the department; and

- Measurements before and after implementation.

KM involves a strategic commitment to improving the organization's effectiveness (Hussain, Lucas and Ali 2004). "KM should not be viewed as a new stand-alone management strategy" (Shockely 2000:58) but rather as one of the organization's strategic tools (Omotayo 2015) that needs to be managed as per the organizational strategy (David 2011). Different scholarly authorities (Sunassee and Sewry 2002; Mohd Zin and Egbu 2010; Shahidi, Abdolvand and Harandi 2015) have demonstrated that the implementation of a KM initiative should be in line with the organizational strategy in order for the approach to be efficient.

The strategic importance of KM has been widely acknowledged (Alavi and Leidner 1999; Ibrahim and Reid 2009; Bebensee, Helms and Spruit 2011). In light of this, Mlotshwa's (2007:117) study also concluded that local government's service delivery efforts could only be efficient and sustainable if the departments ensure that departmental structure is informed by its strategy. Similarly, departmental KM initiatives also need to be shaped by the strategy of the department in question. Davenport and Volpel (2001) and Rollo (2002) state that as part of strategic planning for a KM initiative, some organizations had taken into consideration the position of a Chief Knowledge Officer (CKO) to facilitate the implementation process.

According to Chauke and Snyman (2003:2) the post of a CKO started as a duty for upper supervision, containing the management and those responsible for organizational transformation to lead and promote the KM agenda by means of managing a unique organizational asset, namely intellectual capital. Davenport and Volpel (2001:215) present the broad collection of tasks for the CKO: the assistance of information dissemination systems and CoPs; the formation, excision and trimming of "information projects" in archives; the redesigning of knowledge-based work processes and the incorporation of knowledge-based tasks and activities into these processes.

2.8   Importance of conducting knowledge management readiness assessment

Jalaldeen, Karim and Mohamed (2009:302) define the KM readiness assessment as an evaluation of the level of the commitment or the plan to take part in the KM practice by employees within a normal working environment. A KM readiness assessment is essential before implementing a KM initiative within an organization, in other cases a knowledge audit initiative can also contribute to this process (Hylton 2008). A knowledge audit is an assessment to measure the quality of organizational knowledge 'well-being' and it offers a valid proof of where a department should pay attention on its KM effort (NHS National Library for Health 2005:22). However, there is lack of a systematic approach on how the audit is conducted in organizations (Cheung et al. 2005). Hence, the current study did not consider the use of a knowledge audit to assess the KM initiative readiness at the KZN DPW; rather a KM readiness assessment was employed. A knowledge audit is conducted when the organization is ready to implement a KM initiative to identify knowledge sources that can fulfil knowledge or information requirements (Du Toit 2014:2).

Shirazi, Mortazavi and Azad (2011:167) state that the in order for an organization to put up a KM strategy, it must first evaluate its willingness, which includes recognizing issues within the organization which have impact on its preparedness to implement a KM initiative. The objective of undertaking a KM readiness evaluation is to find the extent to which an organization is willing to practice KM. This is done by studying organizational culture of distributing information, leadership inspiration, favourite style of interaction, skills to create new knowledge, and associated structural obstacles (Cheung et al. 2005). A KM readiness assessment can also be used to gauge an organization's appetite in implementing a KM initiative (Mohammadi, Khanlari and Sohrabi 2009:29).

Alternatively, Nagarajan and Ganesh (2009) and Mohd Zin and Egbu (2010:789) believe that a KM readiness assessment provides an extent to which an organization is ready to attain rewards that comes from effective application of KM, especially aiming on the matters linked to employees, processes and technology. Their study assessed readiness for KM initiative in a construction organization and concluded that a business analysis should be conducted; that is, the plan for KM should be connected to the broader strategy of the organization, as indicated above. Therefore, findings in the present study are essential to determine the organization's

readiness to implement KM initiative. This is because KM initiatives reflects and supports the strategy of the organization as a whole (Hylton 2008).

2.9   The use of knowledge management in the South African public sector

According to Hourigan (2017), few numbers of organizations within the South African public sector are recognizing the importance of KM strategies to improve service delivery. The draft KM framework produced by the DPSA (2008:3) provides a guide for KM implementation in the public sector for effective service delivery and it highlights the importance of understanding the value-added dimensions that KM can provide to the Department. The aim was to introduce modes of reusing knowledge to improve coordination across government departments with the intention to improve service delivery (Hourigan 2017). According to this DPSA framework (2008), KM must occupy a central space in the public service if this sector is to seek effective and continually improving service delivery.

Likewise, the city of Johannesburg Metropolitan Municipality uses knowledge management to raise the levels of its service delivery. The city hosted its second Annual Open Day at the Metro Centre in Braamfontein on Thursday June 29 2017, to embed and promote a culture of learning among municipal employees. According to Phalatse (2017) who is the Director at the Innovation and Knowledge Management Unit at the Metro Centre, there is power in the sharing of knowledge between employees. Phalatse (2017) further states, "We teach employees about the importance of documenting their work and saving it to ensure that there is no duplication or replication." According to Phalatse (2017), the Johannesburg Metropolitan Municipality defines KM as "the procedure of producing, recording and distributing information to increase service delivery efficiency and effectiveness." Additionally, it has initiated a knowledge exchange programme to enable municipalities to exchange knowledge with one another.

Meanwhile, the Western Cape Provincial Government (2013) have a Knowledge Management Directorate, which includes the development and implementation of an integrated knowledge-management plan for the Provincial departments by translating individual knowledge into corporate intellectual capital. This KM Directorate also ensures the availability of an up-to-date information database that is accessible to all employees within the Provincial departments.

Also in the Western Cape Province, the city of Cape Town Municipality also has an Information and Knowledge Management Department. The Municipality views information, knowledge and records as key assets of the Department that are required to support planning, service delivery, decision-making, compliance and more efficient management. This Department works with all of the city's departments to improve the management and accessibility of corporate information assets and to provide specialised information services to various municipal departments and external stakeholders in their functional areas. And as the Director of the Information and KM Department puts it, the aim is to have all the City's information, knowledge assets and records stored in the right place, properly managed and easily accessible so as to enable information-driven and evidence-based management, planning, decision-making and service delivery in the City (Smith 2017).

2.10 Knowledge Management practices in the public sector

According to King (2009:3), KM is centred on a principle that, just as people are incapable of utilizing their entire mental abilities, organizations are commonly not able to apply completely the information that they have. Therefore, KM practices are there to fill that gap. The application of these practices within the organization enhances speed and effectiveness in delivering services to customers (Hourigan 2017). Al-Khouri (2014:31) attest to this by stating that KM practices provide strengths within the organization to build knowledge to improve productivity. An investigation directed by Badimo and Buckley (2014:3449) found that KM practices are important and helpful towards all measures of organizational performance and service delivery. Tubigi and Alshawi (2012:749) suggest that KM practices can be viewed as, the methods by which employees, groups and structural sections work together to generate, preserve, distribute, and successfully utilize information. King (2009:4) confirms that the practices of KM include knowledge acquirement, formation, alteration, preservation, handover, dissemination, and application.

Different scholars have emphasized process-oriented definitions of KM. MingYu (2002:78) states that KM is all about a sequence of techniques that bring about the formation, sharing, utilization as well as retention of information. Meanwhile Jashapara (2004) indicates that KM includes more or less the practice of obtaining, generating, distributing and application of information, anywhere it is located, to improve organizational learning and productivity. Zaim (2006:3) also provides an additional inclusive process-oriented interpretation on the definition

of KM as entailing an organized running of entire actions and procedures discussed to the creation and improvement, systematization and preservation, relocation and dissemination, and application of information for a business' competitive advantage.

Empirical studies on KM practices in the public sector include Ondari-Okemwa's (2007) study, which aimed at investigating the practices, procedures and challenges of managing knowledge in Kenya's government-owned organizations. Ondari-Okemwa's (2007) findings showed that although there are no formal structures for managing knowledge in these organizations, a large amount of knowledge flows through them. Furthermore, the results revealed that several KM activities exist and that staff who hold knowledge management-related positions carry them out. The concept of KM is highly regarded among Kenya's parastatals but these organizations face a number of challenges and problems in managing knowledge.

Mphahlele (2008) explored KM practices in the National Governmental Departments. The findings of the study revealed that KM was presented over a decade in the South African public sector with the Government providing assistance by the use of the DPSA and Government Information Technology Officers Council (GITOC). Several National Departments are at various phases of putting KM into practice, some Departments are effective, whereas others are yet to begin. The Department that are already practising KM are ripping the rewards in a form of work improvement and provision of service (Mphahlele 2008:113). The study placed an emphasis on the importance of getting the support from top management levels of government. This recommendation concurs with that of Ncoyini and Cilliers (2016) who stated that local government must ensure that knowledge-sharing practices are fully supported and promoted by top management.

A study by Ramohlale (2014) investigated KM practices in the Defence Department within the Republic of South Africa (RSA) and found that KM was barely comprehended and such method to manage knowledge was not applied and institutionalized to the Department's advantage. On the other hand, a small number of employees within this organization showed some gratitude towards KM as they are individually handling their tacit knowledge. Additionally, a significant number of staff members contemplates that KM must be engaged with going forward and strongly feel that their organization requires embracing an all-inclusive KM initiative.

2.11 The impact of organizational restructuring on service delivery

Governmental departments had focused on service delivery throughout the public sector restructurings or departmental transformation (Badimo and Buckley 2014:3449). Of late, the appeal aimed at providing well-organized and operative provision of services in South Africa is greater than before (Gaffoor and Cloete 2010:1). Ncoyini and Cilliers (2016:573) point out "the demand for improved service delivery requires new approaches from local government departments." As alluded to in Chapter One (See Section 1.1) of this study, government departments are now resorting to restructuring in response to this demand. Restructuring is a form of organizational act conducted while knowingly changing the processes and arrangement of an organization as a way of possibly improving the organization's performance (Investopedia 2017b). Senior and Fleming (2006: 4) state that an organization consists of individuals working together in a controlled or ordered manner to accomplish a distinct objective or aim.

According to Recardo and Heather (2013:23), the process of organizational restructuring has been given different labels over the years, ranging from organization design and rightsizing, to organizational transformation and downsizing. However, the process that applies to this study is organizational restructuring that occurs in local government departments. Internationally, Flynn (1993:164) notes that organizational restructuring within Scotland local government was introduced during the 1970s since it was believed that it would produce better-managed services, which would assist in the improvement of service delivery. Meanwhile, within the South African context, Reddy (2003:455) corroborates this belief by asserting that restructuring is a process in which duplication is avoided by ensuring that assets, human and financial resources are used efficiently and effectively, leading to improvement in service delivery.

Cummings and Worley (2009:315) provide a further understanding of the restructuring process as one that redesigns the organization's core work processes to tighten linkage and coordination in work performances, which results in faster delivery of services. Similarly, Jones (2010:3) states that rearrangement of departmental structure could cause a major damage, as well as a significant allocation of power, accountability and creating resolution on daily processes. Bowman et al. (1999:33) cautions that although many studies have reported that restructuring improves performance, the outcomes may be diverse based on the organization's varying array of company actions and the effectiveness of their various initiatives. As a result, the question

of whether restructuring works then shifts to becomes a question of which restructuring works best for which context (Bowman et al. 1999:34).

Bowman and Singh (1993:8-11) and Bowman et al. (1999:34-35) identify the three categories of restructuring as indicated below:

Portfolio restructuring – there are major adjustment in the combination of resources that an organization have possession of or the direction in which the organization functions as well as bankruptcies, divestment and by-products;

Financial restructuring - there are major adjustment in the funding plan of an organization, together with influential purchases, leveraged funding, and balance for fairness exchanges; and

Organizational restructuring - there are major adjustment in the managerial arrangement of the organization, together with the regional restructure and work reduction. This category applies to the present study as the KZN DPW has recently undergone an organizational restructuring process.

A study conducted by Bowman et al. (1999) found that organizational restructuring is more contingent upon the circumstances in which it is initiated and that it had a varied impact on performance. The mean performance results in their study displayed high variation, with partial outcome optimistic and the other part opposing, signifying that directorial restructures and decreases in occupation may come with assorted penalties. The same applies to recent restructuring within the Department under study where a rise in uncertainty amongst staff may affect the Department's productivity. This is because employees may lack an understanding of why the Department in its current form has to change, and ultimately may resist the proposed new design (Recardo and Heather 2013:24).

However, Greener (2010:118) advises that resistance to change is not always negative, it can be a beneficial effect to clarify thoughts and issues which have become unclear during the restructuring process. Jones (2010:6) proposes that an evaluation on the worth of service provided to people is critical to effective restructuring; therefore, it becomes pragmatic for the present research to review related studies that have examined the impact of restructuring on service delivery.

2.12 Reviewed studies on the impact of organizational restructuring on service delivery

There is relatively less consideration towards the experience of employees after the process of restructuring has been conducted within the organization (especially in the public sector), and studies that do exist tend to offer conflicting results on the actual impact of restructuring (Jones 1996).

Mlotshwa's (2007) study investigated how the development of the uMgungundlovu District Municipality's organizational structure has influenced the Municipality's service delivery. One of the main findings of the study was that employees and management do not have the same understanding of organizational structures or their functions, which may result in delays in service delivery. Therefore, the study recommended that the Municipality should restructure its organization to ensure that the design is in line with its vision and responsibilities, assisting in the placement of staff in the appropriate sections where they are required, to improve service delivery.

Bews and Uys (2002) employed the use of a survey to focus on South African organizations that were experiencing radical organisational adjustments to measure the impact of restructuring on the level of confidence amongst workers and management. Two studies were conducted, one before and one after the announcement of the organizational restructuring, and thereafter the results were compared. The study found that workers do not certainly perceive organizational restructuring as harmful; this concurs with the results of Greener (2010). Furthermore, trust at a personal level and on a generalized level functions separately and thus the trust between individual employees and managers was found not to have been necessarily harmfully impacted by the process of organizational restructuring, while at a wider organizational level, the trust between employees and management generally could be negatively influenced by this process.

Nelson, Cooper and Jackson (1995) examined the impact of privatization and restructuring on a government organization. They found major dissimilarities among manual workers (decline in work fulfilment was the greatest), administrative staff (among whom lower job satisfaction was evident) and management (which revealed major drops in work gratification). Job satisfaction declined during the privatization period, but increased prior to and following the

restructuring because structural arrangement was more visibly described and workers authority positions and roles were explained. Therefore, those in positions with less control and greater hesitation experience the bad impacts of restructuring, but this is only the case when the implications of structural adjustment are not visible.

The findings of Nelson, Cooper and Jackson (1995) are similar to those of Arnolds and Boshoff (2004), whose study was conducted in a private sector organization. This study revealed that during the early stages of restructuring, there are low levels of organizational commitment, commitment to top management and to career advancement. However, the study further reported high levels of satisfaction during the later stages of restructuring and after completion of the process, with growth factors emerging (in terms of training and development) and improved performance.

Sulaiman's (2012) paper assessed whether restructuring can improve the performance of an organization by conducting an industry analysis of the oil and gas sector in Nigeria. Comparisons were made between the three years before and after restructuring, and the study revealed that there was improvement in the organizations' performance after the restructuring process.

Based on the reviewed studies above, it is clear, as noted by Jones (1996), that careful consideration must be given to employees before the process of organizational restructuring, and supportive measures are implemented. Thereafter, the process to help employees understand the new structure and its purpose to increase productivity should also be implemented. Ye and Liang (2010:12) feel that productivity may be obtained by enhancing employees' satisfaction and Yang and Zheng (2011:9) warn that if employees do not feel satisfied with their organization, they will not be productive towards attaining the objective of effective and efficient service delivery.

2.13 Summary

The aim of this Chapter was to review empirical and descriptive literature on the readiness to implement KM in public sector organizations. The reviewed literature attest to limited studies conducted in public sectors to pursue their readiness to implement a KM initiative, especially in the South African provincial government departments. However, available literature within

the African context and around the world were reviewed to address the gap. The nature of KM was discussed to provider a better and clearer understanding of the concept, including common organizational KM practices. The organizational benefits of implementing a KM initiative were provided, and different literature was reviewed on how organizational KM enablers contribute to the success of the KM initiative. KM enablers that were adopted on this study were therefore identified and discussed. The importance of conducting KM readiness assessment before an organization can implement a KM initiative was highlighted.

The Chapter also identified the usage of KM in the Government sectors and discussed studies that reviewed KM practices in the public sector within the African context. The Chapter also discussed the impact of organizational restructuring on service delivery, and reviewed literature on the importance of implementing KM initiative as a solution to improve efficiency and productivity within a restructured organization. Lastly, the Chapter discussed the importance and reasons why organizations are resorting to implementing KM initiative after restructuring. The current study addresses the need of implementing KM initiative after public sectors have gone through the restructuring process. The next Chapter discusses the conceptual model that underpinned this study.

CHAPTER 3:   CONCEPTUAL FRAMEWORK

3.1   Introduction

This Chapter provides the conceptual framework based on the reviewed literature. Thus, the Chapter explains the conceptual framework that underpins this study to address the research objectives. The socialization, externalization, combination and internalization (SECI) model, adopted in this study, will be discussed, as will its relevance to the current study. The conceptualization of KM models helped the researcher to select the most appropriate conceptual background for this investigation as well as enabling the study's research questions to be answered, while also guiding the collection of data for this study. The main purpose of the study was to gain a better understanding of the extent to which the KZN DPW demonstrates readiness to implement KM.

The conceptual framework was used to understand KM theories and practices to guide the researcher in addressing this problem (Omona, Van der Weide and Lubega 2010:84). The researcher placed emphasis in reviewing the organizational knowledge generating activities that would be able to support KM initiative, if implemented (Omona, Van der Weide and Lubega 2010:89). The SECI framework defines organizational processes of creating new knowledge and how it can be transferred from lower organizational level to top management with an aim to achieve organizational objectives (Finley and Sathe 2013:66).

3.2   Research frameworks

According to the Fowler and Fowler (1990:467), a framework is defined as "an essential supporting structure" or a frame designed to support something (Collins and Hands 2002). Researcher gets a controlled research base from a suitable framework, which offers assistance on the entire dissertation (Vinz 2015). Eisenhart (1991:202) acknowledged three kinds of research frameworks namely: theoretical, practical, and conceptual. A theoretic framework tests those theories that already exist related to the subject of study, the relationships between them, as well as to what extent those theories have been critically examined, which then helps the researcher to develop a new theory that is meant to be established further (Adegboye 2017).

"A practical framework lead researchers to utilizing 'what works' in the exercise of undertaking something by individuals included straight in it" (Eisenhart 1991:207). Thus, the framework is informed by the collected practical information of researchers, the discoveries from former investigation and participants' perspectives (Eisenhart 1991: 208). According to Lester (2005: 460), a conceptual framework is a dispute that the models selected for study, and some expected associations between them would remain suitable and valuable considering the research problem under inspection. The application of a SECI conceptual framework in the current study was therefore found appropriate. The applied conceptual framework highlighted the relationship between KM processes, which assisted in indicating organizational readiness to implement KM initiative.

3.3   Conceptual framework

Imenda (2014:189) states that a conceptual framework is derived from models; hence, the SECI framework is derived from a model for knowledge creation. Camp (2000) describes a conceptual framework as an arrangement of things that has been studied to describe better the normal development of a problem under investigation. Likewise, Luse, Mennecke, and Townsend (2012) believe that a conceptual framework gives researchers an opportunity to identify and describe concepts within the research problem.

According to Eisenhart (1991:210), conceptual frameworks should reflect the current state of affairs regarding the research problem. Marriam (1998:45) informs, "it would be difficult to imagine a study without a theoretical or conceptual framework" to limit the scope of the study. Conceptual frameworks demonstrate the connection amongst theories and their effect on the problem under study (Ngulube, Mathipa and Gumbo 2015:48).

A thorough understanding of KM theories regarding the creation and sharing of knowledge was needed to help the researcher to analyze readiness of the KZN DPW to implement KM. Building on this; the current study conceptualized the influence of the dynamic process of knowledge conversion to organizational efficiency towards service delivery. This conceptualization was constructed under the auspices of the knowledge category model brought forward by Nonaka and Takeuchi (1995).

3.4 Various models of knowledge management

According to McAdam and Reid (2000:317), there are various models of KM, which could be positioned into three general categories, namely intellectual capital models, socially constructed models and knowledge category models. Even though the knowledge category model guided this study, a brief description of the other two categories of models was given, so that the relevance of the knowledge category model in addressing the research problem of the study can be justified.

3.4.1 Intellectual capital model of knowledge management

The intellectual capital (IC) model is adopted from Chase (1997) and Roos and Roos (1997) who see KM as not merely involving the transmission of personal and organizational knowledge, but as a phenomenon involving IC. Stewart (1997) explains IC as knowledge that transforms raw materials and makes them more valuable within the organization. Bontis (1996:40) defines IC by means of "the distinction concerning an organization' selling price and the budget of substituting its resources, the latter often being much higher".

Bontis (1996) further states that IC such as expertise, organizational knowledge and its ability to learn and create new knowledge is priceless; therefore, organizations should do their best to retain such. According to Haslinda and Sarinah (2009:191), the IC model of KM was established by a Swedish firm called Skandia by way of determining their own IC. This model was centered on the meaning of fairness, individual relations, client relations and achievement in controlling the movement of information inside and outwardly through the groups of associates (Haslinda and Sarinah 2009:191).

The main purpose of the present study was to investigate the extent to which public sector demonstrates readiness to implement KM via the evaluation of KM enablers and practices that exist within its components. Hence, the IC model, while applicable in attaining this purpose, was not ideal as a conceptual framework, since the current study focuses less on the actual value of the KM being implemented and more on the methods by which KM is generated and shared in the public sector in order to facilitate its implementation.

3.4.2   Socially constructed model of knowledge management

This model emphasizes that knowledge is socially constructed within an organization (Demarest 1997). The model identifies four phases of KM (Demarest 1997:376 and Kok 2005) namely:

1. knowledge construction where organizations discover or structure some kind of knowledge, for example when employees identify a particular kind of customer problem;

2. knowledge embodiment in which generated information is now personified within the organization via open programmes and collective exchange of knowledge among employees (Kok 2005:5);

3. knowledge dissemination, which takes the explicit knowledge throughout the organization using human processes, technical infrastructures and documents, created from the embodied knowledge; and

4. knowledge use, that is, when employees use knowledge within the organization, so that the ultimate objective of KM initiative is achieved, which is to use knowledge to make improvements in regard to the group's output (Kok 2005:5), for example to increase effectiveness in the delivery of a service to clients.

Haslinda and Sarinah (2009:192) feel that the socially constructed model implies a basic process method to the steady movement of information transmission, though in practicality it might be very quick and flowing. Knowledge construction, embodiment, dissemination and use as a step by step process is thus not viewed as the most suitable model for the present study. The current study looks holistically at the processes of KM, the knowledge category model of KM was considered the most appropriate as it covers the whole process of knowledge creation, spreading and usage not in a systematic linear manner, but in a dynamic way through the sharing and conversion of knowledge in the context of structural reorganization.

3.4.3   Knowledge category model of knowledge management

The Nonaka and Takeuchi (1995) KM model is one of the models within the knowledge category. Other models include Boisot's knowledge category model (1987), and Hedlund and Nonaka's knowledge management model (1993). For the purpose of this study, Nonaka and Takeuchi's model of knowledge conversion was preferred as it is one of the leading models in

KM, focused on the information conversions among individual and organizational knowledge within organizations, and has been utilized in associated areas of KM (Nonaka, Reinmoeller and Senoo 2000; Memon 2015; Karuoya and Senaji 2017). In the literature assessing the readiness of organizations to implement KM, this model was applied in studies such as those of Lee and Choi (2003), Gaffoor (2008), as well as Jalaldeen, Karim and Mohamed (2009), to demonstrate how organizations can reap the full benefits of the KM initiative if implemented correctly.

This model works in conjunction with the KM practices as it is focused on how organizational knowledge is created, shared and converted from one form of knowledge to another, and in addition, the model generally deals with how organizations can manage their knowledge. This model was deemed suitable for this study as it correctly presents the conversion of knowledge in the process of organizational restructuring (Grzybowska and Gajdzik 2013). Furthermore, Grzybowska and Gajdzik (2013) state that organizational restructuring would not be efficient without the gaining and dissemination of information by the individuals within the organization, a stance that is of high relevance to the present study.

According to Dalkir (2005:52), the knowledge category model is rooted holistically in the formation and administration of knowledge. It was during the formulation of this model that Nonaka and Takeuchi (1995) discovered that organizational productivity stems from individuals' understanding of the organization's objective which could greatly explained in the way of images, mottos, or signs, hence the tacit-driven approach to KM (Dalkir 2005). In this aspect, Haslinda and Sarinah (2009:190) define tacit knowledge as "nonverbalized, intuitive and unarticulated" knowledge, while explicit knowledge emerges among groups within the organization as it is expressed and could be detailed in script, sketches, coded or other means, creating overall organizational knowledge.

Therefore, according to this model, the forming of knowledge is a continual and active collaboration amongst individual and organizational knowledge (Nonaka and Takeuchi 1995:83). This formation of knowledge always begins with the individuals, where their personal knowledge is translated into valuable organizational knowledge (Dalkir 2005). The assumption here is that, knowledge is formed and developed as it moves (sharing knowledge) via diverse stages of the organization (knowledge dissemination), among employees and clusters (Rice and Rice 2005:671-672).

This model was created to direct organizations into exchanging knowledge in an open system rather than a closed system so that such a system can constantly create new knowledge through interaction with the outside environment (Nonaka and Takeuchi 1995:84). The spectrum of knowledge forms between tacit or explicit knowledge, and the three-tier (individual, group, organizational) model of knowledge sharing and dissemination are important as they increases organizations' productivity (Dalkir 2005:52). Nonaka and Takeuchi (1995:59) created a two dimensional framework in which customary and non- customary beliefs of information are combined into the philosophy of forming explicit knowledge; the dimensions include the ontological dimension and epistemological dimension.

Simply put, Bratianu (2010:194) states that epistemological dimension is related to the conversion of knowledge within and between the individuals and organizations to create organizational knowledge, while the ontological dimension is "linked to the translation of knowledge from employees to clusters and then organizations." Therefore, Nonaka (1994:17) emphasizes that an organization cannot create knowledge without individuals.

Nonaka and Takeuchi (1995) studied Japanese manufacturing companies to explore how knowledge is created and can be converted. To describe the process of knowledge creation within that organization and the connections among organizational and individual knowledge, Nonaka and Takeuchi study suggests four different modes of knowledge conversion based on the transformation of tacit and explicit knowledge namely: socialization, externalization, combination and internalization (SECI). These modes offered an inclusive outlook on how to theorize the whole knowledge formation procedure and it turn out to be acknowledged as the SECI model (Mosala-Bryant 2015:30). The SECI model has implications for both leadership style and organizational structure, and it influences the important element of organizational KM, which is the communication process among employees (Rice and Rice 2005:673). The SECI model is illustrated in Figure 4 below and includes symbols "i", "g", "o", which according to Rice and Rice (2005:672) they respectively represent, individual people (employees), groups (of employees) and organizations; generally these symbols indicate among whom and where the process of knowledge creation takes place.
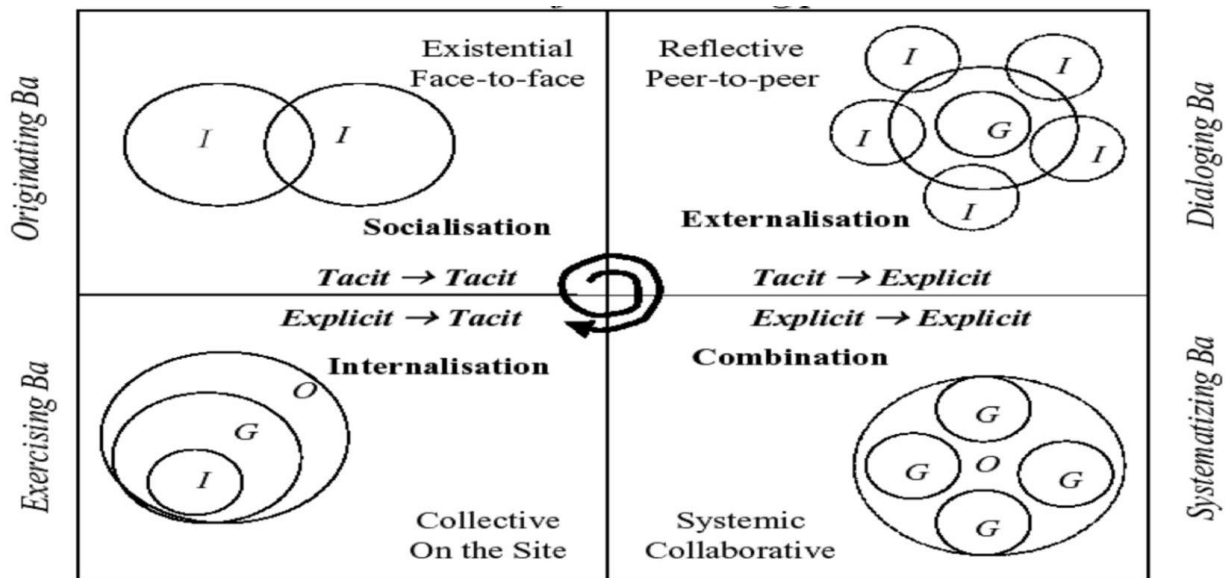
Figure 4: SECI Knowledge Conversion Model (Nonaka, Reinmoeller and Senoo 2000:90)

Socialization (from tacit to tacit knowledge) – Nonaka and Konno (1998:42) state that the socialization mode of knowledge creation and conversion involves the sharing of knowledge created through experience and thereby produces new tacit knowledge between individuals. In this mode, personal information is exchanged from one person to another person (Grzybowska and Gajdzik 2013). This mode can be useful at the KZN DPW with regard to the recent organizational restructuring and for those employees who had been shifted from one section to another. Nonaka and Takeuchi (1995:62) point out that an employee within an organization might obtain tacit knowledge straight from another person unspoken, but simply by observing, imitating and practising what the other person is doing.

Nonaka and Konno (1998:43) argue that practically, socialization consist of "recording information near your work colleagues"; recording personal knowledge by means of simply strolling from one place to another within the organization to acquire knowledge (Karuoya and Senaji 2017). Furthermore, disseminating tacit knowledge, as an aspect of socialization that fully depends on the individual and his or her desire to see innovation in the organization. Another aspect to be considered in the socialization mode is whether the organizational culture inspires employees to use personal networks and participating in cross-border communities (communities that fall outside employees' immediate day-to-day communities within the organization) to enhance tacit knowledge creation and conversion (Tihane 2010). The importance of organizational culture has already been emphasized in Chapter Two (See Section 2.5.1) of this study.

Externalization (from tacit to explicit knowledge) – In this mode, tacit knowledge that had been shared during socialization is translated into a form in which the person acquiring that knowledge will be able to understand, thus, it offers an "observable type of personal knowledge and turn it to an open knowledge" (Dalkir 2005:54). Nonaka and Takeuchi (1995: 64) describe such process, as an essential knowledge formation procedure were personal knowledge turn into organizational knowledge, choosing the figures of images, correlations, ideas or theories. Nonaka and Konno (1998:43-44) note that in practice, externalization is supported by two key factors. Firstly, there are techniques (such as narratives or analogies) involved when personal knowledge is converted to organizational knowledge, which help express figurative languages for the next person to understand.

Secondly, translating the tacit knowledge of customers or experts into readily understandable forms may require the organization to combine the two forms of knowledge to obtain a specific conclusion. In this case, organizations must realize the importance of creating communication channels so that people can share and exchange their thinking and ideas (Karuoya and Senaji 2017). That is, for externalization process to be successful, organizations should create an environment in which employees are prompted to articulate their tacit knowledge through 'abductive thinking' (logical observation on how other employees solve organizational problems, then seeks to find other better solutions for the problem) guided by the organizational norms and objectives (Tihane 2010).

Combination (from explicit to explicit knowledge) – Nonaka and Konno (1998:44) mention that within the combination mode, explicit knowledge is combined with other similar sets of explicit knowledge already created through communication of this knowledge to other employees. In this way, organizational knowledge may turn to tacit knowledge by linking different obtainable ideas and be converted to valuable knowledge (Haslinda and Sarinah 2009:190). In practice, Nonaka and Konno (1998:45) state that the combination phase relies on three processes. Initially, new explicit knowledge should be incorporated with the already existing organizational knowledge. Next, the organization can disseminate the explicit knowledge among employees using different forms of transferring knowledge such as emails. Lastly, the employees can make use of that explicit knowledge often in written form such as reports.

The aim of the combination mode is to keep the organizational knowledge updated and aligned to improve effective service delivery (Tihane 2010). Nonaka, Toyama and Konno (2000:10) advise that in this mode, knowledge translation could similarly contain the 'classification' of more abstract ideas like a company' objective into functioning organizational information to create explicit knowledge. The KZN DPW could use the recent experience of organizational restructuring to achieve this mode of knowledge creation, by encouraging employees who had been moved from one section to another to exchange and combine previous experience and skills to improve service delivery.

Internalization (from explicit to tacit knowledge) – this mode represents the translation of organizational knowledge back into personal knowledge. Internalization call for a person to classify information applicable to him or herself inside the body of corporate knowledge; it is through lessons obtained from physical activity and practices that a person is enabled to retrieve the knowledge domain of the whole department (Nonaka and Takeuchi 1995; Nonaka and Konno 1998). Explicit knowledge is displayed to employees in the organization and each employee identifies knowledge that will be useful in terms of improvement of his or her skills in the work environment. In practice, Nonaka and Konno (1998:45) state that internalization relies on two dimensions. Firstly, employees should practice explicit knowledge to create their own tacit knowledge.

Secondly, organizations should provide platforms to personifying the explicit knowledge to encourage employees to learn by doing. Therefore, internalized knowledge becomes valuable for both the individual - for personal growth and for the organization - to reach their objectives (Nonaka, Toyama and Konno 2000:10). Hence, Tihane (2010) states that created knowledge in the internalization phase should be accessed by the organization or used for planning personal learning flows. However, the documented personal professional knowledge, including the failures and successes in the learning process, must be accessible to enable the reuse of the professional knowledge to optimise future learning (Tihane 2010).

For the purpose of the present research, the factors that constitute the knowledge conversion process were paired with the KM processes identified in this study (Nonaka et al. 1994; Nonaka, Toyama and Konno 2000). This was done to offer more perception on how the availability of KM practices within an organization could promote effective KM implementation, and thus indicate the levels of organizational readiness to implement KM initiatives. Knowledge created

from tacit to tacit (socialization) knowledge conversion is produced when employees share their experiences and interact in informal or formal meetings, while managers can form new organizational strategies by wandering inside the organization gathering tacit knowledge (Nonaka, Toyama and Konno 2000). Knowledge shared from tacit to explicit (externalization) knowledge is produced when the organizational management facilitates creative and essential dialogue for sharing knowledge among employees and for encouraging the involvement of other stakeholders in project teams (Demarest 1997).

Knowledge disseminated from explicit to explicit (combination) organizational knowledge is produced when the organizational management engages in the arrangement and application of presentations to disseminate recently generated knowledge within parts of the organization (Kok 2005). Knowledge retained from organizational to personal (internalization) knowledge is based on the combination stage, when managers within the organization form teams as training models and conduct experiments or simulations, to share new knowledge with the entire organization (Demarest 1997). This allows employees to search for new values and thoughts from within the retained knowledge to try to understand management's visions and values. Consequently, this helps to generate different tacit knowledge, which might later be retained again within the department when the employee retires because this tacit knowledge will remain inside the SECI knowledge creation and conversion chain (Nonaka and Takeuchi 1995).

One of the fundamental conditions for knowledge creation is the context where the process will be located (Nonaka and Konno 1998). According to Nonaka (1994), the organization should provide a context for this process to take place successfully. To address this aspect, Nonaka and Konno (1998:40) introduce the Japanese notion of "*ba*" which translates as "*place*" in English. This notion is represented in Figure 3 below of the SECI model. The Japanese philosopher Kitaro Nishida was the first to introduce the concept of *ba*; however, it was further developed by Shimizu, thereafter Nonaka and Konno adapted the *ba* concept to provide a better understanding to their model of creating knowledge (Nonaka and Konno 1998:40). Nonaka, Toyama and Konno (2000:16-17) identify four kinds of *ba* namely:

1. Originating *ba*, within an organization, this is an area in which all employees express their knowledge, opinions and feelings (for example in a boardroom);

2. Dialoguing *ba*, employees within certain section of the organization express their skills and experiences with one another in such a way that one can convert the shared knowledge combined with their own to form common idea to achieve organizational objectives;

3. Systemising *ba*, is a virtual place offering an environment to group together available organizational knowledge using ICT's such as mailing lists, where participants can share existing knowledge to form new knowledge; and

4. Exercising *ba*, which offers a place for employees to internalize the shared knowledge; individuals personify the explicit knowledge to become their own tacit knowledge.

Ba can be culturally challenging for the reason that if employees are to participate in this concept, it requires them to get involved and transcend their own limited perspective or boundary, though it is a necessity for organizations to get their desired outcome (Nonaka and Konno 1998; Rice and Rice 2000).

The tacit knowledge collected at the isolated stage might then start a new rotation of knowledge formation once communicated with others through socialization (Nonaka, Toyama and Konno 2000:10). The spiral procedure is a continuous activity of knowledge flow (Dalkir 2005:56), which mainly happens informally between employees within the organization, in groups and throughout the organization (Haslinda and Sarinah 2009:190). The content of the knowledge modes within the knowledge spiral is demonstrated in Figure 5 underneath.
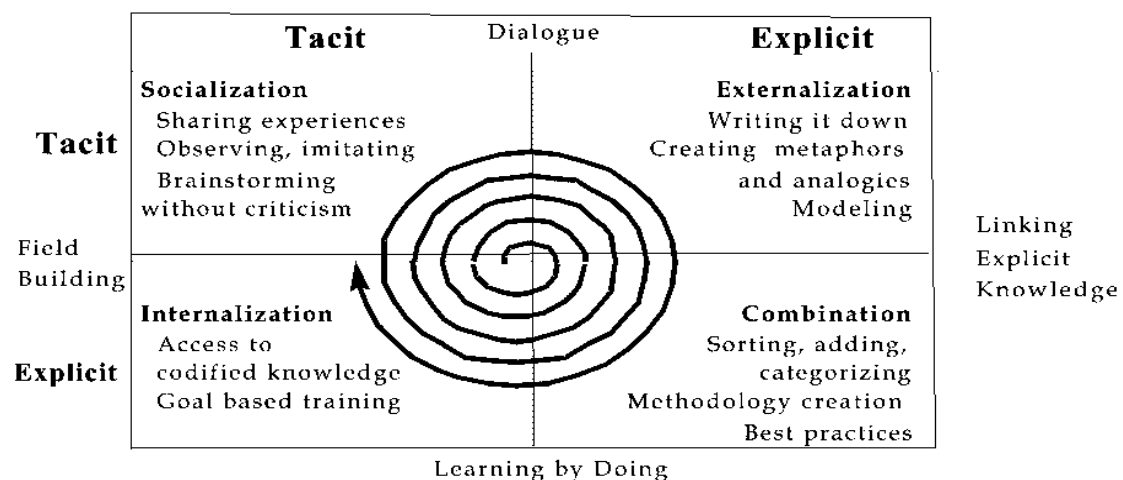
Figure 5: The Spiral of Knowledge (Hildreth and Kimble 2002:5)

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Haslinda and Sarinah (2009:190) caution, although all these methods could individually generate knowledge, corporate knowledge formation procedures purely transpire once both methods stay structurally controlled and vigorously work together. Therefore, before implementing a KM initiative, organizations needs to be aware of their role in the individual level of knowledge creation process to provide an enabling environment for simplifying group activities as well as the creation and combination of tacit to explicit knowledge (Nonaka and Takeuchi 1995:74-75).

3.5   Relevance of the knowledge conversion model to the present study

The knowledge category model was originally developed and embedded in the context of Japanese culture and their organizational behaviour (Bratianu 2010:198); therefore, there is a need to test the model in the South African context. Furthermore, Bratianu's (2010:198) study concluded, "that the flowing knowledge passes several times through the spiral channels, which raises questions about reusable knowledge." This makes the model strongly relevant to this study as it indicates that knowledge can be reusable, which may assist organizations such as the KZN DPW to avoid 'the reinvention of the wheel' by employees after organizational restructuring. That is because, when the knowledge creation process is conducted effectively, employees gain from the repeated improvements of the organizational knowledge, often within short periods of time (Wiig 1993:217).

This model's usefulness in the present study also lies in its provision of a thorough understanding of KM theories concerning KM practices. The model was simple to apply to the KZN DPW in terms of understanding its basic tenets of "knowledge creation by underlining the interaction between tacit and explicit knowledge" (Hoe 2006:496), as well as being useful in view of its potential to be quickly internalized and applied within organizations (Dalkir 2005:58). There is prospective benefit in the application of this model within the KZN DPW, since it will be straightforward. That is, the organization would be able to understand how its knowledge can be transformed among employees from personal to organizational knowledge and back to personal knowledge through the spiral of knowledge, which then turn to indicate the level of maturity of this Governmental Department as far as KM initiatives, their implementation and success are concerned.

3.6 Summary

The main purpose of this Chapter was to introduce and explain the conceptual framework within which the study was constructed, to elaborate on how the framework guided and supported the study. Furthermore, this Chapter established a background to the investigation based on the current study's research problem. Various categories of KM models were briefly identified and discussed, and the knowledge category model, which underpinned the study, was further elaborated on. Finally, the applicability of the SECI model to the current study was demonstrated.

CHAPTER 4:   RESEARCH METHODOLOGY AND METHODS

4.1   Introduction

According to Greener (2008: 10), research methodology is concerned with the researcher's approach to and knowledge of the investigation and the plan that they select to resolve their study queries; whereas research methods refer to exact actions intended to produce facts. The present study examined the role and value of KM following the organizational restructuring in the KZN DPW to assess the Department's level of willingness to implement a formal KM initiative as a mode to improve service delivery. The study specifically addressed the following investigation questions:

1. What is the level of awareness concerning the concept of KM?
2. How does the departmental culture support KM practices?
3. What impact does the organizational structure have on KM?
4. How does the organizational strategic plan promote KM?
5. What are the communication tools and human resources available for effective KM within the DPW?

In order to answer these questions, a specific research methodology and particular research methods were employed. The current section will thus pay attention on the methodological aspects of the study regarding the research paradigm, research approach, research design, population, data collection methods, data analysis, ethical considerations, validity and reliability.

4.2   Research paradigm

Mouton (1996:204) defines a paradigm as "a model for conducting normal research", while Du Plooy-Cilliers (2014) sees a paradigm as embodying research traditions or worldviews. Similarly, Morgan (2014:1049) perceives paradigms as social worlds where research communities apply a powerful influence over the beliefs considered "meaningful" and the actions accepted as "appropriate". The current study applied a pragmatic paradigm, which has gained considerable support as a research stance and as a highly useful philosophy to support

mixed methods research (Johnson and Onwuegbuzie 2004; Morgan 2007; Creswell 2015). Alghamdi (2013) refers to pragmatism as a deconstructive paradigm that advocates the use of mixed methods in research; while Creswell (2003:12) states that, a pragmatic paradigm "focuses on the 'what' and 'how' of the research problem, connecting the selection of method precisely to the objective of and the kind of the research questions asked."

Elaborating further on this, Creswell (2003; 2014) and Johnson, Onwuegbuzie and Turner (2007) stated that pragmatism offers a rationale to use a combination of approaches, various perspective and hypotheses, in addition to various methods of data gathering and examination to provide tentative answers to one's research questions. Thus, a pragmatist would reject the notion that certain research methods are incompatible and would claim that while particular research paradigms can remain distinct, they can also be mixed into other research paradigms. Tashakkori and Teddlie (1998) and Creswell (2003) explain that the pragmatic paradigm facilitates an instinctive desire to embrace research methods that are appropriate to a specific research study, as well as promoting the use of outcomes in a way that is in accord with the value system detained by the investigator. In consequence, this explains the relevance of this paradigm to this study.

4.3   Research approach

The current study used a mixed methods approach, which is both a method (Creswell 2015:2) and a methodology for conducting research. Just like the current investigation, studies that are best suited to mixed methods are those that need the results to be generalized and presenting both types of information can make an argument stronger (Patten and Newhart 2017: 177). De Vos et al. (2015:435) state that as a methodology, the mixed method approach includes logical theories that monitor the way data is gathered and examined as well as the combination of quantitative and qualitative methods in numerous stages in the research procedure. Meanwhile, as a method, it concentrate on gathering, scrutinizing, and blending quantitative and qualitative information in a particular investigation (De Vos et al. 2015: 435). Johnson, Onwuegbuzie and Turner (2007:122) hold that mixed methods scholars merge components of qualitative and quantitative research methods for the general objective of developing their breadth and depth of comprehending and for the justification of the research problem. The mixed methods approach broadens instead of substituting the quantitative and qualitative approaches to research (Johnson and Onwuegbuzie 2004).

The breadth or depth refers to the provision of a better comprehension of the research problem and this provides a fuller picture and deeper understanding (Johnson, Onwuegbuzie and Turner 2007:122). On the other hand, corroboration refers to bringing different perspectives to bear in the investigation and therefore supports the blending of the findings (Johnson, Onwuegbuzie and Turner 2007:122). To bring about several and different creations of authenticity that are present within the framework of an investigation, the researcher collects data concerning diverse occasions and associations from various perspectives using several methods (Babbie and Mouton 2001: 277). Gray (2009) emphasize that when multiple methods are applied, there is a slimmer opportunity for the researcher to inherit the bias arising from one measure as this can be counter balanced by the strengths of the other measure.

The combination of methods gives equally the comprehensive, wider-scale image, and an additional thorough interpretation of the research problem. In this way, the research methodology of the study sets out from the beginning how the research will proceed in terms of the population and samples size of the study, how data will be collected and analyzed, as well as how the results will be interpreted. The aim is that the combination of mixed method research approaches will provide a better understanding of the research problem than one approach on its own. Thus, the mixed research method includes collecting both numerical data (through surveys) along with recorded data (through interviews); with the purpose of the final file symbolizing quantitative and qualitative data in cooperation (Creswell 2003:20). These approaches together give a balance to one another in such a way that when used together, what cannot be attained with the one approach, can be achieved by using the other approach.

The restriction of a single approach might therefore be counterbalanced by the quality of another approach, while the mixture of quantitative and qualitative data provides a thorough interpretation of the research problem than both method on its own accord (Creswell and Clark 2011). An investigation using mixed approaches includes the gathering, evaluation and combination of both quantitative and qualitative information (Creswell 2015:3). In this study, quantitative data was gathered through the questionnaire (See Appendix E), with the central aim to measure the level of awareness concerning the concept of KM and to determine what KM practices are currently available from the position of junior staff members. Interviews (See Appendix F) were used to collect qualitative data from the Departmental management to gather

their opinions on KM enablers available to them, and what impact they would have on the success of a KM initiative if implemented.

This type of data collection can be referred to as a mixed method convergent strategy, which, according to Creswell (2014a:6), is a plan in which the investigator collects both quantitative and qualitative data, analyzes the datasets, then merges the results of the two sets with the purpose of comparing the combined results with those garnered from each set. This method was preferred for the present study, as the effectiveness of KM initiative depends on the entire organization as a whole and requires data from across the spectrum. Brewer (2001:115) points out that "mixed methods add-on quantitative data derived from a bigger sample with qualitative data from a lesser representation of the population to add depth to the information gathered to uncover any weakness on quantitative data and possibly to complement the objective data." Using the mixed method approach expands information and the results from mixed studies sometimes increases the scope of knowledge about a research problem (Brewer 2001: 126).

4.4   The case study research design

A research design is a planned outline intended for an operation that works as a link amongst the set out study questions and the application of the research study (Terre Blanche, Durrheim and Painter 2006). It is the plan of how the researcher proceeds in determining the nature of the relationship between variables (Bless, Higson-Smith and Sithole 2013: 66). According to Mouton (1996:107), the research design key role is to empower the scholar to foresee suitable research choices to maximize the validity of the research results. The current investigation adopted a case study design. Babbie and Mouton (1998:640) described a case study design as "a rigorous examination of a particular section that differs from distinct persons, organizations and institutions, to events and countries." A case study is a methodical and detailed exploration of a certain situation in its environment with the intention of producing information that could be used to present a case (Rule and John 2011:4).

A case might refer to a person, an organization or a situation wherein the subject is explored either in a single case or in a small number of cases in detail and great depth (Matthews and Ross 2010:475). According to Patten and Newhart (2017:174), what constitute a case is not only restricted in the research approach literature and a specific group but also of a particular era or an occasion. Denscombe (2010:54) and Bhattacherjee (2012:93) refer to the case study

as a technique of thoroughly investigating a phenomenon for a while inside its ordinary location in a singular or multiple locations, using numerous approaches of data gathering, for instance interviews, observations or questionnaires. In addition, Connaway and Powell (2010:80) recommend the use of the case study for investigating the effect organizational structure and functions on organizational performances; this makes the method appropriate to the present study, especially in view of the recent restructuring at the KZN DPW. The case study permits a study to keep in mind the general and significant features of true occasions, for example a person natural life cycles or structural and administrative procedures (Yin 1994:3).

Denscombe (2010: 53) notes that the strength of a case study approach in an organizational setting may perhaps be that it investigates the procedures that clarify the real intensity of turnover, for example, the staff development, the working environment, employees' background, etc. The case study's particular quality is its capacity to deal with an extensive diversity of facts, including official papers, artifacts, interviews and observation (Yin 1994:8). In reality, the practice of the case study methodology has been associated with qualitative investigation far more than it has with quantitative study (Denscombe 2010:55). However, Yin (1997:19) points out that case study research is more than just a type of qualitative investigation as it mixes quantitative and qualitative findings in one study. Patten and Newhart (2017:175) warns that a case study research is likely to produce a lot of data; therefore, the researcher must be familiar with the data gathered as a result of mixed approaches, with an aim to classify categories, themes, and patterns. In this instance, the researcher took time to study data collected from both qualitative and quantitative approach separately before analyzing the data together.

Bhattacherjee (2012: 93) adds that a case study research method could be employed in a positivist manner (that is, taking a quantitative approach) for theory testing or in an interpretive manner (that is, taking a qualitative approach) for theory building. Testing a theory would entail applying an already existing theory to a set of circumstances within a particular case study to see if the theory is applicable and/or reliable. Thus, theory building would involve examining the case study in order to gather information that can contribute to the development or modification of a theory, rendering it more valid and trustworthy. According to Connaway and Powell (2010:80), "the most appropriate research methodology is decided by the type of the research problem" and the case study method is well suited to collecting descriptive data, hence its employment in the present research. A case study was deemed pertinent to this investigation because KM practices in the KZN DPW can be persuaded by the surroundings and controlling

place in which people are located (Ramohlale 2014:69) as per the *ba* concept mentioned in Chapter Three (See Section 3.4.3).

Several scholars have used case study methods in KM studies (Tsai, Chang and Chen 2006; Kimani 2013; Akhavan and Pezeshkan 2014; Ramohlale 2014). Nagarajan, Ganesh and Sundarakani (2009) employed a case study to create an organizational willingness evaluation framework and model for KM and revealed a generally positive attitude towards KM implementation. However, the implementation of KM initiatives in organizations differs from one organization to another, hence the variety of methods used to assess organizations' readiness to implement KM. For example, Sultan and Bach (2015) combined interviews and questionnaires to gather evidence to indicate the readiness levels of organizations to implement KM initiatives. Meanwhile, Gaffoor (2008) considered the use of interviews to collect data to be sufficient to assess the readiness to implement KM in the context of a local government department. Shahidi, Abdolvand and Harandi (2015) opted to use questionnaires to examine whether the effective factors pertaining to the assessment of the readiness of an organization to implement a KM system are identical in all organizations.

Research designs may be grounded on a concurrent or consecutive approach. That is in concurrent approaches, both qualitative and quantitative data are gathered simultaneously; whereas in a consecutive approaches one type of data is gathered, then the other type of data collection follows (Patten and Newhart 2017:178). As mentioned above, the researcher collected both types of data concurrently then converged the data during the analysis stage.
The current study builds on the aforementioned methodologies in the field of KM studies, since it adopted a pragmatist approach and a mixed approaches methodology to address the research questions that it aimed to answer. Concisely, this was a descriptive case study aiming to trace the sequence of interpersonal events over time, such as the employment of KM practices in daily work routines and discovering key phenomena, which might lead to the effective use of KM practices within the KZN Department of Public Works.

4.5   Population

Nardi (2006:108) defines a population as "the total collection of units or elements you want to analyze." In research, population does not necessarily indicate the amount of people, rather it is a general word applied to refer to the over-all measure of things or instances of the same

category, which together are the focus of the investigation (Walliman 2011:94). Therefore, a population can consist of certain types of elements, organizations, people or even events. In social science research, the elements in a population are referred to as units of analysis, which refer to an individual, group, or item which is the aim of the study (Bhattacherjee 2012:9).

The unit of analysis in this study was each of the KZN DPW employees selected from certain groups that were of interest to the study. These groups or Departmental sections were strategic management; human resources; information technology; monitoring and evaluation. As alluded before, four sections were purposely selected as groups of interest for this study because they would be the ones to deal with the technical aspects in the implementation of KM initiative within the Department. In case study research, researcher always uses purposive sampling to determine information-rich sources within the case (Pickard 2017:104), as it was done in the current study. As noted by Patten and Newhart (2017:100), "when researchers use purposive (or judgmental) sampling, they use their knowledge of the population to select individuals who they believe will be good sources of information." Therefore, purposive sampling was used by purposefully selecting the elements that the researcher wished to include in the study, these elements are chosen based on the list of characteristics of the population as determined by the research questions and research problem (Pascoe 2014:142-143.)

The targeted population of the study were employees within the selected sections at KZN DPW. From these identified section, there were 77 junior employees (up to the level of Deputy Directors), 4 Directors for each section and the Acting Head of Department was supposed to be part of the population. The KZN DPW AHOD was also included in this study from a largely strategic perspective. Among the functions and responsibilities of the AHOD are to develop and manage a human resource strategy and to improve service delivery, hence the AHOD's views and opinions about KM were imperative in determining the Department's readiness to implement a KM initiative. This then brought the number of respondents to less than 100 in total. Gay and Airasian (2003:113) advise that for a population with less than 100 people, "there is no need for a sample" to determine who should be included in the study, therefore a census was considered to be appropriate for this study. According to Mouton (1996:135), a census is a count of all the elements in a population based upon information obtained on each of the elements.

A census occurs if the entire population is reasonably small so as to allow for the inclusion of the entire population. With the census method as opposed to the sample method, there may be a higher degree of accuracy in the data gathered since the whole population is included (Farooq 2013). Compared to a survey, which is limited to a sample, a census collects data from all members of the population (Babbie 1998), which may result in a greater degree of representivity of the collected data. In the present research, this accuracy and representivity were needed so as to obtain an in-depth understanding of the KM practices that are currently available within the KZN DPW and in order to assess the Department's readiness to implement a formal KM initiative. Due to the moderately small size of the population, there was no need for sampling and 81 respondents were deemed sufficient in this case study design.

4.6   Data collection methods and instruments

The current study used reactive methods to collect data, in which participants react to stimuli such as questions presented by the researcher. Data collection refers to the steps taken to set the limits for the investigation, gathering data using different methods along with discovering the procedure for documenting data (Creswell 2003: 185). This study used multiple methods to collect data so that the research problem could be observed from different angles (Neuman 2011). Instruments such as questionnaires and interview schedule were used concurrently to collect data, thus, both methods were given equal priority. The elements of each were kept independent during the data analysis and then results were mixed during the overall interpretation (Creswell and Clark 2011).

According to Creswell and Clark (2011:77), researchers do this when they want to combine the approaches by openly linking and comparing quantitative numerical results with qualitative responses for confirmation and authentication purposes. Likewise, employing mixed methods enabled the researcher to produce more complete and well-validated conclusions (De Vos et al. 2015:443). One of the researcher's roles during the data collection phase is to respect the site at which the research is taking place by gaining permission for entry to that site (Creswell 2003:184; Creswell 2008:12). According to Creswell (2003:184), the researcher can gain access to the research site by seeking the approval of "gatekeepers." Gatekeepers are individuals who are in charge of the site, they give right of entry to the location and agree or authorize the investigation to be conducted (Creswell 2014b).

In the current study, the researcher started by writing a submission to the HOD to request permission to conduct the study (See Appendix A). Thereafter, the researcher submitted another request for the gatekeeper's clearance, indicating the instruments that were to be used to collect the data as well as targeted participants. The now Acting HOD later approved this request (See Appendix B). The research questions for this study, along with the instruments used to collect the data required to answer these questions are indicated in Table 1 below.

Table 1: Mapping research questions to the instruments

Research questions	Instruments
What is the level of awareness concerning the concept of KM?	Interview schedule; Questionnaire
How does the departmental culture support KM practices?	Interview schedule; Questionnaire
What impact does the organizational structure have on KM?	Interview schedule
How does the organizational strategic plan promote KM?	Interview schedule; Questionnaire
What are the communication tools and human resources available for effective KM within the DPW?	Interview schedule; Questionnaire

Source: Researcher

4.6.1 Interview schedule

According to Burns (1997: 329), an interview is a vocal exchange, usually face-to-face, although the phone might be utilized, in which an investigator attempts to provoke information, theories or sentiments from another individual. An interview schedule is an investigation tool for gathering information. In this particular study, an interview schedule may be described as a composed list of closed questions organized by the investigator to be utilized in a direct interaction with the respondent in order to gather the required information (Kumar 2011:339). The main aim of using the interview in this study was to access what was in the respondent's mind regarding KM and the readiness of the Department in implementing a KM initiative. The researcher developed an organized interview schedule whereby "prearranged set of questions were asked, employing uniform phrasing and sequence of questions as stated in the schedule" (Kumar 2011:138). Moreover, Kumar (2011: 138) indicates that the core benefit of an organized interview is that it delivers identical information, which promises the equivalent of data needed to conceptualize the study's research problem.

The structured interview schedule that was employed to collect qualitative data in this study was adapted from Moollan (2004) and Gaffoor (2008). Thereafter, the schedule was developed

in the form of a standardized, open-ended interview. According to Patton (2002:348) and Pickard (2013:199), this form of interview allows the researcher to determine in advance the exact wording and sequence of questions, so that all interviewees are asked the same flexible questions, although they are offered the freedom to respond in their own words, they decide which information to share. This then facilitates the organization and the analysis of the collected data (Patton 2002). The interview schedule was designed around the KM enablers (See Appendix F) indicated in this study. The introductory part of the schedule consisted of general questions, and then specific questions followed, namely: human resource questions; organizational structure questions; information and communication technology questions; organizational strategic plan questions and organizational culture questions.

4.6.2   Questionnaires

A questionnaire is a collection of cautiously planned questions administered in precisely the same procedure to research participants in order to collect data about the topic of interest to the researcher (Jupp 2006). Questionnaires are an excellent means of collecting data within a short period. In this study, a self-administered questionnaire was designed to investigate the attitudes and opinions of KZN DPW employees regarding the KM initiative, as well as to study KM practices present within the Department. The questionnaire was adapted from the work of a number of scholars (Dube 2009; Nagaran, Ganesh and Sundarakani 2009) in the field of KM to answer the research questions of the current study.

According to Mosala-Bryant (2015:121), "anonymity is a very important factor in the public service; therefore, the researcher should chose an instrument which has a greater degree of providing such." Thus, the self-administered questionnaire permitted respondents to be more candid in responding to the questions (Nardi 2006). However, Jupp (2006) identifies some constraints with regard to the questionnaire in that it can administer both closed and open ended-questions, with the latter potentially generating large amounts of data that can take time to process and analyze. This can be problematic, given the short period of time that the researcher has to present the data in the context of the current study. To avoid such limitations, the questionnaire design included only closed questions.

The questionnaire was designed to gather quantitative data regarding the employees' outlook towards KM and to discover their perceptions of the KM enablers present within their

Department and the impact of these enablers on the effectives of the KM practices currently available and/or operational. The questions were generated to address the objectives of the study and as such, the questionnaire was divided into four sections. The first section (Section A) covered the demographic data of the respondents. The second section (Section B) was concerned with gathering information regarding the respondents' awareness of and perception towards KM. Section C provided the respondents with statements related to KM within the KZN DPW.

The questionnaire employed a four point Likert scale to measure respondents' responses to different aspects of a single common construct such as 'attitude towards KM initiative implementation' (Du Plooy-Cilliers and Cronje 2014). The Likert scale needs participants to point out their level of agreement or disagreement with assorted declarations connected to a viewpoint or item (Du Plooy-Cilliers and Cronje 2014:156). The last section (Section D) provided a set of nine questions for a brief overview of where the Department is located in regard to the characteristics of the three identified important organizational success aid of people, process and technology. The position of the KZN DPW on these pillars shed further light on the Department's readiness to implement a KM initiative.

4.6.3   Pre-testing interview schedule and questionnaires

A pre-test gives the researcher an opportunity to identify questionnaire or interview schedule items that may be misunderstood by the participants or items that will not obtain the information required for the study (Connaway and Powell 2010:161). Babbie (1998:159) noted that no matter how careful the researcher is when designing data collection instruments, there is always the possibility of errors. Therefore, it is important that the researcher must test the instrument before using it for actual data collection (Kumar 2011:150). Pre-testing is an exercise that researchers conduct to tryout the data collection instruments created in advance of their real practice, in order to determine possible glitches that may arise in regard to the accurate and comprehensive generation of data (Kumar 2011:342).

The researcher sent an interview schedule on August 3, 2017 to three Directors within the KZN DPW head office (HO) for pre-testing, but due to their busy schedule, the researcher managed to secure a session with only one Director. A face-to-face session was arranged and conducted at the Director's office on August 8, 2017. Following this session, minor grammatical and

editorial changes were made to the scheduled questions. It was recommended that the researcher should use the term 'department' instead of 'organization' as it is better aligned with the DPW. The respondent also suggested that each Director should only be questioned according to the departmental section that they headed in order to avoid bias. However the researcher responded by indicating that it is important for each Director to provide their opinion about the KM enablers available within the entire Department in order to assess on the readiness of the Department for a formal KM initiative. It was also recommended that the interview schedule should be sent to all interviewees before the day of interview to allow them to familiarize themselves with the topic under discussion.

A pre-test of the questionnaire was conducted on seven junior staff and on Deputy Directors from other KZN DPW sections that were not part of the study at the HO. The researcher administered the questionnaire personally to the participants on August 3, 2017, and all completed questionnaires were returned by August 8, 2017. Minor changes were made to the questionnaire. In section B, a respondent indicated that one of the question appeared to be a repetition of the previous question. In section D, another respondent advised that question number 3 should be revised to offer a finer interpretation. The researcher has considered all these issues when modifying the data collection instruments.

4.6.4   Administration of instruments

In mixed methods research, participants' responses to the second data collection instrument (questionnaire or interview) can be influenced by their experiences with the first instrument (Floyd 1993). To avoid this, the researcher selected two groups of participants, a large group (the junior staff and Deputy Directors) to whom to questionnaire will be administered and a relatively small group (the AHOD and Directors) with whom to conduct interviews. Before administering the data collection instruments to the actual participants in the study, the instruments were modified as per the results from the pre-test. The researcher is an employee within the Department under study and employed an internal address book to locate the email addresses of the AHOD and Directors in order to send them an invitation to participate in the interview session. Personal Assistants (PAs) of the AHOD as well as the Directors were also copied the emails, since it is the PAs who arrange the diaries of the AHOD and the Directors. Attached to the email was all the necessary documentation that the respondent would need regarding his or her participation in the interview. This documentation included interview cover

letter (See Appendix D), the interview schedule (See Appendix F), the gatekeeper's letter (See Appendix B) and an ethical clearance letter (See Appendix G). In the email, the researcher encouraged respondents to read the cover letter as well as the interview schedule in order to familiarize themselves with the topic under study and to make the whole process more efficient. The suggested dates for the interview were from August 10 to September 29, 2017; each respondent chose a date as per his or her availability. Before conducting each interview session, the researcher sought out consent from the respondent to record the interview, while respondents were also reminded that participation in the interview was voluntary.

Babbie and Mouton (2001:288) noted that sometimes researchers finds the perfect respondents but they are too busy to spend time with the researcher to be interviewed. As indicated in Section 4.5 above, the AHOD was one of the perfect respondent for the current study; however, due to his busy schedule several attempts to secure time with him were unsuccessful. Besides the unavailability of the AHOD, the researcher managed to interview all other four (4) Directors that were targeted for this study, this yielded to a 100% response rate.

Interviews for all four Directors were conducted from August 17 to 28, 2017. After each interview, the researcher asked the relevant Director for permission to distribute the questionnaires to the Departmental employees in his or her section. Thereafter, questionnaires were delivered personally to the respondents' offices and participants were requested to return the questionnaire within two weeks from the day they received the questionnaire. During the procedure of data gathering, the difficulty of encouraging respondents to work together with the scholar is always available (Bless and Higson-Smith 2000:100). Indeed, the researcher repeatedly reminded the respondents through email or telephonic communication to return the questionnaire. In most cases, the researcher personally collected the returned questionnaire from respondents' offices, while some respondents returned the questionnaire by scanning and emailing it to the researcher.

Some respondents indicated that they had misplaced their questionnaire and requested the researcher to send an electronic version thereof. Out of the 77 questionnaires that were circulated, 61 responses were received, yielding a 79% rate of response, which, according to Babbie (1998:262) is regarded as a "very good response rate." The researcher needed this level of response from the questionnaires in order to conduct an in-depth analysis of the research problem.

4.6.5   Validity and reliability of the instruments

Yin (1994) states that there are four tests that are applicable to case studies that are usually utilized to find the quality of any realistic social investigation. These tests involve construct validity, internal validity, external validity and reliability. While construct validity depend on observing how properly the findings acquired while applying the measure match with theoretic expectations (De Vaus 2001: 30), internal validity "is concerned only for casual (or explanatory) case studies, in which the researcher seeks to decide if certain event directed to another event" (Yin 1994:35). External validity is concerned with the generalizability of the findings and reliability focusses on demonstrating how the data collection procedures can lead to same results when repeated in the study (Yin 1994: 33). Koonin (2014:254) notes, "Validity is all about determining whether the research has measured what it intended to measure by reflecting on reality of the constructs being measured."

Similarly, Vithal and Jansen (2010:32) describe validity as an endeavor to 'check out' if the significance and understanding of an event is complete or if a certain evaluation is a precise indication of what you aim to discover. De Vaus (2001:29-30) discusses different forms and sorts of validity, namely: content validity, construct validity and criterion-related validity. Content validity speak of the level to which the objects assess the content they were planned to assess, while construct validity focuses on finding effective measures for the theories under investigation (Yin 1994) and criterion-related validity refers to the extent to which the test accurately predicts future behaviors (Koonin 2014:254).

Based on the above discussion regarding different types of validity, the researcher ensured that the research questions aimed to be answered by the study were thoroughly covered in both data collection instruments (content validity). It was also important to ensure that the data collection instruments successfully identifies the precise effective measures for the theories being explored (construct validity), as well as deliberately formulating the instruments so that they accurately indicated the ongoing attitudes and practices of the respondents (criterion validity). Vithal and Jansen (2010:33) state that reliability deals with the consistency of a measure, score or rating. De Vaus (2001:30-31) explains that a reliable measure is present when a study is repeated and gives the same results when used on different occasions, while unreliability may

stem from poor question wording in questionnaires and by the deployment of different interviewers who may elicit varying answers from respondents.

Therefore, to increase the reliability of the data collection instruments in the current research, the pre-testing of questionnaire and interview schedule was undertaken with KZN DPW employees who did not form part of the respondent population. Moreover, the use of mixed method approach in this study was employed, as it is typically a strategy for improving both the validity and reliability of research (Golafshani 2003). The rationale for employing this method is that the general strength of a research is superior to the one that uses qualitative or quantitative enquiry alone (Creswell and Clark 2007).

Each instrument used in the present research can be said to be reliable and can produce generalizable results, as the questions were carefully adapted from other scholars and applied to the phenomena under study. However, as Neuman (2000:164) notes, "perfect reliability and validity are virtually impossible to achieve".

4.7   Data analysis

The procedure of examining data holds various divergent methods, conditional to the type of the research questions, design and the quality of research data (Bless and Higson-Smith 2000:137). According to Mouton (1996:161), data analysis includes decreasing to controllable quantities, the abundance of data gathered and classifying patterns and subjects in data. A mixed method design was applied in the current research; therefore, qualitative and quantitative methods for examining data were utilized.

The researcher employed thematic content analysis to analyze the qualitative data collected through structured interviews. According to Anderson (2007:1), "thematic content analysis is a descriptive presentation of qualitative data." Data analysis in qualitative study comprises of arranging and bring together data, which includes text or phrases, then decreasing the data into ideas via a procedure of coding, and finally representing the data in figures, tables, or a discussion (Creswell 2007:148). Coding is a procedure for transforming raw data into a standardized format for data analysis purposes (Pickard 2017: 320). That is in qualitative data, the researcher isolate recurring words, concepts or themes; then in quantitative data coding typically includes assigning numerical values to categories or choices (Pickard 2017). In this

study, the recorded data was transcribed and then coded by systematically reorganizing the raw data into a format that was easy to analyze (Neuman 1997:295). In this way, the researcher was able to find relations in data that aid the understanding of the underlying research problem.

These relations were discerned by observing for the rate of recurrence with which particular words transpired in the transcription, with the words selected being dependent on the research questions (Matthews and Ross 2010:395). Quantitative data was analyzed using the descriptive statistical analysis tool, the Statistical Package for Social Science (SPSS) 12.0 for Windows Student Version. SPSS is one of the software programmes that is commonly employed to analyze quantitative data (Bhattacherjee 2012:119). The SPSS is an inclusive statistical software package in the social sciences as it allows one to count and examine quantitative data rapidly and in various modes; however, the researcher first has to learn how to run the programme (Bryman and Cramer 2001:15). In this study, the quantitative data collected through the questionnaires was converted into a machine-readable or numeric format (through data coding) so that it could be analyzed using SPSS (Bhattacherjee 2012:119).

Powell and Connaway (2004:230) caution that in data coding, problems of reliability can result from inadequacies in the data. To avoid such problems, the researcher employed the process known as data cleaning in order to check for accuracy, validity and reliability (Neuman 1997). According to Babbie (1998:366), data cleaning is a process done by researchers to eliminate data errors resulting from incorrect coding, incorrect reading of written codes, etc. Descriptive statistics helps to describe raw data using numerical counts or frequencies, percentages or measures of variance; this allowed the findings in this study to be presented in graphs, tables and charts in the next Chapter.

4.8   Ethical considerations

According to Maree and van der Westhuizen (2007: 41), it is important for researchers to highlight the ethical considerations arising from their research studies. That is, "social science researchers need to be aware of the general agreements about what is proper and improper in scientific inquiry" (Babbie 1998:438). To ensure that a study's ethical standards are maintained, researchers should conduct an ethical assessment (Bless, Higson-Smith and Sithole 2013:32). Flick (2009:39) notes that academic ethics committees ensure that ethical standards are maintained by examining the research design and methods of a potential research before they

can be applied in a particular study. The requirements could include obtaining letters of consent for collecting quantitative data, garnering permission from the respondents to be interviewed, and indicating how the research data will be destroyed (Maree and van der Westhuizen 2007:42).

As such, the data collection instruments explained clearly the purpose of the study to the respondents through the letter of invitation to the face-to-face interviews and through the informed consent cover letter for the self-administered questionnaires. The respondents were also assured that they would remain anonymous, as their names will not be mentioned when reporting the findings. Furthermore, they were informed that their participation was voluntary and that they were free to refuse to participate or to withdraw from the research project at any stage and for any reason without this leading to any form of disadvantage to them. Maree and van der Westhuizen (2007:42) further advises that researchers should familiarize themselves with the ethics policy of the relevant institution under whose auspices their study is being conducted. Therefore, before collecting data, the researcher conducting the present study familiarized herself with the guidelines provided by the University of KwaZulu-Natal (UKZN) Research Ethics Policy (UKZN 2014) and did not proceed with her fieldwork until the UKZN Humanities and Social Sciences Research Ethics Committee had granted her approval to collect the data.

4.9   Summary

This Chapter discussed the methodology employed to establish what KM practices and KM enablers are available within the KZN DPW, which assisted in determining the readiness of the Department to implement a KM initiative. The research paradigm that guided the study as well as the research design were discussed. Both qualitative and qualitative research approaches were used in the study. The choice and justification of the research population for this investigation was explained. The data collection methods, data collection tools, pre-testing and administration of instruments were presented in detail. A brief outline of the ways in which the study safeguarded the rationality and dependability of the instruments was provided. The Chapter also discussed how the qualitative and quantitative data was analyzed using thematic content analysis and SPSS respectively. Finally, the ethical considerations regarding the study were highlighted.

CHAPTER 5:   RESULTS PRESENTATION

5.1   Introduction

The purpose of this study was to investigate the extent to which the KwaZulu-Natal Department of Public Works (KZN DPW) demonstrates readiness to implement KM through the assessment of the KM enablers present within its components. Thus, the study's objectives were to:

1. Investigate if there is awareness of KM within the Department;
2. Determine whether the Departmental culture supports KM practices;
3. Examine the Departmental structure influence towards KM implementation;
4. Assess the Departmental strategic plan towards the promotion of KM implementation; and
5. Explore the communication tools and human resources available for effective KM within the Department.

A mixed method approach was applied in this study as self-administered questionnaires and structured interviews were used to collect data from KZN DPW employees. These ranged from junior employees to Directors of the selected sections, namely: strategic management; human resources; information technology and monitoring and evaluation. The aim of this Chapter is to present the results from the survey conducted using graphs, tables and percentages to display the data emerging from the study. The data collection instruments for this study were organized according to the study's objectives indicated above as well as the KM enablers identified in Chapter One of this study (See Section 1.8). Accordingly, the results in this study are presented in the same manner.

5.2   Questionnaire results

The questionnaire consisted of four sections and the results are presented as per the sections of the questionnaire.

5.2.1   Section A: Demographic data

This section aimed at getting respondents' background information in order to understand better whether or not the practice of KM at the KZN DPW is associated with the employee's gender, designation, length of service, the section under which he or she works or the effect of recent Departmental restructuring. Out of seventy-seven (77) respondents that were targeted as respondents for the survey questionnaire, sixty-one (61) [N=61] questionnaires were returned, yielding a 79% response rate. This total comprised of thirty-six females (59%) and twenty-five males (41%). Fifty-two of these respondents (85%) were permanently employed and only nine of them (15%) were working under contract. Most of the respondents, at twenty-three (38%), have been working at the KZN DPW for more than 10 years, while fifteen (25%) of them have been employees at the Department for 5 to 10 years and thirteen (21%) have been employed there for 1 to 2 years. Seven respondents (11%) have been working at the Department for 3 to 4 years and three (5%) have been working there for less than a year.

In terms of the sections that the respondents are currently working under, most of them, namely forty-two (68%) are employed in the Human Resources (HR) section, twelve (20%) in Information Technology (IT) section, four (7%) in Monitoring and Evaluation (M&E) section and three (5%) in the Strategic Management (SM) section. These findings are presented in Figure 6 below.
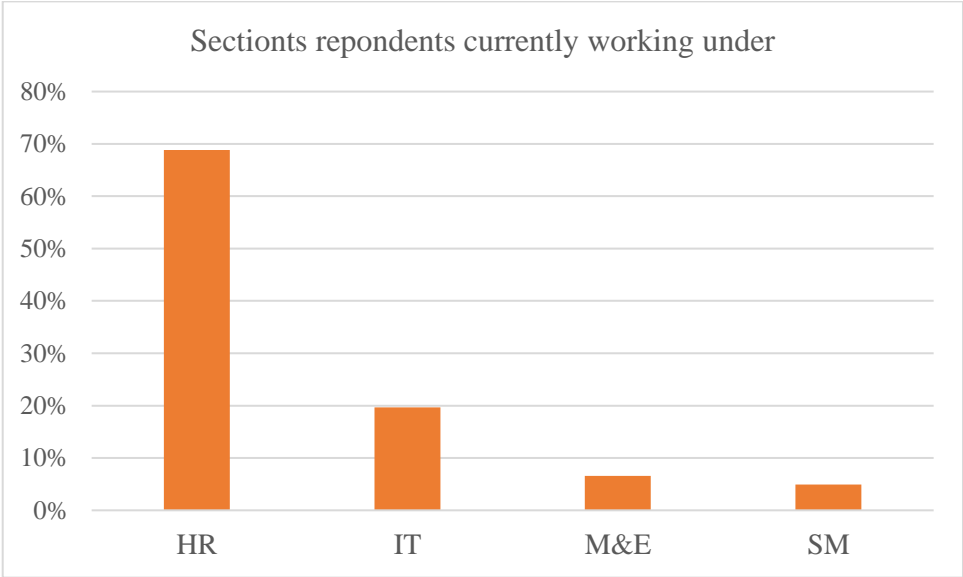
Figure 6: Sections respondents currently working under (N=61)

Respondents were also asked whether the recent Departmental restructuring had affected them. Fifty-one of the respondents (84%) indicated that the recent restructuring did not affect them,

while the other ten (16%) indicated that they were affected and as a result they had been moved to the current section they are working under.

5.2.2 Section B: Knowledge management awareness and perception

This section deals with obtaining an in-depth understanding of KM from the respondents' viewpoints, to determine which KM practices are used within the Department and to get respondents' opinions regarding the KM enablers that contribute to the effective use of the identified practices. The section's questions also cover all the objectives of this study, as mentioned at the beginning of this Chapter.

The first question from this section aimed at finding out whether the respondent has ever heard about the term KM. Figure 7 below indicates that thirty-seven of the respondents (61%) had knowledge regarding KM and that twenty-four (39%) of them had never heard about KM. For those who had no knowledge about KM, a definition of the term KM was provided for them to gain some understanding of the concept, hence enabling them to respond to the next questions.
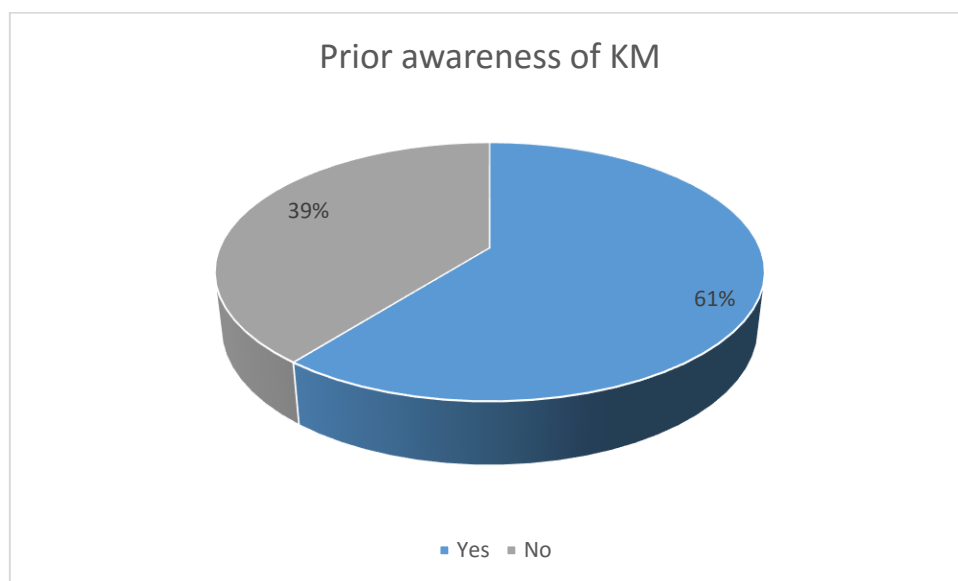
Figure 7: Prior awareness of knowledge management (N=61)

For respondents who indicated that they knew about KM, a follow-up question was asked to find out where they have heard about KM. Majority of respondents, twelve (33%) indicated "other" as the place where they had encountered the concept of KM. Some of the respondents specified and others did not specify where they had heard about KM. Those who specified

indicated that they had heard about KM from service providers, at university, in their previous employment or via the internet. Of the other respondents who had prior knowledge about KM, eleven (30%) indicated that they heard about KM from the KZN DPW, while ten (27%) mentioned short courses as the source of their knowledge concerning KM. Two other respondents (5%) identified other departments as the source of their knowledge and conferences were mentioned by a further two respondents (5%).

In question three, respondents were asked to provide answers to a multiple response question by indicate the KM practices that they think are used within the Department. Within KZN DPW, the findings showed that thirty-nine of the respondents (64%) think that knowledge sharing is the most used practice compared to twenty-two (36%) who did not. This was followed by knowledge utilization practice as indicated by twenty-five (41%) compared to thirty-six (59%) who did not. Twenty-one respondents (34%) identified knowledge dissemination compared to forty (66%) who did not. Fourteen respondents (23%) also identified knowledge retention as compared to forty-seven (77%) who did not, while thirteen (21%) respondents identified knowledge creation as the least practice used as compared to forty-eight (79%) who did not.

The next question was similar to the above question as it asked the respondents to provide answers to a multiple response question by indicating their view on which KM enablers contribute to the effective use of the identified KM practices. Twenty-four respondents (39%) identified IT as the best enabler that ensures the effective use of KM practices compared to thirty-seven (61%) who did not. Next in line was the HR enabler regarded as helpful as identified by twenty-three respondents (38%) compared to thirty-eight (62%) who did not. This was followed by the Department structure identified by eighteen respondents (30%) as compared to forty-three (70%) who did not. Fifteen respondents (25%) identified strategic planning enabler as helpful compared to forty-six (75%) who did not, while fourteen respondents (23%) think culture as an enabler is the least helpful towards effective use of KM practices compared to forty-seven (77%) who did not.

In question five, respondents were asked to indicate yes, no or do not know while answering the question of whether employees would benefit if more structured and regular modes of KM practices were introduced within the Department. As indicated in Figure 8 below, fifty-one respondents (84%) mentioned that they agree that employees would benefit from such KM practices modes, while eight (13%) of them indicated that they do not know if employees would

benefit and only two respondents (3%) stated that employees will not benefit from structured and regular modes of KM practices.

Perceptions about benefits to employees from KM

3% 13%

84%

■ Yes ■ No ■ Don't know
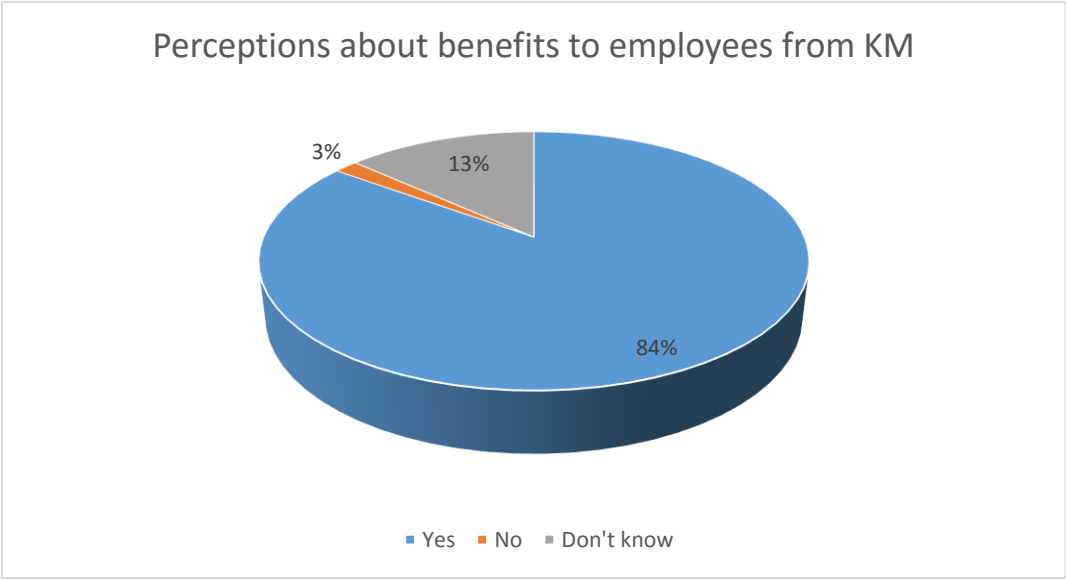
Figure 8: Perceptions about benefits to employees from KM (N=61)

In the next question, employees were asked to indicate yes, no or they do not know whether implementing a KM initiative in the Department is required to enhance performance and service delivery. Most respondents, at forty-eight (79%), agreed that KM would enhance Departmental performance and service delivery if implemented; however, ten respondents (16%) mentioned that they do not know if KM would help in this regard, and three respondents (5%) stated that KM will not assist the Department. Figure 9 below displays these findings.

KM enhances performance and service delivery

5% 16%

79%

■ Yes ■ No ■ Don't know
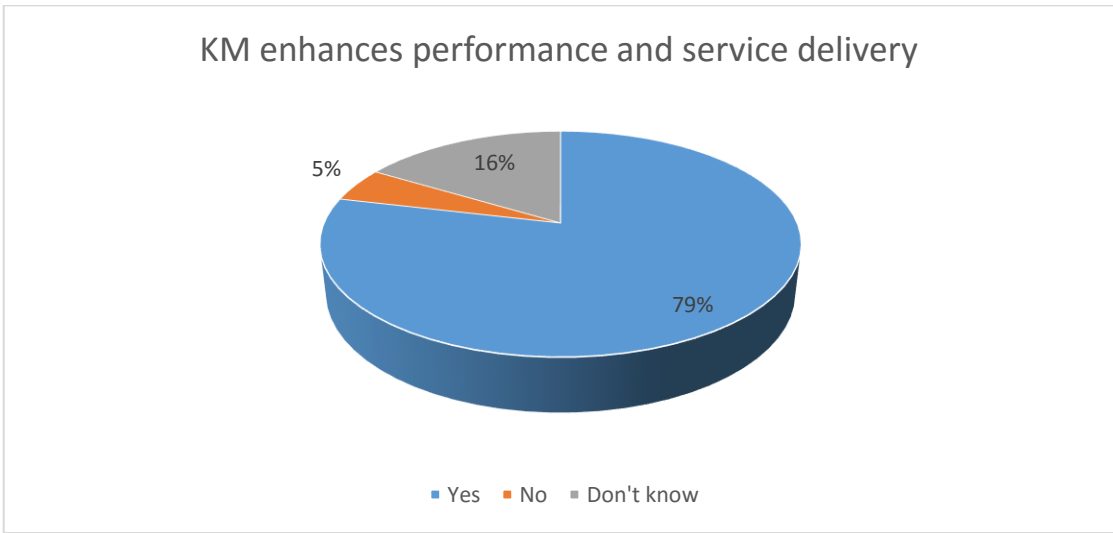
Figure 9: Implementing KM at KZN DPW may enhance performance and service delivery
(N=61)

Respondents were further asked if they would support a KM initiative, if implemented within the Department. As presented in Figure 10 below, out of sixty-one (61) respondents, fifty-six of the respondents (92%) said that they would support KM initiative if implemented; three respondents (5%) mentioned that they would not support such an initiative, while two respondents (3%) indicated that they do not know whether they would support a KM initiative.
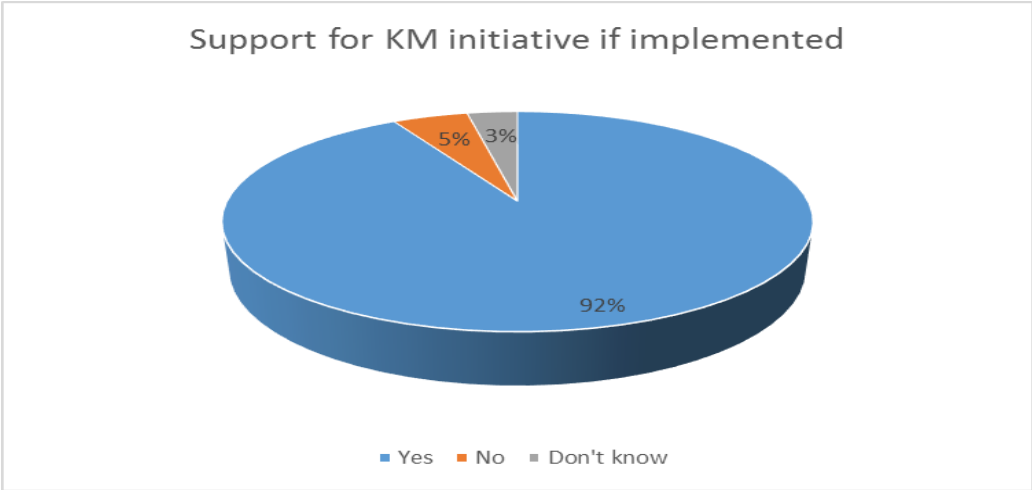
Figure 10: Respondents support for KM initiative (N=61)

Question eight asked respondents to indicate how often they needed to be assisted regarding a work-related problem. Twenty-seven (44%) mentioned that they often need assistance; twenty-four respondents (39%) seldom require to be assisted; while nine respondents (15%) always need to be assisted. Only one respondent (2%) indicated that he had never needed assistance with work-related problems. A follow-up question asked those who indicated that they always, often or seldom require assistance to identify those whom they approach for this assistance.

This question asked the respondents to tick more than one answer that is applicable to them. Forty-five respondents (74%) identified their supervisor as a person whom they mostly approach when they require assistance compared to sixteen (26%) who did not. This was followed by twenty-eight respondents (46%) who identified their colleagues within the section compared to thirty-three (54%) who did not. Twelve respondents (20%) identified someone outside the Department compared to forty-nine respondents (80%) who did not, while ten respondents (16%) identified colleagues within the Department but in a different section compared to fifty-one respondents (84%) who did not.

Respondents were asked further to indicate their level of satisfaction concerning their ability to acquire knowledge to accomplish their given tasks. Thirty-one respondents (51%) indicated that they are satisfied with their ability to acquire knowledge; eighteen (30%) mentioned that they are very satisfied; while ten (16%) are fairly satisfied. Only two respondents (3%) mentioned that they are not satisfied with their ability to acquire knowledge to accomplish their tasks.

To find out if the Department do practice informal KM, respondents were asked to indicate what they did with the report or document generated from a task or a project. This question also asked the respondents to tick more than one answer that is applicable to them. The findings revealed that majority, numbering forty-two of respondents (69%) identified sharing their report or document with their colleagues who they think might need it compare to nineteen (31%) who did not. This was followed by twenty-nine respondents (48%) who indicated that they save the document in the computer compared to thirty-two respondents (52%) who did not. Furthermore, fourteen respondents (23%) indicated that they file the document in a box compared to forty-seven (77%) who did not, while only two respondents (3%) indicated that they discarded the report or document compared to fifty-nine respondents (97%) who did not.

Question 12 in this section asked respondents to indicate whether their colleagues know the respondents' area of expertise in terms of their jobs. Fifty-two respondents (85%) stated that their colleagues knows their area of expertise, eight respondents (13%) mentioned that they do not know whether or not their colleagues are familiar with their area of expertise, while one respondent (2%) indicated that his/her area of expertise is unknown to his/her colleagues.

When asked which crucial knowledge is at risk of being lost because of organizational restructuring, some respondents indicated that both knowledge are at risk. The majority numbering forty-four of respondents (72%) identified tacit (individual) knowledge as the one at risk compared to seventeen (28%) who did not. Nineteen respondents (31%) identified explicit (organizational) knowledge compared to forty-two (69%) who did not.

The final two questions from this section were aimed at revealing the status of the relationship between employees and their supervisors and among employees themselves. The working relationship between the employee and supervisor is generally good, as indicated by fifty-eight respondents (95%), while two respondents (3%) feel that they do not know whether or not they

have good working relationship with their supervisor and only one respondent (2%) does not have a good working relationship with his/her supervisor. On the other hand, results also indicate that fifty-eight employees (95%) also have a good working relationship among themselves, while two respondent (3%) indicated that they do not know whether their working relationship with fellow employees is good and one respondent (2%) stated that he/she does not have a good working relationship with their colleagues.

5.2.3   Section C: KM statement for the DPW

This section provided the respondents with statements related to KM within the KZN DPW. Respondents were then asked to specify whether they strongly disagree (SD), disagree (D), agree (A) or strongly agree (SA) with the listed statements. This section aimed at finding out what communication channels exist in the KZN Department of Public Works, where most of the knowledge is located within the Department and how employees acquire such knowledge.

Table 3 reveals that thirty-five respondents (57%) agree that the Department has clear channels for acquiring knowledge to complete a task or a project, seventeen respondents (28%) disagreed with this statement, while nine respondents (15%) strongly agree with the statement. The majority, at thirty-five of respondents (57%), agreed that the KZN DPW has open communication channels which can be effective for KM, and fourteen other respondents (23%) strongly agreed, although twelve (20%) of the respondents disagreed.

Directors within the Department encourage the open creation and sharing of knowledge, as indicated by twenty-six of respondents (43%). A further sixteen respondents (26%) strongly agreed with the statement, while fourteen respondents (23%) disagreed and the remaining five (8%) strongly disagreed. Table 3 below indicates that of the employees, twenty-seven (44%) rely on their own background knowledge: this kind of culture may decrease the effectiveness of KM if implemented as a KM initiative requires a strong organizational culture. Some nineteen respondents (31%) disagree with this statement, fourteen others (20%) strongly agree, with just three respondents (5%) who strongly disagree.

Respondents numbering forty-one (67%) indicated that they know where to obtain information and knowledge required to do their job, with thirteen other respondents (21%) strongly agreeing with this statement. However, six of the respondents (10%) mentioned that they do not know

where to acquire the information needed to do their job with one respondent (2%) strongly disagreeing. Within the KZN DPW, people feel free to consult each other regarding their work, a statement to which thirty-five of the respondents (57%) agreed, while fifteen respondents (25%) disagreed and only eleven respondents (18%) strongly agreed.

Similarly, people regularly share information and knowledge informally as per the thirty-three respondents (54%) who agreed with this statement, with just sixteen respondents (26%) who disagreed. Nine of the respondents (15%) strongly agreed that people share information informally and three respondents (5%) strongly disagreed. Thirty-eight of respondents (62%) agreed that they would benefit from templates that can help them to easily capture and disseminate knowledge that has been learned via conferences and meetings, with fourteen respondents (23%) who strongly agreed. Eight respondents (13%) disagreed with this statement and one of the respondents (2%) strongly disagreed. Thirty-seven respondents (61%) think that they would also benefit from processes that can help them contribute in knowledge utilization and sharing, and nineteen respondents (31%) strongly agreed with this statement. However, five of the respondents (8%) did not agree.

The final statement in this section aimed at finding out if respondents have tacit knowledge that can be useful to the Department that the respondent does not know how to share. Table 2 below reveals that twenty-seven respondents (44%) do have that tacit knowledge they want to share with the Department, while twenty-six other respondents (43%) disagreed. Seven of the respondents (11%) strongly agreed and only one respondent (2%) strongly disagreed

Knowledge Statement	SD	D	A	SA
There are clear channels for acquiring knowledge to complete a given task/project	0%	28%	57%	15%
Communication channels are open	0%	20%	57%	23%
Directors encourage the open creation and sharing of knowledge	8%	23%	43%	26%
There is a culture of self-reliance, initiative and using one's background knowledge	5%	31%	44%	20%
I know where to obtain information and knowledge required to do my job	2%	10%	67%	21%
People feel free to consult each other regarding their work	0%	25%	57%	18%
People regularly share information and knowledge informally	5%	26%	54%	15%
I would benefit from templates to help me easily capture and disseminate knowledge that has been learned from conferences and meetings	2%	13%	62%	23%
I would benefit from processes to help me contribute in knowledge utilization and sharing	0%	8%	61%	31%
I have knowledge in areas that I know the Department could benefit from but I don't know how to make this knowledge available	2%	43%	44%	11%

Source: Field data (2017)

5.2.4   Section D: Knowledge management readiness assessment

This section aimed at asking respondents questions that provide a quick analysis of where the KZN DPW is when benchmarked against the three important success elements of people, processes and technology. The main aim of readiness evaluation is to measure the specific position of where a department stands concerning the important success measurement of these supports elements (Ganesh, Mohapatra and Nagarajan 2014:179). For that reason, these findings were needed to help determine the Department's level of readiness to implement KM initiative.

1. Leadership: relates to vision, mission and values regarding KM	YES	NO	DON'T KNOW
Does your Department have a convincing knowledge management vision, mission and strategy, actively promoted by your top management that clearly articulates how knowledge management contributes to achieving organizational objectives?	75%	12%	13%
2. Processes: relates to capture of knowledge			
Our Department has systematic processes for capturing or gathering, organizing, exploiting and protecting key knowledge assets, including those from internal and external sources.	69%	13%	18%
3. Explicit knowledge: relates to store of knowledge			
There are regularly maintained knowledge records with structured knowledge and clear ownership of knowledge entities that is readily accessible across the Department.	43%	16%	41%
4. Tacit knowledge: relates to codification of tacit knowledge			
I know the best experts in the different domains of key knowledge within my section and there are mechanisms in place to codify their tacit knowledge into an explicit format.	53%	16%	31%
5. Culture/structure: relates to encouragement towards KM			
Is knowledge sharing across departmental boundaries actively encouraged and do your workplace settings and format of meetings encourage informal knowledge exchange?	62%	30%	8%
6. Knowledge centres: relates to facilitations for KM			
Is there a knowledge management directorate that coordinates knowledge repositories and acts as a focal point for the provision of information to support key decision-making?	26%	40%	34%
7. Infrastructure: relates to technical support for KM			
i. We are able to find important information from the intranet (or similar network) using technologies.	67%	26%	7%
ii. We use KM tools like blogs, Facebook, Twitter, mobile phones etc. to access information.	31%	57%	12%
iii. We use databases to access information.	64%	25%	11%
iv. We use Groupware software like email to access information.	69%	20%	11%
v. We use bulletin boards or e-departmental notices to access information.	72%	18%	10%
vi. We have a Knowledge Management Officer who manages the intellectual capital in our Department.	12%	52%	36%
8. Organizational Strategy			
Priority is given in ensuring that knowledge that is generated is accurate, reliable, and delivered in a timely fashion (gets to the right person in the right format at the right time).	52%	23%	25%
9. Human Recourses			
There are procedures regarding employees who are retiring from or leaving the Department in terms of capturing their tacit knowledge.	49%	20%	31%

Source: Field data (2017)

As per the results presented in Table 3 above, the KZN DPW leadership in term of its vision,

mission and values towards KM does promote the management of knowledge, as forty-six

respondents (75%) said "yes:" to this statement, while eight respondents (13%) did not know and seven (12%) of them said "no".

Forty-two respondents (69%) stated that processes that relate to capturing knowledge within the Department are effective in gathering; organizing as well as exploiting key knowledge, while eleven respondents (18%) indicated that they did not know and eight other respondents (13%) disagreed with said the statement that the knowledge capturing process of the Department is effective.

Twenty-six respondents (43%) supported the statement that the Department does have regularly maintained organizational knowledge records that are readily accessible across the Department, with twenty-five respondents (41%) who did not know about this stored knowledge and ten respondents (16%) who did not support the statement.

The majority of the respondents, at thirty-two (53%), mentioned that they know the dominant specialists in the various areas of knowledge inside their section and that there are mechanisms available to systematize personal knowledge into organizational knowledge. Nineteen respondents (31%) did not know about these experts or the mechanisms in place to transform tacit to explicit knowledge, while ten respondents (16%) indicated that knowledge codification does not take place in their section.

Thirty-eight respondents (62%) agreed that employees share a common belief of disseminating knowledge across the Department and that the Departmental structure encourages KM, whilst eighteen of the respondents (30%) were of the view that KM is not encouraged and the culture of sharing knowledge is not active. Five respondents (8%) did not know whether the Departmental culture and structure encouraged knowledge sharing and knowledge management.

In addition, results of the findings indicate that the KZN DPW does not have knowledge centers that facilitate KM and that coordinate the supply of information to sustain imperative decision-making, as indicated by twenty-four respondents (40%). Twenty-one respondents (34%) did not know how to respond to this statement while sixteen respondents (26%) stated that the Department does have knowledge centers in place. In terms of the Department's technical infrastructure that can support effective KM if implemented, most respondents, at forty-one

(67%), indicated that they are able to find important information using technologies available within the Department. However, sixteen (26%) said that they are unable to find information using these technologies and four (7%) did not know.

According to thirty-five respondents (57%), the Department does not use KM tools like blogs, Facebook, Twitter, mobile phones etc. to access information even though other respondents, numbering nineteen (31%) indicated that these tools are being used while seven respondents (12%) did not know. The KZN DPW does use databases to access information, as per the opinion of thirty-nine respondents (64%); fifteen respondents (25%) mentioned that there are no databases in use; while seven respondents (11%) did not know whether or not databases to access information are in existence. With regard to the Department making use of groupware software, such as emails for employees to access information, the majority of the respondents, numbering forty-two (69%), confirmed this, while twelve respondents (20%) disagreed with the majority by stating that they do not use groupware software to access information, and seven other respondents (11%) did not know.

The Departmental information is accessible through bulletin boards or e-Departmental notices, something that forty-four respondents (72%) confirmed, even though eleven respondents (18%) did not support this statement, while six respondents (10%) indicated that they do not know. According to thirty-two respondents (52%), the Department does not have a knowledge management officer responsible for storing and organizing the intellectual capital and making it accessible. Other twenty-two respondents (36%) did not know whether a KM officer was employed in the Department, while seven respondents (12%) stated that a KM officer was present in the Department.

With regard to the organizational strategy as one of the enablers identified in this study, respondents were asked to indicate whether the KZN DPW organizational strategy gives priority to safeguarding that produced information is true, dependable and supplied in an appropriate method. In response to this question, the majority, at thirty-two respondents (52%) stated that the strategy does give priority to the generation of knowledge. However, fifteen respondents (25%) had no knowledge about such an initiative and fourteen others (23%) indicated that the Departmental strategy does not give priority to knowledge creation.

The final question under this section focused on human resources as one of the KM enablers. The aim was to find out whether the Department has any procedures that employees are aware of regarding departing or retiring workforce members in terms of capturing their tacit knowledge. Thirty respondents (49%) indicated that such procedures are available while nineteen respondents (31%) did not know and twelve respondents (20%) stated that the Department does not have such procedures in place.

5.3 Interview results

The objective of this section is to report the outcomes from the interviews conducted with four Directors from each of the selected Department sections. Following the order of the questions from the interview schedule, the results were organized thematically so as to provide a descriptive presentation of the qualitative data.

5.3.1 General questions

As one of the objectives in the current study was to investigate if there is awareness of KM within the Department, the first question in the interview schedule aimed at asking interviewees to describe their awareness and understanding of KM. From the responses provided by the Directors, all four of the respondents have a good understanding of the concept KM and what purpose it serves. This ensured that they were able to answer all subsequent questions from the interview schedule. One of the respondents further elaborated his awareness by revealing that:

> *KM within the department is an approach that is rarely utilized as it is usually applied in organizations termed 'learning organizations', so within KZN DPW it is lacking.*

As part of the initial general questions, respondents were further asked if there are KM practices in place within the KZN DPW and if there are, a follow-up question to the Directors asked whether employees are aware of and make use of these KM practices. One Director indicated that there are KM practices in place though the challenge is using them. Two other Directors indicated that the Department does not have in place anything officially classified as KM practices or systems; they further identified what they considered their own sectional methods being employed to preserve knowledge, for example, managing knowledge gained through

various resolutions, resolving problems, learning from past mistakes and learning when performing a task. One of the Directors indicated that:

> *KM as a concept is relatively new in the government, so in the KZN DPW there is no structure in place for KM.*

Another Director stated that:

> *Not enough effort is made to ensure that new public servants understand that your records are not just about you and your office, but they should be preserved for Departmental reports.*

This was noted to be another neglected area and the respondent opined that there is a lot that could be done. This respondent concluded by stating that the Department should:

> *Start by emphasizing KM to the management so that it filters through the organization.*

The final question within the general questions section asked Directors how their employees access information needed to complete a task and if they experience any obstacles when gaining access to that information.

One of the Directors indicated that access to information depends on the nature of information needed and the nature of an employee's duties. Some Departmental sections such as HR are able to access information through the 'Personal salary system' which displays all facts regarding employees, the Department of Public Service and Administration (DPSA) website or from prescripts (rules and regulations that the KZN DPW abide by) in use. Another Director indicated that:

> *Access to information is determined in terms of the task allocated to the employee and the needed information will be accessed from the supervisor through verbal discussions and implementing examples from documentations from previous projects.*

Moreover, the Department has a records management unit, which according to this Director:

Should be used to ensure that the information the Department has is preserved accordingly.

However, another Director stated that:

The Department does not have a centralized way of keeping information. We always go to ask for information from people that are working in that specific area, whereas if we did have a basic operational system to ensure that information is stored properly, we will not have to worry other people about getting information, as you will know how you can access information in a particular system.

Another Director had a similar view by stating that:

By virtue of the fact that KM does not exist, people have to reengineer already available information, as it is not organized.

Three Directors identified various features such as the intranet, internet or emails as features that are used by employees to access information that they require to perform their tasks.

5.3.2   Human resources

Employees play a significant role in terms of creating organizational knowledge. This was a statement presented to the interviewees in order for them to answer the questions within the HR section while bearing it in mind. The first question asked interviewees how they believed employees within the Department had been positioned in their ranks according to their expertise and qualifications. All Directors mentioned that employees within the Department had been placed according to their skills and qualifications. One Director even pointed out that:

In terms of appointments, employees are appointed because they meet the requirements in terms of qualifications, experiences and exposure.

However, two Directors identified challenges associated with the placement of employees in their positions as follows:

Director 1: *The challenge is in terms of ongoing learning, as people become content that they have their qualifications and forget about ongoing growth where they can acquire more knowledge, which affects other aspects of our work.*

Director 2: *The challenge we have is the respect, understanding and culture of the rest of the Department with respect to what these employees are about, who they are in terms of their qualifications, skills, and what they are supposed to deliver.*

Directors were asked how often (if ever) they revisit employees' skills to check whether they are still relevant to their tasks. All Directors identified performance management assessments as a mechanism used within the Department to revisit employees' skills and they all indicated that this is done on an annual basis. One Director further elaborated that:

This process provides an opportunity to check if there has been any changes in employees' duties, and if there are any changes, employees must ensure that they are ready and able to do what is expected of them in terms of the new changes.

Another Director stated that:

Employees also get to know their skills gaps at various points, like when one is doing the performance management and that is where they pick up gaps and identify what is to be done as part of the training to fill in the gaps.

One of the Directors highlighted that on a monthly basis during staff meetings, an item on the agenda specifically discusses staff matters such as the Personal Development Programme (PDP), via which employees are also encouraged to stay up-to-date in terms of improving their qualifications through further studying. However, another Director identified an obstacle to employees studying further by stating that:

In as much as you can identify the gap, getting access to that training becomes a challenge sometimes because of the limited funding. Nevertheless, employees who are hungry for knowledge go out and try to build those skills on their own without waiting for Departmental funding.

To confirm the results from the questionnaire regarding the capturing of tacit knowledge, Directors were also asked how the Department captures the tacit knowledge of retiring or departing employees. The shortfall in capturing the tacit knowledge of retiring or departing employees was identified as:

> *A mistake that needs to be addressed by the Department*

All Directors agreed that there is:

> *No system in place to capture tacit knowledge.*

Two Directors identified an exit interview or questionnaire as a means of capturing tacit knowledge. Three Directors elaborated more on the issue of capturing tacit knowledge as follows:

> Director 1: *As an organization, we are not strong on capturing tacit knowledge with regard to the exit interviews that are done sometimes. There has never been a time where the interviews for a particular period are discussed at a senior management level. I feel that we lose a lot of information when people leave the organization because we are not enforcing the approach of having exit interviews, and to consolidate all the reasons why people leave the organization.*

> Director 2: *At this stage, we do not have a system available to make sure that the knowledge, skills and expertise that the retiring employee has acquired over the years is restored within the Department, and I think that it is something that we still need to work on as a Department. However, the exit questionnaires that are administered when employees leave ask particular questions, but I do not think that they address everything in terms of ensuring that the skills that they had would be left with the Department in as far as knowledge and expertise are concerned.*

> Director 3: *It is difficult to capture tacit knowledge due to human factors such as people not wanting to share their knowledge or skills.*

One Director mentioned the ways in which his section manages to capture tacit knowledge by noting that:

A folder is used on a drive, where employees store the documentation of a particular project instead of their laptops. This helps not only when the employee leaves the Department, but also when they are not at work or on sick leave and the section needs to access the documents. Moreover, documenting lessons learned and experiences gained from a project is necessary so that we do not undergo the same lessons and experiences each time we have a challenge.

Interviewees were asked whether the Department provides in-job training for new employees or whether they learn ad-hoc from their mentors. Three Directors agreed that the Department does provide in-job training for new employees, which is a continuous process, and that they learn along the way from their mentors. One of the Director mentioned that:

Most of the learning is done through practice and there is strong dependence of new staff on learning alongside their mentors.

Another Director stated that:

Since the growth levels of people in the job are different, I do intervene with those employees who are struggling and spend time with them irrespective of their rank.

A compulsory induction programme was one of the types of in-job training methods identified by two Directors. This programme allows new employees to acquire an enhanced interpretation of the Government operations and processes in order to achieve better service delivery.

However, one Director opined differently regarding this issue, as indicated with this remark:

The issue of in-job training does happen; if only it could be structured, it would lead to more benefits for the organization. Now, people are just thrown in, they just have to 'swim or sink', and we expect that by virtue of their appointment they know everything. Even in our compulsory induction programme, we only rely on the provincial induction course done by Office of the Premier (OTP) instead of the Departmental one.

The final question from this section asked Directors how the Department captures the experiences and lessons learned from a completed project. All four Directors chose to answer this question at a sectional level. Three Directors identified similar ways in which their sections capture the experiences and lessons learned from a completed project in a form of shared drive, specific folder and from the Persal system, which is employed to capture what an employee has learned from that project. This is stored in the employee's personal profile and as a result, it may pose challenges for other employees to access that information if required. The other Director stated that:

> *There is a lot of learning that can be gained from individual performance, which is not captured, as there is no repository in which to store this knowledge gained from the project or task.*

5.3.3   Departmental structure

The first question in this section asked interviewees how they would generally describe the Departmental structure. Directors were asked to choose whether the structure is hierarchical, top down, vertical or horizontal.

Out of the four Directors interviewed, two Directors viewed government structures as hierarchical in nature, as does the KZN DPW. The other two Directors viewed the KZN DPW structure as a top-down one. One of the Directors explained further on the response advocating the top-down structure, stating that:

> *The challenge that I perceive is that the processes has largely not informed the development of the current organogram, so it is first people and then processes that determine the structure instead of the other way round.*

As a follow up question, Directors were asked further about the structure's subsequent impact on communication flows. One of the Directors who mentioned that the Departmental structure is hierarchical stated that:

This type of structure is not working very well because somehow it does not filter further down, as we rely on people passing and sharing information. Even though it is the best way to communicate, it can still be improved.

Another Director stated that:

It depends on the nature of information to be sent out and the level of employee but each section has its own communication process.

These two Directors also identified Departmental circulars sent through the intranet to distribute information intended to reach all staff members within the Department as an important method of communication flow. Likewise, one of the two Directors who responded that the KZN DPW structure is top-down stated that:

The structure does affect the communication flows and there is no interaction between the top and the bottom level, and vice-versa. The matrix structure can be best utilized.

The matrix type of structure was discussed in Chapter Two under organizational structure and leadership (See Section 2.5.4).

In addition, the other Director stated that:

The top-down structure does limit communication to the supervisory structure, including supervisory involvement and collaboration because of its rigidity.

The final question on the Departmental structure section was aimed at getting interviewees' opinions on whether the Departmental structure hinders or promote employees to voice out their ideas or opinions. Two Directors thought that the organizational structure does not hinder, but rather promotes employees to voice out their ideas and opinions. One of the Directors indicated that:

The Department has various meetings and it is within those meetings that employees get an opportunity to express their views or feelings.

The other Director supported this view by stating that:

> *As managers, we need to listen more than we talk and therefore, sectional meetings are used as a platform for employees to report accordingly and to express their views.*

However, one of the Directors strongly stated that the organizational structure does hinder employees from voicing out their ideas or opinions. This Director mentioned that:

> *Organizational processing is more paper based, meaning that we rely so much on reports and submissions. Even our meetings do not have the end in mind. So our structure itself does not lend to the generation of new knowledge because it is too 'authoritarian'. I cannot make a suggestion that is adopted easily because it depends on which level you are at, which hinders the generation of new knowledge.*

As such, the other Director also viewed the structure as hindering employees' views or opinions because as she pointed out:

> *They are largely going to hear the voice of the uppermost person in the chain.*

5.3.4 Information and Communication Technology

The first question in this section was aimed at getting the Directors' opinions on whether the KZN DPW will have sufficient technologies that will assist effective KM, if implemented. Only one Director responded that the Department has sufficient technologies in place that can facilitate effective KM. However, other three Directors mentioned that the Department does not have sufficient Information and Communication Technology (ICT) to facilitate effective KM. One of the Directors even went further to state that:

> *The fact that the organization is not a learning organization means that the same applies to our ICT.*

Since three Directors indicated that, the Department does not have sufficient ICTs: the next two questions did not apply to them. However, the Director who responded yes to the first question continued to answer the next questions.

With regard to the second question, the researcher wanted to know whether employees had received sufficient training to utilize technologies in place. The Director responded that:

> *Employees get sufficient training to utilize the technologies. However, the issue is how often you utilize the technology at your disposal to stay in tune with its functionality.*

The final question was aimed at finding out if employees make use of technologies in place to access information or knowledge. The Director who responded to this question indicated that:

> *I do not think they have actually taken the opportunity to make use of it as they should be, as very few are actually using it.*

5.3.5 Departmental strategic plan

Directors were asked about how important they think the management of knowledge is, considering the Department's mission and strategy. Three Directors mentioned that KM is important. One director went on further to note that it was critically important. Elaborating on their answers, each of the three Directors provided explanations as follows:

> Director 1: *Managing knowledge is important as strategic plan achievements need to be captured appropriately so that one can always go back to check if we are still proceeding in accordance with what had been decided.*

> Director 2: *I think irrespective of what the mission is in any organization, the need is great for KM across the organization, especially in Government and our Department, where we have an issue with skills, professionals and a high turnaround of staff. Therefore, from my point of view, KM can be applied to any department.*

> Director 3: *Our Department is not paying much attention to KM because from the beginning to the end of the project there is no structured system to ensure that the documentation arising from the project is stored properly so that it can be used in the future. When we do another project, it is almost as if we are starting from scratch. It is*

a gap in our processes, as we do not always look at the interconnection of things, but see them in isolation.

One of the Directors noted as follows:

The Departmental approach to strategic planning is flawed, because if you fail to have an honest appraisal via strengths, weaknesses, opportunities and threats (SWOT) analysis, then the entire strategic planning ends up not being effective. So how then can we infuse KM in an environment where, when we kick-start a process, we do not follow the strategic planning processes and procedures?

Directors were asked to mention ways in which the Department ensures that knowledge is adequately captured and utilized. All four Directors provided different but similar answers. One Director mentioned that:

The Strategic Planning section is the one that makes sure that it keeps all information from the planning session right through the compilation of a strategic plan and the documents, which would have been approved by the executive authority.

Another Director mentioned that the Department has formal and informal ways of capturing knowledge and that:

One of them is via supervisors who document lessons learned from a project then create a template for that project to avoid reinventing the wheel.

Two Directors had similar views regarding this question, indicating that knowledge capturing and utilization does not exist within the Department. One Director mentioned that:

With the current strategic planning, the brilliant ideas that have been suggested have not been operationalized, timed or allocated and nothing has been done to give credence and value to the whole exercise.

Another Director added that:

> *The fact that knowledge is not adequately captured means that the Department is bound to repeat past mistakes.*

Interviewees were asked to give their opinions on how the management of knowledge affects decision making within the organization. Three Directors agreed that how knowledge is managed does affect decision-making. They gave their opinions as follows:

> Director 1: *I think how knowledge is managed greatly reduces the amount of time and effort needed to be able to make a decision. People in management positions need to have information readily available to be able to make a decision. The speed with which you can locate that information will assist the speed with which you can make a decision that ultimately impacts on the time within which we are able to implement service delivery, as opposed to having an impairment to service delivery.*

> Director 2: *The way in which knowledge is managed does affect decision making, because management makes decisions based on experiences. The way we are structured also does not lend itself to an effective approach to decision making.*

> Director 3: *I think we are weaker for not having KM in place because we end up re-inventing the wheel, as there is no source of information. We are missing out on improving based on previous information and time is wasted in that process, so decision making is therefore affected negatively because we do not have basis to start from.*

Out of the four Directors who were interviewed, only one Director provided a different answer as he mentioned that:

> *Departmental decision-making is based on the knowledge of the Department as prescribed in terms of all the prescripts like the Constitution, resolutions of the Cabinet, the State of the Nation address etc.*

The final question on this section asked Directors whether there are procedures available that can ensure that knowledge is efficiently acquired and shared inside the Department. One of the Directors indicated that there are mechanisms in place and stated that:

The communication section, which is responsible for ensuring that critical information coming from decisions taken by top management is cascaded down in a form of Departmental circulars, is one example.

Other three Directors outlined their opinions as follows:

Director 2: *There is nothing specific that would make a huge impact in making sure information is efficiently acquired and shared inside the organization.*

Director 3: *The few mechanisms that are there are not used effectively to ensure that we get the best out of them.*

Director 4: *There need to be forums and different task teams that could focus on a particular subject of interest to generate knowledge.*

5.3.6   Departmental or organizational culture

Many people see knowledge as power (Cortes-Ramirez 2014:39; Biswas, Khan and Biswas 2017:52). With this perspective in mind, interviewees were asked to explain briefly the Departmental culture in terms of sharing and transferring knowledge among employees and colleagues at their level. Two Directors agreed that there is a culture of sharing knowledge within the Department through the intranet or internet. However as noted by the directors:

Director 1: *The question is whether people have the time to access that information.*

Director 2: *With the existing culture of sharing there is great room for improvement and the management also needs to practice knowledge sharing constantly to empower their teams to be able to work.*

However, two Directors responded differently, arguing that the KZN DPW has no culture of sharing knowledge. Their opinions are indicated below:

Director 3: *I think knowledge is power when it is used effectively and efficiently because then you realize the value of it. The way knowledge is stored and reproduced plays a*

huge role, because the Department can have a lot of information but, if it is not structured, then it becomes useless. As a Department, I do not think we are efficient in terms of how we use or share information and maybe it is because there is no proper documentation of this information.

Director 4: *We do not have a structured approach of disseminating information; new employees gain information as they move along. If we did have a structured way of sharing information, the Department could even gain some information from those new employees.*

5.4   Summary

The results and the findings presented in Chapter Five were derived from the questionnaires completed by junior employees and interviewees conducted with the Directors. The results indicated that majority of respondents to both the questionnaires and interviews have great awareness of what KM entails. In general, the results shows that there are KM practices being used within the Department, with knowledge sharing being the most widely used, while knowledge creation was the least used practice. The majority of respondents identified IT, HR and organizational structure as KM enablers that have a great impact on the use of KM practices. Even though the recent organizational restructuring did not directly affect majority of the respondents, most respondents identified tacit knowledge as the type of knowledge at risk due to the process of restructuring as employees move from one section to another, taking their tacit knowledge with them. From the respondents' point of view, KM is an important initiative needed for employees' benefit as well for as that of the Department to enhance performance and service delivery. The results indicate that respondents have an interest in KM and will support KM initiatives if implemented. The next Chapter reflects on these emerging themes and presents the interpretation of the findings anchored on the literature review presented in Chapter Two.

CHAPTER 6: DISCUSSION OF FINDINGS

6.1 Introduction

The main objective of this research was to investigate the extent to which the KwaZulu-Natal Department of Public Works (KZN DPW) demonstrates readiness to implement knowledge management (KM) through the assessment of KM enablers present within the Department. Chapter Six discusses and interprets the findings of the study from the quantitative data (questionnaires) and the qualitative data (interviews) presented and analyzed in Chapter Five. Furthermore, the discussion of the results builds on the literature review presented in Chapter Two and the Socialization, Externalization, Combination and Internalization (SECI) model applied in the current study will guide the interpretation of these results. The discussion will be structured around the research questions as well as the objectives as listed in Chapter One (see sections 1.6 and 1.7).

6.2 What is the level of awareness concerning the concept of KM?

The majority of questionnaire respondents 61% indicated that they are aware of the concept of KM while 39% of respondents had never heard of the term; on the other hand, all four Directors who were interviewed had a good understanding of KM and the benefits that it carries. This indicates a great awareness of KM within KZN DPW; therefore, employees as well as the management are most likely to participate in a formally implemented KM initiative. As emphasized by Dube (2009), it is important to inspect the level of employees' understanding of KM prior to putting in practice KM initiatives. Reviewed literature in this study attest to the fact that most organizations practice informal KM and this was found to be the case with KZN DPW. Thirty-three (33%) of respondents indicated "other places" where they have had about KM with notably 30% of respondents indicating that they had become aware of KM from within the Department. This finding corresponds with that of Dube (2009) who also found that 50% of respondents had heard about KM inside the Department under study.

The practice of informal KM limits the organization from obtaining potential benefits of KM and an active participation from all employees due to lack of awareness. The idea of implementing a KM initiative requires to be well comprehended and its benefits communicated sufficiently to all employees within the public sector organisation in order for the entire

organization to be conducive towards KM practices (Cong and Pandya 2003:25). The KZN DPW will need to work on making available KM programmes in a bid to enhance employees' understanding and increase the chances of participation once the KM initiative is implemented. McEvoy, Ragab and Arisha (2017) added that there is a need to improve the awareness and understanding of the consequences of not having a formal KM initiative especially in the area of knowledge loss. This finding mirrors that of Nengomasha, Mubuyaeta and Beukes-Amiss (2017:25) who found that Ministry of Gender Equality and Child Welfare in Namibia had "no programmes put in place to educate and bring awareness to the understanding and the importance of KM." Similarly, Wilson and Nawe (2017) also confirmed the lack of such programmes among Mbeya University of Science and Technology (MUST) staff in Tanzania, which was an inhibiting factor. Having a good awareness and understanding of KM becomes important in order for an organization to create its own KM initiative suitable to that organization's vision and mission (Valaei and Aziz 2012). One of the benefits of KM is to assist the organization into reaching its desired goals by providing a quick and simpler way to find information needed to make key decisions.

The findings revealed that 84% of respondents were not affected by the recent restructuring at the KZN DPW. This generally indicates that there will be less resistance to change that comes with the implementation of new initiative like KM, which brings about new work processes. In general, both tacit and explicit knowledge are crucial for the organization, but then the findings in this study revealed that 72% of respondents mentioned tacit knowledge as the one being at risk to be lost due to organizational restructuring. Even though there is a risk of losing any type knowledge due to the restructuring process, the need of implementing formal KM is very high to conserve a continuous development of service delivery.

A significant percentage, at 38%, of these respondents can be said to be committed to this Department as they had been working there more than ten years, with 85% of respondents permanently employed. Therefore, the views of these respondents regarding the benefits employees gain from KM practices modes is fundamentally important to the KZN DPW to realize the need to implement KM since effective KM requires strong commitment from both the top management and employees. Even though most respondents 67% indicated that they know where to obtain the information and knowledge required doing their job, 44% mentioned that they often need assistance. A majority of respondents, at 74%, identified their supervisors as the persons whom they usually approach when they require assistance, followed by 46% of

respondents who identified colleagues within the same section of the organization as their sources of assistance and guidance.

This might be influenced by the good working relationship between the employee and their supervisor; and between the respondent and his or her colleagues, as was mentioned by 95% of the respondents. Such a good working relationship is required between the management and employees in order to stimulate the SECI knowledge conversion process, which results in the creation of new knowledge needed for an effective KM initiative (Rice and Rice 2005).

There is a rapid realization of the importance of KM in enhancing organizations performance and service delivery within the South African public sectors (Hourigan 2017). Within KZN DPW, the majority 79% of respondents had recognized this importance and they believe that implementing KM initiative will lead to the same results; hence, 92% of the respondents disclosed that they would support a formal KM initiative. This can be helpful in establishing an effective KM initiative, should the Department decide to implement one, as the respondents are clearly open to new approaches and routines (Mohd Zin and Egbu 2010).

This study also explored KM practices available within the KZN DPW. In response to the question that asked respondents to indicate the KM practices that they think are used within the Department, 64% were of the view that knowledge sharing is the most used practice in KZN DPW. The practice of sharing knowledge within the Department was also emphasized in Section D of the questionnaire, in which 62% of respondents affirmed the statement that stated that knowledge sharing is actively encouraged across the Department. The study by Feltman (2012) also found that there is a culture of knowledge sharing across the Department of Agriculture, Forestry and Fisheries (DAFF), and this may be duplicated across other governmental departments.

Sharing knowledge effectively in an organization without a formal KM initiative can be very challenging since there is an issue of trust in terms of to whom knowledge is to be shared with and which knowledge should be shared. Al-Hawamdeh (2003) and Biswas, Khan and Biswas (2017) study revealed that the lack of trust is one of the inhibitors that negatively influence the success of knowledge sharing within an organization. In fact the lack of formal KM initiative create competition among employees as a results they may hold back on sharing imperative knowledge since it may not be clear how the other person may use it; since respondents 41%

also indicated that knowledge utilization practice is used within the Department. The SECI model of KM is therefore useful in providing clarity in how can be created, shared, utilized and disseminated for the benefit of the organization as well as the employees.

Furthermore, respondents were asked what they did with the report or document generated from a task or a project in order to discover whether there are any informal KM approaches being practiced within the Department. The questionnaire results revealed that 69% compared to 31% of the respondents normally share such reports/documents with their colleagues; 48% compared to 52% save the document in their computer; 23% compared to 77% file the document as a hard copy in a box; while 3% compared to 97% discard the document. The erratic use of these informal practices can be seen as an alert for KZN DPW to formally implement a systematic KM initiative to provide a standard format on for preserving documents and report which can be re-used and save the Department' time.

The interview results revealed that at the management level it is not clear whether there are KM practices in place within KZN DPW, with only one Director mentioning that there are KM practices available, whilst noting that the challenge lies in utilizing them. Half of the Directors disagreed with this, stating that the Department does not have any systems in place officially classified as KM practices, since "KM as a concept is relatively new in the Government" and as a result, they resorted to using their own practices of preserving knowledge. The remaining Director indicated that the issue of KM practices and their utilization is a "*neglected*" issue, which the Department still needs to address; this could be done by starting to raise awareness of KM and its benefits, which would lead to them being implemented officially. The use of different ways of preserving knowledge in an organization create confusion and individual work groups instead of using one method through KM initiative that will unite the entire organization and produce better results. Biswas, Khan and Biswas (2017:64) noted that implementing KM not only assists the public sector organizations to be more effective and innovative but it also assist employees to be more creative by sharing and gathering different skills from others.

6.3   How does the Departmental culture support KM practices?

The answer to this question also provided clarity in regard to the final objective of this study, which was to determine the impact KM enablers have on the use of KM practices. Respondents

indicated the KM enablers that contribute to the effective use of the identified KM practices. The identified enablers that are applicable in this study were: Human Resources (HR); Departmental Structure; Information Technology (IT); Departmental Strategic planning and Organizational culture and these enablers were discussed in Chapter Two (See Section 2.5). It is important that any organization that wish to implement formally KM to first check whether enablers that will assist the effectiveness of KM initiative are available to avoid failure of the programme.

As IT was identified as the enabler with the biggest impact on KM practices, as indicated by 39% of respondents, compared to 61% who did not; it is the responsibility of the Department to make certain that employees are well trained to use the technological tools. The study by Nengomasha, Mubuyaeta and Beukes-Amiss (2017:29) also found that "ICT infrastructure positively influences and enables KM practices." The second most influential enabler contributing to KM practice utilization was the HR enabler, as mentioned by 38% of respondents, while 62% did not. When planning to implement KM, the HR department should form part of the planning team as there will be different viewpoints from employees regarding their participation to the initiative, and HR can be able to assist in creating the required culture while putting emphasis on the importance of KM.

Respondents also identified Departmental structure and strategic planning enablers as helpful; however, organizational culture was regarded as the least helpful enabler in the utilization of KM practices. This thinking is explained by the responses in Section C of the questionnaire, where 44% of respondents agreed with the statement that within the KZN DPW there is a culture of self-reliance and of using one's background knowledge to complete a task. This kind of culture may decrease the effectiveness of KM if it is implemented, as KM initiative requires a strong organizational culture that encourages knowledge sharing and consultation (Kermally 2002). These questionnaire findings differ from the findings arising from the interviews, which makes the Department's culture to be questionable in whether it will be conducive towards the effectiveness of KM initiative when implemented.

Two Directors interviewed agreed that the Departmental culture supports KM practices, especially when it comes to sharing knowledge; however, one of these Directors felt that the existing culture needs to be improved and that the management must start practising sharing knowledge to encourage employees under their supervision to follow suit. The other two

Directors felt that the KZN DPW does not have a culture that supports KM practices since there is no proper documentation of information, which makes it difficult to emphasize a culture to sharing. The fact that there are no formalized KM practices means that the Department is at risk of losing knowledge when employees retire, as they simply leave with their knowledge (Tiwana 2002). This has to change if the Department is to implement effectively KM initiative, as "KM requires cultural change" (OECD 2003:5) and in order to incorporate employees brainpower all together (Bratianu, Vasilache and Jianu 2006:80). As noted by Edge (2005:25), obtaining tacit knowledge of experienced and retiring personnel is critical as most public sector organizations are dealing with excessive attrition and retirement.

6.4 What impact does the organizational structure have on KM?

How an organization is structured is important for the KM initiative to be a success; therefore, organizational structure as an enabler can strongly affect the effectiveness of KM. Consequently, it is imperative for organizations to ensure that their structure would be able to support a KM initiative, if one were implemented (Davenport and Volpel 2001; Alawamleh and Kloub 2013). The results of this study revealed that organizational structure was the third enabler recognized as being helpful in promoting the use of KM practices by 30% of respondents, compared to 70% who did not view it as a helpful enabler.

When Directors were asked whether the KZN DPW structure is hierarchical, top-down, vertical or horizontal in nature, two of the Directors who were interviewed stated that the structure is hierarchical in nature and the other two indicated that it is top-down. Although the hierarchical structure might be the most suitable structure for a Government department in terms of communication, it poses the risk of hindering knowledge creation as decisions are only made at the top of the hierarchy, while inputs from employees at lowers levels in the organization might not be considered. This finding corresponds with that of Feltman's (2012) study, which revealed that the hierarchical organizational design affects the culture of trust and openness within a department. Like the hierarchical structure, the top down structure also has an impact on KM and its practices, as it does not allow interaction between the top and the bottom levels.

Ondari-Okemwa's (2007:228) study found that Kenyan governmental organizations also reflect a top-bottom structure, which create various administrative personalities. The findings in the current study show that the structure of the KZN DPW may negatively influence the

effectiveness of a KM initiative and serious alterations would be required should the Department decide to implement such a programme. O'Riordan (2005:13) concurs that public sector' organizational structures tend to be quite hierarchical and as a result, provide less encouragement for improvement and teamwork.

In regard to determining whether the Departmental structure hinders or promotes employees to express their ideas or opinions, two of Directors felt that the KZN DPW structure encourages employees to voice out their ideas and opinions by means of various meetings held within the Department. However, the other two Directors felt differently, indicating that the structure does indeed make it difficult for employees to state their views, and that when employees do get the chance to express their opinions, management does not embrace their ideas easily. As one Director noted: "*Only the highest persona on the rank has the final say.*" This hinders the creation of new knowledge needed during the SECI process. In addition to this, one Director stated, "*The KZN DPW structure itself does not lend to the generation of new knowledge because it is too authoritarian*", which also influences the way employees connect with each other (Von Krogh 1998). This will pose a challenge when implementing KM initiative as it requires flexibility from the organizational leaders to employees on the effective application of KM.

6.5   How does the organizational strategic plan promote KM?

As one of the strategic tools employed by the department, a KM initiative should be aligned to the departmental strategy for the approach to be effective (David 2011; Omotayo 2015). According to 52% of the respondents, the KZN DPW strategy positively promotes the creation and preservation of new knowledge and ensures that it is delivered among employees in a timely manner. This finding is of importance considering that knowledge is seen "as a strategic resource in managerial decision making" within the organization (Bratianu and Bolisani 2015:169). Bearing in mind the mission and strategy of the Department, three of the interviewed Directors stated that KM is "*critically*" important even though the Department is not dedicating significant interest to formally implementing a KM initiative.

According to these Directors, the lack of a formal approach to KM results in knowledge loss and "*reinventing the wheel*" in terms of work processes, hence the importance of implementing this initiative. This corresponds with the finding from the study conducted by (OECD 2003:7)

which found that implementing KM reduces duplication of work amongst divisions and directorates within a public sector. Madue and Ncume (2012:581) pointed out that, usually some of the sections within the public sector duplicate work previously completed by another section merely for the reason that nobody had been watchful of organizational knowledge or employees' expertise in such a way that the lessons learned from the past are shared and applied in other sections.

One of the Directors regarded the "*KZN DPW strategic planning as flawed*," indicating that the Department does not stick to the strategic planning processes and procedures, rendering it meaningless to introduce KM in such an environment. As a starting point, towards the strategic planning for KM, KZN DPW should introduce the position of a Chief Knowledge Officer (CKO) who will focus specifically in assisting towards the implementation process of the initiative. Jain (2009) study corroborate that introducing a CKO within an organization is a positive move towards implementing KM initiative effectively since he or she should be a visionary and strategic thinker who can sustain the organization's competitive edge and also encourage employees into actively participating in KM practices. In addition, the study by Abdullah and Date (2009:10) upholds that the role of a CKO includes generating workplaces that permit employees to share ideas in an atmosphere of trust.

Therefore, as indicated by O'Riordan (2005), organizations should develop an all-inclusive strategy and approach that would be in relation to the Departmental strategic plan and to KM when implemented. This is because the benefits to be obtained from KM initiative will not be supplied to public sector organizations on a plate, nor will the challenges be met without certain alteration such as establishing a KM unit within the organization before implementing KM initiative (Cong and Pandya 2003:25).

6.6   What are the communication tools and human resources available for effective KM within the KZN DPW?

As indicated by 57% of the respondents there are open communication channels within the KZN DPW that would be effective in supporting a KM initiative if implemented. In terms of the tools used for communication, 72% respondents regarded bulletin boards or e-departmental notices (circulars) as the tool used most commonly within the Department to access information. The study also found that tools such as emails sent through the intranet and the

Departmental database are used to access information, while other KM tools like blogs, Facebook, Twitter, mobile phones etc. are not utilized, as indicated by 57% of respondents. When Directors were questioned about whether the KZN DPW has sufficient technological tools that will assist effective KM, one of the Directors agreed that it does. Three Directors who were of the view that the Department has insufficient technological tools to support KM initiative surpassed this. One of these Directors said, "*The fact that the KZN DPW is not a learning organization means that the same applies to our ICT.*" This implies that the Department should invest in ICTs that will help a KM initiative to be a success. Buckova (2015:393) concurred by pointing out that in order to build an environment where employees are capable of practising KM, the public sector organization must develop a complete IT infrastructure. Technology is of value especially in the public sector organization where the establishment of the entity for information service delivery has to be significant to the citizens (McEvoy, Ragab and Arisha 2017:42). Additionally, after implementing a KM initiative, ICT can assist in the methods of managing knowledge by capturing, organizing, and distributing that knowledge within the organization (Romanelli 2017:560).

Since organizations require individuals to create knowledge, they should be positioned appropriately according to their expertise and qualifications to produce the desired results. Buckova (2015:395) advised that, it is crucial that the employees of a public sector organization are continuously educated in order to acquire more knowledge and skills to enhance their performance as well as the relationship with citizens. The finding arising from the interviews revealed that all Directors felt that employees within the KZN DPW had been placed according to their skills and qualifications, and they know how to do their jobs. This finding is supported by the results from the questionnaire, where it was revealed that 85% of respondents stated that their colleagues know their area of expertise in terms of their jobs. Performance management assessment was a mechanism identified by all Directors, which is used to revisit employees' skills annually to check if their duties continue to correspond with their skills. Should the Department decide to implement a KM initiative, then KM practices should also form part of assessments in terms of performance for the initiative to be fully effective, this will allow employees to accept easily the initiative.

One of the role of HR is to ensure that the organization does utilize its knowledge for productivity (Aziri, Veseli and Ibraimi 2013), for example, by ensuring that retiring or departing employees' knowledge is captured and retained accordingly. The results from the questionnaire

revealed that 49% of respondents stated that there are procedures within the Department that capture tacit knowledge of retiring employees. The results also revealed that 31% of respondents did not know about such procedures while 20% of respondents indicated that in their view the Department does not have such procedures in place.

The interview results correspond with the 20% of the questionnaire respondents as four Directors were of the opinion that, no system is in place to capture the tacit knowledge of retiring employees. However, two Directors identified an exit interview or questionnaire as a way for the Department to capture such tacit knowledge. One Director stated, "*There has never been a time where the exit interviews for a particular period are discussed at a senior management level.*" As a result, valuable tacit knowledge is being lost when employees exit the Department. Since knowledge retention is not enforced within the Department, one of the Directors had resorted to taking the initiative of capturing sectional knowledge using tools such as a folder within a drive that can be accessed by all colleagues within the section. This finding concurs with that of Ramohlale (2014), who found that within the Department of Defence, some respondents were practising KM on their own. The questionnaire results revealed that 61% of respondents indicated that they would benefit from processes to help them to contribute in KM practices; this can only be achieved through the implementation of KM initiative.

The questionnaire results also revealed that the KZN DPW does not have a component through which KM can be facilitated that can coordinate the supply of information to sustain imperative decision-making, as indicated by 40% of respondents. On this matter, 34% of respondents stated that they did not know whether such a component existed, while 26% of respondents were of the view that a KM component is available within the Department. On the other hand, some respondents 44% have that extraordinary knowledge that they like to share with the Department but there is no sharing platforms available to do so. Moreover, 62% of respondents revealed that they would benefit from templates that would help them to easily capture and disseminate knowledge acquired from conferences and meetings. In addition, 52% of respondents indicated that the Department does not have a Knowledge Management Officer who can manage the intellectual capital of the Department. The study conducted by Ramohlale (2014:142) also found that the Department of Defence lacks KM professionals and a component dedicated to managing the intellectual capital of the Department, as there is no formal KM initiative implemented and no awareness with regard to KM. Wiig (2000:17) study also encourages

public sector organizations intending to implement KM initiative effectively to create a KM component within the organization.

6.7   Summary of the discussion

The main objective of Chapter Six was to discuss and interpret the findings of the study, as presented in Chapter Five. Based on these findings and interpretations, the researcher has noted a number of opportunities as well as challenges. It can be said that within the KZN DPW, there is a good general awareness of KM and that its importance and accompanying benefits had been recognized; hence, most of the respondents among the both junior employees and management are willing to support a KM initiative, if it is implemented. Based on the findings from this study, few respondents have been affected by the recent Departmental restructuring. However, there is a risk of losing tacit knowledge from those who were affected by the process. It is evident from the findings that employees within this Department know where to obtain information and get assistance to perform their jobs. Nevertheless, a central location in which any required information can be readily accessed in the absence of their supervisor or colleagues is required.

Since the SECI knowledge conversion model requires interaction among individuals within an organization, the good working relationship that apparently exists between employees and supervisors or among employees themselves could facilitate the successful operation of such a process better. The management neglected the issue of using KM approaches within KZN DPW and as a result, there is informal practice of these approaches, knowledge sharing and utilization is the most used approach. There is divergence of views between junior employees and the management regarding the organizational culture; therefore, the Departmental culture need to be improved if KM is to be implemented formally. The literature reviewed in this study attest to the fact that each type of organizational structure have its own challenges, the hierarchical structure is the most appropriate for the KZN DPW.

However, should the Department decide to implement a KM initiative, the importance of KM and its benefits should be emphasized first from the Head of Department so that it may filter down to the lowest level. The Departmental strategy has been designed to promote the creation of new knowledge and to ensure that information is delivered to the right person on time for the effective provision of service. Despite this, the Department has not taken steps towards

implementing KM formally, which will help create processes that will enhance performance as well as service delivery. The KZN DPW has in place general communication tools, but ICTs that may assist effective KM are still lacking. Procedures to retain the tacit knowledge of retiring employees are not effective. A KM professional and a specific KM component that can help to facilitate a KM initiative, if implemented, are required in order for the KZN DPW to enhance its productivity and service delivery.

CHAPTER 7:   SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

7.1   Introduction

This Chapter presents a summary of findings presented in Chapters Five and Six, the study's conclusions to the research problem outlined in Chapter One, as well as the recommendations based on these findings. Suggestions for further investigation will also be provided in this Chapter.

This study was conducted with the aim of discovering the extent to which the KwaZulu-Natal Department of Public Works (KZN DPW) demonstrates readiness to implement a Knowledge Management (KM) initiative, which may help to prevent the loss of knowledge due to recent Departmental restructuring. Using the pragmatist paradigm, this study was grounded on the conceptual framework of KM set out by Nonaka and Takeuchi (1995), namely, the socialization, externalization, combination and internalization (SECI) model. The researcher's assumption regarding these findings was that they would encourage the DPW and other departments to consider implementing KM to improve service delivery. The discussion in this Chapter is categorized as per the study's research questions outlined in Chapter One (See Section 1.7).

7.2   Summary of the study

Chapter One introduced the study, provided background information on how the research was conducted and briefly presented an overview of the Department under study. Significant study concepts used in the dissertation were also defined in this Chapter. The problem statement was explained and the research objectives and questions were stated. In addition, the conceptual framework, the methodology applied, the significance of the study, as well as its limitations and ethical issues were discussed.

Chapter Two delved into the available scholarly literature to provide the broad thinking behind KM and its processes within organizations. Reasons as to why the public sector organization should implement KM initiative were specified. The organizational benefits of implementing KM after organizational restructuring were addressed and discussed. The Chapter also

examined the ways in which KM enablers, as contributing factors, influence the successful implementation of KM initiatives within organizations. An explanation of importance of conducting a readiness assessment before implementing KM was provided. The current practice of KM in the South African public sector was outlined, as were the KM practices in public sectors in other nations. In addition, a detailed review and discussion of scholarly articles that studied the impact of organizational restructuring on service delivery was provided. Following on from this, the importance of implementing KM after restructuring was also provided in this Chapter.

Chapter Three introduced and explained the knowledge category model of KM (SECI model), which was the framework around which this study was constructed. Furthermore, it elaborated on how the framework guided and supported the entire study.

Chapter Four presented the research paradigm, research design, research methods and population, data collection methods incorporated by the researcher to answer the research questions. The Chapter also explained how ethical considerations, data analysis procedure, data reliability and validity were achieved.

Chapter Five presented the quantitative and qualitative data collected during the research process, using graphs, tables and percentages to display the data emerging from the study according to the research questions and objectives.

Chapter Six generally discussed the findings of the study that were presented and analyzed in Chapter Five. This Chapter also compared the findings with those of previous studies related to KM.

The current Chapter, as indicated above, provides a summary of the entire study. It also summarizes the findings and presents the conclusions based on the findings, as well as the recommendations associated with the research questions. Finally, suggestions for further investigation are provided in this Chapter.

7.3   Summary of the findings based on the study's research questions

This section provides a summary of the findings relating to the readiness of the KZN DPW in regard to implementing a KM initiative. From these findings, conclusions are drawn, based on the research questions the study aimed to answer, as presented in Chapter One.

7.3.1   What is the level of awareness concerning the concept of KM?

The findings revealed that the level of awareness of the concept of KM within KZN DPW is high and that, although the Department is practising KM only informally, some of this awareness appears to be emanating from within the Department itself. It emerged that some members of the Department's management who are aware of KM and its benefits are practising KM within their sections and are encouraging their employees to implement a number of KM practices to prevent the loss of their sectional knowledge as well as a repetition of past errors. One of the KM practices commonly mentioned by some of the Directors during the interviews was the retention of KM generated from a task or a project, which is preserved using folders within a computer or a shared drive that is accessible to every employee within the section. Therefore, it can be concluded that even though there are some respondents who are not aware of KM, the majority of the respondents have at least some knowledge about KM and its benefits and they support the formal implementation of a KM initiative in the Department.

7.3.2   How does the departmental culture support KM practices?

The findings showed that the culture of the KZN DPW is regarded as the least helpful enabler in the utilization of KM practices. This is because a culture of self-reliance and of using one's background knowledge to complete a task is currently dominant within the Department. However, the findings further showed that there are differing viewpoints among the employees, the management and between the management in determining whether the Departmental culture supports KM practices.

Half of the Directors interviewed revealed that the Departmental culture does support KM practices and the other half felt that since there is no formal KM initiative in place, it is challenging to instil a culture that is supportive of KM. The lack of common perspective among these respondents gives the impression that the organizational culture of the KZN DPW is not likely to be conducive to the establishment of a KM initiative, if implemented and therefore this culture requires transformation into one that is friendly towards KM practices.

7.3.3   What impact does the organizational structure have on KM?

The findings revealed that the hierarchical structure, which is equivalent to the strategic business unit (SBU) structure identified in Chapter Two (See Section 2.5.4), is the most appropriate structural category in which to place the KZN DPW as regards its present structure. However, based on the literature reviewed in this study, it is evident that this type of structure does not work very well in ensuring the effectiveness of a KM initiative. Furthermore, the Directors interviewed differed in opinion in terms of how the organizational structure affects communication flow and the promotion of the expression of employees' views.

The findings further revealed that various Departmental and Sectional meetings are used to encourage employees to express their opinions and communicate freely; however, it appears that even when those views are articulated, the Department's management does not readily consider adopting them. Therefore, it is evident that the structure of KZN DPW will negatively influence a KM initiative, if one is implemented. On the other hand, since government departments are hierarchical in nature, radical changes to the organizational structure is not feasible. Alterations to such a structure to accommodate a KM initiative includes incorporating some of the matrix's structural operations (as discussed in Chapter Two), allowing the Department to be a learning organization and providing the ability for Departmental managers and employees to create and manage knowledge effectively.

7.3.4   How does the organizational strategic plan promote KM?

The findings showed that the KZN DPW strategic plan encourages the management of knowledge since it promotes the creation and preservation of new knowledge. However, as no formal procedures for managing knowledge are in place, this strategic plan will not fully mature unless the Department decides to implement a KM initiative and acquire all the benefits of KM. Furthermore, the manner in which knowledge is managed in this Department was regarded important as it affects decision-making, performance and service delivery. Therefore, it can thus be concluded that the KZN DPW stands ready to reap significant benefits if it implements a KM initiative, in view of the fact that its strategic planning is already promoting the management of knowledge.

7.3.5   What are the communication tools and human resources available for effective KM within the KZN DPW?

The findings revealed that the KZN DPW has basic communication tools available to initiate KM practices, but the required ICTs for the effective implementation of KM are lacking. Bulletin boards or e-departmental notices, commonly known as circulars, are the most widely used tools for communication; while Departmental emails through the intranet as well as the database are employed to access information. In terms of the human resources available for effective KM, generally, KZN DPW employees are placed according to their skills and qualifications and they are knowledgeable about their areas of expertise with regard to performing their jobs, meaning that they are aware of their strengths and weaknesses regarding the knowledge they possess. Therefore, a formal KM initiative can help create KM processes that assist in the exchange of the expertise the employees have, resulting in the success of the initiative. Moreover, this study concludes that a central person such as a Chief Knowledge Officer (CKO) and a component dedicated to overseeing the proper functioning of these KM processes is required for KZN DPW if a formal KM initiative is to be implemented.

7.4   Conclusions regarding the research problem

The recent Departmental restructuring did not affect most of the respondents in this study; therefore, it can be anticipated that there would be lower resistance to participation in the changes that accompany a new initiative of managing knowledge. However, for those who had been affected, the risk of losing tacit and organizational knowledge due to the lack of a KM initiative to preserve knowledge is high.

There is a good awareness of KM and its benefits within the KZN DPW; however, should the Department decide to implement a KM initiative, there is a need to increase awareness further to reach those respondents who are not aware of KM, in order for the programme to be effective. Regardless of the number of years employees have worked within the Department, it is evident that from time to time, they will require assistance. A focal point where relevant information can be accessed quickly can be useful, since supervisors or colleagues may not always be available to assist an employee.

It is also evident from the findings that a KM initiative would enhance performance and service delivery if implemented within the KZN DPW and there is strong support for this from both the management and the employees. Indeed, KZN DPW is informally practising KM practices; as a result, practices such as knowledge sharing and application are being employed, whereas if KM were to be formally implemented, the Department would be able to experience fully the benefits of KM and its contribution to the Department's mission and vision.

All KM enablers identified in this study are available within the KZN DPW. IT, HR and strategic planning are the KM enablers that were found to have a profound impact on the use of informal KM practices present in this Department. The lack of effectiveness in providing the other KM enablers, namely organizational culture and organizational structure, will however lead to the failure to manage knowledge if these enablers are not customized to suit the requirements of a successful KM initiative.

Based on the discussion above, it can be concluded that the current structure of the KZN DPW needs to be adjusted to accommodate the work processes that accompany the implementation of an innovative approach such as a KM initiative. The Departmental leadership is conducive to achieving organizational goals and recognizes the need to implement a KM initiative formally, since a majority of the management is already practising KM in their sections and they also have a good working relationship with the employees, which allows for the flow of knowledge.

This study concludes that the strategic planning of the KZN DPW is in alignment with the use of KM practices as it promotes the management of knowledge, as well as emphasizing the need for employees to create and preserve new knowledge to ensure that it is delivered timeously for effective decision-making. The establishment of a fully operative KM initiative depends upon the Department's recognition of the importance of KM and its benefits.

A core problem is that the Department does not have sufficient ICTs that are effective into supporting a KM initiative, if implemented. KM tools such as blogs, Facebook, Twitter, mobile phones etc. are not fully utilized for managing and sharing information, therefore their benefits are limited.

It can also be concluded that there is a lack of effective procedure in place that can be used to capture tacit knowledge existing within the Department as well as that held by employees who are retiring or departing since the exit interview that has been identified is not effective in this regard. In view of this, the KZN DPW is bound to repeat the same mistakes and delay the delivery of service. The Department does not have a knowledge officer or a component that can facilitate a KM initiative, if implemented. This means that the entire KM process will not be co-ordinated and overseen by an individual or unit focussed exclusively on this task within the Department.

Despite the above-mentioned shortcomings, this study concludes that the KZN DPW possesses some of the features required for an effective KM initiative. As a result, the Department is ready to implement KM initiative since it is already managing knowledge informally and majority of respondents support the initiative as they are already realizing its importance in their daily work processes. However, in terms of formally implementing KM initiative, the Department still need to straighten some of the key issues like ensuring that all KM enablers are contributing towards the success of KM initiative.

7.5   Recommendations

The purpose of this study was to investigate the extent to which the KZN DPW demonstrates readiness to implement KM through the assessment of KM enablers, namely the organizational culture, human resources, information technology, organizational structure and strategic planning present within the Department. Based on this purpose, the following recommendations are provided:

7.5.1   Raise awareness of KM across the entire Department

Before a KM initiative can be fully implemented throughout the Department, it is critical that employees within the Department are aware of KM and of the objectives in its implementation so as to avoid resistance among staff to participate, which would ultimately lead to the failure of the initiative. Among the ways in which this can be achieved is ensuring the involvement of both employees and management in planning towards the implementation of KM, because if they have been included in the process from its inception, then staff will hold in high regard for the need to participate. KM can also be promoted electronically through the intranet,

Departmental emails and newsletters, as well as through creating a link in the intranet to folders making knowledge and its management accessible to all employees.

In addition, KM promotion can occur through encouraging employees to attend workshops about KM and its importance in the Department. The topic of KM practise can also be included in the compulsory induction course for new employees so that they become aware of it before they even begin work (Dube 2009). Ultimately, the importance of KM should be realised from the Acting Head of Department (AHOD) down to the management so that the awareness will then be filtered down to the Department's employees.

7.5.2   Further develop all KM enablers

KM enablers are the prominent features that regulate the success of KM within an organization; therefore, it then becomes imperative for the KZN DPW to ensure that before implementing a KM initiative, all KM enablers are in place, creating a favourable environment towards KM and its processes. However, those charged with the development of these enablers should bear in mind the cost associated with, and the budget allocated towards the implementation of KM.

7.5.3   Establish a KM directorate, managed by a Chief Knowledge Officer

Having a KM directorate in place before implementing a formal KM initiative will assist the Department because such a directorate will assume full responsibility of planning for and ensuring that the initiative is successfully implemented. Similarly, the CKO will take responsibility for guaranteeing that the initiative is being applied consistently across the entire Department and at a later stage, for examining the effects of this initiative on the performance and service delivery of the Department.

7.5.4   Include the formal implementation of a KM initiative in the Department's strategic plan and in the employees' personal development plan (PDP)

The need to implement formally a KM initiative should first form part of the strategic plan so that it can be strategically aligned to the mission and vision of the Department: in this way, a KM approach suitable for the organization can be developed. In addition to this, KM practices should also form part of the employees' assessment in terms of performance and be included in

each employee job description in order for the initiative to be fully effective. This could save capital for the Department as the need for rewarding and creating incentives for generating knowledge would be covered in the performance bonuses, which already exist across all government departments.

7.5.5 Conduct exit interviews when employees leave the Department and review these interviews regularly

Once a KM initiative is formally implemented, it should become a norm for the HR section to ensure that an exit interview is conducted with each employee departure and the information obtained during this interview should be stored safely but reviewed frequently. This will assist in sourcing employees' tacit knowledge, since organizations are recognizing the need to manage tacit knowledge (Rollo 2002:28). This knowledge can be useful for, or can be applied by other employees in the same section, at the same time, this knowledge must be transferred to the KM section to be retained and preserved for future use.

7.5.6 Formally implement a KM initiative

When KM is practised informally, there is a high chance that a number of employees within the Department will not see the value of the initiative simply because they lack information about it, or they have not realized its benefits. If KM is implemented formally, it raises the desire to practice the correct KM approaches and therefore, there will be less resistance to it among employees. In order to fulfil completely the objectives of the recent Departmental restructuring, it is recommended that KZN DPW formally implement a KM initiative in order for the Department to be able to adapt, survive with competence and keep up with new developments so as to preserve efficient performance and the effective delivery of service (MingYu 2002).

7.6 Suggestions for further research

This study suggests the following areas for further research:

This study provided the first phase in the road to exploring the readiness of the KZN DPW to implement a KM initiative and to possibly implement formally such an initiative. Related

studies could be conducted with other KZN provincial Departments to determine whether they are ready to implement KM.

The second phase would be to conduct a knowledge audit of the whole KZN DPW, before KM is implemented, in order to determine where knowledge is mostly located within the Department and to find out if the Department is a knowledge driven organization.

This study was conducted in a public institution and future research could be carried out in private organizations to investigate their readiness for KM implementation and to compare findings.

Lastly, after KM initiative had been formally implemented right across the KZN DPW, a study could be done to determine the effectiveness of the initiative, whether the approach has achieved its objectives and is producing innovation and service-delivery within the Department.

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APPENDICES

Appendix A: Request to the HOD for approval to conduct the study at the KZN DPW

public works	Directorate: Library Services
Department:	Private Bag X9041
Public Works	PIETERMARITZBURG, 3200
PROVINCE OF KWAZULU-NATAL	Tel: 033 3555579
	Fax: 033 355508
	Enquiries: Mr N Mtshali
	Email: ntokozo.mtshali@kznworks.gov.za

To: **Mr A Govender**
             HoD: Public Works

             Mr TA Mdadane
             DDG: Infrastructure Maintenance & Technical Support

             Mr N Mtshali
             Library Manager: Infrastructure Maintenance & Technical Support

From: **Ms F Nenungwi**
             Librarian: Infrastructure Maintenance & Technical Support

Date: **03 March 2017**

Subject: **Request to conduct a research study for a Masters Degree purpose at the KwaZulu – Natal Department of Public Works.**

1.   Purpose

1.1 To request approval from the Head of Department to conduct a research study for a Master's Degree purpose at the KwaZulu – Natal Department of Public Works.

2.   Background

2.1 I, F. Nenungwi: Librarian have been accepted at the University of KwaZulu – Natal (Pietermaritzburg campus) to pursue my Master's Degree: Information Studies by full dissertation during the 2017 year. Kindly refer to the attached proof of registration.

2.2 The topic of my study will be **Readiness for knowledge management adoption: the case of the KwaZulu-Natal Provincial Department of Public Works in Pietermaritzburg.**

3.   Discussion

3.1 The White Paper on Transforming public service delivery (Republic of South Africa, 1997) stipulates eight (Batho Pele) guidelines principles for Government institutions that are to be applied in their service delivery efforts.

3.2 The problem with service delivery lies with the implementation of these guidelines and in the South African context, Provincial Governments are largely responsible for delivering quality services to the public in an efficient and effective way.

3.3 In an age were knowledge and information are key strategic tools in the organization, there is a need for Provincial Governments to adopt the role of knowledge – based organization that thrive on the competence of knowledge workers.

3.4 In order for Provincial Governments to deliver the best possible services, there is a need to implement a system of control in terms of knowledge present within the organization.

Request to conduct a research study for a master's degree purpose at the KwaZulu – Natal Department of Public Works.

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3.5 This can be achieved by implementing a knowledge management system which is a well-founded management approach that has been successfully applied across the corporate sector.

3.6 This approach involves methodically creating, presenting and making available the extensive knowledge that is present in the organization.

3.7 Therefore, **the objective of this study will be to investigate the extent to which the KwaZulu – Natal Department of Public Works demonstrate readiness for the adoption of knowledge management approach through the assessment of knowledge management enablers present in their organization.**

4. Methodology of the study

4.1 The study will adopt a mixed method research approach and will use interviews and questionnaires to collect data.

4.2 The targeted population for this study will be employees ranging from Assistant Directors, Deputy Directors and Directors of four sections (**Strategic Management; Information Technology; Human Resources and Monitoring & Evaluation**) as I believe that these sections are more related to the implementation of the approach.

4.3 Data will be collected after the proposal has been accepted by the University.

5. Financial Implications

5.1 There are no financial implications applicable to this request.

6. Recommendation

6.1 It is highly recommended that the Head of Department approves the request to conduct a research study for a Master's Degree purpose at the KwaZulu – Natal Department of Public Works.

6.2 Should this request be approved, I would kindly request a written letter to indicate that approval had been granted by the Department which is part of the requirement when submitting the proposal to the University.

Regards,

Ms F Nenungwi
Librarian

14/03/2017
Date

Supported / Not Supported

_____

_____

Mr N Mtshali
Library Manager

14/03/2017
Date

Request to conduct a research study for a master's degree purpose at the KwaZulu – Natal Department of Public Works.

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Recommended / Not Recommended

_____

Mr TA Mdadane
DDG: Infrastructure Maintenance & Technical Support

Approved / Not Approved

_____

Mr A Govender
HOD: Public Works

KZN DEPARTMENT OF PUBLIC WORKS
HEAD OFFICE: PIETERMARITZBURG
Date
2017 -03- 1 4
OFFICE OF THE CHIEF DIRECTOR
INFRASTRUCTURE PROGRAMME

Date   17/3/17

Request to conduct a research study for a master's degree purpose at the KwaZulu – Natal Department of Public Works.

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Appendix B: Gatekeeper's letter from the Acting Head of Department

public works

Department:
Public Works
PROVINCE OF KWAZULU-NATAL

Private Bag X9041
PIETERMARITZBURG
3200
Tel: 033-355 5560
Fax:033-355 5683
Enquiries: Mr A Govender
Email: head.works@kznworks.gov.za

OFFICE OF THE HEAD OF DEPARTMENT

<u>Ref: Gatekeeper Clearance Letter</u>   06 June 2017

Ms F Nenungwi
Infrastructure Maintenance and Technical Support
Department of Public Works
Pietermaritzburg
3200

Re: **Request for a Gatekeeper Clearance Letter to conduct Masters Research**

1. Your letter dated 6th June 2017 on the above subject matter refers.

2. I wish to grant an express clearance for you to conduct your Masters research in the KwaZulu – Natal Department of Public Works knowing that the results will be of immense benefit to us and other Provincial Departments.

3. The Department wishes you a conducive research work.

4. Thank you for choosing our Department as a case study in your research project.

Regards

Mr T. A. Mdadane
Acting HOD: Public Works

7/6/2017
Date

Appendix C: Questionnaire cover letter for KZN DPW junior employees

Covering letter for junior staff and deputy director's Questionnaire

UNIVERSITY OF
KWAZULU-NATAL ™
INYUVESI
YAKWAZULU-NATALI

10 August 2017

Dear Respondent

<u>Informed Consent Letter</u>

I am Fulufhelo Nenungwi (Student Number 217052684), a Masters candidate at the University of KwaZulu-Natal, Pietermaritzburg Campus. I am conducting this study as part of the academic requirements for the award of Master's degree in Information Studies. The study is entitled - Readiness for Knowledge Management (KM) adoption: the case of the KwaZulu-Natal Provincial Department of Public Works in Pietermaritzburg

The KwaZulu – Natal Department of Public Works Head Office implemented a new organizational structure and migration from the old organizational structure. Even though there were no employees who lost their jobs through this process, Head Office might be at risk of losing valuable knowledge and skills due to employees' turnover. There is a need to mainstream KM across the Department to improve service delivery. This study aims at finding information regarding the extent to which the Department demonstrate readiness to adopt KM.

You are kindly requested to participate in this study by completing this questionnaire. Kindly note that you will be anonymous as names of participants will not be used in the report of the study and participation is voluntary. You may refuse to participate or withdraw from this research project at any stage and for any reason without any form of disadvantage. There will be no monetary gain from participating in this research project.

Responses will be treated with strict confidentiality, that is, completed questionnaires will not be accessible to anyone except myself and my research supervisor.

I appreciate the time and effort it would take to participate in this study. It will take you approximately 15 minutes to complete this questionnaire.

Should you require any further information, please feel free to contact me or my research supervisor. Contact details are provided below.

Thank you
Yours Sincerely,

Fulufhelo Nenungwi

079 335 3957
Fulufhelo.Nenungwi@kznworks.gov.za

Supervisor: Dr. F Garaba

033 260 5321
garaba@ukzn.ac.za

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Appendix D: Interview cover letter for KZN DPW Directors

Covering letter for HOD and Director's interview

UNIVERSITY OF
KWAZULU-NATAL ™
INYUVESI
YAKWAZULU-NATALI

10 August 2017

Dear Respondent

Invitation to participate in an interview

I am Fulufhelo Nenungwi (Student Number 217052684), a Masters candidate at the University of KwaZulu-Natal, Pietermaritzburg Campus. I am conducting this study as part of the academic requirements for the award of Master's degree in Information Studies. The study is entitled - Readiness for Knowledge Management (KM) adoption: the case of the KwaZulu-Natal Provincial Department of Public Works in Pietermaritzburg

The KwaZulu – Natal Department of Public Works Head Office implemented a new organizational structure and migration from the old organizational structure. Even though there were no employees who lost their jobs through this process, Head Office might be at risk of losing valuable knowledge and skills due to employees' turnover. There is a need to mainstream KM across the Department to improve service delivery. This study aims at finding information regarding the extent to which the Department demonstrate readiness to adopt KM. Therefore you are invited to participate in this study.

Kindly note that you will be anonymous as names of participants will not be required and participation is voluntary. You may refuse to participate or withdraw from this research project at any stage and for any reason without any form of disadvantage. There will be no monetary gain from participating in this research project.

Responses will be treated with strict confidentiality, that is, interview records will not be accessible to anyone except myself and my research supervisor.

I appreciate the time and effort it would take to participate in this study. The interview will take approximately 30 minutes.

Should you require any further information, please feel free to contact me or my research supervisor. Contact details are provided below.

Thank you
Yours Sincerely,

Fulufhelo Nenungwi

079 335 3957
Fulufhelo.Nenungwi@kznworks.gov.za

Supervisor: Dr. F Garaba

033 260 5321
garaba@ukzn.ac.za

Appendix E: KZN DPW junior employees' questionnaire

Declaration of Consent

I... (full names of participant) hereby confirm that I understand the contents of this document, the nature of the research project, and I consent to participating in the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire.

_____   _____

SIGNATURE OF PARTICIPANT   DATE:

Junior Staff and Deputy Directors' questionnaire

Section A: Demographic Questions (Please tick the chosen option)

1. What is your gender?

Male	Female

2. What is the term of your position?

Permanent	Contract

3. How long have you been working for the KZN Department of Public Works?

Less than a year	
1-2 years	
3-4 years	
5-10 years	
More than 10 years	

4. Which section are you currently working under?

Human Resources	
Information Technology	
Monitoring and Evaluation	
Strategic Management	

5. Has the recent Departmental restructuring affected you?

Yes, I was moved to the current section	
No, it did not affect me	

Section B: Knowledge management (KM) awareness and perception

For the purpose of this study, KM is a systematic approach to find, understand, and use knowledge to achieve organizational objectives by applying the collective knowledge and abilities of the entire work force to achieve specific organizational objectives with a goal of managing important organizational knowledge

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

Yes	No

2. If you answered yes to the above question, where did you hear about it?

Department of Public Works	
Other Departments (please specify)	
Conference	
Short course	
Other (please specify)	

3. Please tick KM practices that you think are used within the Department.

Knowledge creation	
Knowledge dissemination	
Knowledge sharing	
Knowledge utilization	
Knowledge retention (preservation)	

4. In your view, which KM enablers contribute to the effective use of the above mentioned practices?

Organizational structure	
Organizational culture	
Information Technology	
Human resources	
Strategic plan	

5. Do you think employees would benefit if more structured and more regular modes of KM practices were introduced in the Department?

Yes	No	Don't know

6. Do you think implementing a KM initiative in the Department is required to enhance performance and service delivery?

Yes	No	Don't know

7. Will you support such an initiative, if implemented in the Department?

Yes	No	Don't know

8. Have you ever needed assistance regarding a work-related problem?

Always	Often	Seldom	Never

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

Supervisor	
Colleague in your Directorate	
Colleague within the Department but in another Directorate	
Someone outside Department	

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

Very satisfied	Satisfied	Fairly satisfied	Not satisfied

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

Disseminate within your section	
Share it with other departments	
Don't share it	
Save it for your own use	

12. What did you do with the report or document generated on the task or project? (Please tick all that apply)

Share it with colleagues who might need it	
Save it in an electronic file on your personal computer	
File it as hard copy and save it in a box file	
Discarded it	

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

Yes	No	Don't know

14. What crucial knowledge is at risk of being lost because of restructuring?

Tacit (individual) knowledge	
Explicit (organizational) knowledge	

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

Yes	No	Don't know

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

Yes	No	Don't know

Section C: KM statement for the Department of Public Works

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. (SD=Strongly Disagree; D=Disagree; A=Agree; SA=Strongly Agree)

Knowledge Statement	SD	D	A	SA
There are clear channels for acquiring knowledge to complete a given tasks/project	1	2	3	4
Communication channels are open	1	2	3	4
Directors encourage the open creation and sharing of knowledge	1	2	3	4
There is a culture of self-reliance, initiative and using one's background knowledge	1	2	3	4
I know where to obtain information and knowledge required to do my job	1	2	3	4
People feel free to consult each other regarding their work	1	2	3	4
People regularly share information and knowledge informally	1	2	3	4
I would benefit from templates to help me easily capture and disseminate knowledge that has been learned from conferences and meetings	1	2	3	4
I would benefit from processes to help me contribute in knowledge utilization and sharing	1	2	3	4

I have knowledge in areas that I know the Department could benefit from but I don't know how to make available	1	2	3	4
People meet socially outside work to share knowledge	1	2	3	4

Section D: KM readiness assessment

This set of questions provides a quick check of where the Department is along the characteristics of three critical success pillars such as people, process and technology

	YES	NO	DON'T KNOW
1. Leadership: relates to vision, mission and values towards KM	**YES**	**NO**	**DON'T KNOW**
Does your Department have a convincing knowledge vision, mission and strategy, actively promoted by your top management that clearly articulates how knowledge management contributes to achieving organizational objectives?	1	2	3
2. Processes: relates to capture of knowledge	**YES**	**NO**	**DON'T KNOW**
Our Department have systematic processes for capturing or gathering, organizing, exploiting and protecting key knowledge assets, including those from internal and external sources?	1	2	3
3. Explicit knowledge: relates to store of knowledge	**YES**	**NO**	**DON'T KNOW**
There is a methodically maintained knowledge inventory with a structured vocabulary or knowledge tree and clear ownership of knowledge entities that is readily accessible across the Department?	1	2	3
4. Tacit knowledge: relates to codification of tacit knowledge	**YES**	**NO**	**DON'T KNOW**
I know who are the best experts in different domains of key knowledge within my section and there is are mechanisms in place to codify their tacit knowledge into an explicit format?	1	2	3
5. Culture/structure: relates to encouragement towards KM	**YES**	**NO**	**DON'T KNOW**
Is knowledge sharing across departmental boundaries actively encouraged and does your workplace settings and format of meetings encourage informal knowledge exchange?	1	2	3
6. Knowledge centers: relates to facilitations for KM	**YES**	**NO**	**DON'T KNOW**
Is there a knowledge management directorate that coordinate knowledge repositories and act as focal points for provision of information to support key decision making?	1	2	3
7. Infrastructure: relates to technical support for KM	**YES**	**NO**	**DON'T KNOW**
i. We are able to find important information from the intranet (or similar network) using technologies	1	2	3
ii. We use KM tools like blogs, facebook, twitter mobile phones etc. to access information	1	2	3
iii. We use databases to access information	1	2	3
iv. We use Groupware software like email to access information	1	2	3
v. We use bulletin boards or e-departmental notices to access information	1	2	3
vi. We have a Knowledge Management Officer who manages the intellectual capital in our department	1	2	3
8. Organizational Strategy	**YES**	**NO**	**DON'T KNOW**
Priority is given in ensuring that knowledge that is generated is accurate, reliable, and delivered in a timely fashion (gets to the right person in the right format at the right time)?	1	2	3

9. Human Recourses	YES	NO	DON'T KNOW
There are Procedures regarding employees who had been with the Department retiring or departing in terms of capturing their tacit knowledge?	1	2	3

Thank you for taking your time to complete this survey ☺☺☺☺☺☺

Appendix F: KZN DPW Directors' interview schedule

Please complete this form

Title of study: *"Readiness for Knowledge Management (KM) adoption: the case of the KwaZulu-Natal Provincial Department of Public Works in Pietermaritzburg"*

I .... hereby confirm that I understand the contents of this document and nature of the research project, and I consent to participate in the research project as outlined in the document about the study.

I..., **I consent / do not consent** to have this interview recorded. I acknowledge that I have been informed of the purpose of this interview. I am aware that participation in this study is voluntary and I understand that I am at liberty to withdraw from the project at any time, should I so desire.

Participant

Signature: _____

Date: _____

Email: _____

Researcher

Signature: _____

Date: _____

Interview questions for Directors and Head of Department.

The proposed study will be a valuable contribution by providing an evidence-based account of the Department's readiness to adopt KM. The findings in this study may also encourage DPW including their regional offices to consider implementing KM. Your section plays an important role in the implementation of KM, and as the Director / HOD your opinion in determining the readiness of the Department to implement this initiative is extremely important. The interview should be approximately 30 minutes. Your answers from this interview will be kept anonymous.

For the purpose of this interview, *Knowledge Management involve "systematic approaches to find, understand, and use knowledge to achieve organizational objectives by applying the collective knowledge and abilities of the entire work force to achieve specific organizational objectives with a goal of managing important organizational knowledge".*

KM practices may include knowledge creation, dissemination, sharing and retention.

General questions

1. How would you describe your awareness and understanding of knowledge management?
2. Considering the value knowledge has in your department, are there any knowledge management practices in place (if yes) are your employees aware and make use of them?
3. How does your employees access information needed to complete a task, and do they experience any obstacles in terms of gaining access to that information?

Human resources questions

Employees plays a significant role, if not the most important one in terms of creating departmental knowledge.

1. Within your department, how well do you think employees have been placed in their positions in relation to their skills and qualification?
2. How often (if ever) do you revisit employee's skills to check whether they are still relevant to their tasks?
3. How do you capture tacit knowledge of retiring or departing employees?
4. Does the department provide in-job training for new employees, or do they learn along from their mentors?
5. How does your department capture experience and lessons learned from a completed project?

Departmental structure questions

Departmental structure has a significant influence on how knowledge within an organization is managed as it influences communication flows between different organizational units.

1. How would you describe the departmental structure at large (hierarchical, top down, vertical or horizontal)?
2. Based on your response above, what is the structure subsequent impact on communication flows?
3. Do you think the departmental structure hinders or promote employees to voice out their ideas or opinions i.e. in a meeting?

ICT questions

1. Does the department have sufficient technologies in place which can facilitate effective knowledge management, if implemented?
2. Did employees get sufficient training to utilize these technologies?
3. Do employees make use of these technologies to access knowledge or information?

Departmental strategic plan questions

1. Considering the department's mission and strategy, how important do you think knowledge management is in this regard?
2. How does the department ensure that knowledge is adequately captured and utilized?
3. In your opinion, how does the management of information (knowledge) affect decision making within the department as a whole?
4. Are there any mechanisms in place to ensure that the knowledge is efficiently captured and disseminated within the department?

Departmental / organizational culture question

Many people see knowledge as power.

1. With this phrase in mind, could you briefly describe the departmental culture in terms of sharing and transferring knowledge to your respective employees and colleagues at your level?

Appendix G: Ethical clearance letter

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INYUVESI
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2 August 2017

Ms Fulufhelo Nenungwi 217052684
School of Social Sciences
Pietermaritzburg Campus

Dear Ms Nenungwi

Protocol reference number: HSS/1202/017M
Project title: Readiness for Knowledge Management (KM) adoption: The case of the KwaZulu-Natal Provincial
Department of Public Works in Pietermaritzburg

Full Approval – Expedited Application

In response to your application received 24 July 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

....
Dr Shenuka Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

cc Supervisor: Dr Francis Garaba
cc. Academic Leader Research: Professor Maheshvari Naidu
cc. School Administrator: Ms Nancy Mudau

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