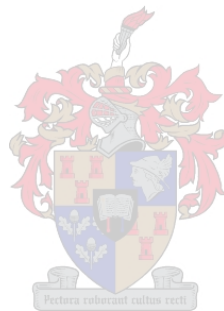


THE APPLICATION OF KNOWLEDGE MANAGEMENT FRAMEWORKS WITHIN THE PUBLIC SERVICE IN SOUTH AFRICA

By

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Thesis presented in fulfilment of the requirements for the degree of Master of *Philosophy*
(*Information and Knowledge Management*) in the Faculty of Arts and Social Sciences at
Stellenbosch University



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April 2023

DECLARATION

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March 2023

SUMMARY

Several government departments in South Africa (SA) are implementing Knowledge Management (KM) frameworks. However, there is little academic research about actual KM practices and therefore it is not clear how the proposed KM frameworks will improve KM in the public sector. The thesis describes how government departments in South Africa are implementing knowledge management practices and seeks to determine whether and how KM frameworks are applied by government departments and to assess the current state of KM practices.

This thesis described KM practices in the public sector of South Africa using a validated KM Assessment Tool (KMAT), developed by Botha & Fouche (2001). KMAT measures the key dimensions to be considered when establishing knowledge management maturity in an organization. Since KMAT was developed to assess corporations, the formulation of its statements had to be adapted slightly so that they would make sense to KM practitioners in the public sector. The thesis is aimed at providing the basis for the formulation, articulation and implementation of knowledge-based strategies, organization culture, value, structure and processes. The KMAT assessment model makes it possible to identify trends in KM practices, to identify good practices and to provide the public sector with opportunity for self-assessment and benchmarking.

The thesis employs a qualitative approach for the purpose of obtaining in-depth understanding and description of the practices of KM in the public sector. Three national government departments that practice knowledge management were the cases studied. Two focus-groups with junior and middle management and three semi-structured interviews with senior managers of the selected departments were conducted. In addition, secondary documentary data from various sources such as government strategic plans, websites and KM strategic frameworks helped to inform the interpretation of the findings.

The findings indicate that the departments recognized the importance of KM to the extent that some had formulated KM strategies. However, some were not yet approved by management of the departments. In all departments, KM is practiced as a broad construct; the boundaries are not clearly defined and as a result, KM is implemented in an ad hoc manner. Whilst KM practices are encouraged within departments, such practices are virtually non-existent between departments. There is a limited sharing culture within the departments as well as between departments.

OPSOMMING

Verskeie staatsdepartemente in Suid-Afrika (SA) implementeer tans Kennisbestuursraamwerke. Daar is egter min akademiese navorsing oor werklike kennisbestuurspraktyke en daarom is dit nie duidelik hoe die voorgestelde KM-raamwerke sulke praktyke in die openbare sektor sal verbeter nie. Die tesis beskryf hoe staatsdepartemente in Suid-Afrika kennisbestuurpraktyke implementeer en poog om te bepaal of, en hoe, kennisbestuursraamwerke deur staatsdepartemente toegepas word en om die huidige stand van kennisbestuurspraktyke te assesseer.

Die tesis beskryf kennisbestuurspraktyke in die openbare sektor van Suid-Afrika deur gebruik te maak van 'n gevalideerde kennisbestuursassesseringsinstrument (KMAT), ontwikkel deur Botha & Fouche (2001). KMAT meet die sleuteldimensies wat oorweeg moet word wanneer kennisbestuur in 'n organisasie gevestig word. Aangesien KMAT ontwikkel is om korporasies te assesseer, moes die formulering van stellings effens aangepas word sodat dit vir kennisbestuurspraktisyns in die openbare sektor sin sou maak. Die tesis is daarop gemik om die basis te verskaf vir die formulering, artikulasie en implementering van kennisgebaseerde strategieë, organisasiekultuur, waarde, struktuur en prosesse. Die KMAT-assesseringsmodel maak dit moontlik om tendense in kennisbestuurspraktyke te identifiseer, om goeie praktyke te identifiseer en om die openbare sektor geleentheid te bied vir self-evaluering.

Die tesis gebruik 'n kwalitatiewe benadering met die doel om 'n diep begrip en ryk beskrywing van die praktyke van kennisbestuur in die openbare sektor te verkry. Die bestuurse gevallestudies bestaan uit drie nasionale staatsdepartemente wat kennisbestuur beoefen. Twee fokusgroepe met junior en middelbestuur en drie semi-gestruktureerde onderhoude met senior bestuurders van die geselekteerde departemente is gevoer. Daarbenewens het sekondêre dokumentêre data van verskeie bronne soos strategiese planne, webwerwe en strategiese raamwerke gehelp met die interpretasie van die onderhoude.

Die bevindinge dui daarop dat die departemente die belangrikheid van kennisbestuur erken het in die mate dat sommige kennisbestuurstrategieë geformuleer het, alhoewel dit nog nie deur die bestuur van die departemente goedgekeur is nie. In alle departemente word kennisbestuur as 'n breë konstruk beoefen; die grense is nie duidelik omskryf nie en gevolglik word dit op 'n ad hoc wyse geïmplementeer. Terwyl kennisbestuurspraktyke binne departemente aangemoedig word, bestaan sulke praktyke feitlik nie tussen departemente nie. Daar is 'n beperkte deekultuur binne die departemente sowel as tussen departemente.

ACKNOWLEDGEMENTS

*To almighty God, thank you for giving me strength, wisdom and courage to complete this thesis.
The blessing is upon me!*

The employer and national departments that participated in this study

To the management of the Department of Tourism, thank you for granting permission for me to undertake this study and for providing financial support. I would like to extend my gratitude to the knowledge management colleagues from the department of Communications and Digital Technologies (DCDT) and the School of Governance (NSG) for the support, kindness and contribution to the study. The support from Margaret Mathebula, colleagues and knowledge management team, thank you for making my dreams come true.

The supervisor

I wish to express my sincere gratitude towards the study leader Dr Christiaan Maasdorp. Thank you, Sir, for your constant guidance, patient, enthusiasm and motivation. I really appreciate it.

My family

My parents made us understand at a very young age that knowledge is power, and that education is the key to success and freedom.

My late father Cameron Zolisa Ndongeni “Hlaya, Mjoli Qubulashe” and mother Lydia Ndongeni Mazibula;

My husband Zuzile Booi, thank you for believing in me. Your continuous support is amazing Mpemvu, Jali;

My lovely children Lilitha, Lulutho and Siyolise Booi, thank you so much for allowing me to spend most of the time away studying; I love you very much.

My brothers and sisters Hlaye, Mkundla, Wushe!

May Lord of mercy bless all of you abundantly!

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LIST OF ABBREVIATIONS AND ACRONYMS

APQC	American Productivity and Quality Centre
DPSA	Department of Public Service and Administration
CD	Chief Director
DG	Director-General
DOC	Department of Communications
DCDT	Department of Communications and Digital Technologies
DTPS	Department of Telecommunications and Postal Services
DT	Department of Tourism
ICT	Information and Communications Technology
KM	Knowledge Management
KMAT	Knowledge Management Assessment Tool
KMF	Knowledge Management Framework
KMS	Knowledge Management Strategy
NKMSF	National Knowledge Management Strategy Framework
NSG	National School of Governance
NTIMS	National Tourism Information and Monitoring System
NTSS	National Tourism Sector Strategy
PS	Public Service
SA	South African

DEFINITION OF TERMS

Knowledge Management is defined as a broad collection of organizational practices related to generating, capturing and disseminating know-how and promoting knowledge sharing within the organization, and with the outside world (Al-Yahya and Farah 2009).

KM framework explains the world of KM by naming the major KM elements, their relationships and the principles of how these elements interact. It provides the reference for decisions about the implementation of KM (Weber et al., 2002; Heisig 2009).

KM strategy outlines plans, processes and actions which government desires to achieve regarding knowledge and KM objectives (DPSA KM Strategy framework 2019: 5).

KM practices are based primarily on conceptual frameworks that are responsible for the design and development of methodologies and technologies that can provide some common ground in the ways people use and manage knowledge in an organization. They include the understanding of KM in the context of knowledge generation, acquisition, storage, transfer, sharing and retention (Ramohlale 2014: 25).

The Public sector in South Africa includes all institutions and organizations which operate within the three levels of government and are engaged in government policy and administration (DPSA KM Strategy framework 2019: 6). These organizations deliver the goods and services of the government at a local or national level (Kimani 2013:17) and depend on policies, controlled bureaucratic culture, politics and service-oriented processes (Abdullah and Date 2009; Quratulain et al 2018), and their main focus is to protect and improve service delivery to its citizens (Cong and Pandya 2003:29).

CHAPTER 1

INTRODUCTION

1.1 Introduction and Background

Several government departments in South Africa (SA) are practicing Knowledge Management (KM); however, there is little academic research about actual KM practices and therefore it is not clear how relevant proposed KM frameworks are to improve KM in the public sector specifically. This research intends to describe how government departments in South Africa are implementing knowledge management practices and to what extent these practices have an impact on desirable and feasible application of KM in the public service. Furthermore, the thesis seeks to determine how KM frameworks are applied by SA government departments when implementing KM and also to explore, describe and analyze the current state of KM practices. It is also important to note that the purpose of this study is not to assess or evaluate the KM implementation in the public sector, but to describe how KM works in the real world, so that the policy direction can be critically analyzed and assessed for its feasibility.

1.2 Research Problem

According to the literature, KM has gradually gained acknowledgement in the South African public sector since its introduction. Several departments recognized the importance of managing knowledge to the extent of making it a priority and some, such as the Department of Public Service Administration (DPSA), have gone to the extent of formulating National KM strategic frameworks, whereas other departments have not yet started practicing knowledge management.

Since the introduction of KM in the public sector in SA, very little data has been published in the literature regarding the sector's KM practices. There is not much knowledge and academic research that has been reported that describes what people are doing when implementing KM. It is not known whether the departments have formal or informal KM practices, whether KM strategic frameworks are applied when implementing KM and what challenges they have experienced in managing knowledge. Furthermore, it is not clear to what extent the KM frameworks proposed by DPSA will improve KM practices in the public sector.

This research thesis intends to minimise the current gaps in literature, to describe knowledge management practices, to provide an understanding on how a KM framework is applied when implementing KM and to identify challenges faced by government departments in managing knowledge. The study hopes to present clear insight on KM practices and the application of KM frameworks in the public sector in SA.

This thesis will describe KM practices in the public sector of South Africa using a validated KM Assessment Tool (KMAT), developed by Botha & Fouche (2001). The structure and content of the assessment tool were benchmarked against Skyrme's Knowledge Management Assessment Tool (1999), Arthur Andersen's Knowledge Management Assessment Tool and the American Productivity and Quality Centre (1995). This tool demonstrates the key factors and elements that need to be considered in the assessment of knowledge management maturity. It identifies areas of strength and areas of improvement of any organization's KM practices. It further provides useful information in assessing the state of KM in the organization and identifies specific steps to develop its KM practices.

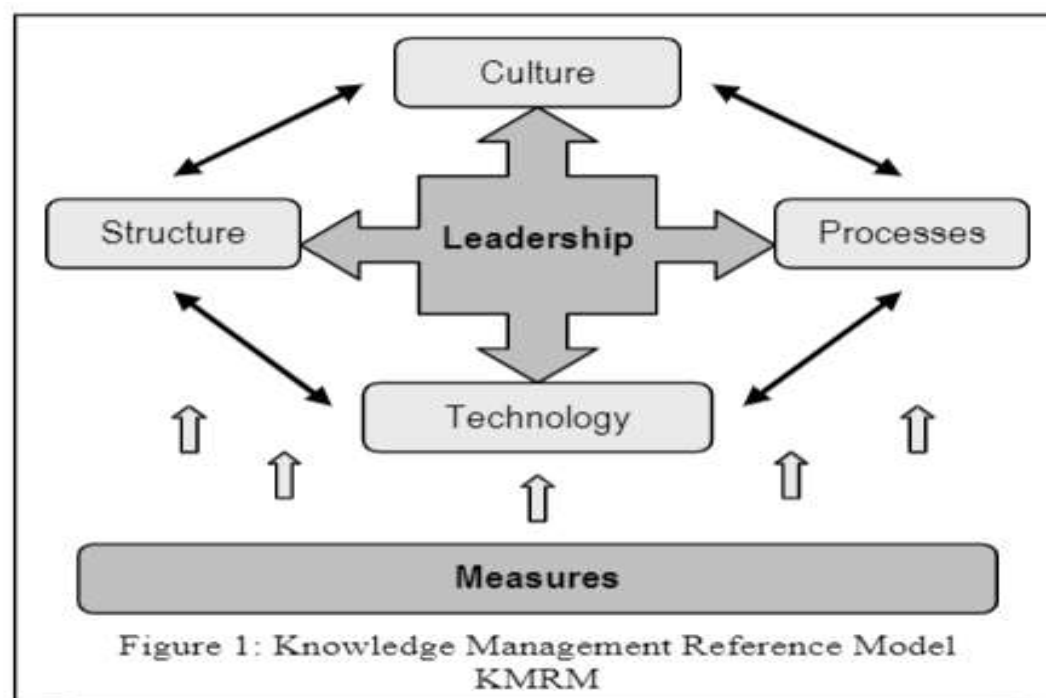


Figure 1: Knowledge Management Reference Model (KMRM)

Source: Botha & Fouche (2002: 15)

Basically, this model focuses on the interrelationship between organizational culture, knowledge processes and technology, which constantly align themselves with organizational

leadership and are monitored by organizational measures. The continual assessment of knowledge management programs, practices and alignment of KM practices with the organizations' vision, strategy and objectives as well as culture, structure, processes and technology, are regarded as key success factors to be used in assessing the KM practices of any organization and for effective KM implementation (Botha & Fouche 2002:15).

The KMAT is based on an organizational KM model and proposed KM enablers that can be used to advance KM processes. The following section presents background information on the six main factors of the knowledge management business process, which consists of 24 items.

Table 1: KM Assessment Tool (KMAT) Factors

<p style="text-align: center;">Leadership</p> <p>According to Botha & Fouche (2001), the core of the model is the leadership module that represents the action, which demonstrates organizational intent on the importance of the knowledge asset. It entails direction, support and motivation and it is required at all levels of the organization. Knowledge leadership means having a clear vision of knowledge contribution to the business, articulating and communicating it well coupled with inspirational motivation (Botha & Fouche, 2001:14). Based on the organizational KM model, leadership consist of the vision, strategy and organizational learning.</p>
<p style="text-align: center;">Culture</p> <p>The principal attributes of knowledge enriching culture are an intense communication climate of openness and trust and a clear understanding of the mutual benefits of knowledge sharing (Botha & Fouche, 2001:14). Culture reflects how the organization views and facilitates both learning and innovation. It involves communication, which should be open, widespread and free flowing across the organization, customer orientation, collaboration, the value of work environment to promote knowledge sharing and information exchange by all members of the organization and a culture of voluntary contribution to the organization's knowledge base (Botha and Fouche 2001:7-8).</p>
<p style="text-align: center;">Structure</p> <p>Culture and structure directly influence each other; knowledge-oriented culture should dictate the appropriate structure and is one of the causal interdependences (Botha and Fouche</p>

2001:15). The structure consists of teams and groups, knowledge management roles, management communication which are regular agenda points for formal and informal two-way communication sessions held between management and employees, incentive systems for motivating employees and the formal structuring of external relations with value chain members, alliances and joint venture partners that will enhance informal networking and collaboration between members of all parties (Botha & Fouche, 2001: 9-10).

Processes

According to Botha & Fouche (2001), the most important process in organizations is the capability to integrate knowledge. The KM processes comprise the action steps that the organization uses to identify the information it needs and the manner in which it collects, adapts and transfers that information across the organization (Botha & Fouche, 2001:14). Processes of information acquisition, codification and distribution are used to enhance knowledge creation, innovation and customer value. Knowledge processes need to be examined for their effectiveness at all stages of the knowledge life-cycle. The main elements of the processes are knowledge integration, information management and business intelligence (Botha & Fouche, 2001:10-11).

Technology

Technology focuses on how the organization equips its members to communicate easily with one another and the systems used to collect, store and disseminate information. It involves the information systems architecture, information technology infrastructure and KM application software (Botha & Fouche, 2001:14). Information systems architecture should be aligned to support and accommodate knowledge management applications. Systems such as groupware, corporate intranets and portals should be widely available to members and should be actively used. Information and communication infrastructure must provide people-to-people and people-to-information connectivity and networkability. The measurement includes how the organization quantifies its knowledge capital and how resources are allocated to fuel its growth.

Measures

Measures involve performance indicators to measure and manage intellectual capital and other intangible assets, usage of KM applications and tools, KM progress reporting and continual assessment of knowledge management programs and practices and alignment of

KM practices with the organization's vision, strategy and objectives and well as culture, structure, processes and technology (Botha & Fouche, 2001:16).

The main purpose for using this tool is to assist organizations managing knowledge practices to identify the current state of their KM, to ensure that an assessment will support growth in maturity of the knowledge state and to assist organizations to achieve their goals. Furthermore, KMAT provides a comprehensive view of the KM processes that describe KM practices in the SA public sector. It is aimed at providing the basis for identifying the KM processes, including the formulation, articulation and implementation of knowledge-based strategies, organization culture, value, structure and processes. The purpose of this assessment model is to identify trends in KM practices, to identify good practices and to provide the public sector with instruments for self-assessment, best practices and benchmarking. The model will be discussed further in chapter 2.

1.3 Purpose of the Study

The main aims of this study are to describe and analyse the current status KM practices in the public sector and to investigate how government departments in South Africa are implementing knowledge management practices. Furthermore, the study seeks to determine how the KM framework is applied when implementing KM, identify challenges in KM practices and make recommendations for improvement of the application of KM within the public service.

The study intends to report on KM practices in the public sector, to describe what various national departments are doing when implementing KM and the impact of these practices on desirable and feasible application of KM in the public service. Furthermore, the study seeks to determine how the KM framework is applied by SA government departments when implementing KM and also to explore, describe and analyze the current state of KM practices. The study hopes to assist government departments and KM practitioners who are not yet practicing KM to learn and benchmark best practices.

1.4 Research Questions

1. What is the current status of KM practices in the public sector in South Africa?
2. How is the KM framework applied when implementing knowledge management by the public sector in SA?

3. What are the challenges in KM implementation in the public service in South Africa?

1.5 Significance of the study

This study intends to provide a clear descriptive report on the current status of KM application in the public sector in SA. According to Mc Evoy, Ragab & Aisha (2017), descriptive studies are primarily designed to capture the spread of specific variables. This descriptive study will play a vital role in highlighting particular trends and reducing confusion with regard to the role KM has to play in public administration. This study will describe the state of KM in particular public sector organizations, whether it is effective or lacking, without proposing specific corrective actions. Therefore, it is hoped that this study will reduce the confusion with regards to practicing KM in the South African public sector, the activities involved when implementing KM and the relevance of proposed KM frameworks by the DPSA.

Furthermore, the research study intends to add value to the existing KM body of knowledge, particularly on public sector organizations in South Africa. Also, KM researchers and scholars can use the findings of the study for future research references, and as a source of secondary data when conducting research on a related field.

1.6 Justification for the study

Previous researchers have proposed a variety of KM frameworks, strategies, models and perspectives to help understand the emerging concept of KM practices. According to Wong & Aspinwall (2004: 94), KM frameworks that are presented in the literature tend to focus on different aspects of KM and have different purposes. The other type of frameworks found in the literature characterizes and describes the knowledge cycle processes of KM. Their main focus is to address the phases of knowledge flow in an organization without providing guidance on how to implement KM.

This research study intends to present a clear insight on KM practices and the application of KM frameworks in the public sector in SA. The findings of the study will be significant to the government departments and other organizations because they will provide an insight on the proposed ways in which KM should be implemented. The study can contribute to other departments that have not yet started practicing KM as benchmarking for best practices

KM literature has recognised that KM in the public sector has been under-researched. Fewer studies have been conducted focusing on public sector KM compared to those on KM in the private sector and even fewer in the developing countries (Cong and Pandya 2003; Taylor & Wright 2004; Mc Evoy 2012; Alatawi et al 2012; Massaro et al 2015). This research study hopes to contribute to the existing body of knowledge on the implementation of KM in the public sector.

1.7 Research Design

Saunders and Lewis (2012: 102-103) stated that establishing a concrete research design is essential for two reasons, the first being deciphering the research philosophy which will assist in analysing the critical ideas surrounding the research. The second is to confirm that the appropriate plan has been established so that the research results are credible. In order to achieve the objectives of this study, a qualitative research design using interviews to gather primary data and document analysis to collect secondary data have been applied.

Qualitative research is an approach used for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, with data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data (Creswell 2014:183). This research employed a qualitative research approach and the rationale for selecting a qualitative research approach is for the purpose of obtaining in-depth understanding and description of the practices of KM in the public sector.

According to Rahman (2017:104), the benefit of using qualitative research approach and methods is that they produce a thick (detail) description of participants' feelings, opinions and experiences and interpret the meaning of their actions. Through the qualitative approach, this study explored the current state of KM practice. This will help in the understanding of the KM application in the Public Sector in South Africa and also describe what people in various departments are actually doing to manage knowledge.

The interview schedule is the main instrument that has been used for primary data collection in this study. The researcher has collected data from the senior and middle management of the

departments, using face-to-face interviews. Focus group discussions were also conducted involving the other employees involved in knowledge management for each of the selected national departments using Zoom meetings. Focus groups typically involve a group of people who have a common experience, or share a similar view. Focus group discussions are usually conducted by a researcher with a group of research participants, focusing on a particular issue or set of issues (Yin 2015:149).

An interview guide was developed to formulate the questions and to collect data and it was approved by the Stellenbosch Research ethics committee. The interview guide questions were based on the KM assessment tool (KMAT) developed by Botha & Fouche (2001). The questions were open-ended to allow the participants to express their opinions, experiences and provide detailed descriptions of current KM practices.

The respondents in the study comprised of males and females who had more than five years' experience in knowledge management. All the participants who contributed to this study were professionally placed in knowledge management sections, and were therefore assumed to have solid experience and a thorough knowledge of the KM practices in the departments. Face-to-face interviews were conducted with three respondents who occupied head of the section positions. In addition, the researcher conducted focus group discussions with eight KM employees from three selected national departments.

Bless & Higson (1995) suggested the following ethical issues to be taken into consideration: honesty, confidentiality, informed consents and anonymity. The researcher explained the ethics of the study to all the participants before the interviews, including the fact that their participation was voluntary and participants could withdraw at any stage. In addition, the participants were asked to sign informed consent forms at the beginning of the interviews. Gatekeeper permission was requested from the institutions.

Document reviews were done focusing on public sector KM and general issues relating to KM in the public sector in South African. The aim of the secondary data was to supplement and to validate the data obtained from the interviews.

1.7.1 Population and Sampling

This study targeted national government departments that practice knowledge management in South Africa. According to South African government website (<http://www.dpsa.gov.za/dpsa2g/documents>), the public sector currently consists of 39 national government departments. However, there was no readily-available information about the number of national departments that are implementing KM. It was not possible to accurately determine the sampling frame. Therefore, the researcher selected a sample that she believed would deliver the best information in order to satisfy the research objectives.

Five public sector organizations were initially targeted and each department was contacted through a gatekeeper. The selected departments were; Department of Tourism (DT), Department of Communications and Digital Technologies (DCDT), National School of Governance (NSG), Department of Public Service and Administration (DPSA) and Department of Cooperative Governance and Traditional Affairs (Cogta). However, only four national departments were willing to participate in the study and the gatekeepers were approved by the heads of the departments, and out of these four departments, eventually three departments were available to participate in the research;

- Department of Communications and Digital Technologies (DCDT)
- National School of Governance
- Department of Tourism

1.7.2 Brief Background of the Selected National Government Departments

According to the constitution of South Africa, national government departments are responsible for policy formulation and making, developing national standards, norms, rules and regulations. This study targeted national government departments that practice knowledge management.

The public sector in South Africa comprises of national, provincial and local government. Although they are broadly similar in structure and functions, they are in fact different and unique in mandates, characteristics, dynamics, responsibilities and missions. National government departments are further divided into five government clusters namely; central government administration, justice and protection services, financial and administration services, economic services and infrastructure development and social services. The National

School of Government falls under the financial & administration services cluster and the Department of Tourism and Department of Communication and Digital Technologies are from the economic services and infrastructure development cluster as illustrated below.

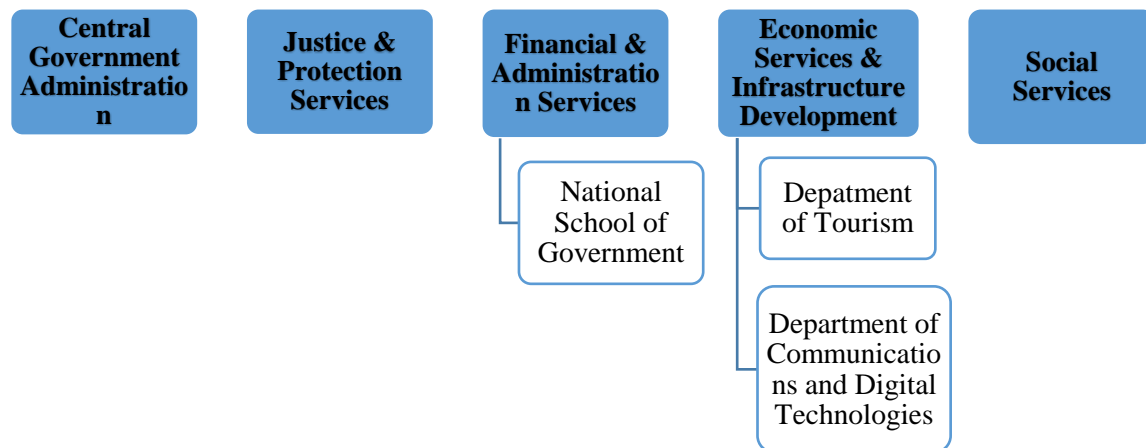


Figure 2: National Government Clusters

The National School of Government (NSG) is a State training institution tasked to build public sector capacity to implement the South African Government's developmental agenda. The establishment of the NSG is premised on the fact that a capable public service is a necessary condition for various sectors of society to flourish, thereby realising sustainable development outcomes. The mandate of the NSG is to deliver quality education, training and development interventions that are relevant to the needs of the public sector (NSG Strategic plan 2020).

The vision of KM at the NSG is to contribute towards the creation of a knowledge-driven institution by supporting the NSG's effort to create a capable and responsible public service and developmental state, through knowledge harvesting, codification, dissemination as well as by maintaining and supporting organizational learning and innovation (NSG KM strategy 2016; 5). KM is a function within the Research and Innovation Chief Directorate, which supports the delivery of training and capacity building services by the NSG.

The Department of Tourism (DT) is part of the economic services and infrastructure development cluster and is responsible for national tourism policy, regulations and development. The Tourism Act makes provision for the promotion of tourism in the Republic

of SA and for regulation and rationalization of the tourism sector. The main purpose of this national department is to grow a sustainable tourism economy in South Africa, based on innovation service excellence, meaningful participation and partnerships is to increase the direct contribution of tourism to the economy. Its objective is to become a more operationally efficient and more effective department in achieving its strategic objectives “through increased productivity, higher quality, and more knowledge-driven work processes and practices” (NTSS, 2016-2026:16). The department is mandated to create conditions for sustainable growth and development of tourism in South Africa. The vision of the department is leading sustainable tourism for inclusive economic growth in South Africa.

The Knowledge and information management section is a directorate within the Tourism Research, Policy and International Relations cluster. The purpose of the cluster is to enhance the strategic policy environment, monitor the tourism sector’s performance and enable stakeholder relations. The strategic objective of the knowledge and information directorate is to provide knowledge services to inform policy.

The Department of Communications and Digital Technologies (DCDT) was established in June 2019 by the merger of the Department of Communications (DOC) and the Department of Telecommunications and Postal Services (DTPS). The responsibility of the Department is to create an enabling environment for the provision of inclusive communication services to all South Africans in a manner that promotes socio-economic development and investment through broadcasting, new media, print media and other new technologies, and to brand the country locally and internationally.

KM the section is a directorate within the Information Technology (IT) chief directorate and its role is to foster the use of intellectual capital, enable better decision making and create the conditions for innovation (KM strategic plan 2020-2025: 7). The Department's strategic outcome-orientated goals are to: enable the maximisation of investment in the Information and Communications Technology (ICT) sector and create new competitive business opportunities for the growth of the ICT industry for socio-economic development; ensure that ICT infrastructure is accessible, robust, reliable, affordable and secure to meet the needs of the country and its people. Its other goals are to accelerate the socio-economic development of South Africans and facilitate the building of an inclusive information society through partnerships with business and civil society, and the three spheres of government; improve

departmental performance and enhance the role of ICT State-Owned Enterprises (SOEs) as the delivery arms of government; and contribute to the global ICT agenda prioritising Africa's development (The National Government Handbook: South Africa 2021: 105).

1.7.3 Data analysis and interpretation

The interviews were coded to elicit themes from the data, which gave answers to the research questions. Detailed analysis of documents such as KM framework strategies, national departmental strategies, and annual performance were the secondary sources of data. Simple tables and diagrams have been used to compare and establish relationships between the variables. This study used qualitative data analysis to achieve the objectives of the study.

1.8 Assumptions of the study

The researcher assumed that the research methodology and research design employed in the study would be best instrument used to collect data for this study. The researcher also assumed that the participants would be the best to understand, explain and describe the KM practices of their own work environment. The outcome of this study will help in adding value to existing KM literature and to assist the public sector in South Africa to successfully practice KM.

1.9 Research Limitations

This study was limited to three national government departments in South Africa that are implementing KM. However, there is no information readily available about the number of national departments implementing KM. Therefore, the researcher selected national departments that she believed would deliver the best information in order to satisfy the research objectives. Future research could be recommended to all national, local and provincial departments in order to validate these results.

1.10 Thesis Layout

This thesis is organized and presented in five chapters, as outlined below.

Chapter 1: Introduction

The introduction provided a general orientation of the research in terms of rationale and objectives of the study. The purpose and the background of the study were presented in this

chapter. The discussion of the problem statement, the objectives, research questions and the significance of the study were also covered in this chapter. This chapter further clarified the research methodology, scope and limitations of the thesis.

Chapter 2: Literature Review

This chapter includes a discussion of what various authors have written about KM policies for the public sector and studies that propose ways in which KM should be done in the public sector. In this chapter, a critical review of existing literature on KM is presented. Relevant literature has been analysed in order to understand KM in the context of public sector, practice of KM in the public sector and the description of KM frameworks, models and legislative framework and policies used as a foundation of KM in the public sector in order to answer the research questions.

Chapter 3: Research design and Method

In chapter three the researcher maps out the research design and methodology that has been followed during the research process. The selected design is elaborated on so as to explain how it would assist the researcher in answering the stated research questions. Content analysis and document analysis are conducted in order to determine whether knowledge management frameworks are applied when implementing KM and to understand the current practices used by the public sector in South Africa in managing knowledge. Each phase of the research method is described as well as the design, sampling procedure, data-collection method and analysis used in this thesis.

Chapter 4: Presentation and Interpretation of Research Findings

This chapter presents the findings of the study from the interviews, focus groups discussions and the analysis of KM documents. In addition, the chapter presents a discussion and the interpretation of the findings. In this chapter the answers from the interviews are assessed using the six dimensions of the Knowledge Management Assessment Tool (KMAT).

Chapter 5: Summary Discussion and Conclusion

This chapter presents an overall summary of the research study. It focuses on showing how the results of the study relate to the original research questions and objective of the theses. The chapter also provides recommendations which have emerged from this study and suggests further research to be undertaken on public sector organizations implementing KM.

1.11 Ethical considerations

Permission was granted by the Stellenbosch University Research Ethics Committee to conduct this research. The researcher also signed the ethical clearance of the Stellenbosch University as a form of commitment to adhere to the University's ethical guidelines. The researcher sought and obtained permission from the heads of the departments to conduct the research in the various departments.

The participants in this study were allowed to decide on their involvement and participation. If a participant no longer wished to be part of this study, they were given the opportunity to withdraw without adverse consequences. Data collected during interviews only used for academic research purposes. The confidentiality of the respondents, both the individuals and their organizations were respected. The researcher has taken all the necessary precautions to ensure credibility, integrity and reliability of the results.

1.12 Conclusion

This chapter presented the overview, background and general orientation of the research in terms of rationale and objectives of the study. The discussion of the problem statement, the objective, research questions and the significance of the study were also discussed. This chapter further clarified the research methodology, scope and limitations of the study. The next chapter, chapter two, presents overview of relevant literature on KM in the public sector, KM practices as well as success factors of KM practice.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive literature review on what other authors and theories have uncovered. The chapter will describe existing studies on knowledge management (KM) sector and studies that propose ways in which KM should be done in the public sector. Furthermore, the chapter will describe the KM Assessment tool, framework, and the current status of KM practices in South Africa.

2.2 Public Sector KM

KM in the public sector has been in practice for a long time, but in an informal manner (Cong & Pandya, 2003:25). It gained attention in the mid-to-late 1990s (Almudallal, Muktar, & Bakri, 2016). KM studies have also indicated that in developed countries such as Canada, Japan and United States of America it has been practiced since the mid-1990s and several KM initiatives have emerged. In South Africa, KM practices in both private and the public sector can be traced to the late 1990s and early 2000s, (Mphahlele, 2010; Almudallal et.al., 2016). During that period public sector organizations were already engaged in knowledge-intensive activities (Mphahlele 2010: 11).

Although there was growing interest in KM in the public sector, KM has not yet spread as expected. Al-Khouri (2014: 25) suggested that some of the reasons for that could be limitations such as culture and contracts embedded in public service organisations. The reasons for such limited of application in the public sector are related to the culture of not sharing information and knowledge between departments, which leads to difficulty in both the creation and maintenance of the inter-departmental relationships.

KM in the public sector has been under researched; very few studies have been found focusing on the public sector as compared to the private sector, particularly in the developing countries (Cong and Pandya 2003; Taylor and Wright 2004; Mc Evoy 2012; Alatawi et al 2012; Massaro et al., 2015). It has been indicated that existing KM practices are derived from international

organizations and private commercial companies. Limited evidence is available on the use of KM at organizational level and most of it comes from developing countries (Al Khouri 2014: 3). Cong and Pandya (2003) further indicated that KM practices are lagging behind in the public sector as compared to the private sector. That might be due to the lack of awareness of the impact and relevance of KM on the performance of public sector organizations as compared to their private sector counterparts. The view was supported by Salwa (2015) in Saudi Arabia as well as Amber, Khan and Ahmad (2018).

Cong & Pandya (2003:25) further claim that government always lags behind and that management theories are first tested in large companies, then once they are accepted, they spread to other sectors, including public sector. However, Ferguson S, Burford S and Kennedy, M (2013:170) argue that there is no evidence that KM practices lag behind in the public sector. Government intervention can also be looked at through the lenses of new government practices, learning organizations, performance assessments and the increase in e-government initiatives (Mc Evoy et al, 2019:47).

The adoption of KM has been shown as more significantly advanced in the private sector as compared to the public sector. As a result, previous literature has described KM in the public sector by comparing private and public sector organizations (Cong & Pandya, 2003; Chawla & Josh, 2010; Jain & Jeppesen, 2013; Salwa, 2015 Saudi Arabia, Amber, Khan & Ahmad (2018). However, Mc Evoy et al. (2019) argue that public sector organizations are unique, and service orientation has been their priority. Some research has been undertaken to address the issue by looking closely at the preference of public sector customers.

Furthermore, the public sector is dependent on factors such as service delivery, information provision and knowledge identification, sharing and utilization. These organizations are stakeholder-dependent, while private sector organizations are shareholder-dependent (Cong & Pandya 2003:30; Jain & Jeppesen 2013). Cong & Pandya (2003: 30) indicated that the major differences are that private businesses are primarily concerned with making profit, while the public sector is more concerned with service delivery.

According to the Asian Productivity Organization (2013), public organizations are usually vertically divided into inter and intra-agency or department functions. This usually leads to a silo mentality in each agency, department, or section, with little communication with external

players. The nature and the structure of these organizations differ. The formal structures that cause complexity in the public sector are probably responsible for delays in the implementation of KM initiatives and its multifaceted nature can make knowledge execution difficult (Mc Evoy et al 2019:41).

2.3 KM Practices in the Public Sector

Managing knowledge drives the public sector to improve decision-making capabilities, develop learning organizations and stimulate cultural change and innovation (Al-Khouri 2014). Furthermore, Cong & Pandya (2003:29) argue that government needs KM for four reasons. The first one is knowledge economy, as government is increasingly facing competition over service delivery and policy-making. Secondly customers demand and receive more customization from knowledge-oriented organizations. The third reason is the retirement of civil servants and mobility of knowledgeable workers across government departments. The fourth one relates to new challenges in terms of the retention of knowledge and preservation of institutional memory and hence the need for the training of new staff and jobs today depend more on employees' knowledge than manual skills.

In addition, the findings of a survey conducted by the Organization for Economic Co-operation and development (OECD, 2003) identified some of the aspects that support the establishment of KM in the public sector:

- a)** Concerns for efficiency, productivity and to minimize the duplication of efforts between the divisions and directorates;
- b)** Improving transparency and outward sharing of information, and improving working relations and trust within organization;
- c)** KM introduces new options, capabilities and practices that can assist public administration to great advantage; and
- d)** Promoting life-long learning and sharing knowledge with other ministries.

KM practices are based primarily on conceptual frameworks that are responsible for the design and development of methodologies and technologies that can provide some common ground in the ways people use and manage knowledge in an organization. They include the

understanding of KM in the context of knowledge generation, acquisition, storage, transfer, sharing and retention (Ramohlale, 2014: 25).

According to the DPSA, the foundation of KM is based on the administrative leadership and they are key players in creating a positive culture for the successful implementation of KM. The leadership in the public sector has a critical role to play in ensuring a positive culture that promotes shared beliefs and values within organizations, so as to support information flow as a key component of KM. The people are the centre and backbone of KM. It is critical for public servants to have KM competencies to utilize knowledge in carrying out the work. KM activities involve decision making about the content of the knowledge databases, knowledge repositories and design of the structure. Furthermore, it has been suggested that content that drives KM processes can be sourced from documents and individuals. Process analysis is one of the best ways of understanding government processes and can be used in the public service, where KM is to be applied. Additionally, file-planning, registry and record management processes must be interlinked. IT systems must be seen as the backbone of any strategy. Information and communication technology (ICT) is an enabler in the context of KM; without relevant ICT processes and systems, KM cannot function fully (NKMS.2019:24-27).

Many KM researchers have proposed that KM key elements and enablers are essential for the success of KM practices. KM literature has suggested that the most important part in executing KM practices is that government should create an overall enabling environment that will allow not only government but also other key actors to benefit and contribute to the development of KM networks (Almudallal 2016:104). To support that view, Komanyane (2010), indicated that some authors refer to KM as a driving force and a critical success factor.

In Palestine, public sector institutions use key enablers such as organizational culture, leadership, personnel and information technology to describe KM in the public sector. The results showed a significant positive relationship between performance level and successful KM implementation (Almudallal et al., 2016).

Kimani (2013) suggested that successful KM implementation requires the promotion of an enabling environment such as organizational culture, structure, leadership and strategy. ICT and KM resources form the foundation for the KM environment. KM processes such as knowledge retention, creation, capture, transfer and sharing are fundamental for KM practices

to be effective. In addition, the study also proposed a KM conceptual model to be integrated with decision-making framework, as an implementation strategy for KM in the public sector in South Africa.

The DPSA (2003:7) has also suggested that the public service should establish and achieve the following:

- 1) **Leadership:** leaders who have knowledge and appreciation of knowledge information management (KIM), who support and use KM practices;
- 2) **Structure:** top level structure that can promote coordination, integration and KM sharing. It was also suggested that structures in all government institutions should allow excellence in KIM in each institution and community of practice for all disciplines in government;
- 3) **Processes:** well-developed processes for all links in the KIM value chain;
- 4) **Culture:** an organizational culture that recognizes the importance of KIM and encourages members to behave accordingly, and making a knowledge driven organization;
- 5) **Measures:** a comprehensive performance assessment system to evaluate all aspects of KIM.

This study will describe KM practices in the public sector of South Africa using a validated KM Assessment Tool (KMAT), developed by Botha & Fouche (2001). The KMAT is based on an organizational KM model and proposed KM enablers that can be used to advance KM processes. The following section presents background information on the six main factors of the knowledge management business process, which consists of 24 items. Furthermore, Botha & Fouche (2002) proposed that leadership, culture, structure, processes, technology and measurement are the key success factors to be used in the KM practices of any organization and for effective KM implementation. This model will be further discussed below.

2.4 The Adapted KM Assessment Model

Since the initiation of knowledge management, several KM assessment models have been developed in both academic and practitioner settings. However, for the purpose of this study the organizational KM Assessment Model developed by Botha & Fouche (2001) will be used to describe the current KM practices in the South African public sector. According to Botha & Fouche (2001), KMAT is a generic model based on the main findings of a comprehensive literature research done on organizational KM practices. The structure and the content of the tool were benchmarked from Skyrme's Knowledge Management Assessment Tool (1999), Arthur Andersen's Knowledge Management Assessment Tool and the tool developed by the American Productivity and Quality Centre (1995). The tool consisted of key success factors for assessing the KM practices of an organization and for effective KM implementation (Botha & Fouche 2001).

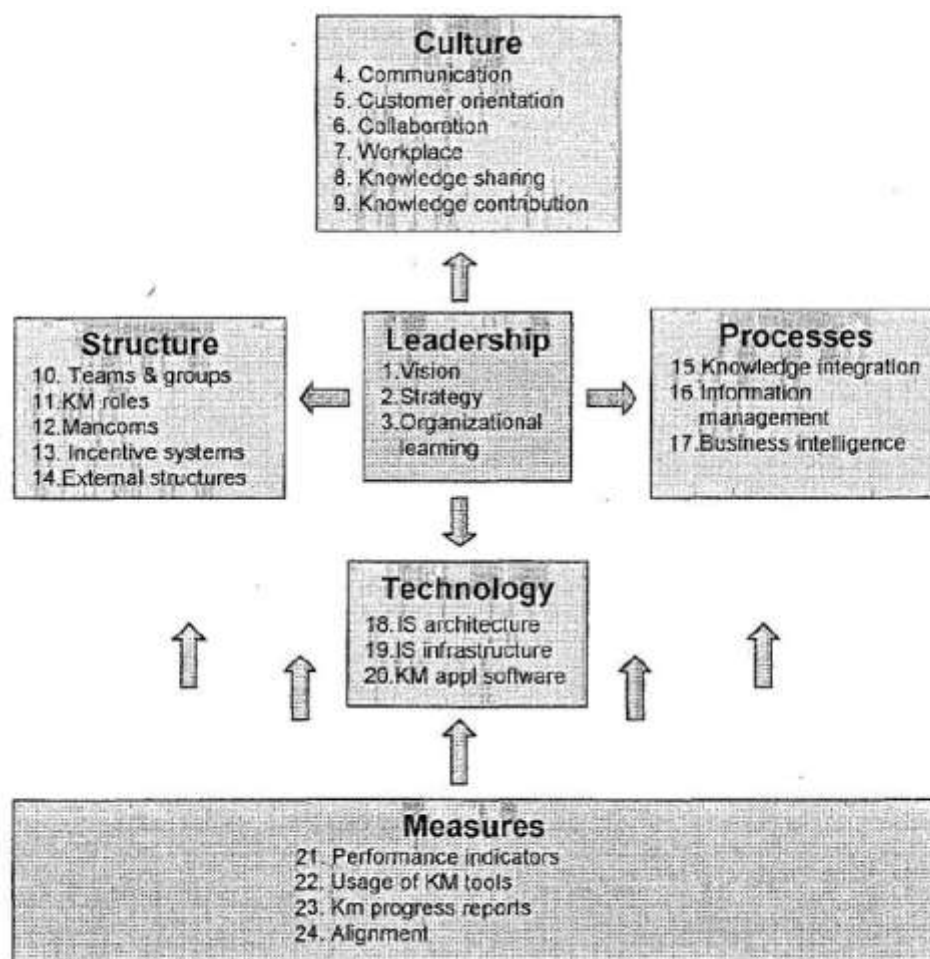
This study used the KM model to provide a comprehensive view of the KM processes that characterize KM practices in the SA public sector. The objective of the assessment model is the formulation, articulation and implementation of knowledge-based strategies, organization culture, value, structure and processes. The purpose of this assessment model is to identify trends in KM practices, to identify good practices and to provide the business sector with instruments for self-assessment, best practices and benchmarking. This tool will illustrate the key factors and elements that need to be considered in the assessment of knowledge management maturity. The KMAT is based on an organizational KM model and proposed KM enablers that can be used to foster KM processes.

The main purpose for using this tool is to describe knowledge management practices in the public sector in South Africa, to provide an understanding on how KM strategic frameworks are applied when implementing KM and to identify challenges faced by government departments in managing knowledge as well as to ensure that such an assessment will support growth in the maturity of the knowledge state and assist organizations to achieve their goals. This study hopes to present a clear insight on KM practices and the application of KM frameworks and assist organizations managing knowledge practices to identify the current state of their KM.

Furthermore, this KM assessment model contains a list of key elements that can assist an organization to assess its relative progress in knowledge management implementation. The modified version of the model consists of a comprehensive assessment framework that includes 24 items classified across six major dimensions that comprise unique KM activities which play a critical role in facilitating organizational knowledge flow. The KM enablers comprise of leadership, culture, structure, processes, technology and measurement, and are illustrated below on the organizational KM Assessment Model designed by Botha & Fouche (2001).

Figure 3: Organizational KM Assessment Model

(Source: Botha & Fouche, 2002).



2.4.1 Leadership

According to Botha & Fouche (2001: 14), leadership means having a very clear vision of the knowledge contributed to the business, articulated and communicated well, together with inspirational motivation. It entails direction, support and motivation and is required at all levels

of the organization. The core of the model is the leadership that represents the action, which demonstrates organizational commitment on the significance of the knowledge assets (Botha & Fouche, 2001). To support this view, Jain et al. (2013: 23) maintain that leadership practices encompass broad issues of strategy, how the organization defines its business and uses its knowledge assets to reinforce its core competence.

Knowledge leadership is regarded as important for the achievement of organizational objectives, strategy to give direction and align organizational culture, structure, processes and technology. Therefore, leadership is critical to bring an understanding and clearly communicate the value of knowledge in an organization.

Based on this model, vision, strategy and organizational learning are the key factors of leadership. Vision is critically important for the achievement of organizational objectives and it should be clearly articulated and mutually shared by all the members of the organization. Furthermore, the organization has to implement a strategy to create and apply knowledge that aligns with the operational objectives of enhancing customer value. The strategy has to be clearly and purposefully communicated to all levels. Organizational learning is described as the process of improving actions through better knowledge and understanding. It refers to an organization skilled at creating, acquiring and transferring knowledge. Organizational learning is gained from customers, suppliers, distributors, and allies; and partner knowledge should be well understood throughout the organization (Botha & Fouche, 2002:7). A learning organization is an organization skilled at creating, acquiring and transferring knowledge and modifying behaviour to reflect new knowledge and insights (Ahmed 2017: 175).

It has been indicated that leadership starts with the vision of the organization and whether it is aligned with the strategy of the organization and supports the key activities and objectives that are needed to deliver on the KM strategy assets. Munzhelele (2012:7) stated that the KM organizational strategy should be supported by business strategy and vice versa, in order to ensure successful implementation.

- **Vision**

The leadership consists of the vision which is important for the achievement of organizational objectives, strategy to give direction and adjust and align organizational culture, structure, processes and technology. The vision should be clearly articulated and mutually shared by all members.

- **Strategy**

The organization has to implement a strategy to create and apply knowledge that aligns with the operational objectives of enhancing customer value. The strategy has to be clearly and purposefully communicated to all levels.

- **Organizational Learning**

Organizational learning is regarded as the process of improving actions through better knowledge and understanding. It is referred to as an organization skilled at creating acquiring and transferring knowledge. Organizational learning has to be gained from exploiting customer, supplier, distributor, alliance and partner knowledge, and it should be well understood throughout the organization (Botha & Fouche 2002:7). A learning organization is an organization skilled at creating, acquiring and transferring knowledge and modifying behavior to reflect new knowledge and insights (Ahmed 2017: 175).

2.4.2 Culture

Culture stands out as the key factor that determines success with KM (Botha & Fouche, 2001:14). It is shaped by the shared values, beliefs and social practices that govern the way individuals act and behave in an organization (Kimani, 2013:52). According to Jain & Jeppesen (2013), culture-related practices reflect how the organization views and facilitates both learning and innovation, including how it encourages employees to build the organizational knowledge base in ways that enhance value for the customers.

McEvoy (2017) suggested that knowledge sharing in the public sector can be improved by creating awareness and understanding of its implications, particularly in terms of knowledge loss. Furthermore, it was also indicated that the management of knowledge is about creating an environment that leads to the creation and sharing of knowledge within the organization. Both political and administrative leadership are key players in creating a positive culture that will support information flow for successful implementation of KM (DPSA, 2019:24).

According to Botha & Fouche (2001:14), the principal attributes of knowledge-enriching culture are an intense communication climate of openness and trust and a clear understanding of the mutual benefits of knowledge sharing. Knowledge and information communication across organizational boundaries should be intense, open, and widespread and free flowing and

underscored by mutual trust, understanding and respect. They also indicated that all members should share a deep sense of commitment to continually apply organizational knowledge to customer service, customer problem solving, and customer value creation. Sharing customer experiences with others in the organization and the value chain should become part of the daily routine. Collaborative relationships that exist in the form of alliances, joint ventures, partnerships and other members of the value chain should be constantly used by organizational employees to create customer value. Joint knowledge development, innovation, and knowledge sharing should be standard practices in these relationships. All members of the organization should realize the value of using the physical work environment such as open areas, co-located offices and informal meeting places to promote knowledge sharing and information exchange. The management should fully support and encourage this practice. Management should recognize knowledge sharing and knowledge creation efforts, and firmly discourage knowledge and information hoarding. A natural awareness of the mutual benefits of sharing knowledge should be instilled to all members of the organization and should become a way of life. A culture of voluntary contributions to the organization's knowledge-based should be entrenched amongst all members, teams and groups. Utilization of knowledge base should be well embedded as standard operating procedure.

- **Customer orientation**

All members should share a deep sense of commitment to continually apply organizational knowledge to customer service, customer problem solving, and customer value creation. Sharing customer experiences with others in the organization and the value chain should become part of the daily routine.

- **Collaboration**

Collaborative relationships that exist in the form of alliances, joint ventures, partnership and other members of the value chain should be constantly used by organizational employees to create customer value. Joint knowledge development, innovation, and knowledge sharing are standard practices in these relationships. It involves transferring and sharing information and knowledge among colleagues, customers and partner organizations. It is often used in the context of partnerships, communities and their creation and sharing of knowledge.

- **Workplace**

All members of the organization should realize the value of using the physical work environment such as open areas, co-located offices, informal meeting places to promote

knowledge sharing and information exchange. The management should fully support and encourages this practice.

- **Knowledge Sharing**

Knowledge sharing is referred to a process which knowledge is transferred within and between organizations. The willingness for people to share knowledge is fundamental to creating a knowledge rich environment. Lack of sharing is one of the fundamental barriers to success in KM. Management should recognize knowledge sharing, knowledge creation efforts, and firmly discourages knowledge and information hoarding. A natural awareness of the mutual benefits of sharing knowledge should be instilled to all members of the organization and should become a way of life.

- **Knowledge contribution**

A culture of voluntary contributions to the organization's knowledge-based should be entrenched amongst all members, teams and groups. Utilization of knowledge-base is well embedded as standard operating procedure (Botha & Fouche, 2001: 9).

2.4.3 Structure

Structure refers to the enduring configuration of tasks and activities and provides guidance in determining whom people interact with in conducting KM tasks (Mounoud & Vo 2014: 88). According to Smith & Fourie (2001), structure consist of teams and groups, knowledge management roles, management communication, which are regular agenda points for formal and informal two-way communication sessions held between management and employees, incentive systems for motivating employees and the formal structuring of external relations with value chain members, alliances and joint venture partners that will enhance informal networking and collaboration between members of all parties. Organizational structure plays a significant role in the implementation of KM.

- **Teams and Groups**

The standard practice of the organization is to staff project teams, task forces and workgroups with multi-disciplinary and cross-functional members in order to exploit all embodied knowledge. Leaders of operational entities accept responsibility to promote knowledge management awareness throughout the organization. Knowledge and knowledge management should be regular agenda points for the formal and informal two-way communication sessions held between management and employees.

- **KM Role**

According to Botha & Fouche (2001: 9), knowledge management roles should be defined, appointments made and responsibilities allocated. Leaders of operational entities should accept responsibility to promote knowledge management awareness throughout the organization.

- **Management communication**

Knowledge and knowledge management should be regular agenda points for the formal and informal two-way communication sessions held between management and employees.

- **Incentive Systems**

Incentive systems for motivating employees to sustain the organization's knowledge base should be institutionalized and successfully applied.

- **External Structure**

Management should structure formal relationships with allies, joint venture partners and value-chain members. Knowledge Management objectives and how they can be achieved should be shared and agreed upon between these entities.

2.4.4 Processes

The most important process in organizations is the capability to integrate knowledge (Botha & Fouche, 2001). The organization should readily engage its core knowledge resources and capabilities across organizational boundaries/ functions to face new customer-centric challenges. These are integrated with efficiency and speed using new knowledge to continuously adapt well-proven business processes (Botha & Fouche, 2001:14). Integration of KM in government is recognized as crucial to inform both structural and procedural aspects. Process analysis will assist the integration of KM to improve processes and can be applied to better understand public service elements and processes that will be supported and enhanced by KM (DPSA NKMSF, 2019:28).

Processes of information acquisition, codification and distribution are used to enhance knowledge creation, innovation and customer value. Knowledge processes need to be examined for their effectiveness at all stages of the knowledge life-cycle. The main elements of processes consist of Knowledge Integration, Information Management and Business Intelligence (Botha & Fouche, 2001:10-11).

- **Knowledge Integration**

The organization readily engages its core knowledge resources and capabilities across organizational boundaries/ functions to face new customer centric challenges. These are integrated with efficiency and speed using new knowledge to continuously adapt well-proven business processes.

- **Information Management**

Processes for information acquisition, codification, and distribution are well established in the organization. These processes are used to enhance knowledge, innovation and customer value.

- **Business Intelligence**

A sophisticated and ethical intelligence-gathering process that excels at scanning the environment for information on industry trends, competitor products and services and customer profiles are institutionalized.

2.4.5 Technology

Technology focuses on how the organization equips its members to communicate easily with one another and the systems used to collect, store and disseminates information. It involves the information systems architecture, information technology infrastructure and KM application software (Botha & Fouche 2001:14). Information systems architecture should be aligned to support and accommodate knowledge management applications. Systems such as groupware, corporate intranets and portals should be widely available to members and should be actively used. Information and communication infrastructure must provide people-to-people and people-to-information connectivity and networkability (Botha & Fouche 2001:10-11).

- **Information System Architecture**

The organization has implemented information systems designed to enhance the effective access to information, interpersonal and group communication and collaboration. These systems are widely available to members and actively used. Examples are groupware, corporate intranet and portals.

- **Information Technology Infrastructure**

The organization's information technology infrastructure is purposefully deployed and integrated to ensure sufficient and efficient accessibility and connectivity to all members, including members of the value chain.

- **KM Application Software**

Dedicated KM software applications are functionally integrated and continuously aligned with the organization's formal information system. This system is available and accessible to all members and used with commitment and dedication for the purpose of customer value creation. KM software includes data warehousing, data mining tools and decision support systems.

2.4.6 Measures

Measures refer to performance indicators that measure and manage intellectual capital and other intangible assets, usage of KM applications and tools, KM progress reporting and continual assessment of knowledge management programs and practices and alignment of KM practices with the organization's vision, strategy and objectives as well as culture, structure, processes and technology (Botha & Fouche, 2001: 16). The measurement includes how the organization quantifies its knowledge capital and also how resources are allocated to fuel its growth.

- **Performance indicators**

A formal system to measure and manage intellectual capital and other intangible assets is maintained. The measures are used to assess the contribution that intellectual capital/intangible assets make towards the organization's performance (Botha & Fouche, 2001: 12).

- **Usage of KM Tools**

Usage of KM applications and tools is regularly monitored and assessed (Botha & Fouche, 2001: 12).

- **KM progress report**

A system of monitoring, reporting and continual assessment of KM programs is maintained (Botha & Fouche, 2001: 12).

- **Alignment**

Top management fully understands and realizes the importance of continually aligning the knowledge management practices with the organization's vision, strategy and objectives as well as culture, structure, processes and technology (Botha & Fouche, 2001: 10).

2.5 KM practices in the context of the South African Public Sector

KM practices in both the private and the public sector can be traced from the late 1990s and early 2000s (Bed, 2003; Mphahlele, 2010; Almudallal et al., 2016). In the South African Public sector, KM is gradually gaining recognition since its implementation by the DPSA, which is at the forefront of the KM implementation, using its Centre for Public Service Innovation (CPSI), and the department of Communications (DoC) in the early 2000s, with the purpose of supporting government institutions in developing a platform for knowledge sharing and dissemination across the public sector (Munzhelele, 2012).

It has been indicated that during that period, KM implementation was prioritized by a number of national and provincial departments in the SA public sector. However, not all departments have put KM at the top of their priority lists (Mphahlele, 2010). It was also shown that in those departments that had introduced and implemented KM, there was little knowledge and understanding of KM. In some departments there was no structured or systematic monitoring and evaluation, which made it difficult to determine the success or failure of KM. Additionally, the literature discovered challenges such as the silo mentality as well as limited coordination and cooperation between national departments and their related provincial departments (Mphahlele, 2010).

KM was introduced and well received by the South African public sector. According to the DPSA's national knowledge management strategic framework (NKMSF 2016; 2019), the implementation of KM in the Public Service has progressed without any agreement on a framework of standards, systems and commonly-accepted definitions and terms. It has grown in an ad hoc fashion and has resulted in multiple approaches, leading to weak integration of KM in the mainstream institutional functioning processes (NKMSF 2016: 12-13). As a result, different national departments are at different stages of implementation, with some doing much better, whilst others have not yet started.

Additionally, based on the assessment conducted by the DPSA (2018/2019), in the departments that have introduced and implemented KM, there is lack or inadequate alignment of KM to the business needs and processes. KM is not viewed as a strategic management function in many government departments. The assessment indicated that a number of national departments have knowledge management strategies in place, which shows the need and acknowledgement of

KM in the departments. However, their business case for KM is not clearly defined. The absence of government-wide guidelines on the implementation of knowledge management in the public service has resulted in inconsistency, which has been addressed with the approval and introduction of the national KM strategic framework (Circular 20 2020: 3).

Despite the challenges identified, public sector organizations have introduced several initiatives. The DPSA presented road shows, KM indaba and KM Learning Network to educate public servants about the importance of KM and to strengthen the implementation of KM in the public sector. Initiatives have been put in place, such as the Knowledge Management Working Group by the Government Information Technology Officers Council (GITOC), which was established in 2003. It consists of various networks or communities of interest, where government Chief Information Officers (CIOs) meet and share their successes, experiences and challenges in managing knowledge (GITOC 2004). According to Abdullah & Date (2007) public sector organizations have managed their knowledge through initiatives like e-governance, online knowledge portal and ICT policy (Mphahlele, 2010:35).

It is imperative for this study to briefly consider the background of the implementation of KM in the public sector as a basis for understanding the current status of KM practices as well as the progress made so far in the public sector in SA.

2.5.1 Review of Related Literature

Research studies in the context of South African government departments have revealed some issues that need consideration. A study conducted by Ramohlale (2014) investigated KM practices in the Department of Defence (DoD). The findings of the study indicated that KM was hardly understood in the department and KM was not an approach used for the benefit of the organization. According to the study, the department relied heavily on the use of information and knowledge gained through experiences for it to advance and develop the investment in the knowledge capacity, and guidelines and a framework were required in the DoD (Ramohlale 2014: 181). It was suggested that the DoD need to adopt a KM structure to implement KM practices and strategize on channeling their knowledge to maximize its intellectual capital. This reaffirms KM as the means to support the army's strategy and have effective KM implementation (Ramohlale 2014: 182). Additionally, Ramohlale suggested that for the department to have successful KM, it must have a common understanding of the terms 'knowledge management' and 'knowledge sharing' and how to apply them to its situation and needs (Ramohlale 2014: 183).

Chawuke (2018) investigated the Department of Defence and Military Veterans and Department of Health to demonstrate KM alignment between knowledge purpose, processes and context. The main focus of this study was the adoption and implementation of knowledge management in the South African public service. The study compared the draft DPSA national KM strategic framework (2016) with three international KM frameworks; namely, Inukshuk KM model, Department of Navy KM model and Health Canada to demonstrate that the DPSA subscribes to a universal KM framework. Other government departments in countries such as Australia, Canada, and United States of America (USA) developed their own KM models in line with their organizations' unique characteristics, KM needs, organizational culture and legislative mandates (Chawuke 2018: 95).

The findings of the study indicated that although government departments are similar in structure and functions, they are in fact different and unique in characteristics, dynamics, responsibilities and missions. Therefore, the study suggested that the DPSA should improve the implementation and institutionalization of KM in South African public sector organizations, based on a contingency approach that will allow better alignment between knowledge purpose, processes and context. In addition, the study also proposed a KM

conceptual model to be integrated with a decision-making framework, as an implementation strategy for KM in the public sector in South Africa. Moreover, the study recommended that the DPSA should draft an official document or transcript, which will serve as a guideline for all public sector organizations in SA to draft their own KM frameworks, which would be aligned to their organizations' strategic purpose, processes and context (Chawuke 2018: 116).

2.5.2 Provincial Government Departments in SA

A case study by Badimo and Buckley (2014) investigated KM in the Gauteng Department of Health and discovered that the field of KM was fairly new and KM did not feature in policies and practices of the department. The employees at executive, managerial and general staff levels did not know the difference between knowledge and information management. Knowledge creation, knowledge sharing and knowledge application were not prevalent. The study suggested that employing KM principles in the department could improve its ability to achieve its operational goals and objectives. Elements of knowledge management capabilities were investigated and the researchers concluded that knowledge creation, knowledge sharing and knowledge application are a significant element of all measures of organizational performance and healthcare service delivery (Badimo and Buckley 2014).

The Health Research and Knowledge Management unit (2017) investigated the KwaZulu-Natal Department of Health. The case study discovered that there are two categories of knowledge that are crucial in the department; namely knowledge generated by the research which guides the department's provision of health services and institutional knowledge such as policies, frameworks and guidelines which govern its functionality. The KM framework was intended to guide the management of knowledge in the department. Furthermore, according to eThekweni Knowledge Strategy and Implementation Plan 2010 – 2014, the strategy to implement KM was through, the Municipal Institute of Learning (MILE) which supports African municipalities with capacity development and knowledge driven programmes to enhance the delivery of local government competencies.

Baloyi and Beyers (2020) investigated the strategy implementation process in the Limpopo Provincial Government (LPG) of South Africa. The purpose of his study was to examine the perceptions of senior managers with regards to strategy implementation in LPG. findings revealed that incompetence, devoting less time to the core business and continual engagement

in politics by senior managers resulted in ineffective strategy implementation. The study recommended the appointment of competent senior managers to improve strategy implementation processes in the public sector.

Another case study on knowledge management in the Limpopo Provincial Government was conducted by Smith and Fouche. The purpose of the study was to assist the LPG, which was under severe pressure because of poor service delivery, low productivity and problems with governance and finances. The LPG contracted Knowlead Consulting & Training to develop a knowledge management strategy to provide the framework for the LPG. The project was divided into four phases, with the objective of assisting the LPG to improve governance, service delivery, effectiveness and performance by instituting effective KM practices. The project deliverables included a KM strategy and implementation plan that provided the framework to institute KM practices.

2.5.3 Local Government

A case study by Gaffoor (2008) evaluated the impact of the accepted KM organizational enablers using culture, leadership, human resources, ICT and organizational leadership in the Stellenbosch municipality. The findings of the study indicated that the Stellenbosch municipality was lacking support from the leadership and the culture of sharing was also lacking across the departments.

A study by Mange (2019) investigated KM practices in the City of Johannesburg. The profile of KM practices in terms of leadership, culture, processes, structure, and information technology infrastructure were measured. The study found that KM practices were embedded in the role and structure of the City of Johannesburg and leadership support for KM seemed to be poor. The level of KM practices was also low across all the dimensions measured.

2.5.4 Other Countries

Komanyane (2010) investigated KM practices in the public sector in Botswana. The study selected 43 departmental directors of the government of Botswana. The research revealed that in the public sector in Botswana information management is being practiced rather than knowledge management. Weaknesses such as lack of knowledge about knowledge management, lack of communication inside and across the departments and lack of policy and

good KM systems were identified. The researcher found that despite the weaknesses identified, the respondents recognized the value and need for KM.

Biyguatane and Al-Yahya (2011) conducted a study of the public sector in Dubai, which indicated that the understanding of the concept of KM was vague and unclear. The study discovered that among the five major government entities in Dubai, only two seemed to recognize the crucial role of tacit knowledge and had implemented the necessary tools to capture, document and share it. Some of the obstacles identified were lack of effective leadership in major public organizations and lack of the technological instruments required for knowledge practices.

Adel and Shaghayegh (2010) conducted a study to examine knowledge management in the public sector in Iran. The study indicated that the implementation of KM in organizations had increased, even though KM was still at an infant stage and little had been done to practice KM and bring the subject to use in the public sector.

A review of KM in public sector practices across Arab countries also indicated that they are lagging behind as compared to other developed countries. Factors such as knowledge sharing and exchange, cultural factors and religion were identified as the major barriers in practicing KM (Alatawi et al. 2012: 644).

According to Amber et.al (2018), KM in public sector organisations in Pakistan is under-researched and there is a need to translate the existing informal practices into a formal KM approach.

In India, a study was conducted, comparing KM in the public and private sectors. The findings indicated that in the public sector KM was in its infancy and had a long way to go in order to keep pace with its private sector counterparts (Chawla & Joshi., 2010: 824).

2.6 Common Challenges in Managing KM in the Public Sector

The implementation of KM in the public sector can be challenging due to its cloistered hierarchical and fundamentally politically-sponsored structure (Chong et.al. 2011). The Asian Productivity Organization (2013) found that the main obstacles that KM often faced in the

public sector are rigid, inflexible organizational structures, work processes, procedures, rules and systems that are usually the basis of bureaucracy.

A survey conducted by National University of Singapore, distributed to 32 developing countries, supported by Salwa (2015) Saudi Arabia, Amber, Khan and Ahmad (2018) identified the top five challenges of implementing KM:

- Awareness of KM;
- Ability to understand and apply KM;
- Strong management support;
- Open organizational culture; and
- Providing a strong business case.

The main challenges with regard to successful knowledge sharing in the public sector include lack of management recognition, few rewards for knowledge sharing behaviour and inadequate organisational IT infrastructure, lack of incentives for innovation and team work and outcomes that are unclear and not adequately measured (Evoy & Ragab, 2019). Employees in the public sector tend to view knowledge, particularly tacit knowledge, as personal intellectual property (Evoy & Ragab, 2019).

Haricharan (2001) identified common institutional challenges that could be addressed by the strategic implementation of KM in a public sector setting:

- a)** Bureaucracy, vertical organisational structure and over-emphasis on policy prescript and guidelines;
- b)** Public sector cannot pick its customers and partner; it is guided by the policies;
- c)** Government institutions are generally designed to pursue specific functionally-laid mandates and objectives resulting in a silo focus that can also be found in the private and non-government sector;
- d)** Over-reliance on senior and long serving staff for both codified and explicit knowledge;
- e)** Staff rewarded for compliance, as opposed to innovation, experimentation and risk-taking and
- f)** Knowledge and information are not centrally stored. They are largely, compartmentalised, with each unit or department within the same organisation, maintaining its own hard drive.

In the South African public sector organizations, gaps and challenges that have been identified in the literature include the following:

- Public sector is compelled by the Access to information Act 2 of 2000 and the promotion of Administrative Justice Act 3 of 2000 to make certain information accessible;
- Public sector cannot pick its customers;
- Public sector cannot pick its partners;
- Evidence base for policies and programmes is constantly under scrutiny;
- The development and implementation of policy is a highly public matter;
- The drive for efficiency and citizen-centred services is putting immense strain on already stretched public sector resources; and
- There is lack of collaborative working.

The public sector cannot pick its customers and partners; it is guided by the policies. The public sector is compelled by the Access to information Act 2 of 2000 and the Promotion of Administrative Justice Act 3 of 2000 to make certain information accessible.

Some authors are still concerned about the fact that public organizations have not yet fully addressed KM activities. This lack of effective management of knowledge could be a result of the fact that most organizations are still struggling to comprehend the KM concept and the reasons for this confusion and lack of clarity can be attributed to a gap within the implementation of KM (Coetzee et al., 2012).

According to Wong & Aspinwall (2004), one reason why many organizations are still struggling with KM and failing in their endeavours to realize its full potential is that they lack the support of a strong theoretical foundation to guide them in its implementation. A sound KM framework helps to fulfil this need by providing important guiding principles and direction. KM frameworks work as maps that direct organizations to execute various actions that suit their organizational KM needs (Pawlowski & Bick, 2012).

2.7 KM Framework

Holsapple & Joshi (2002) assert that for decades KM scholars developed various frameworks and models to demonstrate the value of KM within an organization, how it can be implemented successfully and the factors that contribute to its success. KM frameworks are regarded as theoretical tools for understanding, capturing and categorizing intellectual property. They also define how knowledge-centric system components and processes work together in achieving organisational objectives (Harris and Varveris, 2004).

The literature identifies three different types of KM frameworks namely:

- **Prescriptive frameworks** provide direction on knowledge management procedures without providing specific details on how those procedures should be accomplished. In essence, they prescribe different ways to engage in knowledge management activities (Heisig, 2009).
- **Descriptive frameworks** attempt to characterize the nature of KM phenomena (Holsapple & Joshi, 1999). Descriptive frameworks can be further classified into broad and specific categories. A broad framework attempts to describe the whole of KM phenomena, whereas a specific framework focuses on a particular aspect of this phenomenon (Holsapple & Joshi, 1999). These frameworks identify important attributes of knowledge management that influence the success or failure of knowledge management initiatives.
- **Hybrid frameworks** are a combination of the prescriptive frameworks and descriptive frameworks (Heisig, 2009).

The KM frameworks that are presented in the literature tend to focus on different aspects of KM and have different purposes. All of these frameworks focus on how organizations manage their knowledge. Many do not address KM comprehensively; each of them addresses specific aspects of KM (Debes 2018:25). Another type of framework found in the literature characterizes and describes the knowledge cycle processes of KM. Their main focus is to address the phases of knowledge flow in an organization, without providing guidance on how to implement KM (Wong and Aspinwall 2004: 94). For example, Holsapple and Joshi (1999) reviewed 10 frameworks, Lai and Chu (2000) reviewed 16 frameworks, Heisig (2009) reviewed 160, Karemente et al, (2011) reviewed 21 frameworks, Shongwe (2016) reviewed 20

frameworks and Debesse (2018) reviewed 5 frameworks. All of them have identified common elements that KM frameworks should include as minimum (Debesse 2018:25).

In some studies, KM frameworks employ the empirical character, which is different from theoretical studies. Some KM frameworks explain the world of KM by naming the major KM elements, their relationships and the principles of how these elements interact and provide the reference for decisions about the implementation of KM (Heisig, 2009).

2.8 KM Implementation Framework

Wong and Aspinwall (2004:94) make a distinction between KM frameworks and KM implementation frameworks. KM implementation frameworks suggest the way forward to implement KM, whereas KM frameworks might not concentrate on that. Their main focus is to address the phases of knowledge flow in an organization without providing guidance on how to implement KM (Wong and Aspinwall, 2004).

Table 2: Distinction between KM Implementation Frameworks and KM Frameworks

KM IMPLEMENTATION FRAMEWORKS	KM FRAMEWORK
<ul style="list-style-type: none"> ▪ The system-oriented frameworks consist of three main building blocks, namely knowledge resources, KM activities and KM influences. Each block contains a set of activities and practices to successfully implement KM. ▪ The process-oriented frameworks outline two major sequential components of KM implementation; namely, achieving an understanding of the knowledge management landscape, which means obtaining an appropriate perspective of the actual organizational situation, and performing 	<ul style="list-style-type: none"> ▪ Prescriptive frameworks provide direction on knowledge management procedures without providing specific details on how those procedures should be accomplished. In essence, they prescribe different ways to engage in knowledge management activities (Heisig, 2009). ▪ The frameworks tend to be task-oriented (Holsapple & Joshi, 1999). Weber et al. (2002) advocate for a prescriptive KM framework which

<p>knowledge management tasks, which means translating knowledge managers' understanding of the current state of affairs to knowledge management initiatives (including capturing, codifying, storing, and transferring knowledge).</p> <ul style="list-style-type: none"> ▪ The third category develops frameworks that combine both system and process approaches. In the framework, the components corresponding to the knowledge processes are knowledge creation, organization, dissemination, and use; the ones corresponding to the organizational system include individual and group, organization, customer interface and virtual enterprise (Mounoud and Vo, (2014:84). 	<p>suggests how things should be done in a practical manner.</p> <ul style="list-style-type: none"> ▪ Descriptive frameworks attempt to characterize the nature of KM phenomena (Holsapple & Joshi, 1999). These frameworks identify important attributes of KM that influence the success or failure of KM initiatives (Heisig, 2009). Descriptive frameworks can be further classified into broad and specific categories. A broad framework attempts to describe the whole KM phenomenon, whereas specific frameworks focus on a particular aspect of this phenomenon (Holsapple & Joshi 1999:5). ▪ Hybrid frameworks are a combination of the two (Heisig, 2009).
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KM implementation frameworks can also be classified into four groups: classical, contingency, behavioural, and political.

- The classical one is founded on the unitarist view of strategy; that formulation and implementation can be controlled from one centre of authority, and that there are two sequential phases of knowing and effecting strategy;
- The contingency one emphasizes that implementing KM is subject to the influence of the relationship between the organization and its environment;
- The behavioural one incorporates individual and organizational sources of resistance in implementing KM;
- The political one is primarily concerned with the impact of patterns of power and influence on the implementation processes and outcomes.

Holsapple and Joshi (2002:50) further identify various reasons for organizations to have a KM implementation framework before they start implementing KM initiatives:

- It defines the boundary of KM as well as its components, resources, actors and influences involved in the process;
- It provides awareness and understanding of KM principles, elements and processes;
- It helps in the scoping of KM projects and initiatives;
- It facilitates the communication of KM processes, as well as vision and implementation issues within the organization;
- It also helps to assess whether all implementation issues have been covered and how they have been covered;
- It facilitates the management and coordination of the implementation process.

Mounoud & Vo (2014:84) argue that existing KM implementation frameworks tend to provide one-size-fits-all models that are assumed to be applicable to any organization. They further suggest that KM implementation frameworks should place emphasis on assessing the organizational attributes, tasks and environment and how to align KM implementation with other features of the organization. Similar to the above study, Chawuke (2018) claims that the South African government's draft DPSA KM strategy framework subscribes to a universalistic approach to KM adoption and institutionalization of KM in South African public sector institutions (one size fits all). This approach does not work in knowledge-intensive organizations like modern public sector organizations. The study indicated that the universalistic approaches fail to acknowledge the complex, diverse, unique and distinctive characteristics of organizations. National governments should have relevant KM frameworks that will result in better KM implementation and a contingency approach should be followed that takes the knowledge purpose of the particular department and its particular context into account.

The study suggested that South African government departments and institutions should pay close attention to the distinctive and diverse characteristics of their organizations, strategic KM purpose, knowledge processes and enabling context when embarking upon KM implementation. The DPSA should improve the implementation and institutionalisation of KM in South African public sector organizations based on a contingency approach that allows better alignment between knowledge purpose, processes and context. In addition, the study also

proposed a KM conceptual model to be integrated with a decision-making framework, as an implementation strategy for KM in the public sector in South Africa (Chawuke 2018).

The DPSA draft NKMF (2016: 13) and approved NKMF (2019:14) indicated that it recognises that institutions are not homogenous; hence it is not possible to produce a blueprint that can be generically replicated across all institutions. Therefore, the framework provides the principle rather being prescriptive and the institutions are expected to develop their systems of KM by adopting principles and standards and adapting the models and operational practices to match their specific institutional requirements. The purpose of the DPSA national KMSF is to provide conceptual clarity and leadership that allows public service institutions to implement KM successfully. It provides the reference on how KM should be implemented within the public service in SA.

Furthermore, Cong & Pandya (2003) have suggested that the three key elements, i.e. people, processes and technology, should be considered for public sector KM frameworks. KM focuses on people and organisational culture to stimulate and nurture the sharing and use of knowledge, on processes or methods to locate, create, capture and share knowledge, and on technology to store and make knowledge accessible and to allow people to work together without being together. Also, recognizing the right technique to identify, capture, create, share and store knowledge is an extremely important aspect of KM, as is employing the correct technological infrastructure, creating virtual knowledge platforms, increasing collaboration capabilities and providing better access to knowledge resources (Al-Yahya and Farah 2009:11).

Debele (2018) investigated the KM framework of the Ministry of Defense (MOD) in the Federal Democratic Republic of Ethiopia (FDRE). The purpose of the study was to propose a KM framework that the MOD could utilize to ensure that it is making best use of its knowledge resources. The study identified key elements and enablers deemed essential for KM to be successful.

Table 3: Key Elements of KMF**Source: Debele (2018: 32)**

s/n	KMF elements	KM Process	Knowledge Resources	Enablers/Factors
1	Heisig (2009) The GPO-WMw-Framework	Create, Store, Share, and Apply	The organization has to determine which forms contribute most to their strategic and business objectives	Human-oriented (culture, people, leadership), Organization (process and structure), Technology (infrastructure and applications), and Management process (strategy, goals and measurement)
2	The CEN framework (CEN, 2004)	knowledge acquisition, creation, repository, sharing, use, and evaluation	Human, Structural, and Customer, and Collaborative technological Capital	Organizational, Environmental, and IT influences
3	Karemente (2011) KMF	Initiation, generation, Modeling, Repository, Distribution and transfer, Use, and Retrospect	Human, Structural, and Customer Capital	Culture, leadership' measurement, Education, Reward and Motivation, Values and Norms, and technology
4	Lai and Chu (2000) Comprehensive KMF	Identify, create, Store, Share, and Use	Employee (Human), shared knowledge assets (Structural), and stockholder (Customer) Capital	Knowledge capabilities on an organizational (e.g., vision, strategy) and individual level (such as skills, competences, methods, tools).
5	Pawlowski and Bick's (2012) Global KMF	Knowledge identification, acquisition, development, distribution or	Human, structural, customer	Culture, infrastructure, strategy, stakeholders (including, Lack of time, Fear about job security, Lack of awareness for KM, Use of

2.9 KM Strategic Framework in the Public Sector South Africa

In SA, the Department of Public Service and Administration (DPSA) is responsible for establishing uniform norms and standards which support efficient and effective public service delivery in accordance with the Public Service Act (1994) and Public Administration Management Act of (1994); to implement interventions to maintain a compliant and functioning public service; promote an ethical public service through programmes, systems, frameworks and structures that detect, prevent and combat corruption and contribute towards improved public administration through dialogue and sharing of best practices (DPSA strategic plan 2020-2025).

The (DPSA) has drafted three national knowledge management strategic frameworks (NKMSF), namely: draft learning and KM framework (2003), towards a learning and KM framework for the public services (2011) and Draft National KM strategy framework: a public service guide (2016) and in March 2019 the National Knowledge Management Strategic Frameworks (NKMSF) was approved by the DPSA. The purpose of the DPSA national KMSF is to provide conceptual clarity and leadership that allows public service institutions to implement KM successfully. It provides the reference on how KM should be implemented within the public service in SA.

Furthermore, the proposed DPSA NKMSF seeks to act as a long-term implementation guide for the development of the KM strategies and frameworks of each department and municipality across the three spheres of government to uniformly implement KM within the public service in South Africa and entrench a culture and practice of learning and knowledge management in the public service through:

- Demystifying the field of learning and knowledge management by developing practical guidelines;
- Providing different approaches and mechanisms for establishing platforms and forums for learning engagements; and
- Supporting the establishment and sustenance of a cadre of learning and knowledge management drivers for the public service (NKMSF 2019:10).

The DPSA NKMSF (2019:13) indicated that the KM framework is intended to be used by all national departments as well as provincial and local government departments to inform, develop and form the base of their individual KM strategies.

As a result, a number of departments have formulated KM strategic frameworks. For example, the Department of Tourism (DT) developed a draft knowledge management strategy (2019). The strategy was based on the National Tourism Sector Strategy (2016-2026). The purpose is to outline the gaps that need to be bridged and actions needed to develop structures and processes that organize information flow and relationships between various stakeholders in order to optimize the destinations' performance (Tourism KM Strategy 2019:5).

The National School of Government (NSG) produced a knowledge management strategy which was approved in March 2016, to provide the NSG with a clear platform and road map for managing knowledge and creating new knowledge assets in support of the organization's mandate. It is important for the NSG's management processes as it seeks to ensure that KM plays a crucial role in ensuring that organizational values support service delivery.

The department of Communications and Digital Technologies (DCDT) has also developed a KM strategy (2020-2025), which is used to support the operations of KM in the department. The purpose of the KM strategy is to provide the department with a coherent, structured and strategic approach to managing its knowledge and information requirements as an asset which must continuously align with departmental outcomes (DCDT KMS 2020-25: 7).

The Department of Planning, Monitoring & Evaluation (DPME) formulated a research and KM strategy (2020-2025). The purpose of the strategy is to outline what and why certain actions will be undertaken to facilitate the production, sourcing and synthesising of research and knowledge products to support the implementation of the National Development Plan (NDP) and localisation of the Medium-Term Framework (MTSF). The strategy seeks to build on research activities initiated since the approval of DPME research strategy (2015-2019) and promote improvement in the coordination of research and KM activities within DPME and across government institutions (DPME Research and KM Strategy 2020-2025:1)

The Department of Economic Development, Environment & Tourism (DEDE), Limpopo Provincial Government approved the knowledge management policy in 2017. The objectives

of the KM policy included the provision of effective access to information by establishing a repository where harvested information can be stored, to provide guidance on how to manage knowledge in the department by encouraging organizational learning and to prevent loss of knowledge when employees leave the department, by capturing information and storing it and lastly to promote KM programs (Department of Economic Development, Environment & Tourism KM policy 2017:7).

2.10 The Status of KM Practices within the Public Sector in SA

The implementation of KM in the public sector in South Africa has provided benefits that assist the organizations to achieve their objectives. It has led to more consciousness and greater need for government to focus on managing their knowledge and on leveraging their knowledge for learning, in order to offer quality services. Moreover, managing knowledge has assisted government to avoid repeating the same work, errors and bad practices, to improve processes and to reduce dependency (NKMSF 2019: 12).

The DPSA hosted the National Knowledge Management Forum in September 2019. The National Knowledge Management Forum was a working session that sought to respond to the shortcomings that had been identified in the maturity assessment report through facilitated group work, and with an end-goal of developing a Knowledge Management Roadmap. The assessment report highlighted the uneven understanding and levels of implementation of Knowledge Management across national and provincial departments. There is an acknowledgment of the need to manage knowledge by the national and provincial spheres; however, less than 50% of provincial departments are in the reaction phase, which means that Knowledge Management in these organizations is random and unplanned and there are minimal Knowledge Management activities within the organizations. It was also noted that the framework, which provides much-needed guidelines on the implementation of Knowledge Management initiatives across the Public Service, has been approved (The public servant official publication of Public Servant administration 2019).

According to DPSA circular no 22 of 2020: 3, the KM maturity assessment tool was sent to one hundred and eleven (111) provincial government departments and forty-seven (47) national government departments, and responses were received from fifty-three (53) provincial government departments and 19 national departments. The results of the assessment suggested

that national departments that responded were within the initiation phase and a few of them were in the reaction phase. Based on the tool, national departments recognise the need to manage knowledge; however, KM activities are unplanned and random and they are happening on a very minimal scale. KM is not viewed as a strategic management function in many departments. Alignment of KM to business needs and processes is inadequate and organizational culture of information dissemination is poor.

2.11 Conclusion

This chapter aimed to explore existing studies on Knowledge Management in the public sector, KM practices in South Africa and frameworks in the public sector as well as the common challenges faced by the public sector in implementing KM. The chapter also critically analysed relevant in order to understand KM in the context of public sector, practice of KM in the public sector and the description of KM frameworks, models and legislative framework and policies used as a foundation of KM in the public sector in order to answer the research questions. The next chapter will provide a detailed description of the research design and methodology used in this study.

CHAPTER 3

RESEARCH METHODS

3.1 Introduction

Chapter one presented the general orientation and the objectives of this research study. Chapter two covered a detailed review of literature on studies about KM in the public sector, KM practices, policies, frameworks and models for KM in the public sector. This chapter will discuss the research methodology applied in the study by outlining the research approach. The chapter begins by discussing the design selected for the study and the methods used in the study. Furthermore, the data collection methods used, targeted population, sampling techniques, data analysis, and ethical considerations of the study will be presented.

3.2 Research Design

Research designs are types of inquiry within qualitative, quantitative and mixed method approaches that provide a specific direction for procedures in a research design. It is sometimes called strategies of inquiry (Creswell 2014: 12). The qualitative research design selected for this study will provide direction, help to meet research objectives and answer the research question of this research study.

According to Leedy and Ormrod (2014), qualitative research studies typically serve one or more of the following purposes; descriptive, interpretation, verification and evaluation. A descriptive research design is the conceptual structure within which research is conducted. It is concerned with describing the characteristics of a particular individual or group and helps a researcher to describe an event or define a set of attitudes, opinions or behaviours (Leedy and Ormrod 2014:142).

This study adopted a research paradigm of phenomenological study, which according to (Leedy and Ormrod 2014:143) attempts to understand people's perceptions, perspectives and understanding of a particular situation. In this research strategy a researcher aims to understand an experience from the participants' point of view. This strategy culminated in the essence of the experiences of several individuals who have all experienced the phenomenon (Creswell

2014: 14). The researcher presumed that the participants have the experience and are the best to understand, explain and describe the KM practices of their own work environment.

This design is suitable for this study to achieve its objectives. The data collection technique used interviews as primary data and document analysis as secondary data, followed by measurement and analysis of the qualitative data. This research design provides the blueprint for a clear statement of the research problem, procedures used for gathering information, population and sampling used in the study and also the methods to be used in analysing data in order to achieve the objectives of the study. Moreover, it focuses on the accuracy and reliability of the data and representativeness of the sampling and ensures the validity of the research findings.

3.3 Population and Sampling

According to the DPSA KM Strategy framework (2019: 6) the public sector in South Africa includes all institutions and organizations which operate within the three levels of government and are engaged in government policy and administration. These institutions are accountable, responsible to political authority and comprise of organizations that deliver the goods and services of the government at a local or national level (Kimani 2013:17).

The South African public sector is very large, with different departments at national, provincial and local government level. After the merger of some national departments in June 2019, the public sector SA consisted of 39 national government departments (<http://www.dpsa.gov.za/dpsa2g/documents>). Due to the population being very large, this study targeted national government departments that practice knowledge management in SA.

Since there was no readily available information about the number of national departments that are implementing KM, five public sector organizations were selected to participate in this study. The selected departments included; Department of Tourism (DT), Department of Communications and Digital Technologies (DCDT), National School of Governance (NSG), Department of Public Service and Administration (DPSA) and Department of Cooperative Governance and Traditional Affairs (Cogta). However, only four national departments were willing to participate in the study and out of the four departments, three departments were available and were used as the sample of the study.

National Departments	39
Number sampled	5
Participants	3

3.4 Sampling Technique

A research design is a logical blueprint that links the research questions, the data to be collected and the strategies for analysing the data so that the study's findings will address the intended research questions (Yin, 2015: 83). This research study was guided by purposive and convenience sampling because the elements of the population had an equal chance of being selected as long as knowledge management was being practiced.

Purposive sampling, which is also referred to as judgemental sampling or expert sampling, is a non-probability sampling technique whose main objective is to produce a sample that can be considered to be representative of the population (Yin 2015: 93). The researcher used purposive sampling for the purpose of selecting participants who are experts who have experience and skills on KM implementation and activities involved and how their departments are implementing KM frameworks.

It must be noted that it was not possible to accurately determine the sampling frame, since there was no readily available information about the number of national departments that are implementing KM. Therefore, the researcher assumed that the selected sample would deliver the best information in order to satisfy the research objectives and would be the best to understand, explain and describe the KM practices of their own work environment.

3.5 Data Collection Instruments

During the process of data collection, both primary and secondary data sources were used as tools to collect data. Primary sources of data used in this study consisted of interviews and focus group discussions. The researcher also collected secondary data from the departmental websites, national strategic plans, strategic frameworks, annual performance plans of the departments.

3.5.1 Interviews

Qualitative interviews aim to gain an understanding of participants' lives, experiences and cognitive processes (Yin 2015: 143). Through this approach the detailed description of participants' experiences, opinions and interpretation of the current state of Knowledge Management in their organizations were obtained. The study used semi-structured interviews to explore individual opinions, beliefs, motives, convictions and perceptions on the research theme. The advantage of semi-structured interviews is that they include unstructured and open-ended questions to allow the participants to freely express their in-depth experiences, views and opinions. The interviews involved flexible and explorative open-ended, hypothetical and leading questions that were intended to elicit views and opinions from the participants. The main purposes were to describe and analyse the current status KM practices in the public sector and to investigate how government departments in South Africa are implementing Knowledge Management practices.

The interview schedule was the main instrument used for the collection of primary data in this study. The researcher conducted three face-to-face interviews with participants from different departments who occupied head of the section positions and were therefore presumed to possess more knowledge-intensive responsibilities. The Zoom and MS Teams meeting platforms were used with other participants and the researcher personally visited one participant at their work place. The respondents in the study comprised of males and females who had more than five years' experience of working in Knowledge Management. Informed consent forms were signed by all the participants before they engaged in interviews. Furthermore, the purpose of the interviews and the ethics involved when conducting interviews were explained to the participants

The study used an interview guide to collect data. The structure and content of the questions were based on Knowledge Management Assessment Tool (KMAT), which was adopted by Botha & Fouche (2001). The researcher adapted the tool slightly so that it would make sense to KM practitioners in the public sector. The interview guide comprised of seven questions or sections including the background information, leadership, structure, processes, technology, measures and culture (see Appendix I).

3.5.2 Focus Group Discussions

Focus groups are discussions conducted by the researcher with a group of research participants and usually focused on a particular issue or set of issues (Yin 2015: 149). The researcher invited fourteen (14) participants for group discussions and eight (8) officials were available and willing to participate. Two focus group discussions were conducted, with each group consisting of four (4) officials working in the Knowledge Management section / directorate in one of the three departments selected for the study.

Table 4: Focus Group Discussion Participants

CATEGORY OF EMPLOYEE	TARGETED PARTICIPANTS	NUMBER OF PARTICIPANTS
Director	2	1
Deputy Director IT, Information Centres and KM	3	3
KM practitioners	4	1
KM Assistant Director librarian, and IT personnel	5	3
Total	14	8

The targeted participants who represented the national departments included two directors, one male and one female, with 5-12 years' experience in the current position; three deputy directors, also known as middle managers, with 5-10 years' experience; five assistant directors, including librarian, IT, KM practitioners, with 5-8 years' experience. The experience was important as they understood the description of KM. KM employees were selected because they were deemed to be the best people to provide a clear picture of the status of KM in their departments.

A total of 17 participants were invited for interviews and focus group discussions. Three participants were senior managers. Of the fourteen other participants invited for focus group discussions, eleven (11) participants were available and willing to contribute to this study. All invited participants were professionally placed at either senior management or assistant management level and were therefore assumed to have solid experience and a thorough

knowledge of the KM practices in the departments. Individual interviews were conducted with the three senior managers and 8 participants were engaged in focus group discussions.

3.5.3 Document Review

The secondary data was collected and analysed from existing documents that were deemed relevant in providing quality data for this study. The documents reviewed consisted of revised NSG strategic plan 2015-2020, National School of Government Knowledge Management Strategy (2016), National Tourism Sector Strategy (2016-2026), Draft Knowledge Management Strategy (2019/20), Strategic Plan for the Department of Communication and Digital Technologies 2015-2020, KM strategy (2020-2025), annexure A KM Maturity Assessment 2018 and annexure B Action plan to improve KM maturity in the department. Furthermore, the researcher requested participants to provide KM strategic frameworks which were regarded as private documents meant for internal use. The aim of the secondary data was to supplement and to validate the data obtained from the interviews.

3.6 Data Analysis and Interpretation

The researcher manually analysed the data collected by transcribing and indexing the data. The data analysed are presented in order to answer the research questions of the study. The data analysis is presented in the form of simple Tables and Figures such as pie charts and graphs. Coding was done after all the data was collected in order to describe and understand the data analysed. The dimensions of Knowledge Management Assessment Tool (KMAT) obtained from the three departments were compared.

3.7 Validity and Reliability

Validity refers to the extent to which the instrument of measurement measures what it is supposed to measure. In qualitative design, this means focusing on credibility, trustworthiness and authenticity (Creswell 2014: 201). Reliability is concerned with the findings of the research and the consistency of the researcher's approach. This study collected the data from the three national departments and the source of data was mainly from the individual interviews, focus group discussions and document analysis. The KM Assessment Tool (KMAT) was used to describe the practice of KM in the public sector in SA.

3.8 Ethical Considerations

Leedy and Ormrod (2014: 106) indicated that most ethical issues in research fall into one of the four categories; protection from harm, voluntary and informed participation, right to privacy and honesty with professional colleagues. This study considered the ethical issues outlined below:

3.8.1 Permission Requested

The research was done with the permission of Stellenbosch University Research Ethics Committee (see Appendix). The researcher also signed the ethical clearance form of the Stellenbosch University, undertaking to adhere to the University's ethical guidelines and principles.

The application to request institutional permission to do research in the Knowledge Management directorate was approved by the Stellenbosch University Research Ethics Committee and all the institutions that participated agreed with the contents and signed the form. The application letter for institutional permission and the signed permission from the institutions are attached.

3.8.2 Informed Consent

It is essential that data collection methods be consistent with ethical principles. The people being studied must know the nature of the study and be willing to participate in the study (Leedy and Ormrod 2014: 153). Informed consent forms were signed by all the participants before they were engaged in interviews. The interview protocol for asking questions and recording answers during the interviews was also approved.

3.8.3 Confidentiality and Anonymity

The research adhered to the norms and standards of credibility, integrity, reliability and conformability of the results. The data collected was only used for academic research purposes and the participants and organizations involved remain anonymous. The confidentiality of both the individuals and their organizations has been respected. Leedy and Ormrod (2014: 153) suggested that data collected should not be traceable back to particular individuals. The

common way of keeping the personal data confidential is to assign various pseudonyms or numbers to different participants.

3.8.4 Risks and Harm Involved

There were no risks involved in the study. The participants were describing the current KM practices in their organizations. Furthermore, the participants in this study were allowed to decide on their involvement and participation. If the participants no longer wished to be part of this study, they were given the opportunity to withdraw at any stage of the interview process without adverse consequences. The participants were also allowed to ask questions for clarity where they felt uncertain during participation.

3.9 Conclusion

This chapter presented the research design, approach, the sources of data, and the data collection methods, how the data was analysed, validity and reliability and the ethical considerations of the study. The next chapter, Chapter Four, presents critical analysis and document review of various government departments and will describe the Public sector KM in South Africa.

CHAPTER 4

PRESENTATION AND INTERPRETATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter covers the presentation and interpretation of the research findings. The chapter begins by describing the demographic characteristics of participants and presenting the findings from the semi-structured interviews, focus groups discussions and documents review of the three departments. The findings will be presented according to the interview guide, which comprised of seven questions or sections including the background information, leadership, structure, processes, technology, measures and culture (see Appendix I). All questions asked in the interview protocol are compared to establish relationships between the variables and are presented using tables, narrative format and direct quotes.

4.2 Demographic Characteristics of Participants

A total of 17 participants were selected for semi-structured interviews and focus groups discussions, of which 11 participated in the study. The participants were drawn from three national government departments that practice knowledge management; namely the DCDT, NSG and DT. The study also reviewed documents, including the DCDT Strategic Plan for 2015-2020, DCDT KM strategy, DCDT Annexure A KM Maturity Assessment 2018, DCDT Annexure B Action Plan to improve KM maturity in the department, National Tourism Sector Strategy (NTSS), <http://connect.tourism.gov.za>, National Department of Tourism Approved Organisational Structure and Post Establishment 2017, NDT KM Business Plan (2013-14), NDT draft KM Strategy Framework, the NSG Strategic Plan 2015-2020, the NSG Strategic Plan 2017-2020 and KM strategy 2016. The demographic characteristics of participants considered were gender, role or position and whether they had any Knowledge Management experience.

4.2.1 Gender

The majority of participants were male seven (7) and four (4) participants were female. Figure 5.1 shows the percentage share of male, compared to female in the form of a pie chart.

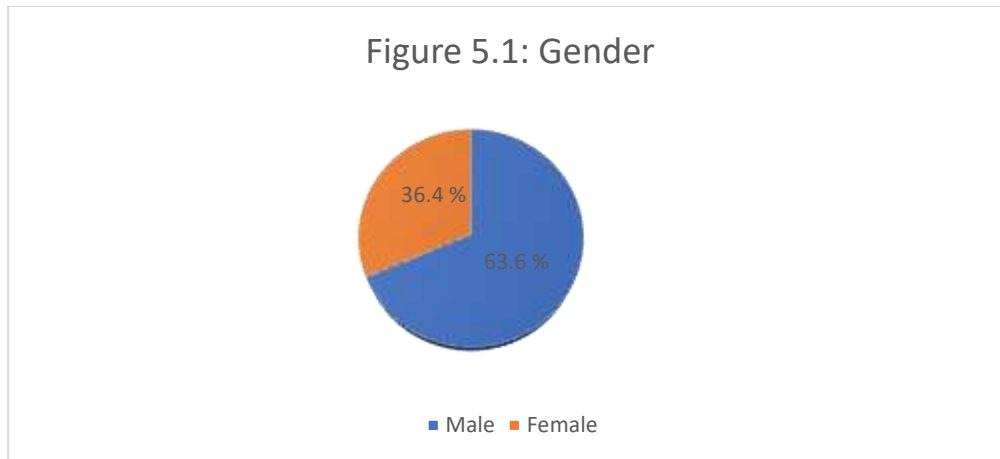


Figure 3: Participants' Gender

4.2.2 Roles of the Respondents

All the participants who contributed to this study were professionally placed at senior management, middle and junior management and were therefore assumed to have solid experience and a thorough knowledge of the KM practices in their departments. They each had more than five years' experience in their roles. The researcher was keen to know the characteristics of the respondents through the duration in the service, gender and the levels or ranks of their positions so as to show the profile of the respondents for objectivity and validity in the responses provided.

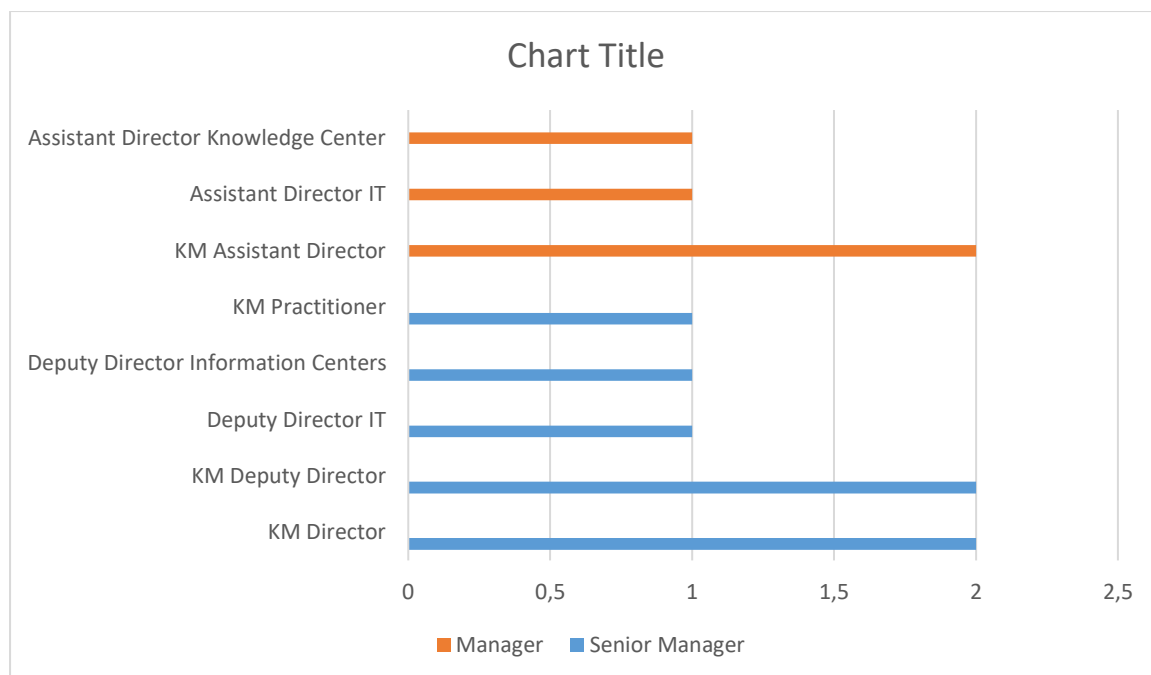


Figure 4: Respondents' Roles

4.2.3 The Number of Years in the Positions

The study involved a variety of respondents, who occupied different positions and had different years of employment in their organizations. All of the respondents indicated that they had been in their current positions for more than five years and 18.2% had more than 10 years' experience in their positions.

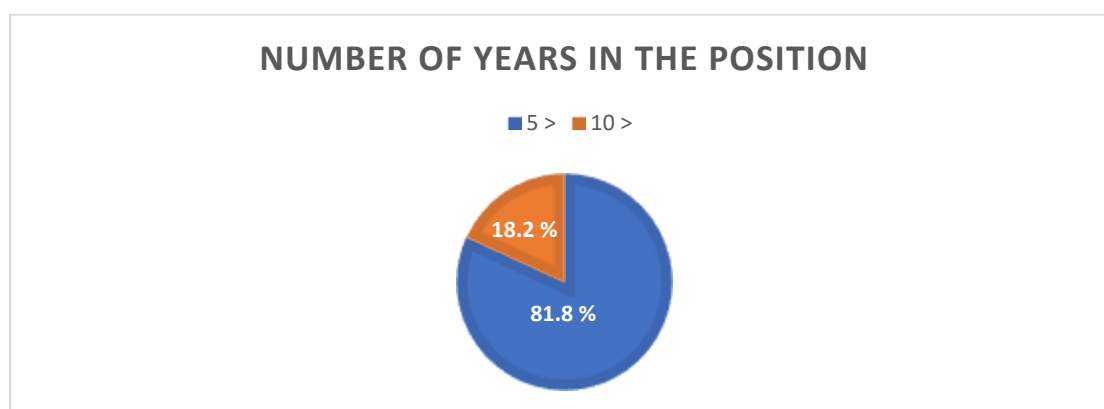


Figure 5: Number of Years in the Position

4.3 The Role of KM in the Public Sector

The first question was based on the role of Knowledge Management in the departments

The roles and the definitions of KM are diverse due to the departments' differences and unique considerations in terms of their legislative mandates, purpose, vision, missions and dynamics. According to the NSG KM Manager, the department is a knowledge and learning organization and is responsible for education, training and development. KM plays a role to preserve, share and generate knowledge for the department. It was also indicated that KM is the most valuable resource for education and training material and improves the performance of the departments.

The KM Manager also indicated that KM is the core of the NSG. The focus group participant added that the role of KM in the NSG is to ensure the provision of knowledge to business processes, to identify material for education and training material and to facilitate knowledge sharing. The focus group participant also highlighted that the KM unit also facilitates transcripts to generate, preserve and transfer knowledge for education and training. The NSG gives a clear indication of the role that KM will play in support of the organizational initiatives, including facilitating learning, collaboration and knowledge assets. The KM strategy also involves the implementation guidelines, framework, methodologies, tools, enabling technology, resources and training (NSG KMS 2016: 1).

According to the KM Manager in the DT, the main role of KM in the department is to provide adequate information and knowledge and preserving it for the tourism sector, as well as to support planning and policy formulation. The Department of Tourism is responsible for national tourism policy, regulations and development. The focus group participants indicated that the role of KM in the department starts with information sharing at the organization level and decision-making based on that information. The value attached to KM is to exploit the available knowledge within the sector and make that knowledge available. The role of KM is to ensure that knowledge from different units is managed, stored, and shared with the sector. One participant described the role of KM as sharing knowledge within the department and with the stakeholders. According to the participant, the systems and resources that can assist the department to share knowledge that is available; however, organizational systems do not encourage the culture of knowledge sharing. The National Department of Tourism (NDT)'s approved organizational structure and post establishment, which was approved on the 28 March

2017, indicate that the purpose of the KM directorate is to implement the national tourism and monitoring system. The functions of this directorate are to develop and manage the central information repository and to plan, develop and co-ordinate KM strategy.

The KM director of the DCDT indicated that the role of KM in the department focuses on knowledge sharing, collaboration and innovation in the sense that new knowledge is generated through projects. Furthermore, the respondents from the focus groups indicated that the role of KM in the department is to facilitate knowledge through people, processes and technology.

According to the DCDT KM Strategic Plan (2020-2025: 7), KM plays an important role in identifying and managing the department's knowledge assets. The specific dynamics of the processes of knowledge creation, knowledge acquisition, knowledge sharing and knowledge reuse are central to the management of core competencies.

4.4 Best Practices in Knowledge Management

Respondents were asked to describe their best KM practices. The aim of this question was to understand the most effective KM practices performed, which produced good results. This question was asked in order to understand the KM processes or methods that represent good practices and have proven to work towards the achievement of their KM objectives. The respondents were allowed to mention more than one method they deemed as best in practicing and managing knowledge in their sections. According to Squire (2006) best KM practices are a way of doing something, which has produced good results and could be adapted to another situation.

According to the NSG KM Manager, one of their KM best practices is that the department is taking knowledge management externally. They developed a tool in the form of a knowledge hub, with the support of the European Union (EU), where they have managed to publish 15 research articles on different topics on Knowledge Management in Africa and South Africa. During the period of the global COVID-19 pandemic, they adapted technological mechanisms to co-ordinate some of the KM seminars, and Master Classes. NSG use webinars to facilitate different themes to Master Classes and attend conferences. They also facilitated the selection of knowledge champions from different units and branches. They ensured that information from lessons learned was documented. The KM section also writes transcripts from the

seminars to support the curriculum as well as training, co-hosting and providing insights on the vision of the department.

The KM best practices in the Department of Tourism (according to the KM Manager) involve key initiatives such as knowledge management tools audit, Tourism Knowledge Portal (TKP), National Tourism Database (NTDB), establishment and rendering of geographic information services (GIS), establishing and rendering of library services, development and implementation of the National Visitor Information Framework (NVIF), development and implementation of the National Tourism Information Gateways Framework (NTIGF), and development of a tourist guiding and visitor information mobile application. They also developed a research repository, where they merged the KM section with the research section to formulate a database in which they deposited all the researched articles for the purpose of knowledge sharing.

Furthermore, South Africa hosted a workshop for the sharing of Tourism best practice among 13 countries including Brazil, Malawi, Tanzania, Mali, Swaziland, Tunisia, Ethiopia, Sri Lanka, Mauritius, Mozambique, Zimbabwe and Equatorial Guinea in Mpumalanga in 2018. The objective of the workshop was to exchange and share knowledge and best practices on tourism statistics, tourism policy and strategy, promotion of tourism along the heritage and cultural sites, grading and classifications, sustainable tourism and social media in tourism. The workshop was the 5th annual event. The first one was held in 2014 when countries signed agreements with South Africa (<http://connect.tourism.gov.za>).

The focus group participants also added that knowledge management best practice includes the following:

- Tourism knowledge portal serves as a tool to retain the departmental knowledge for easy access;
- A knowledge management forum which involves experts from different sectors such as universities and private organizations to exchange knowledge from their respective sectors and to learn from each other;
- A research seminar focusing on sharing ideas with the sector, local government conference and international; and
- Virtual consultation with municipalities where the platform is used to acquire information from different municipalities about what needs to be done to assist the tourism sector.

The best practices in the DCDT include broadband reports, knowledge sharing sessions and encouraging officials to share knowledge with other departments and connecting remote working participants in national events. The DCDT KM Director indicated that their department used to be the leading department in knowledge management until the change of management. It was indicated in the literature that the Department of Communication is one on the departments that initiated Knowledge Management in the public sector in South Africa. Additionally, the knowledge centre collects publications such as strategic plans of the department to support knowledge storage. They use the KM portal to capture and share knowledge. The KM Manager also stated that they have partnerships with different sectors and other departments to generate new knowledge. The KM section also focuses on supporting the knowledge-base and the tacit knowledge of employees, especially those who are leaving the department. According to the KM Manager, knowledge resides in people's minds and their experiences are vital in the department. The manager further stated that the KM section collects and shares tacit knowledge and assists in decision making within the department.

Furthermore, the respondents from the focus group discussions added that they used communities of practice (CoPs) to have brown bag sessions. For instance, in 2021 they had sessions arranged by different branches and KM assisted with articles on the relevant subjects and made the articles and presentations accessible in the knowledge portal. The experts would come and share relevant knowledge and information with the department. Focus group participants also mentioned that during lockdown / remote working, KM directorates developed the templates which were distributed to staff members for them to indicate their information and knowledge needs, challenges and recommendations as they had not been possible to prepare for the new way of working.

4.5 KM Framework

The respondents were asked if they have any KM framework or if they use a particular implementation strategic framework, manual, consultants or departmental strategic plans to follow as a guide in conducting and implementing Knowledge Management in their organizations. The researcher wanted to establish if there was any guiding policy or co-ordinated plan of action that enables core business processes to operate and support KM initiatives. KM frameworks work as maps that direct organizations to execute various actions that suit their organizational KM needs (Pawlowski and Bick, 2012). A KM strategic

framework involves a plan that describes how an organization will manage its knowledge better for the benefit of that organization and its stakeholders.

The five-year KM strategy for the NSG was approved in 2016 and it has been used as a guide in conducting and implementing Knowledge Management. The KM manager mentioned that they were busy developing a new KM strategy which would be aligned to the new strategic plan of the department. The DT KM strategy was first approved in 2012; a new KM strategy was developed in 2019, which had not yet been approved at the time that the research was conducted. It was also indicated that KM is not really following what is outlined on the KM strategic framework; they are responding or prioritizing projects that are required as emergencies and also use business plans that are developed every financial year. The DCDT also has a five-year KM strategy (2020-2025), which was approved in August 2021, after the merger of two departments to form the DCDT in June 2019. It must be noted that the interviews with the KM Manager were conducted before the approval of KM strategy. When the focus group discussions took place, the focus group members stated that the strategy had just been approved by the management of the department.

4.6 DPSA National KM Strategic Framework

The respondents were asked if they were aware of the Department of Public Service Administration (DPSA) National KM Strategic Framework (NKMSF). If they were aware, did they use the NKMSF to formulate their KM frameworks? The rationale for this question was that the researcher wanted to understand if the DPSA NKMSF was being used by the departments, as the purpose of the DPSA NKMSF is to provide conceptual clarity and leadership that allows public service institutions to implement KM successfully. It provides the reference on how KM should be implemented uniformly within the public service in SA.

The DPSA developed a National Knowledge Management Strategic Framework in March 2019. The NKMSF was intended to act as a guide for the development of KM strategies/frameworks in each department and municipality across the three spheres of government to uniformly implement KM within the public service in South Africa. The NKMSF is meant to be used to strengthen government's single portal and one-stop service delivery entry for all citizens. The purpose of this framework is to provide conceptual clarity and leadership that allows public service institutions to implement KM successfully with the

aim of creating consistency within the public service and to ensure that the SA government meets its objectives as outlined by the National Development Plan (NDP) Vision 2030 (DPSA 2019:10).

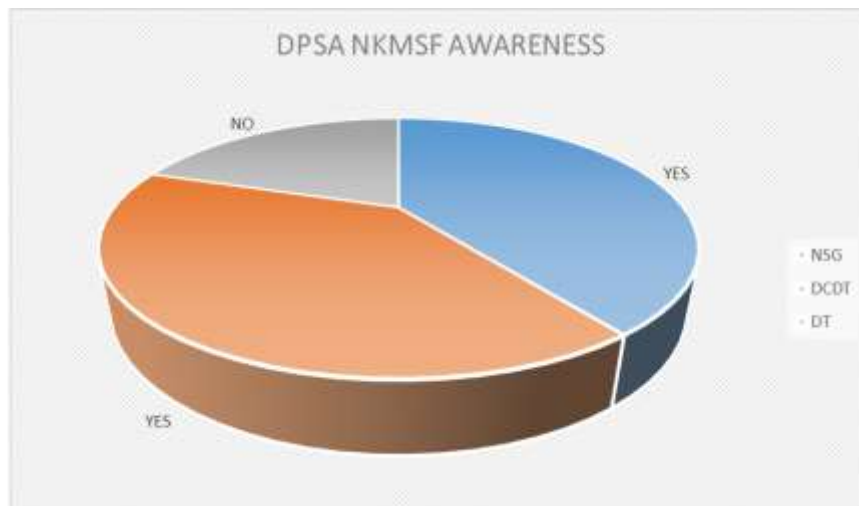


Figure 6: Awareness of National KM Strategic Framework

The NSG and DCDT acknowledged that they were aware of the National KM Strategic Framework and they indicated that they consulted with the DPSA NKMSF to generate their own frameworks, whereas, the Department of Tourism was not aware of the DPSA NKMSF.

The respondents were asked about their views with regards to the central KM framework proposed by the DPSA and if they thought it would assist public sector departments to guide them on how to implement KM. The aim of this question was to determine how relevant proposed KM national frameworks developed by DPSA are in improving KM practices in the public sector and approval of the KM framework by these departments.

According to the respondents from DCDT, the KM framework was only signed by the Director General of the DPSA, and it was mainly focused on DPSA and did not consider all other stakeholders and government departments in SA. When the government makes policies and delivery services, consideration must be taken of the interests of stakeholders and their involvement as well as other processes such as gaining approval through parliament in order for it to be endorsed as a national policy.

The response from the KM manager:

With regards to the national KM strategic framework yes, we are aware of the DPSA national KM strategic framework. However, currently the national strategic framework is only approved by the Director-General (DG) of the DPSA and did not go through other stakeholders such as the cabinet to be endorsed and regarded as the public sector official policies. Also, if maybe it can go through parliament and all the departments approve it, maybe the implementation of KM might improve as a result currently KM cannot be evaluated through the performance indicator.

A focus group member added that:

I think it is intended for DPSA, because each department has its own mandate and ways of doing things, if all the departments have to follow the NKMSF that might pose a challenge and it may not always be suitable to some departments. However, that will depend on the management and leadership of the departments.

The other focus group members supported the above view.

According to the NSG, DPSA as a KM public sector custodian has to ensure that KM is implemented. The NKMSF is a guiding tool and it is a good document that can assist other departments. However, the challenge is that departments are designed for a specific mandate and they all have different visions. This framework serves as a guiding tool that organizations can take and customize to suit their own environment. KM managers need to understand their own departments. For instance, DPSA is moving to a new organogram where they have new five-year plans and new strategies. The vision and the mission of the department have changed and they need to look at new metrics. They have guiding documents, such as the service delivery plan, which address the new plans and strategies of the department.

According to the DT, having a DPSA NKMSF as a framework or blueprint to guide other departments or government entities requires sensitivity to the fact that there is a lack of capacity and some departments do not have the requisite knowledge.

The response from the KM manager:

I think having a DPSA NKMSF giving public servants a framework blueprint to guide other departments or government entities should have maybe they understand people that there is a lack of capacity shortage, some other departments don't have such knowledge in that regards on the other hand KMF responds to the needs of a particular department and the business strategies. When we have one that is dictated by DPSA other departments can misalign the purpose the organization have and get to the fundamentals of the organization business purpose.

Response from a focus group participant

It is a good initiative.

Another response

I don't know the DPSA NKMSF, but I noticed that DPSA has taken KM very serious as a result they have published some documents in their website.

Another response

I don't know much about it.

4.7 Leadership

This section is aimed at describing leadership involvement in knowledge management and to find out if the KM vision is aligned to the vision and objectives of the departments. This research was also interested to understand how Knowledge Management assists the departments in achieving those objectives. The researcher also sought to understand the KM strategies that have been developed and implemented to achieve the operations of each department. Furthermore, the question was posed in order to understand if the department was a learning organization and to describe organizational learning processes such as creating, retaining and transferring knowledge within the organization.

Vision

Table 5: Visions and Objectives of the Departments

Department	Vision and the objectives of the departments.
NSG	The vision of KM is to contribute towards the creation of a knowledge-driven institution by supporting the NSG's effort to create a capable and

	<p>responsible public service and developmental state, through knowledge harvesting, codification, dissemination as well as by maintaining and supporting organizational learning and innovation (NSG KM strategy 2016: 5).</p> <p>The NSG KM manager mentioned that the department has a new principal. As a result, the vision and objectives of the department have been reviewed. However, the NSG is responsible for providing learning and development programmes in a uniform public sector. The KM vision is there to support the vision of the department and the vision is mutually shared by all the members of the department.</p> <p>The focus group added that KM's vision is critically important for the achievement of the objectives of NSG. The core of NSG is to fulfil the function of providing training or facilitate the provision of training within the public service.</p>
Tourism	<p>The KM vision of the department of Tourism is to become a more operationally efficient and more effective department in achieving its strategic objectives through increased productivity, higher quality, and more knowledge-driven work processes and practices. Furthermore, the vision of this strategy is to build a knowledge ecosystem in which diverse players are connected and able to collaborate beyond organizational silos for operational excellence (DT KMF 2019:5). The vision of the department involves the leading sustainable tourism for inclusive economic growth in South Africa (NTSS 2016-2026:16).</p> <p>According to the DT KM Manager, the vision of KM is not aligned and shared with all the officials in the department.</p> <p>The focus group members added that vision and objectives of KM is to grow tourism and to assist the department to achieve its objectives.</p>
DCDT	<p>The KM vision is to enhance DCDT operations' excellence, sustainability and effectiveness by optimising the sharing, capturing and leveraging of individual and collective knowledge (DCDT KMS 2020-25: 11).</p> <p>The DCDT KM manager explained that the department's new focus is to go digital and lead in the 4th industrial revolution (4IR). At the time of the interviews the department had just merged with department of</p>

	<p>Communications, the strategies and policies of both departments were going to be reviewed.</p> <p>According to focus group members, KM ensures that its initiatives are aligned with the business priorities, and that it was important for the KM strategy to be aligned to the overall departmental strategy.</p>
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According to the responses given by the participants and analysis of documents, some departments have a very clear vision of the contribution of knowledge. The KM visions and strategies are aligned to business objectives and the visions of the departments. However, according to the DT, KM strategy vision is not aligned to the vision of the departments, and KM was not clear if it assists the departments in achieving its objectives.

The follow-up question was: how does knowledge management assist the department in achieving those objectives?

According to the DCDT KM manager, KM assists the department to be the leader in the digital transformation. KM assists with knowledge retention, lesson learned that will assist others to learn from other people's experiences, and by creating new knowledge and being innovative i.e. more creative and inventive. The focus group members mentioned that knowledge management assists with collaboration, which allows knowledge to flow whenever it is needed and it creates communities. KM also assists with saving time and money for the organization, minimizing risks by managing knowledge and reusing knowledge that has already been learned as well as information technology piloting.

The NSG KM Senior Manager stated that management of knowledge supports education and development in the department. According to the KM Manager, the department is a learning and KM-driven organization. The European Union (EU) has funded some expert research to generate knowledge. The focus group participants added that managing knowledge is critical for collecting, collation, and sharing of knowledge.

DT KM Manager indicated that KM collects and stores information for easy access and future use; other than that, they are not using KM for processes. Furthermore, the respondents from the focus group indicated that department has a tourism knowledge portal, which is not used as expected, and not benefiting people or fulfilling its purpose. The responded was not sure if

the reason for that was lack of awareness of the portal or maybe the content was not relevant to people or KM sector is not doing what is supposed to do or maybe does not assist the sector. Contrary to that, one focus group participant argued that the objective of the DT is to develop and grow the tourism sector. KM plays a significant role to assist the department to achieve its mandate and also allows people to learn from each other.

KM Strategy

The departments were asked about KM strategies developed to achieve the operations of your department?

The DCDT also has a five-year KM strategy (2020-2025) which was approved in August 2021, after the merger of two departments to form the DCDT in June 2019. The strategy had just been approved at the time when the interviews were conducted. The DCDT participants indicated that the strategy had been developed and that it would be used to support the operations of KM in the department.

In the NSG, KM strategies have been developed by the departments and approved by the Principal on 07 March 2017 to guide the implementation of Knowledge Management. The KM Manager also indicated that they are busy with the development of the new knowledge management strategy as the department was also reviewing its strategy. The KM strategy is important for the NSG's management processes as it ensures that KM plays a crucial role in ensuring that organizational values support service delivery. The strategy is available in the department to provide the NSG with a clear platform and road map for managing knowledge and creating new knowledge assets in support of the organization's mandate. The focus group respondent added that the strategy was clearly and purposefully communicated to all levels

The Department of Tourism developed a draft KM strategy (2019/20) but it had not yet been approved at the time that this study was undertaken and was not aligned with the operational objectives of enhancing customer value. According to the KM Manager, the DT KM strategy was first approved in 2012; a new strategy was developed in 2019, which had not yet approved at the time that the research was conducted. It was also indicated that KM is practiced in an ad hoc manner. The manager confirmed that the KM unit was not really following what was

outlined on the KM framework. A focus group respondent added that they were responding or prioritizing projects that were required as emergencies and also used business plans developed every financial year rather than the KM Framework.

Organisational Learning

A question was posed in order to understand if the department is a learning organization and to describe organizational learning processes such as creating, retaining and transferring knowledge within the organization.

The DCDT KM Manager stated that organizational learning in the department happens in two ways; formal training that allows people to do short courses to acquire new knowledge and the retention of knowledge that is already available. They have a knowledge repository. In addition, when someone leaves the department, there is a formal hand over to retain the knowledge that the person has. However, the KM Manager also indicated that in some instances when the person who is leaving the department is not happy that presents a challenge for KM as the person will not provide all the knowledge required. The focus group members described organizational learning as a set of processes through which organizations improve their performance, for example having one or more goals, outcome measures, constituent steps, relevant people, artifacts and knowledge. KM promotes learning within organizations and through KM initiatives it also creates an environment for employees to share creative ideas.

According to the NSG KM manager, the department is a knowledge and learning organization and is responsible for education, training and development. KM plays a role to preserve, share and generate knowledge for the department. NSG regards organizational learning as a set of processes through which organizations improve their performance. The KM unit is responsible for implementing an enterprise KM system to promote organizational learning initiatives and employee's currently empowerment (NSG KM strategy 2016:10). In February 2016, cabinet approved the use of retired and serving public servants as trainers in the NSG. This approach enables public servants to add value to the public service by providing their experience, expertise, skills and knowledge to mentor and coach public servants (revised NSG Strategic plan (2015-2020: 9). The focus group members described organizational learning as a set of processes through which organizations improve their performance and it includes one or more

goals, outcome measures, constituent steps, relevant people, artifacts and knowledge. Technology plays a key role in organizational learning as a way of connecting people in order to leverage the individual capital.

According to the DT KM Manager in the department, organizational learning refers to the building of a learning culture and developing initiatives for knowledge dissemination and sharing in the organization. However, according to the focus group participants, the organization cannot be regarded as a learning organization yet, because the culture of sharing is not open for people to learn from each other. Moreover, there are no incentives to motivate people to share knowledge. In terms of KM, there is not much that has been done to encourage KM practices; for instance, employees sometimes, duplicate projects and there are people who are not willing to share their knowledge because they think by sharing they will lose their value.

They prefer to keep the information so that they will not be redundant and there are KM systems available which are not benefiting the employees. The organisational learning pillar focuses on creating, retaining and transferring knowledge within the department. Knowledge management in the department focuses on providing knowledge externally; however, there is a need to transform the department internally in such a way that information can flow seamlessly between colleagues, directorates and branches by establishing internal learning networks and communities of practice. These networks and communities of practice will assist the department in providing quality and easily-accessible information to the sector (DT KM Strategy, 2019:24).

4.8 KM Structures

A structure for KM means an enduring configuration of tasks and activities and provides guidance in determining whom people interact with in conducting KM tasks (Mounoud & Vo 2014:88). According to Smith & Fourie (2001), structure consists of teams and groups, knowledge management roles and management communication, which are regular agenda points for formal and informal two-way communication sessions held between management and employees, incentive systems for motivating employees and the formal structuring of external relations with value chain members, alliances and joint venture partners that will enhance informal networking and collaboration between members of all parties. Organizational structure plays a significant role in the implementation of KM.

The respondents were requested to present the KM structures of their respective departments. Below are the descriptions of the KM structures of the departments.

The NSG has a hierarchical structure with the Principal as the head of the department. According to the structure of the department, knowledge management is a function within the Research and Innovation chief directorate, which supports the delivery of training and capacity building services (NSG KMS 2016: 4). The revised strategic plan (2017-2020), also indicated that one of the focus areas and the strategic priorities was research and knowledge management, which involves the research agenda, research colloquia, diagnostic strategies and knowledge and sharing. The KM Director indicated that the KM section consisted of the Director who is responsible for KM and library services, KM Deputy Director and Assistant Director responsible for KM functions. The focus group participant also added that there are also library personnel that are part of the KM team and confirmed that KM has three members; namely the Director, Deputy Director and Assistant Director.

The DCDT also has a hierarchical structure with the Director General (DG) as the head of the department. KM in the DCDT is a directorate within the Information Technology (IT) chief directorate and has the responsibility to foster the reuse of intellectual capital, enable better decision making and create conducive conditions for innovation (KM strategic plan 2020-2025: 7). According to the DCDT KM Manager, which was supported by the focus group members, the KM section consists of the Deputy Director General (DDG), Chief Director (CD), Director, Deputy Director who is responsible for IT and an Assistant Director responsible for the Knowledge Centre, which is the library of the department.

The Director General is the head of the DT and Knowledge Management is a section within the Tourism Research, Policy and International Relations branch. The purpose of the branch is to oversee the provision of tourism research, policy and international relations. The chief directorate: Research and Knowledge Management oversees tourism research, knowledge management and impact evaluation of the sector (NDT Organizational Structure 2017: 6). The directorate KM consists of two sub-directorates; knowledge systems identification and support and KM strategy and planning, with the KM Director as the head of the section, two Deputy Directors responsible for knowledge system identification and support and KM strategy and planning. There are also two assistant directors and two officials responsible for KM officers and system developer and KM, according to the KM manager and focus group members.



Figure 7: KM Organisational Structures

The organizational structures of the departments indicate a vertical hierarchy in terms of work processes, procedure, rules and systems. The structure of KM in the DCDT is headed by senior managers at the level of Deputy Director General (DDG), Chief Director (CD) and Director. In contrast, the NSG and DT KM structures are headed by Directors, who are the senior managers of the KM sections. Deputy Directors are referred to as middle management in the public sector. The DT department has two deputy directors, one responsible for Knowledge Management: Central Information Repository and other one responsible for Systems Identification. The DCDT has a Deputy Director responsible for information technology and the NSG has a Deputy Director responsible for knowledge management functions. The position of the Assistant Director also varies in the departments. In the DCDT the Knowledge Centre, which is the library, forms an important part of the KM structure and an assistant director, who is a Knowledge Centre Specialist, is responsible for the management of the Knowledge Centre (library). In the NSG, an Assistant Director is responsible for KM and in the DT, there are two Assistant Directors reporting to each DD, a KM officer and a System Developer.

KM Policies and Legislation

The respondents were asked about the policies and legislations available to guide KM and to support the promotion of KM awareness throughout the organization. The purpose of the question was to understand if there was any policy that supports KM and the implementation of KM. The respondents stated that Knowledge Management sections do not have policies available; human resources (HR) policies and departmental policies are the policies used by all the officials. However, the following KM policies and legislation framework were available on the KM strategies of the NSG and DT:

Table 6: Policies and Legislation

POLICIES AND LEGISLATION	THE DEPARTMENTS
Constitutional mandates of the Republic of South Africa (RSA) of 1996	NSG
The promotion of Access to Information Act (PAIA) Act. No 2 of 2000.	DT and NSG
The National Archives and Records Service of South Africa Act (NARS) Act. No. 43 of 1996, (as amended)	NSG
Promotion of Administrative Justice Act (PAJA) no. 2 of 2000	NSG
Public Administration Protection of Personal Information (PAMA) Act no 4 of 2013	DPSA
Protection of Personal Information (POPI) no 4 of 2013	DT and NSG
Tourism Act no (3) of 2014	DT
Electronic Communication and Transactions (ECT) Act no 25 of 2002	NSG
State Information Technology Agency (SITA) Act no 88 of 1988	NSG
Skills Development Act no 97 of 1988	NSG
Minimum Information Security Standards (MISS)	NGS
Minimum Information Operability Standards (MIOS)	NSG

According to the key findings of the evaluation that has been used as a proxy for wider KM in the DCDT on business alignment, the department has developed several policies, processes and procedures which are not targeted towards knowledge sharing. Innovation or multi-dimensional approaches for the sharing of knowledge are not easily visible across the department for strategic development or planning sessions (KM strategic plan 2020-2025: 10).

External Structures

The DT has established well-structured, formal relationships. In the DT the core implementing team leader is the KM Director; the Executive Sponsor (DDG) provides strategic direction and approval for the implementation of the strategy and facilitates the formulation of official cooperative relations between DT and Industry captains and Stakeholders who provide the required content, advice and inputs and own the content provided; and the ICT Director provides infrastructure and technical support.

According to the Department of Tourism KM Strategy (2019:7), external knowledge sources are important for supporting strategic planning and business efficiency and innovation. The department has established an external knowledge base with the following partners:

- a) Partnership with academic institutions on knowledge and research development and dissemination initiative;
- b) Subscription to industry associations, seminars, conferences and online libraries for access to technical specification and standards, journals and relevant material;
- c) Partnership with tourism stakeholders for innovation and initiatives;
- d) Embedding KM into the department's work processes;
- e) Use of technology and innovation to support knowledge initiatives, such as collaborative platforms, knowledge bases etc.

The NSG KM Strategy indicates that various NSG stakeholders are critical to the success of KM implementation, including ICT, NSG staff, Records Management, Communication,

Human Resources, Resource Centre Management (Library), Knowledge champions/Content coordinators and the external structure of the NSG.

In the DCDT, the following external structures are used to share knowledge:

- a) Accounting officer / Head of the department: approves KM strategy and integrates departmental systematic strategic planning process and outcomes to align with KM interventions;
- b) Executive Sponsor (Branch head for KM line function): champions programs and builds a base of support from all branch heads and provides guidance to identify critical knowledge to align them with KM strategic directions and outcomes of the department;
- c) Chief Knowledge Officer/ KM leader (Chief Director for KM line function) builds a base of support from all levels of management and guides strategies and policies for KM activities;
- d) KM Manager / Project manager (Director): develops and implements a Knowledge Management strategy, policy and business case for KM interventions or initiatives;
- e) Knowledge Champions (branch representatives): facilitate knowledge transfer through advocacy within a branch for knowledge sharing, support of KM initiatives at a high level and by linking colleagues to knowledge resources outside of their immediate context to eliminate duplication; and
- f) Knowledge worker's (staff member) role includes finding, synthesizing, communicating, sharing, applying and packaging knowledge while executing his/her tasks/ daily operations (DCDT KM Strategic plan 2020-2025: 16-17).

The NSG stakeholders who facilitate the implementation of KM include the following:

- a) ICT provides IT infrastructure and support to enable the implementation of the KM strategy;
- b) All NSG staff create, store, share knowledge and support KM activities;
- c) Communication to ensure compliance with NSG branding guidelines and policies;
- d) Human Resources that create a knowledge sharing culture by embedding KM activities into HR processes;

- e) Resource Centre management (Library) provide access to information through books, journals, reports and research databases to improve decision making, productivity and accountability;
- f) Records management ensure efficient and effective management of records and establish proper categorisation of records for easy access and retrieval; and
- g) Knowledge champions and content coordinators coordinate KM activities in the branches and develop, upload and maintain branch-specific content on the KM system (NSG KM Strategy 2016:14).

4.9 Processes

A question was asked to find out the understanding and views of participants about Knowledge Integration Processes

Table 7: Knowledge Integration Processes

NSG	DT	DCDT
Knowledge sharing platforms, organizational memory captured, stored and disseminated and the best practices and lessons learned.	Knowledge portals, mobile applications are platforms used to capture information for the directorate.	Knowledge portal and knowledge repository, induction and people share documents using teams, lesson learned and the provision of access to knowledge information resources.

The NSG indicated that knowledge integration processes include knowledge sharing platforms, organizational memory captured, stored and disseminated, the best practices and lessons learned. The aim is to encourage partnerships and sharing of the best practices and to harvest knowledge from subject experts and long-serving employees. As a result, a project close-out report and lessoned-learned case study documents were developed. Communities of practice (CoPs) on various disciplines and areas of work were established and knowledge harvesting reports were generated. It was also mentioned that knowledge integration is achieved through collaboration with other stakeholders using the knowledge portal, which collects, distributes and shares knowledge. According to DCDT, the knowledge integration process uses the

knowledge portal, knowledge repository and induction and the people in the department are sharing documents and lessons learned using the MS Teams application (due to COVID-19 and lockdown) even though it was not organized by KM. They also collect publications from different departments and make them available for future use and to retain the history of the department. It was indicated by DT that Knowledge portals, databases and mobile applications are platforms used to capture information for the directorate.

KM practices

How do you ensure that KM practices are fostering the creation, sharing and integration of knowledge within the department?

KM at the NSG is defined as the process of identifying, sharing, and creating and maintaining knowledge to facilitate organizational learning and innovation. KM is essential to the NSG's mandate as it delivers the support required to ensure the KM standards and proper organizational business rationale to build and expand the organizational knowledge base (NSG KM strategy 2016: 5). Knowledge sharing platforms such as face-to-face and online CoPs were established, best practices, lessons learned and case studies documents were all achieved in 2019/20 (KMF.2016:17). According to the KM Manager, knowledge sharing in the department is difficult; people prefer to work in silos; however, they are currently encouraging knowledge sharing through on-line platforms. Knowledge capturing, sharing, application, learning and knowledge innovation are part of the NSG's mission for providing learning and development programmes. The NSG's knowledge transfer strategy is developed in accordance with the KM four pillars. Processes for information acquisition, codification, and distribution are well established in the organization. These processes are used to enhance knowledge, innovation and customer value.

The NSG focus group participant also indicated that they use a national database to ensure that knowledge is available and accessible to support research and KM, and the database is regularly updated. They also stated that even though information is managed through documentation and databases, it is not effective, as there are still missing information and documents because there is no proper system that is used to capture, share and create knowledge.

In the DT, people play an important role in key knowledge processes, namely creation, sharing, and application. The staff members of the department are users as well as generators of knowledge, and form an important knowledge asset by acting as a repository of tacit knowledge and explicit knowledge (DT KM Strategy 2019:7). Based on the KM analysis that was conducted in 2017/2018, the assessment results showed that there is general willingness to share; some people understand the value of KM and they practice it. The value of knowledge assets is recognized by the organization; the organizational culture encourages all activities with respect to sharing of knowledge assets; sharing is recognized and rewarded. Sharing of knowledge assets is practiced and KM-related activities are a required part of normal work flow. The department regards innovation as the creation of new knowledge to influence business strategy and operations and also generation of new ideas from existing processes (Department of Tourism KM Strategy, 2019:7). However, according to the DT's KM Manager, before the new management and restructuring in their department, the KM section used to facilitate numerous workshops and KM awareness sharing and exchanging information and knowledge with employees. However, those initiatives are no longer available.

The KM Manager also suggested that:

KM should be part of every process in the department; it must not be an afterthought for instance, if we are doing a certain activity or maybe a project we are supposed to be part of that project or activities to capture and record knowledge. KM is involved after the project has been done for operational functions of the department; it shouldn't be like that. I believe KM should be in the lead for integrating processes, if possible It be should a task in the performance agreements so that there can report on what people have done to advance KM operations.

One of the focus group members mentioned that

In the department we have national tourism databases to ensure that knowledge is available and accessible to support research. We ensure that those databases are regularly updated.

Another Focus group member added that KM in the department had been turned into a shadow IT and it focuses on IT systems rather than the main strategic purpose of KM.

According to the DCDT KM Director, knowledge is currently shared using Microsoft for people to share information, knowledge and documents during meetings. During lockdown /

remote working, the KM directorate developed a template for staff members to indicate successes, challenges and recommendations as no plans had been made to deal with the unexpected new way of working. DCDT focus group respondents indicated that they conduct induction courses for all new employees to present the KM overview and processes of knowledge management. During the COVID-19 lockdown period, they formulated a guide to inform officials about KM and where to find information that they require.

Business Intelligence

A question was posed on business intelligence strategies and technologies used for data analysis and scanning the environment for business information.

The respondents indicated that they do not have business intelligence in the departments. This indicator was also not available in any of the strategies.

4.10 Technology

The respondents were asked to describe information technology communication (ICT) tools and processes available to support KM practices in their organizations.		
KM Director	Focus Group	KM Documents
NSG SharePoint systems, KM portal Intranet	NSG SharePoint systems Intranet, website, email, zoom, teams and social media	NSG Not available
DCDT Share Point systems KM portal	DCDT Intra intranet, KM portal, website and social media teams.	DCDT Not available

DT Share Point systems KM portal	DT Zoom, portals, internet, intranet, KM portals, Electronic Document Management System (EDMS)	DT Not available
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According to NSG KM Manager, the organization developed the KM system as a one-stop-shop. ICT provides IT infrastructure and support to enable the implementation of the strategy and SharePoint as a knowledge tool. The focus group participant added that the department uses SharePoint, intranet, website, email, Zoom, MS Teams and social media to support KM practices.

The DCDT KM Manager indicated that SharePoint was installed but was not utilized effectively. It was indicated that the knowledge portal is used as a tool to support KM practices in the department. The focus group participants added that the tools used to disseminate information include the intranet, departmental website and social media.

The DT KM manager indicated that they do not have any system currently and they are only using SharePoint, which is not utilized effectively. Furthermore, the organization developed the knowledge portal as a one-stop-shop. It was also mentioned by the Department of Tourism that different portals, which are similar to knowledge portals, that were developed sometimes confused stakeholders and created the impression that there was no collaboration within the department. The focus group participant added that tools to facilitate meetings, workshops and training include the Zoom app, internet, intranet, KM portals and Electronic Document Management System (EDMS). Emails are also used to promote knowledge and information sharing.

A question was asked regarding Information Technology infrastructure, Information systems and KM application software that are designed to enhance and deploy access to information within the departments.

The NSG KM Manager indicated that they use ICT applications to promote productivity, increase accountability, improve transparency and facilitate public reform. The KM portal is used as a knowledge hub. The NSG KM strategy indicates that technology plays a key role in organizational learning as a way of connecting people to leverage the individual capital. They use ICT applications to promote productivity, increase accountability, improve transparency and facilitate public reform. NSG performance processes consist of one or more goals, outcome measures, constituent steps, relevant people, artefacts and knowledge. The focus group participants added that systems such as groupware, corporate intranets and portals are available to members and are actively used.

The Department of Tourism indicated that technology plays a key role in organizational learning as a way of connecting people and leveraging individual capital and that there is adequate technology to facilitate KM. ICT provides IT infrastructure and support to enable the implementation of the strategy. They also indicated that they only use SharePoint. The DT developed a portal, which is a web-based platform that aims to provide a single point of tourism sector information and knowledge resources. However, there are different portals in the department that contain similar information that are sourced from the same stakeholders and suppliers. This has the potential to confuse stakeholders and it creates the impression that there is no collaboration within the department. The department has a database of stakeholders hosted on the TKP; however, this database is not fully utilized by the entire department (Department of Tourism KM Strategy, 2019:24). Furthermore, during the 2018/19 financial year, the department developed the National Tourism Information Management System (NTIMS) in line with the Tourism Act, 2014 (Act No. 3 of 2014) and the NTSS (2016-2026). This NTIMS, an information gathering system, went live with information and data in the 2019/20 financial year (Tourism annual report 2018/19: 39).

According to the DCDT KM strategy (2020-2025: 10), several technology tools have been developed and implemented in the last few years, including the online policy register, knowledge repository and portal on the intranet, all of which have had some impact on information and knowledge sharing. The KM Manager explained that the ICT tools that are available in the department and that are mostly used to support KM are the intranet and the knowledge portal. However, only internal staff have access to these tools and that is where people can access and share information. The Knowledge Centre system was still being upgraded at the time that the interviews and focus group discussions took place and the plan

was to link it through the department's internet system. Moreover, according to the DCDT KM strategy (2020-2025: 10), several technology tools have been developed and implemented in the last few years, including the online policy register, knowledge repository and portal on the intranet, all of which have had some impact on information and knowledge sharing.

The departments indicated that they have adequate information technology infrastructure to support KM. It was indicated that the tools used to disseminate information include the intranet, departmental website and social media. Due to the new ways of working, for example during lockdown when people were working from home due to the COVID-19 pandemic, the departments used MS Teams and Zoom applications to promote knowledge sharing and information exchange. The focus group participants added that the tools used to disseminate information include the intranet, emails, MS Teams, Zoom, departmental website and social media. All the departments indicated that they do not have any software.

4.11 Measures

The respondents were asked to describe performance indicators used to measure and manage intellectual capital.

Table 8: Performance Measures

<i>NSG</i>	Reliance on Human Resource Performance Management System.
<i>DT</i>	The function for performance indicators used to measure and manage intellectual capital is the responsibility of the human resource management. KM is not involved.
<i>DCDT</i>	Performance indicators have been linked with the HR policies of the department. KM does not have the separate one.

The departments indicated that the function for performance indicators used to measure and manage intellectual capital is the responsibility of the human resource management. KM does not have formal systems to measure and manage intellectual capital and other intangibles. Very low scores were recorded on most of the indicators for this factor.

The researcher asked a follow-up question to find out if the department uses the information available at HR for KM purposes.

The response from the manager:

Performance indicators have been linked with the HR policies of the department, KM does not have the separate one. When they do evaluation, they do it individual performance Indicators, for instance when they evaluate me as a manager, they will focus on my performance indicator like leadership how I am managing the unit, the risk identified on the action plan, how are the people assisted with training to enhance themselves (DCDT KM director).

Response from the NSG

KM section doesn't have performance indicators we wish we had such because it was going to motivate employees.

Response from the DT

It is unfortunate we don't have such in the KM section.

According to the KM manager, that information is not used

Incentive System

The respondents were asked to describe incentive systems used for motivating employees.

The respondent generally agreed that there were no incentives.

No, we don't have, I think that is the reason people don't want to waste their time and share knowledge in the department; however, there are policies available at the HR that we can use to recognise people who do better and motivate the employees (response from the DCDT KM director).

KM Progress Reports

The departments acknowledged that KM progress reports are very important. They indicated that they do monthly and quarterly reports, which are a form of monitoring and evaluation of the departments.

It is very important for instance we do reporting monthly and quarterly basis. We do have business plan which have all the plan that we indicated and it is monitored by Strategic

planning and we do operational plan that we indicate all performance plans I report them on a monthly basis to indicate progress and challenge that we are facing as a unit and we also have Knowledge champions that are representatives from different directorates or branches (DCDT KM manager).

DT KM manager KM progress reports are very critical to measure progress and it is part of monitoring and evaluation.

4.12 Culture

The DCDT indicated that collaboration does occur within the branches; however, knowledge sharing is not yet a mainstreamed component of the department's culture and there is still lack of willingness to share information and collaboration across the department. More practices, incentives and techniques are needed to encourage knowledge sharing. Cross-cutting teams and communities of practice (COP) are needed to implement projects and to cement teamwork and encourage multi-skilling of staff members (DCDT KM strategic plan 2020-2025: 10).

According to the NSG, KM seeks to build an interactive network and facilitate CoPs to promote project learning, online communities and knowledge harvesting and also encourage a knowledge sharing culture (NSG KMS 2016:12). DT indicated that KM awareness sessions are held occasionally to promote KM awareness and collaboration platforms such as the KM forum, KM portal system database, intranet and internal communications of the departments to communicate their services.

According to the DT KM Manager and focus group participants, the department used to have knowledge information management (KIM) awareness sessions, which were facilitated in order to share knowledge with internal and external stakeholders. However, those sessions are no longer happening. They indicated that they only do virtual consultation meetings. One participant indicated that the department does not have teams and groups that share common interests and experiences.

Both the DCDT KM Manager and focus group members indicated that they do not have teams and groups to share common interests.

KM initiatives

What KM initiatives do you practice? (e.g. networking, collaboration and customer orientation).

The NSG developed a KM roadmap and milestones for the implementation of KM. It consists of a five-year KM implementation plan (2015/16 to 2019/20). The main strategic objective during the years 2015/16 was to develop and implement an NSG-wide knowledge and information management strategy, making the NSG a knowledge hub for public service learning and development programmes related information resources. The hub was also intended to conduct a KM audit and KM survey; KM needs analysis report and consultation with stakeholders. The KM taxonomy, KM strategy, KM policy document and pilot group and KM champions were approved in 2016/17. Some of the key activities performed in 2017/18 include the implementation of a KM system for two branches, the training of staff on how to use the system; and the establishment of a knowledge hub to provide information and for the engagement with all the stakeholders. Knowledge sharing platforms such as face-to-face and online CoPs were established, best practices, lessons learned and case studies documents were all achieved 2019/20 year (NDG KMF.2016:17).

The department of Tourism also developed a three-year plan (2017-2019) for the implementation of KM. During that period, National Tourism Research and Knowledge Management Forum Repository and Content Sourcing Initiatives (i.e. Tourism Policy Bulletin, TKP Content Strategy, SRI Project Database and Stakeholder Database) were achieved. Integration of Tourism Knowledge, Enterprise Development, Sector Transformation portals was also developed.

The key initiatives that were implemented include, among others;

- Knowledge Management Tools Audit;
- Tourism Knowledge Portal (TKP);
- National Tourism Database (NTDB);
- Establishment and rendering of Geographic Information Services (GIS);
- Establishing and rendering of Library Services;
- Development and implementation of National Visitor Information Framework (NVIF);

- Development and implementation of National Tourism Information Gateways Framework (NTIGF) and
- Development of Tourist guiding and Visitor Information Mobile Application.

According to the DCDT KM strategic plan (2020-2025: 15), the key initiatives include Knowledge Centre facilities, the use of technology platforms for collaboration, approval of KM policies, KM framework and strategy, development of a knowledge portal on the intranet and the appointment of knowledge champions as representatives of branches.

The KM Manager also mentioned that KM strategy was developed and popularised in the department in order for people to understand it, coupled with the installation of SharePoint to facilitate collaboration of people within branches and across the department. The focus group members added that a knowledge portal had been developed.

Knowledge sharing activities

Knowledge is currently being shared among individuals and groups. The KM unit will promote the development and inculcation of knowledge sharing culture throughout the organization (NSG KM strategy 2016:8). The strategy included a communication plan and KM activities that will be taken into consideration. KM seeks to build an interactive network and facilitate COPs to promote project learning, online communities and knowledge harvesting, while encouraging a sharing culture.

Knowledge sharing is a process whereby knowledge is transferred within and between organizations. The willingness of people to share knowledge is fundamental to creating a knowledge-rich environment. Lack of sharing is one of the fundamental barriers to success in KM. Management should recognize knowledge sharing, knowledge creation efforts, and firmly discourage knowledge and information hoarding. A natural awareness of the mutual benefits of sharing knowledge should be instilled in all members of the organization and should become a way of life.

KM Implementation Challenges within the Public Sector

Below is the list of common challenges facing public sector in SA that were identified by the respondents.

Table 9: Challenges and Possible Solutions

NSG	DT	DCDT
Compliance; Legislations; Operational processes; Silos; Lack of guiding policy; KM format table; and Confusion between library and KM activities.	Limited leadership support; Limited skills or lack of capacity; Limited funds allocation; Limited resources; KM is not a priority and Lack of monitoring and evaluation	Lack Proper Structure; No Knowledge Sharing; KM Integration; KM is not seen as strategic function and Limited leadership support
What do you think needs to be done to improve KM practices?		
Learning organizations	To create an environment for employees within the department to share ideas, encouraging knowledge sharing platforms such as mentoring, CPOs, best practices and lesson learned to improve service delivery.	
KM processes	To establish platforms that can assist to improve access to knowledge and information, knowledge sharing and collaboration within the department. Acquire, analyze, organize, apply, share and use knowledge. To effectively capture, retain and leverage employees' tacit knowledge and intellectual capital.	
KM policy	To promote principles that can be used to refer to for information and knowledge management. KM programmes and awareness that will encourage the implementation of KM.	
Leadership	According to departments, KM practices would improve if leadership hierarchy in departments would flattened.	
	To ensure that the departments are motivating and maintaining the generation, capturing, transferring and embedding of new knowledge	

	and innovation harvested from individuals through conducting exit interviews and COPs.
Knowledge sharing culture	Develop a Knowledge sharing culture, building communities of practice and promoting practical learning
Incentives	Rewarding knowledge sharing to encourage people to share more knowledge.

4.13 Conclusion

The previous chapter presented the research findings from the interviews, focus groups discussions and the description of KM documents. This chapter presented the interpretation and discussion of the findings and the five dimensions of KMAT were compared with the research findings of the three national departments. The next chapter, chapter 6, will focus on the summary, conclusion and recommendations of the study.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents an overall summary of the research undertaken. It shows how the results of the study relate to the original research questions and objectives of the thesis. The conclusion will be based on the findings from the literature review (Chapter 2), the interviews, focus groups discussions and document analysis (chapter 4). The chapter will also provide recommendations which have emerged from this study.

5.2 Summary of Research Study

The research objectives of this study are to explore, describe and analyze the current state of KM practices in the public sector in SA. It is also important to note that the purpose is not to assess or evaluate the KM implementation in the public sector, but to describe how government departments in South Africa are implementing knowledge management practices and to what extent these practices have an impact on desirable and feasible application of KM in the public service. Furthermore, the study sought to determine how KM frameworks are applied when implementing KM. The point is to show to what extent diversity between various departments impacts what is desirable and feasible for KM in those departments as well as to check whether there is a gap between what is and what should be.

In order to achieve the objectives of the study, qualitative methodology has been employed. A total of 17 participants were selected for semi-structured interviews and focus group discussions, of which 11 participated in the study. They were drawn from three national government departments that practice knowledge management so as to find out what various national departments are actually doing when implementing KM. The researcher also collected relevant secondary data from various sources such as government strategic plans, websites, policies and frameworks. Documents focusing on KM in the public sector in SA and the general issues affecting KM in the South African public sector were critically analyzed. The findings are presented in order to answer the research questions that the study sought to answer.

5.2.1 Current Status of KM Practices in the Public Sector

In order for this study to describe the current status of KM practices in the South African public sector, it was important to consider the implementation of KM in the public sector as a basis for the understanding of the current status of KM practices as well as the progress made so far in the public sector in SA.

A previous study by Mphahlele (2010) on KM practices in the South African public sector between 2002 and 2008 indicated that the South African public sector started implementing KM around 2001. It further stated that with the support of DPSA and the Department of Communication, KM initiatives in the SA public sector started to progress since 2003, although not all government departments were implementing KM. It was indicated that there were some initiatives and best practices that came with the birth of KM in the public sector. However, the study discovered some challenges such as silo mentality and lack of coordination and cooperation between national departments and their related provincial departments (Mphahlele 2010).

The DPSA conducted a maturity assessment in 2018/2019 for national and provincial government. The purpose of the assessment was to identify departments with or without KM functions, to check the level of KM maturity, to provide guidance and to determine the status of KM practices within the public sector in line with the approved National KM Strategy Framework (NKMSF) in March 2019. The assessment approach used to determine the state of KM within the various public service organisations considered the following dimensions; namely, KM leadership and governance, business alignment, people & culture, technology, knowledge processes, innovation and monitoring and evaluation.

KM maturity assessment was conducted through a self-assessment tool designed on an Excel spreadsheet with programmed calculations and it consisted of five levels from low to high maturity.

- The low level is Reaction score (42-83), which describes KM as unplanned and random. At this level, KM activities are non-systematic and ad-hoc;
- Initiation score (84-125) denotes that the organization is beginning to recognise the need to manage knowledge;

- Expansion score (126-146) indicates that KM activities are stable and practiced and that they are integrated with everyday work processes;
- Refinement level score (157-188) is where KM is continuously evaluated and improved; and
- Maturity level score level (189- 210) denotes a high KM maturity level.

The results of the assessment indicated that national departments have Knowledge Management strategies in place, which indicates acknowledgement of KM in the departments. However, their business case for KM is not clearly defined. The absence of government-wide guidelines on the implementation of Knowledge Management in the public service resulted in inconsistency, which has been addressed with the approval and introduction of the National Knowledge Management Strategic Framework (DPSA circular no 02: 2020).

Furthermore, the official publication for public servants - Public Servant Administration (2019) - indicated that there is an acknowledgment by the national and provincial spheres of government of the need to manage knowledge. The different departments are at different stages of implementation, with some doing well, whilst others have not yet started. However, the departments that had introduced and implemented KM seemed to have limited knowledge and understanding of KM. They nonetheless view KM as a strategic management function. There seems to be lack of alignment of KM to the business needs and processes in some departments. There was no structured or systematic monitoring and evaluation, which resulted in difficulty in determining the success or failure of KM.

This study looked into KM practices in the public sector of South Africa using a validated KM Assessment Tool (KMAT) developed by Botha & Fouche (2001). The structure and the content of the interview guides used to collect data are based on KMAT and comprised of seven sections, namely the background information, leadership, structure, processes, technology, measures and culture (see Annexure I). The findings of the study will be summarised below.

To discuss KM in the context of the public sector, the study looked at the definition of KM, its role and best practices of KM in the departments.

The discussions commenced by addressing the question about the role and the responsibility of KM in the departments. The main reason for this question was to determine the purpose and the significance of KM in the departments. According to international standards for KM, (ISO30401: 2018), the role of KM focuses on the ways that organizations create and use knowledge. It may be viewed from several perspectives; for instance, if knowledge is viewed as a process, it suggests that the KM focus is on knowledge flow and the processes of creation, sharing and distribution of knowledge.

Furthermore, the role of KM is to ensure an effective, efficient, professional, highly productive and capable public service. KM is regarded as the process and activities that involve collecting, collation, sharing, packaging, disseminating and use of information in decision making and enhancing the processes and efficiency of service delivery within departments and public service (DPSA NKMSF, 2019:11). Knowledge is regarded as the most valuable resource embedded within employees and government. It is about giving the SA government a competitive advantage to improve service delivery (DPSA NKMSF.2016:11). The purpose of Knowledge and Information Management (KIM) is to ensure that an organization and its members know what to do in the best interests of the organizations (DPSA NKMSF.2011:1).

KM at the NSG is defined as the process of identifying, sharing, creating and maintaining knowledge to facilitate organizational learning and innovation. KM is essential to the NSG's mandate as it delivers the support required to ensure the KM standards and proper organizational business rationale to build and expand the organizational knowledge base (NSG KM Strategy:1). The DT indicated that people play an important role in key knowledge processes such as creation, sharing, and application. The staff members of the department are users as well as generators of knowledge, and they form an important knowledge asset by acting as a repository of tacit knowledge and explicit knowledge (DT KM Strategy 2019:7). KM in the DCDT involves knowledge sharing, collaboration and innovation in the sense that new knowledge is generated through projects. Furthermore, the respondents indicated that the role of KM in the departments is to facilitate knowledge through people, processes and technology.

The findings of this study indicate that KM has a critical role to play in preserving existing knowledge, generating new knowledge and facilitating knowledge. KM is used to generate knowledge for education and training material and it improves the performance of the

departments. KM is also a source of knowledge and information and also has a role in supporting planning and policy formulation.

According to the respondents, KM is considered as the core of their business processes and it plays an important role in the success of their respective departments. They indicated that KM has a critical role to play in preserving existing knowledge, generating new knowledge and supporting planning and policy formulation.

The role of KM in the public sector is summarized below.

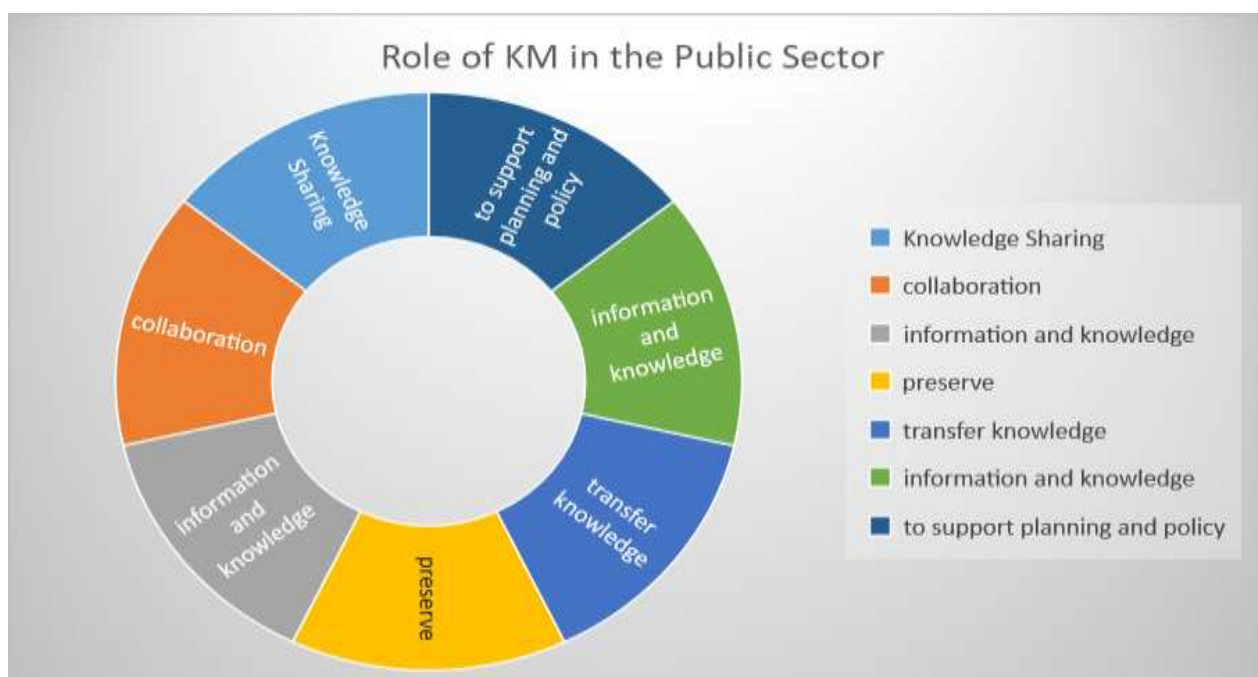


Figure 8: The Role of KM in the Public Sector

Source: Author

Best Practices in KM

The KM best practices of the departments were mainly based on knowledge generation and capturing for the purpose of easy access as well as knowledge sharing using different tools and platforms. They have partnerships and knowledge management forums which facilitate the exchange of knowledge with different experts and sectors as well as research seminars focusing on sharing ideas with the sector, local government and international stakeholders.

The DCDT indicated that they use a KM portal to capture and share knowledge. They also mentioned that they have partnerships with different sectors and other departments to generate new knowledge. The department also uses knowledge-based information from exit interviews. According to NSG, the department is taking knowledge externally, using their knowledge hub which was established with the support of the European Union (EU). During the COVID-19 lockdown period, they adapted technological mechanisms to coordinate a Master Class in the form of KM seminars and webinars. They also merged the KM section with the research section and formulated a database that deposited all the researched articles in the department for knowledge sharing. The KM best practices in the Department of Tourism include key initiatives such as the Knowledge Management Tools Audit, the Tourism Knowledge Portal (TKP), the National Tourism Database (NTDB), the establishment and rendering of Geographic Information Services (GIS), establishing and rendering of library services, the development and implementation of National Visitor Information Framework (NVIF), the development and implementation of National Tourism Information Gateways Framework (NTIGF), and the development of tourist guiding and visitor information mobile applications. The department also facilitate annual workshops for the purpose of sharing of tourism best practice among different countries.

Table12: Summary of KM Practices based on KM Assessment Tool (KMAT) findings

DIMENSION	FACTOR	FINDINGS FROM THE DEPARTMENTS		
		NGS	DCDT	DT
LEADERSHIP	1. Vision	KM vision is aligned and mutually shared by all the members of the department.	KM vision is aligned and mutually shared by all the members of the department.	KM vision is not aligned and is not mutually shared by all the members of the department.
	2. Strategy	The department has implemented a strategy to create and apply knowledge that aligns with the operational objectives of enhancing customer value.	The department has implemented a strategy to create and apply knowledge that aligns with the operational objectives of enhancing customer value. However, the strategy was just approved due to the merging of DOC and DTPS.	The department has implemented a strategy to create and apply knowledge. The strategy had not yet been approved and is not aligned with the operational objectives of enhancing customer value
	3. Organizational Learning	The department is a knowledge and learning organization and is responsible for education, training and development. KM plays a role to preserve, share and generate knowledge for the department.	Organizational learning happens in two ways; formal training that allows people to do short courses to acquire new knowledge and retaining knowledge that is already available.	The organization cannot be regarded as a learning organization yet, because it has not fully developed a culture of sharing that enables people to learn from each other.
CULTURE	4. Communication	The department uses presentations, conferences, seminars, exhibitions, meetings, workshops, training, internet, intranet, KM portals, EDMS and	The department uses presentations, conferences, seminars, exhibitions, meetings, workshops, training, internet, intranet, KM portals, EDMS	The department uses presentations, conferences, seminars, exhibitions, meetings, workshops, training, internet, intranet, KM portals, EDMS and emails to

		emails to promote knowledge sharing and information exchange	and emails to promote knowledge sharing and information exchange	promote knowledge sharing and information exchange
	5. Customer orientation	No information for this indicator	No information for this indicator	Organizational knowledge about customer service is shared
	6. Collaboration	KM seeks to build an interactive network and facilitate Cops to promote project learning, online community and knowledge harvesting and also encourage knowledge sharing culture	Collaboration occurs within the branches and knowledge sharing is not yet a mainstreamed component of the department's culture.	KM awareness sessions are held on an occasional basis to promote KM awareness and collaboration platforms
	7. Workplace	No information for this indicator	No information for this indicator	No information for this indicator
	8. Knowledge Sharing	Knowledge sharing is mostly facilitated via on-line platforms.	Knowledge is currently shared using Microsoft for people to share information, knowledge and documents during meetings	KM has been turned to an IT shadow. It focuses on IT systems rather than the main strategic purpose of knowledge sharing.
	9. Knowledge contribution	Limited knowledge contribution.	Limited knowledge contribution.	Limited knowledge contribution.
STRUCTURE	10. Teams and Groups	The teams and their roles are established and well-structured.	The teams and their roles are established and well-structured.	The teams and their roles are established and well-structured.
	11. Knowledge Management Role	The role of KM in the department was clearly defined,	The role of KM in the department was clearly defined, appointment	The role of KM in the department was clearly defined, appointment made and responsibilities were allocated

		appointment made and responsibilities were allocated	made and responsibilities were allocated	
	12. Management communication	Formal communication sessions are held between management and employees	Formal communication sessions are held between management and employees	Formal communication sessions are held between management and employees
	13. Incentive Systems	No incentive system	No incentive system	No incentive system
	14. External Structures	External structures available; the department has established well-structured formal relationships	External structures available; the department has established well-structured formal relationships	External structures available; the department has established well-structured formal relationships
PROCESSES	15. Knowledge Integration Processes	Knowledge sharing platforms, organizational memory captured, stored and disseminated and the best practices and lessons learned	Knowledge portal, knowledge repository, induction and the people in the department are sharing documents and lessons learned using the MS Teams application.	Knowledge portals, mobile applications are platforms used to capture information for the directorate.
	16. Information Management	Processes for information acquisition, codification and distribution are well established in the organization.	No information for this indicator.	Processes for information acquisition, codification and distribution are well established in the organization.
	17. Business intelligence	Not applied	Not applied	Not applied
TECHNOLOGY	18. Information System Architecture	Knowledge portal SharePoint was installed and is utilized effectively to support KM practices.	Knowledge portal is used to support KM practices. However, SharePoint was installed but was not utilized effectively.	Knowledge portal is used to support KM practices. However, SharePoint was installed but was not utilized effectively.

	19. Information Technology Infrastructure	Tools used to disseminate information include social media, intranet, emails, Teams, Zoom, departmental website and social media.	Tools used to disseminate information include social media, intranet, emails, Teams, Zoom, departmental website and social media.	Tools used to disseminate information include social media, intranet, emails, Teams, Zoom, departmental website and social media.
	20. KM application software	Not available.	Not available.	Not available.
MEASUREMENT	21. Performance Indicators	The function for performance indicators used to measure and manage intellectual capital is the responsibility of Human Resource management. KM has no formal system to measure and manage intellectual capital and other intangible attributes.	The function for performance indicators used to measure and manage intellectual capital is the responsibility of Human Resource management. KM has no formal system to measure and manage intellectual capital and other intangible attributes.	The function for performance indicators used to measure and manage intellectual capital is the responsibility of the Human Resource management. KM has no formal system to measure and manage intellectual capital and other intangible attributes.
	22. Usage of KM Tools	The KM applications and tools are monitored and assessed.	The KM applications and tools are monitored and assessed.	The KM applications and tools are monitored and assessed.
	23. KM progress report	KM section does not measure and manage intellectual capital. Performance indicators have been linked with the HR policies of the department.	KM section does not measure and manage intellectual capital. Performance indicators have been linked with the HR policies of the department.	KM section does not measure and manage intellectual capital. Performance indicators have been linked with the HR policies of the department.
	24. Alignment	No information for this indicator	No information for this indicator	No information for this indicator

Based on the above summary of KM Practices based on the KM assessment tool, these are findings of this study.

○ **Leadership**

According to Smith & Fourie (2001), leadership consists of the vision, strategy and organizational learning. The respondents were asked about the alignment of vision and objectives of their departments and how KM assists the department in achieving those objectives, the strategies available and the understanding of organizational learning.

According to the responses of the participants and analysis of documents, departments have very clear visions of the contribution for knowledge. Furthermore, the organizations have to implement strategies to create and apply knowledge that aligns with the operational objectives of enhancing customer value. The strategy has to be clearly and purposefully communicated to all levels. KM strategies should be aligned to the business objectives and the vision of the departments. However, the DT presented a draft KM strategy (2019/20) that had not yet been approved at the time that the research was undertaken and was not aligned with the operational objectives of enhancing customer value. According to the DT KM Manager, KM is practiced in an ad hoc manner.

Organizational learning, according to Botha & Fouche (2002:7), is the process of improving actions through better knowledge and understanding. It refers to an organization that is skilled at creating, acquiring and transferring knowledge. Organizational learning has to be gained from engaging customers, suppliers, distributors, allies and partners. Knowledge should be well understood throughout the organization. The respondents from NSG and DCDT described organizational learning as a process of generating, retaining, and transferring knowledge. However, it was not clear if the knowledge gained from customers, suppliers, distributors, allies and partners was well understood throughout the organization. Furthermore, the respondents indicated the DT cannot be regarded as a learning organization yet, because it has not fully developed a culture of sharing that enables people to learn from each other.

○ **Culture**

The departments use presentations, conferences, seminars, exhibitions, meetings, workshops, training, internet, intranet, KM portals, EDMS and emails to promote knowledge sharing and

information exchange. In terms of customer orientation, there was no information available that organizational knowledge about customer service is shared.

According to Botha & Fouche (2001: 9), collaborative relationships that exist in the form of alliances, joint ventures, partnership and other members of the value chain should be constantly used by organizational employees to create customer value. Joint knowledge development, innovation, and knowledge sharing are standard practices in these relationships. It involves transferring and sharing information and knowledge among colleagues, customers and partner organizations. It is often used in the context of partnerships, communities and their creation and sharing of knowledge. According to the DCDT, collaboration does occur within the branches; however, knowledge sharing is not yet a mainstreamed component of the department's culture and there is lack of willingness to share information and collaboration across the department. More practices, incentives and techniques are needed to encourage knowledge sharing. Cross-cutting teams and communities of practice (COP) are needed in implementing projects to cement teamwork and encourage multi-skilling of staff members. There is generally a lack of willingness to share information and collaboration across the department. According to the NSG, KM seeks to build an interactive network and facilitate CoPs to promote project learning, online communities and knowledge harvesting and also encourage a knowledge sharing culture (NSG KMS 2016:12). DT indicated that KM awareness sessions are held occasionally to promote KM awareness and collaboration platforms such as KM forums, KM portal system databases, intranet and internal communications of the departments to communicate their services.

This study discovered that the departments do occasionally have collaborative relationships within the branches; however, there is limited knowledge sharing among colleagues, customers and partner organizations. This study also discovered that the organizational culture is one of the concerns. There is a general agreement among the respondents that the absence of a knowledge sharing culture is one of the most common challenges in public sector organizations within the departments and there is minimal sharing of information between the national departments. It was indicated that departments and employees mostly share information using technological platforms and are not willing to share tacit knowledge. As a result, they work in silos. According to the DT respondents, KM focuses on IT systems and as a result, KM has been turned into an IT shadow and there is a lack of willingness to transfer and share information and knowledge.

○ **Structure**

The organizational structures of the departments are in the form of a vertical hierarchy that governs work processes, procedures, rules and systems. The departments have KM sections or directorates that are operational. The KM roles were clearly defined; appointments were made and responsibilities were allocated. The departments indicated that they use KM forums involving DPSA, academics, municipalities and provincial departments to promote KM awareness throughout the organizations. The DT manager explained that in the past they used to invite officials for such sessions; however, due to restructuring and new management, those initiatives are no longer available. Management communication mostly consisted of formal communication sessions held between management and employees and informal communications are limited to small groups. The incentive system for motivating employees and rewards for sharing knowledge to sustain the organization's knowledge base are not institutionalized and applied in the departments surveyed in this study. The respondents indicated that they use KM forums involving DPSA officials, academics, municipalities and provincial departments to share knowledge, expertise and information.

○ **Processes**

The respondents indicated for knowledge integration they use KM portal system databases, intranet and internal communications of the departments. They also indicated that they conduct induction courses for all the new employees. Processes used to promote new knowledge creation and the best practices and lessons learned include knowledge sharing platforms to ensure that organizational memory is captured, stored and disseminated. Knowledge portals, knowledge repositories, induction, mobile applications are platforms used to capture information for the directorate and the people in the departments share documents and lessons learned using Zoom and MS Teams applications.

Processes for information acquisition, codification and distribution are well established in the organizations. They include knowledge portals and knowledge repositories, induction and people share documents using EDMS, Zoom, MS Teams applications and access to knowledge information resources (libraries). Moreover, according to the NSG, knowledge capturing, sharing, application, learning and knowledge innovation support the NSG mission of providing learning and development programmes. The NSG's knowledge transfer strategy is developed in accordance with the four pillars of KM. In the DT, people play an important role in key knowledge processes, namely creation, sharing, and application. The staff members of the department are users as well as generators of knowledge, and form an important knowledge

asset by acting as a repository of tacit knowledge and explicit knowledge (DT KM Strategy 2019:7). It was also indicated that the Tourism Knowledge Portal (TKP) databases and the mobile applications are good platforms to capture and transfer this information to the industry. The business intelligence was not available in all the departments.

○ Technology

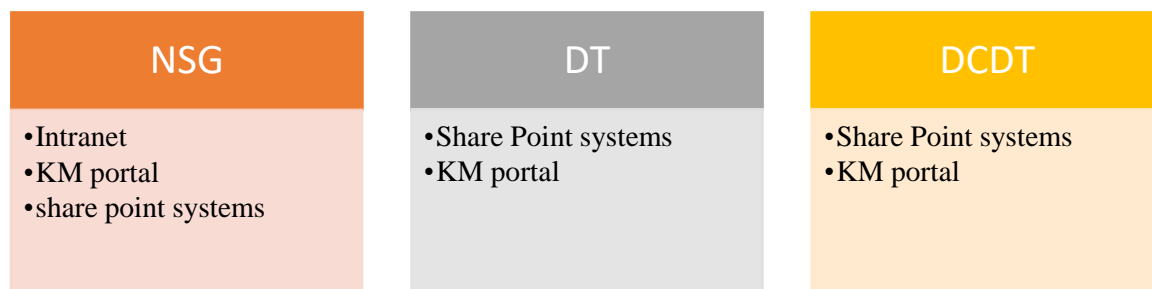


Figure 9: ICT Tools

The departments indicated that technology plays a key role in organizational learning as a way of connecting people and leveraging the individual capital and there is adequate technology to facilitate KM. Most departments indicated that they have information technology infrastructure to support KM. The ICT tools that are available in the departments and are mostly used to support KM are the intranet, knowledge management portal through the intranet. Only internal staff have access to these tools and that is where they can access and share information. The NSG also mentioned that they use the SharePoint system to support KM practices. This system is available and accessible to all members and is used with commitment and dedication for the purpose of customer value creation. However, the Department of Tourism and DCDT mentioned that SharePoint had been installed but was not being utilized effectively. Systems such as groupware, corporate intranets and portals are available to members and actively used.

The National KM strategic framework states that IT systems must be seen as the backbone of any KM strategy. SharePoint / Alfresco were used as examples that can store, link, monitor and manage knowledge (NKMS 2019:24). The respondents mentioned ICT as a tool to facilitate access and retrieval of information that can support practices of KM with the implementation of information systems.

Furthermore, the findings of this study indicated that the departments have developed and implemented different portals and several technology tools in the last few years. For instance, it was mentioned by the department of Tourism that different portals that are similar to

knowledge portals were developed, which sometimes confused stakeholders and created the impression that there was no collaboration within the department. Moreover, according to the DCDDT KM strategy (2020-2025: 10), several technology tools have been developed and implemented in the last few years, including the online policy register, knowledge repository and portal on the intranet, all of which have had some impact on information and knowledge sharing.

○ **Measures**

The departments indicated that the function for performance indicators used to measure and manage intellectual capital is the responsibility of Human Resource management. The KM section in the departments is not involved.

KM progress reports are very important. The KM sections indicated that they do monthly and quarterly reports, which form of monitoring and evaluation of the departments.

In all the departments it was indicated that aligning the knowledge management practices with the organization's vision, strategy and objectives as well as culture, structure, processes and technology continually top management support was required.

5.2.2 KM strategic framework applied when implementing KM

The Department of Tourism developed a draft Knowledge Management Strategy (2019/20) to outline the gaps that need to be bridged and actions needed to develop structures and processes to organize information flow and relationships between various stakeholders in order to optimize the destinations' performance (DT draft KM strategy 2019: 5). According to the KM Manager, they first developed the KMF in the 2011/12 financial year, which focused on the innovation. The DT draft KM strategy (2019/20) was the second KM strategy that was developed and it focused on KM pillars such as organizational learning, knowledge capture, business efficiency and innovation. The manager also mentioned that the department's KM practices do not really follow what is outlined on the frameworks. Their work is ad hoc and they respond to projects that are requested and seem to be a priority. Focus group participants also indicated that they have a KM strategy but are not really following it in their KM practices.

The National School of Government developed a knowledge management strategy which was approved in March 2016, to provide the NSG with a clear platform and road map for managing knowledge and creating new knowledge assets in support of the organization's mandate. The strategy is important for the NSG's management processes as it will ensure that KM plays a crucial role in ensuring that organizational values support service delivery. The KM strategy includes the implementation guidelines, framework and methodologies, tools, enabling technology, resources and training (NSG Strategy 2016: 1). The findings indicated that KM strategies have been developed and used as a guide in conducting KM implementation.

The DCDT also has a five-year KM strategy (2020-2025) which was approved in August 2021, after the merger of two departments to form the DCDT in June 2019. The purpose of the KM strategy is to provide the department with a coherent, structured and strategic approach to managing its knowledge and information requirements as an asset which must continuously align with departmental outcomes (DCDT KMS 2020-25: 7). During the period of data collection, the KM strategy had just been approved, so the researcher could not determine if the framework was applied when implementing KM.

The NSG KM strategic framework was adapted from the University of Pennsylvania to assess the KM maturity stages. The KM strategy in the department of Tourism is based on the American Productivity and Quality Center (APQC)'s five levels of KM maturity principles. The DCDT indicated that, in compliance with the DPSA, the department developed a KM strategy that is in line with the National KM Strategy Framework.

The key findings with regard to the central KM framework proposed by the DPSA indicated that the respondents acknowledged that DPSA is responsible for KM in the South African public sector. They also indicated that the national KM strategic framework is a good document, which is useful in providing guidance when formulating KM strategic frameworks. DPSA developed the NKMSF as a blueprint to guide other departments or government entities to assist those departments who might lack the capacity to implement KM (DPSA NKMSF 2019:10). However, there were some concerns about the universal approach of the DPSA NKMSF, which might be misaligned with the purpose the individual organizations and obtaining approval of the framework.

The findings of this study indicated that two of the national departments that participated in the study had used some of the guidelines from the DPSA NKMSF to formulate their own strategies. The DT did not consult the DPSA NKMSF when formulating the KM strategy; however, they do support the initiative of the NKMSF as the DPSA can assist those departments that might lack the capacity to implement KM.

Furthermore, based on these findings, it is clear that these national departments acknowledge the introduction of the National Knowledge Management Strategic Framework. It was also shown that the DPSA NKMSF will serve as the guideline for all public sector organizations in SA. However, this study supports the view that departments are different and unique in characteristics, dynamics, responsibilities and missions. Therefore, it is suggested that the DPSA can develop an official document which is going to be a national guiding tool with practical guidelines on the implementation of knowledge management for all government departments.

5.2.3 KM Implementation Challenges within the Public Sector

There are many challenges that can be identified in relation to the implementation of KM within the public sector in SA. The findings of this study indicated that the national departments that participated in the study have KM activities and programmes of practicing KM and KM is recognized as an important resource for the achievement of the organizational objectives. However, with KM not being a priority, there are no clear KM boundaries. KM is practiced in an unplanned and ad hoc manner and its scope is not well outlined.

There was consensus among the respondents that the lack of a knowledge sharing culture is the most common challenge in public sector organizations. They indicated that departments and employees are not willing to share tacit knowledge and, as a result, they work in silos. Some respondents stated that information was shared within departments through knowledge portals, knowledge repositories, emails, internal communications and memos and meetings are mostly shared using MS Teams and Zoom platforms.

The understanding of Knowledge Management was also one of the major obstacles to properly implement KM in the public sector. There is no shared KM vision guiding them on goals they have to achieve. This presents a major challenge for the implementation of KM, which leads

to KM sometimes confused with IT and information management. They also indicated that knowledge management activities were sometimes confused with information management and library work.

Knowledge management sections do not have policies available. The departments rely on Human Resources (HR) policies and departmental policies. Some departments indicated that it takes a long period for the KM strategies to be approved and, as a result, they manage KM without any guiding policy. One such example was the National KM Strategic Framework, which was first drafted in 2002 and got approved 2019.

5.3 Recommendations

This study was only limited to three national departments. Further research will be required covering all three spheres of government in SA.

Based on the literature review and the key findings, the study recommends the following:

It was recommended that government departments in South Africa can be learning organizations, to create an environment for employees within the department to share ideas, encouraging knowledge sharing platforms such as mentoring, CPOs, best practices and lesson learned to improve service delivery. It was also recommended that, to ensure that the departments are motivating and maintaining the generation, capturing, transferring and embedding of new knowledge and innovation harvested from individuals through conducting exit interviews and COPs. Platforms such as KM processes that will effectively capture, retain and leverage employees' tacit knowledge and intellectual capital, can be established within the department.

A knowledge-based organizational culture has been recognized as one of the most important factors for successful KM implementation. The findings of the study indicated that the culture of sharing is still a challenge in the public sector. Departments are practicing KM in silos. Therefore, it is recommended that the departments in the public sector should create more platforms that encourage communities of practice to build a learning culture. COPs would also improve knowledge sharing to allow groups and teams to share common interests to promote learning within organizations. Also, KM programmes and awareness that will encourage the

implementation of KM. Furthermore, it is recommended that the departments should design an incentive and reward program that includes recognition for knowledge sharing as a way of encouraging people to share more of their knowledge.

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ANNEXURE I: INTERVIEW GUIDE

I am currently studying Masters (MPhil) Information and Knowledge Management at the Department of Information Science at Stellenbosch University.

Topic: The application of knowledge management framework within the Public service in South Africa.

Several government departments in South Africa (SA) are implementing knowledge management (KM) in the public service. However, there is little academic research about actual KM practices and therefore it is not clear how relevant proposed KM frameworks are to improve KM in public sector specifically. This research wants to describe how government departments in South Africa are implementing knowledge management practices and to what extent these practices have an impact on desirable and feasible application of KM in the public service. Furthermore, the study seeks to determine how KM framework is applied when implementing KM by government departments in SA and also to explore, describe and analyse the current state of KM practices. This thesis described KM practices in the public sector of South Africa using a validated KM Assessment Tool (KMAT), developed by Botha & Fouche (2001).

Based on that, you were approached as a possible participant because your government department is implementing knowledge management. Kindly note there will be no risks involved as you will be describing the current KM practices in your organization. The data collected will only be used for academic research purposes. Your participation is voluntary and you can withdraw at any stage of the interview process. Please feel free to ask any questions for clarity where you feel uncertain during participation.

It is also important to note that the purpose is not to assess or evaluate the KM implementation in your department. Instead the interviews will assist to describe how KM works in the real world, so that the policy direction can be critically analysed and assessed for its feasibility.

Date of interview.....

Department.....

Level / role of the interviewee.....

How many years in your current position?

The number of Personnel depended on KM section

Interview Questions

The structure and the content of the questions are based on Knowledge Management Assessment Tool (1999) which was adopted by Botha (2001). I slightly adopted the tool so that it makes sense to KM practitioners in the public sector and also the tools provide a comprehensive view of the KM processes that describe prevalent KM practices in the SA business sector. The nature of questions will be open-ended to allow you to express yourselves.

1. BACKGROUND INFORMATION

- What is the role of KM in your department?
- Please describe some of your best KM practice?
- Is there any KM framework in your organization? (Do you use a particular implementation strategy or framework, manual, consultants or departmental strategy or plan?)
- Are you aware of the DPSA KM strategic framework?
- What is your view with the central KM framework (such as that proposed by DPSA), do you think it will assist your department to guide you on how to implement KM and why?

2. LEADERSHIP

- What is the vision and objectives of the department?
- How does KM assist the department in achieving those objectives?
- What KM strategies have been developed and implemented to achieve the operations of your department?
- What is your understanding with regards to organisational learning processes such as creating, retaining, and transferring knowledge within an organization?

3. STRUCTURE

- Describe the KM structure in your section?
- What policies are available to promote KM awareness throughout the organization?
- Which external structures do you have to share knowledge objectives and what is their role?

4. PROCESSES

- What is your view on the knowledge integration processes?
- How do you ensure that KM practices are fostering the creation, sharing and integration of knowledge within the department?
- What are business intelligence strategies and technologies used for the data analysis and scanning the environment of business information?

5. TECHNOLOGY

- Describe knowledge and information communication tool and processes available to support KM practices in your organization.
- What are Information technology infrastructures, Information systems and KM application software's that are designed to enhance and deploy access to information within the department?

6. MEASURES

- What performance indicators used to measure and manage intellectual capital?
- Is there any incentive system used for motivating employees?
- How important do you think KM progress reports and usage of KM tools for monitoring, reporting and continual assessment of knowledge management programs?

7. CULTURE

- How do you ensure that teams and groups share common interests and experience?
- What KM initiatives do you practice? (eg networking, collaboration and customer orientation).
- Which knowledge sharing activities do you use to exchange knowledge among people?
- According to your view, what challenges can you identify in relation to the implementation of KM within the public sector?
- What do you think needs to be done to improve KM practices?

ANNEXURE II: PERMISSION TO CONDUCT RESEARCH



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jou kennisvennoot • your knowledge partner

APPLICATION LETTER FOR INSTITUTIONAL PERMISSION

INSTITUTION NAME & ADDRESS:

Department of Public service and Administration	<p>The Director-General</p> <p>Batho Pele House, 549 Edmond Street</p> <p>Pretoria</p> <p>Phone: 012 336 1279</p> <p>Fax: 012 336 1803</p> <p>Email: infor@dpsa.gov.za</p>
Department of Telecommunications and Postal Services	<p>Director-General: Robert Nkuna, MR</p> <p>iParioli Office Park, 1166 Park street</p> <p>Hatfield, Pretoria</p> <p>Phone: 012 427 8031</p> <p>Fax: 012 427 8016</p> <p>Email: director-general@dtps.gov.za</p>
Department of Tourism	<p>Director General: Nkhumeleni Victor Tharage, Mr</p> <p>Tourism House, 17 Trevenna Street</p> <p>Sunnyside, Pretoria</p> <p>Phone: 012 444 6000</p> <p>Fax: 012 444 7000</p>

	Email: vtarage@tourism.gov.za
National School of Government	<p>Pro Richard Levin</p> <p>ZK Matthews Building, 70 Meintjies Street</p> <p>Sunnyside Pretoria</p> <p>Phone: 012 441 6000 / 6777</p> <p>Fax: 01244416030</p> <p>Email: contactcentre@palama.gov.za</p>
Cooperative Governance and Traditional Affairs	<p>The Director-General: Dan Mashitisho, MR</p> <p>87 Hamilton Street, Arcadia</p> <p>Pretoria</p> <p>Phone: 012 334 0518</p> <p>Fax: 086 293 4966</p> <p>Email: danm@cogta.gov.za</p>

TITLE OF RESEARCH PROJECT: The application of knowledge management framework within the Public service in South Africa

ETHICS APPLICATION REFERENCE NUMBER: 10409

RESEARCHER: 15839819 BC Booï

DEPT NAME & ADDRESS: Information and Knowledge Management at Stellenbosch

CONTACT NUMBER: 078 049 3731 / 012 444 6366

EMAIL ADDRESS: bbooï@tourism.gov.za / bulelwa2005@gmail.com

Dear Sir / Madam

I am currently studying Masters (MPhil) at the Department of Information and Knowledge Management at Stellenbosch University, and I would appreciate your assistance with one facet of my research project.

Please take some time to read the information presented in the following four points, which will explain the purpose of this letter as well as the purpose of my research project, and then feel free to contact me if you require any additional information. This research study has been approved by the Research Ethics Committee (REC) at Stellenbosch University and will be conducted according to accepted and applicable national and international ethical guidelines and principles.

1. A short introduction to the project:

Several government departments in South Africa (SA) are implementing knowledge management (KM) practices in the public service. However, there is no agreed or approved KM framework that guides the implementation of KM practices. This contributed to lack of clear guidance on how to practice KM. This study therefore seeks to understand reasons that made the national KM framework not implemented.

The aim is to determine how government departments in South Africa are implementing KM practices in the absence of the national KM framework and what extent to which these practices have an impact on desirable and feasible application of KM in the public service. Furthermore, the study intends to describe the current KM practices with in the public service, as compared to ISO KM standards. Identify challenges and gaps KM practices in the public service in SA. The recommendations for improvement of the application of KM in the public service.

2. The purpose of the project:

The purpose of the study is to provide a conceptual understanding of the application KM framework within the public sector. To describe and analyse the current state of KM practices, determine how government departments in South Africa are implementing knowledge management practices. To provide recommendations, the challenges faced by the sector in managing knowledge and present best practices used in implementation of KM.

3. Your assistance would be appreciated in the following regard:

I would like to request institutional permission is to do research in the Knowledge Management directorate, the significance of the study to explore the current state of KM application and how KM should be implemented in the public sector in SA. The aim is to determine how government departments in South Africa are implementing KM practices. The research study will seek to contribute to the existing body of academic literature. The study will provide insight on the best practice of knowledge management.

The researcher would like to conduct face-face semi-structure interviews with one KM manager or Deputy Director Officials in the departments. The participants in this study will be allowed to make a decision on their involvement and participation. However, if the participants no longer wish to be part on this study, they will have the opportunity to withdraw without adverse consequences.

4. Confidentiality:

The research will be done with the permission from Stellenbosch University Research Ethics Committee. The researcher will also sign the ethical clearance of the Stellenbosch University that will adhered to the University's ethical guidelines.

The research will focus in the credibility, integrity, reliability and confirmability of the results. The participants will not be classified in terms of race, age or gender.

Any information you share with me during this study and that could possibly identify you as a participant will be protected. The data will be collected only for academic research purposes.

If you have any further questions or concerns about the research, please feel free to contact me via emails: bbooi@tourism.gov.za / bulelwa2005@gmail.com or telephonically 078-849-3731 / 012-444-6366. Alternatively, feel free to contact my supervisor, Christiaan H. Maasdorp via email: chm2@sun.ac.za or telephonically 021-808-3803.

Thank you in advance for your assistance in this regard.

Kind regards,

Bulelwa Cynthia Booi

Principal Investigator