

**AN EXPLORATION OF KNOWLEDGE RETENTION STRATEGIES: THE CASE  
STUDY OF NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH (NIOH)**

**By**

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## DECLARATION

I declare that **AN EXPLORATION OF KNOWLEDGE RETENTION STRATEGIES: THE CASE STUDY OF NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH (NIOH)** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

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Bongani Nkuna

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Date

## **ACKNOWLEDGEMENTS**

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## **DEDICATION**

*This work is dedicated to my three children, Vutlari, Khesani and Ntsako.*

## **Abstract**

Knowledge retention involves capturing knowledge in an organisation, so that it can be used later, after the employees left the organisation either due to retirement, resignations, or death. The organisation has invested time and money in harnessing knowledge of individual employees and when they leave, the organisation is at risk of losing its investment. The aim of this study was to examine Knowledge retention strategies at NIOH. The study investigated the extent to which organisational knowledge was managed, knowledge retention strategies, philosophies and motivation of knowledge retention strategies and effectiveness of knowledge retention strategies at NIOH.

Exploratory research design and quantitative research approach were used to conduct this study. The target population of the study were doctors, medical scientist, technicians and technologies at NIOH. Purposive sampling was used to select the respondents of this study. Data was collected through a questionnaire and analysed using Microsoft excel 2016.

The results of the study revealed that NIOH is able to retain its organisational knowledge. The study further revealed that knowledge retention strategies used by NIOH include ICT and staff meetings. The findings further revealed that there was little or no reward system to encourage knowledge retention.

The study recommends that the organisation implement and strengthen the rewards system to successfully encourage knowledge retention amongst employees. It is further recommended that the organisation develop Knowledge management section to ensure that all the processes of knowledge management are well coordinated.

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## **List of abbreviations**

ICT	Information and Communication Technology
KM	Knowledge management
KR	Knowledge retention
NIOH	National Institute for Occupational Health
SOPs	Standard operating procedure
COPs	Communities of practices

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## 1. CHAPTER 1: INTRODUCTION AND BACKGROUND

The 21st century has steered in an information and knowledge revolution that is of the same magnitude as that of the industrial revolution in the 18th and 19th centuries (Ondari-Okemwa and Smith, 2009:31). If an organisation loses its knowledge it may not be able to commendably and efficiently convey its mission. According to Phaladi, (2011), knowledge may be lost when older workers leave the organisation. Jennex, and Durcikova (2013: 3476) state that “an organisation can lose knowledge through the loss of knowledge holders (i.e. experts and knowledge workers), failure to capture critical knowledge, failure of knowledge repositories (this can be a failure of electronic, paper, or human storage media), and just plain forgetting (either forgetting the actual knowledge or forgetting where captured knowledge is stored)”. Therefore, retention and management of knowledge are important as it improves performance and may aid organisations by:

simplifying better decision-making skills, decreasing product development cycle time (i.e. curriculum development and research), refining academic and administrative services, decreasing costs, preserving corporate memory and opposing staff turnover by facilitating knowledge capture and transfer (Kidwell, Vander Linde and Johnson, 2000:31).

Martins and Meyer (2012:80) describe the preservation of knowledge as “a preservative, not losing the knowledge that exists in people's minds (tacit, not easily Documented) and knowledge (practical behavioural action) that is contextual to the entire operation of the organisation”. Knowledge retention takes place over long periods and is aimed at sustaining the productivity of workers at work through continuous training and two-way communication opportunities that enable employees and their managers to adapt for change. Tactics are directly linked to corporate goals and are maintained by top-down interaction. Tactics include:

career pathing, skills development and training for different roles, employee reward and recognition programs, opportunities for sharing best practices with rewards for participation, support of communities of practice, employee satisfaction/job surveys, regular performance evaluations that include peer-to-peer feedback (Kosta, 2016: 6).

Like any other organisation, there is a need for knowledge retention at the National Institute for Occupational Health (NIOH). NIOH is a part of The National Health Laboratory Service's (NHLS) and is South Africa's main centre for occupational health expansion, training, service support and research, with a staff of about 188 persons of whom the majority are scientists. NIOH has developed to be a worldwide recognised national resource for evolving and assisting effective occupational health services in South Africa. The NIOH contains 12 key divisions: "Occupational Medicine; Quality Assurance; Information Technology; Epidemiology; Occupational Hygiene; Pathology; Toxicology, Analytical Services; National Cancer Registry; TB and HIV; Immunology and Microbiology and information services (NIOH, 2018). Each division has a specific focus and provides services and training to stakeholders, clients and students. The divisions often collaborate on research projects relevant to the health of the South African workforce" (NIOH, 2018). In South Africa studies relating to knowledge retention strategies include *A comparative analysis of knowledge retention strategies at selected banks in South Africa* by Chigada and Ngulube, (2016) and *Knowledge transfer and retention: the case of a public water utility in South Africa* by (Phaladi, 2011). "*Organisational learning as a knowledge retention strategy in selected public broadcasting corporations in the Southern African Development Community*" (Dewah, 2015). This is an indication that knowledge management is largely practiced in various fields of South African public and private sector organisations except in health related organisations like NIOH. To fill this gap, this study seeks to investigate knowledge retention strategies at NIOH and how such strategies support or compromise service delivery of NIOH.

### **Types of knowledge**

Information about the various forms of knowledge available in an organisation is important to understand the methods used to preserve knowledge. The following two forms of awareness include:

- Tacit knowledge

Tacit knowledge is resulting from persons' actions, skills, and morals (Alavi and Leidner, 2001), it cannot be spoken and arranged as precisely or intensely as it is known. The nature of tacit knowledge can be explained by stating, "we can know more than we can tell"(Park and Gabbard, 2018). The most communal way to

handover tacit knowledge from one person to another is through face-to-face communications (Park and Gabbard, 2018).

- Explicit knowledge

According to Park and Gabbard (2018) explicit knowledge is knowledge transmitted, formalized, understood and arranged in the form of objects (e.g. text, charts, diagrams or documents). For this purpose, explicit knowledge can be linked to tacit and implicit knowledge relatively easy to explore and share with others. "Examples of explicit knowledge are documented best practices, formalized guidelines, mathematical formulas, training manuals, directions or basic factual information" (Park and Gabbard, 2018).

- Knowledge Management (KM)

Mthokozisi (2019) defines knowledge management as the skill of moving information and knowledgeable properties into the on-going value for an organisation's users and its society. The goal of KM is linked to organisation outcomes and achievement of a KM program is subjected to distribution of knowledge (Iuga and Kifor, 2014). Productivity and Quality Center (AQPC) in Jennex, Smolnik, and Croasdell, (2014) defines knowledge management as a Mindful tactic of obtaining the accurate information to the relevant persons at the correct time and assisting individuals to share and put information into action in methods that will advance organisational performance.

### **1.1. Problem statement**

Knowledge forfeiture as a result of employee gross revenue and old age retirement is becoming a serious dispute that cannot be overlooked (Ragab and Arisha, 2013). As an employee of NIOH, the researcher observed that the organisation is at risk of losing knowledge. Every time an employee part ways with the organisation, knowledge, skills, experience, judgement and professional networks is lost. Retirement age in South Africa (SA) is 65 and 55 is early retirement. According to NIOH Human Resource Office (2018) the organisation losses about 15 to 20 staff members per year due to old age retirement, new job opportunities or through natural attrition. Johnston, (2005) state that losing employees' knowledge can tremendously disturb the organisational performance. Workers end up leaving their irreplaceable and skilled

NIOH staff skills; as this knowledge is often implicit and hard to retrieve (Droege and Hoobler, 2003). Consequently, there would be a lack of specific knowledge when performing those duties, as support and organisational efficiency were decreased. To close this void, current employees need to deviate from their duties and spend additional time training new hires that affect their work performance and productivity (Droege and Hoobler, 2003). Therefore, there was a need to investigate systems or strategies used to deal with the potential loss of knowledge at NIOH.

## **1.2. Purpose of the study**

### *1.2.1. Aim of the study*

The study aimed to examine Knowledge retention strategies at NIOH.

### *1.2.2. Objectives*

- To determine the extent to which organisational knowledge is managed at NIOH.
- To identify knowledge retention strategies preferred by NIOH.
- To investigate the philosophies and motivation of knowledge retention strategies that are in place at NIOH.
- To establish the effectiveness of knowledge retention strategies at NIOH.

## **1.3. Significance of the study**

Mouton (2001) alludes that the study's importance dictates why the proposed work is important and makes a significant contribution to a new knowledge base. It is used as a view to dispute the influence of the study (Marshall and Rossman, 2006: 33). The goal of the significance of the study is to persuade the readers that the study is vital and should be conducted. It builds a quarrel that the research is significant for theoretical viewpoints, policy issues, applied concern or collective issues that affect people's lives daily (Ledwaba, 2016).

The research study concentrated on investigating the best way to improve Knowledge retention at NIOH. It is hoped that the study might enable NIOH to improve their Knowledge retention and implement strategies for the promotion of Knowledge



retention at NIOH. The study may also benefit other organisations with a similar situation to understand and improve knowledge retention strategies. This research may also be useful to scholars, researchers, students and experts who are involved in knowledge management. The study will also contribute to the body of existing knowledge in the field of knowledge management. The study might also pave the way for further research.

#### **1.4. Scope of the study**

This study was carried out at NIOH. It was not possible to study the entire population, due to time and cost considerations (De Vos, 2012:224). Furthermore, the study excluded staff from other sections of the organisation like cleaning, maintenance and reception. As such the target population were Medical doctors, engineers, occupational hygienists, scientists, technicians and managers at NIOH. The inclusion criteria were that they are knowledge workers who create knowledge on a daily basis. Knowledge is created during training, writing publications and Lab tests and through managerial duties. The human resource department was also part of the study of their involvement in staff recruitment (knowledge acquisition) and retention.

#### **1.5. Clarification of concepts**

The researcher must clarify certain concepts used in this study. The following concepts are worth defining and contextualised.

##### *1.5.1. Knowledge*

Knowledge is defined by McIver, Fitzsimmons and Flanagan, (2016:48) as a knowledge gained through experience (of a person's range of facts, data, or things, an applied understanding of the matter, language, etc., or a sum of what is understood, real, justified belief; some understanding, as opposed to opinion.

##### *1.5.2. Knowledge retention*

Knowledge retention is the retention of important information and skills that are at risk of loss when workers leave an organisation (Kim 2005; Dan 2008). Knowledge

retention targets to retain as much of the departing employees' knowledge and expertise as possible.

### *1.5.3. Knowledge Management*

Rosenthal-Sabroux and Grundstein, (2008) define Knowledge Management as an event and method for the creation and use of knowledge in an organisation.

### *1.5.4. Strategy*

According to Oxford Online Dictionary, (2015) a strategy of an act planned to accomplish a long-term or overall aim. In this perspective, strategy refers to the methods used to retain knowledge.

### *1.5.5. Knowledge holders*

Knowledge holders refer to employees with more experience and perceived to be more knowledgeable than others. These are employees who have been with the organisation long enough to have gained more experience and skills.

## **1.6. The organisation of the study**

**Chapter one: Introduction and background** It covers the introduction and background of the study, the statement of problems and the purpose of the study, the significance of the study, the scope of the study and the clarification of key concepts.

**Chapter Two: Literature Review and Theoretical Framework** gives the theoretical framework and the literature relating to the study.

### **Chapter Three: Research Methodology**

This chapter presents the methodology used in this study, which includes research design, population and sampling, pilot study, study area, data collection, data analysis, quality criteria and ethical considerations. Validity and reliability issues have also been discussed in this chapter.

### **Chapter Four: Data, analysis**

This chapter outlines the discussion on presentation, analysis and interpretation of the data. Quantitative data collected from questionnaires were analysed by Microsoft Excel and presented in tables, figures and graphs.

### **Chapter Five: Discussion of results and findings**

This chapter discusses the findings. Results are discussed and linked to existing literature, research questions and objectives of the study.

### **Chapter Six: Summary, recommendations and conclusions**

This chapter summarizes the findings and recommendations of the study. The main findings of the study were summarized and presented following the objective of this study. Conclusions on the use of municipal library services in Polokwane were drawn up and recommendations based on the findings of the study were also made.

#### **1.7. Summary**

This chapter presented the introduction and background information for this study. It also covered the statement of the problem. The objective and objectives of the study were also covered in this chapter. Besides, the chapter included the significance of this study. This chapter also identified keywords and concepts that needed clarity. Finally, this chapter presented how this report was organized. The next chapter covers the literature review and theoretical framework that guided this study.

## **2. CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK.**

### **2.1. Introduction**

The previous chapter covered the introduction and background to the study. The chapter also covered the following: contextual setting, theoretical framework, problem statement, research objectives and questions, justification of the study, definitions of key terms, organisation of the study. The purpose of this chapter is twofold; it sets out the theoretical framework and the literature for the study.

“Literature review is an efficient, clear, and reproducible strategy for recognising, assessing and incorporating the current group of finished and recorded work delivered by scientists, researchers, and specialists” (Poojary and Bagadia, 2014: 85). A literature review is a significant step in any study since it puts an investigation in the point of view of what others have written. Moreover, reviewing literature aids the research to set up how different researchers have investigated similar issues (Mouton, 2008; Neuman, 2006). Bless, Higson-Smith and Sithole (2013: 51) mention the purpose of literature review as: “to identify gaps in knowledge, as well as weaknesses in the previous studies; to find associations, inconsistencies or different relations between various exploration results by looking at different examinations; to distinguish factors that must be considered in the examination, just as those that may end up being unessential”. In another study, Ngulube (2009: 23) stated that the “motivation behind structure upon prior research is two-fold. Initially, the point is to explain which exploration had recently been done that could give answers to the examination questions”. The subsequent basis is to build up if this examination is required and to pick a fitting philosophy for the exploration.

There are studies about knowledge retention, but not specifically on the exploration of Knowledge retention strategies at the National Institute for Occupational Health (NIOH). The literature was organised according to the objectives of this study as outlined in Chapter one in section 1.1.2. Therefore, it covered the following topics: management of organisational knowledge, the knowledge retention strategies, philosophy and motivation behind knowledge sharing and the effectiveness of knowledge retention strategies in an organisation.

Sources consulted in this study included journal articles, books, websites, conference papers and Theses and Dissertation to increase a more profound comprehension of what previous studies have found about the topic.

## **2.2. Role of theory in the study**

According to Tavallaei and Abutalib (2010: 573), the theoretical framework allows the researcher to examine and distinguish the relevant portions of the events being explored, even though certain characteristics of the events are hidden. McMillan and Schumacher (2000) express that a theory can create logical information perfect with the following criteria: first, give straightforward clarification about the observed relations in regards to their connection to a phenomenon; second, be steady with a previously established collection of information and the observed relations; third, give a gadget to confirmation and correction; and fourth, invigorate further examination in areas needing examination. This study was based on two theories, namely General Knowledge Management model by Newman, Conrad and Pakm (2000) and The Model of knowledge management by Torraco (2000).

### *2.2.1. General Knowledge Management model*

General Knowledge Model was developed by Newman, Conrad and Pakm (2000). The framework permits a certain instrument to be labelled in relations of its communications with the different basics of knowledge movements and their related subtypes. The framework's theoretical backgrounds focus on the role of knowledge in multifaceted structures and important knowledge networks. This emphasis offers a concrete basis that can be built upon, useful and improved to different locations. The framework allows the researcher to trace separate knowledge movements by aiding them to inspect and understand how knowledge permits precise activities and results (Newman, Conrad and Pakm, 2000). The model organises knowledge streams into four primary activity areas: "knowledge creation, retention, transfer and utilisation" as illustrated in Figure 1.

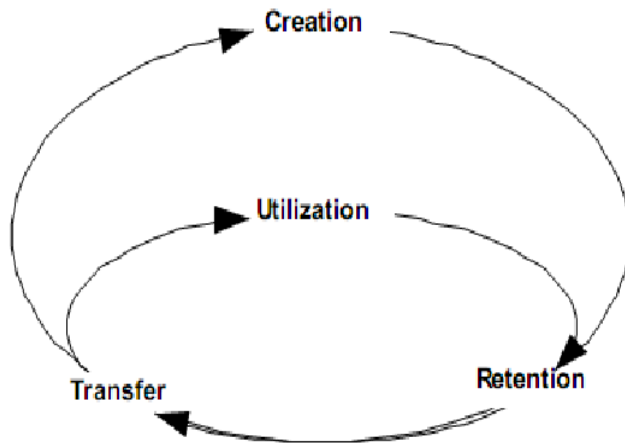


Figure 1. The General Knowledge Management Model (Newman, Conrad and Pakm, 2000)

### Knowledge Creation

As reflected in Figure 1 general knowledge management model include **Knowledge Creation**; this encompasses exercises of putting in new information into the framework, and incorporates knowledge improvement, disclosure and capture.

These four procedures show that the knowledge transfer is influenced when the knowledge user picks up a similar normal knowledge on the idea as the knower (Alipour, Idris and Karimi, 2011). The processes imply that for knowledge to be created there must be a careful understanding between the sender and receiver. Ekore (2014: 6) further indicated that “individuals are main owners of knowledge created and applied by organisations in the production of goods and services. This implies that management is faced with responsibility through the organisation’s practice to help tap into employees’ knowledge and successfully transfer it to the organisation for optimal productivity and profitability”. A new or different study implies that researchers built up the knowledge creation metaphor as an approach to see learning and to investigate how that procedure happens (Hakkarainen, et al., 2004). Knowledge creation metaphor joins two different metaphors to be specific to the acquisition metaphor and the participation metaphor (Sfard, 1998). “The acquisition metaphor sees learning as a scholarly process. Knowledge is understood as the property of the individual mind, in which learning involves development, achievement and results, which are recognised during the time spent on exchange” (Paavola et al., 2004: 557). The participation metaphor, paradoxically, sees learning as a social procedure. Learning

involves an interest in practices and activities where information is gained by social exercises (Du Chatenier, et al., 2009). Both metaphors supplement one another, as opposed to negating, and in this manner, the knowledge creation metaphors were created (Du Chatenier, et al., 2009). Oppositely Van den Bossche *et al.*, (2006: 499) state that “social cohesion can be an obstacle to successful knowledge creation. Social cohesion refers to the nature and quality of the zealous obligations of friendship, for example, enjoyment, mindfulness, and closeness of a group of individuals. (Van nook”. De Dreu (2007) argues that a decent relationship is imperative since struggles over objectives and activities can be tackled by collective critical thinking, yet clashes at the level of connections, e.g. close to home taste, political inclinations, values, or relational style, are undeniably progressively difficult to resolve. This contention of social cohesion can influence how knowledge is produced and shared. In this way, the researcher explored the ways and means of knowledge creation at NIOH.

### **Knowledge Retention**

The second stage of the general Knowledge Management model indicates that after knowledge has been created needs to be retained for future use. Knowledge retention; incorporates all exercises that protect knowledge and permit it to stay in the framework once made. It additionally incorporates those exercises that keep up the feasibility of information inside the framework. Levallet and Chan (2019) state that at the point when Knowledge retention has occurred, the first knowledge owner is not the only one inside the organisation who claims that knowledge any longer. Should the first knowledge owner, leave from the organisation, transferred knowledge still exist in inside the organisation, in another person's brain, in archives, in stores or somewhere else.

NIOH needs to make sure that Knowledge remains in the system even after the creator of knowledge has left the organisation. If not, this will result in accidental knowledge loss (Levy, 2011). It is not important that time periods to transfer knowledge might be shortened in case of departing employees, which may make explicit difficulties, particularly if these workers have specific knowledge, contribute significant knowledge that is not kept current in organisational databases (Levy, 2011). To avoid this challenge knowledge retention should be a day to day thing or activity than waiting for last-minute retention process when the employee is about to leave. Therefore, the

study looked at the knowledge retention strategies in place at NIOH and the frequency of knowledge retention.

### **Knowledge Transfer.**

The third stage is Knowledge Transfer which alludes to exercises related to the progression of knowledge starting with one party then onto the next. This incorporates correspondence, interpretation, and transformation, sifting and rendering (Newman, Conrad and Pakm, 2000). The transferred knowledge is retained by the employee who receives it. Greve (2015), in his study titled *Knowledge sharing, is knowledge creation...* found that organisations transfer knowledge through face to face interaction. This implies that Knowledge transfer and sharing are a similar process. Horan, and Finch (2016), argues that knowledge transfer assumes knowledge already exists, is explicit and codified and is waiting to be distributed to those who need it. Therefore, the researcher explored how the existing knowledge was transferred between the employees at NIOH.

### **Knowledge Utilisation**

The last stage of the model is knowledge Utilisation. This stage is concerned about the exercises and occasions associated with the use of knowledge to business forms (Newman, Conrad and Pakm, 2000). Knowledge must be used if it is effectively evolved and shared among people in a unique circumstance (Liebowitz and Megbolugbe, 2003). Organisations ought to understand that knowledge is used if it is useful in real-life situations, (Gold, Malhotra and Segars, 2001). For example, expert knowledge from various undertaking bunch individuals is utilized when creating inventive answers to oversee nearby issues (Chen and Mohamed, 2010). Knowledge use is additionally seen to include a learning component and a knowledge improvement process (Kalling, 2003). The use of tacit and explicit knowledge by methods for knowledge management tools and techniques is seen as critical to improving knowledge retention in different organisations (Lierni, 2004). The capacity of people and the whole team to use knowledge is fundamental for venture achievement (Teerajetgul, and Charoenngam, 2008). This denotes that failure to unities existing knowledge to perform work-related tasks can hinder projects success. In this regard, the researcher studied how knowledge is utilised at NIOH for the benefit of the organisation.



### 2.2.2. A model of knowledge management

This study is also built on the model of knowledge management which was established by (Torraco, 2000). The theory consists of four basic units, namely: “the creation of a knowledge management culture, a knowledge management model, the availability of knowledge, and strategies and frameworks for knowledge management” (Torraco, 2000: 42). The units of the theory are the ideas, the basic components on which the theory is based. As Torraco (2000: 42) called attention to, these units are spoken to by four boxes orchestrated around a circle in figure 2.

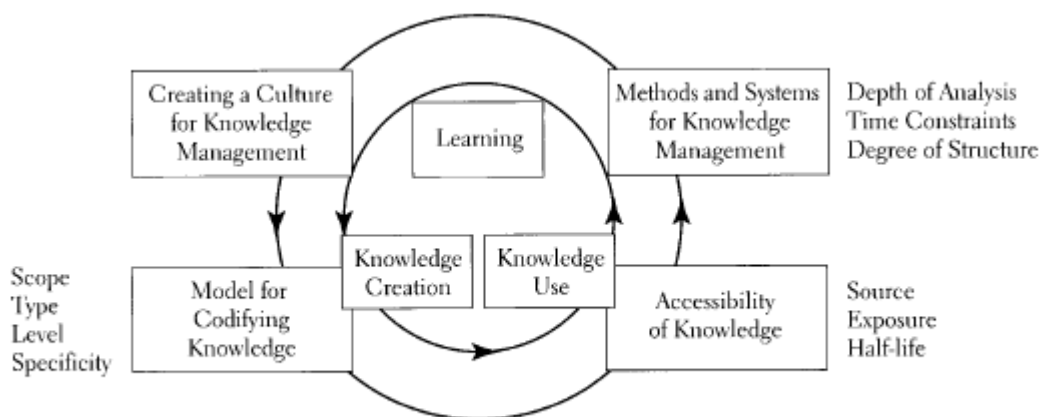


Figure 2. Model of knowledge management (Torraco, 2000:42).

- **Creating a Culture for Knowledge Management**

This unit is about creating an organisational culture that is conducive to KM. Building a philosophy that promotes and advances the creation and sharing of knowledge requires careful and persistent consideration by the pioneers of the fundamental issues of external adaptation, internal integration and, in general, the improvement of trust among individuals who share knowledge throughout the organisation (Torraco, 2000). Although leaders face a difficult encounter in building an organisational culture that inspires the creation, sharing, and use of knowledge (Torraco, 2000), it remains the responsibility of NIOH management to create a strong culture that supports creation and sharing of knowledge. In the absence of KM culture, new thoughts that advance the organisation's advantages will not be useful and imparted to others without trust and a feeling that the achievement of every individual will in the long run advantage the whole organisation. The social establishment of knowledge management is consequently a significant component of a theory of knowledge

management. In this regard, the study explored the existent of knowledge retention strategies and the effort the management put in developing and strengthening the culture of knowledge management and knowledge retention in particular.

- **Model for Codifying Knowledge**

This stage is about facilitating a conclusion about what knowledge to share and how it must be shared. Torraco, (2000) detailed that as opposed to attempting to depict what knowledge is, an assignment that has since quite a while ago pulled on the planet's most prominent scholars and is not yet settled, a codifying knowledge is provided. The model simplifies decision making about what knowledge to share and held, how it should be mutual. Abiding the absence of agreement on what knowledge is, the model mirrors Grant's, (1996) essentially, knowledge is what is known and there are many kinds of knowledge applicable to organisations. Besides, the model emphasizes that all learning takes place within individual human heads and that the organisation learns in just two ways: by winning from its individuals, or by ingesting new individuals who have no prior knowledge of the organisation. (Simon, 1991). Therefore, the researcher has examined ways in which the organisation codes and retain its knowledge.

- **Accessibility of Knowledge**

This unit is about the three dimensions which are the source of knowledge, the half-existence of knowledge, and the introduction of knowledge. The availability of knowledge is how much knowledge is accessible to be shared all through the framework (Torraco, 2000). Accessibility of knowledge is improved if knowledge is combined and can be found from a single source of knowledge. Knowledge from a single source is compared to the knowledge that lives in a few sources (Bereiter and Scardamalia, 1993). The knowledge that is diffused among sources, particularly sources of various kinds (for instance, individuals, paper reports, and electronic media), is less open than information from a solitary, cantered source (Bereiter and Scardamalia, 1993). The half-existence of knowledge is a time-break during which 50 percent of knowledge will become obsolete and will be replaced by new knowledge. The advancement of new knowledge gives visibility to the fact that at present, in any event, it improves access to this knowledge. Older knowledge, then again, has the

potential for a more extended half-life by the very nature of its age, but it must tolerate a longer period of inspection of up-and-coming new ideas. The presentation of knowledge is how much knowledge depends on the rules that are evident to the viewer. Procedural knowledge can legitimately be derived from the conduct of the entertainer (Bereiter and Scardamalia, 1993). The researcher investigated how available knowledge at NIOH was accessible to everyone when needed and if there is an element of this dimension in the organisation.

- **Methods and Systems for Knowledge Management.**

These are the approaches and methods used to classify the knowledge and make it explicit and accessible to others (Torraco, 2000). This links to the research topic of knowledge retention strategies; the researcher investigated the knowledge retention strategies used at NIOH and the effectiveness of those strategies. This is because the researcher wanted to establish if the organisation was doing enough to ensure that knowledge is not lost when a staff member leaves the organisation. Torraco, (2000) adds, that there are three dimensions of this unit of theory, which are the depth of analysis, the time constraints on knowledge management, and the degree of structure in methods and systems. The depth of analysis provides the degree to which knowledge management in the framework makes knowledge explicit to other people. This means that a system such as ICT should be in place to make knowledge available to other staff members. Ipe, (2003) refers to this as Knowledge technology agreement which involves the act of making knowledge accessible to others within the organisation. The time constraints for finding solutions also determine the strategies and systems used for knowledge management. Numerous conditions allow time to search, reflect and combine knowledge (Torraco, 2000). Meaning, this is the period it takes for an individual to access the existing knowledge in the system. In this regard, the researcher further studied the availability of knowledge at the time needed. The last dimension of this theory is the degree of structure in the methods and systems. This dimension distinguishes the strategies most appropriate for documenting quantitative, organised knowledge and those best utilised for subjective, unstructured knowledge (Torraco, 2000). This might be about how the knowledge is structured in the system and the method used to access the knowledge.

### 2.3. Literature review

Knowledge management literature does not give a lot of direction on the best way to measure the success or advantages of doing knowledge management in an organisation (Jennex, Smolnik, and Croasdell, 2014). However, knowledge retention as an element of Knowledge management plays a significant role in preserving/managing organisational knowledge. As stated in section 2.1 literature review is guided by the objectives of this study.

#### 2.3.1. *Management of organisational knowledge*

Organisational knowledge management is vital. As stated in Chapter 1, the two types of knowledge available to an organisation include tacit and explicit knowledge. “Organisational Knowledge is the collection of knowledge that exists in an organisation that has been derived from current and past workers” (Jones and Leonard, 2009: 29). “This knowledge is possessed by the organisation in that the organisation can take this knowledge and derive it anyhow or another to save it inside the organisation itself in any event when a worker has left the organisation” (Bratianu, 2018: 8). Organisational knowledge embodied in staff, embedded in routines / common tasks, cultivated among staff and encoded in manuals, guidelines and procedures (Omotayo, 2015). Studies have shown that many organisations are failing because they can't enhance at a supportable pace and will thus come up short on the capacity to consistently draw in new clients, which thus will prompt their downfall. On the other hand, some organisations succeed in managing organisational knowledge through management support. In this regard, management helps organisations to carry out their tasks by taking action, motivating employees, training them and providing information that guides employees to help them take more effective action to help them achieve their organisational objectives (Omotayo, 2015: 15).

In South Africa, it appears as if some organisations fail to manage organisational knowledge, while others succeed in doing so. This is evidenced by several studies (Phaladi 2011, Dewah 2012, Chigada and Ngulube, 2016). Phaladi (2011), found that organisational knowledge was inadequately managed at Rand water. In another examination conducted by Dewah (2012) on Knowledge retention strategies in selected Southern African public broadcasting corporations. The study investigated the procedures for the retention of knowledge in the three Southern Africa

Development Community (SADC) open telecommunications associations of the South African Broadcasting Corporation in South Africa (SABC), the Department of Broadcasting Services (DBS) in Botswana and the Zimbabwe Broadcasting Corporation (ZBC) in Zimbabwe. The investigation aimed to establish how knowledge is captured and maintained in such organisations. The findings showed that poor culture of knowledge sharing resulted in the loss of knowledge in the three broadcasting cooperation.

In another study Chigada and Ngulube, (2016) established that selected banks in South Africa do not have formal knowledge retention strategies. The findings, further showed that there was no specific knowledge management policy to inform selected banks of the most efficient method of holding and overseeing organisational knowledge. Some authors noted that knowledge retention strategies used by the selected banks include communities of practice, mentoring and apprenticeship, subject matter experts, leveraging pensioners, knowledge portals and storytelling were present in some banks. From this finding, one can conclude that some banks manage knowledge to a great extent.

As indicated in chapter one section.... the study discussed the two types of knowledge namely, tacit and explicit knowledge. Tacit knowledge resides in one's mind, this means that tacit knowledge is highly personal and hard to realise or share (Ichijo and Nonaka, 2006: 59). Tacit knowledge is very difficult to formalize and communicate. People can act according to learned tacit knowledge, but it would be almost impossible to express the detailed content of that knowledge (Harmaala, 2014). Harmaala (2014), also state that tacit knowledge has become a competitive advantage for organisations, and it is important that organisations can make use of it. Organisations lose the tacit knowledge they have when employees change their place of work or retire. On the other hand, explicit knowledge is effectively transferable and easy to store in light of the fact that such knowledge is classified. There is a minimal possibility of losing explicit knowledge as a result of the turnover of the worker on the ground that such knowledge is articulated, classified and accessible in authoritative vaults. This knowledge can be accessed and used effectively by anyone within the organisation (Alias, Abbas and Nordin, 2016).

### *2.3.2. Knowledge retention strategies*

Knowledge retention is the detention of critical knowledge and expertise that is in danger of misfortune when workers leave an organisation (Dan, 2008). Having powerful knowledge retention strategies set up can limit the danger of losing knowledge on when representatives leave the organisation. Baguma, Ragsdell and Murray (2014: 15) identified three broad categories of knowledge retention strategies: “reactive’ (short term), ‘containment’ (medium-term) and ‘preventive’ (long term) knowledge retention strategies”s. Reactive is a short-term knowledge retention strategy that is characterized by formal processes to capture knowledge from pensioners when they leave by conducting exit interviews (Liebowitz, 2008). Containment is a medium-term knowledge retention strategy that provides a better solution than a reactive knowledge capture strategy for a retirement age of one to three years before he or she is eligible for retirement (Levy, 2011: 583). Lastly, the most important strategy appears to be a prevention strategy. This is a long-term strategy where knowledge retention begins early, for example, three months after the employee is recruited, and continues until he or she retires or resigns (Levy, 2011). Leibowitz (2008), classified knowledge retention strategies as follows: exit Interviews, storytelling (organisational narratives), lessons learned/best practice content contribution, online communities/threaded discussions, newsletter contributions, etc.

There are certain responsibilities that employees should be able to follow to retain knowledge in the organisation. Some of the responsibilities identified by Baguma, Ragsdell and Murray (2014: 485) include “employees developing a spirit and attitude to sharing knowledge; capturing and documenting processes, experiences and results; mentoring others and willingness to learn; being result-oriented and having a passion for the job; be an effective team player; seek opportunities to acquire and improve knowledge; being open, transparent and trusted; and applying acquired knowledge”.

#### *2.3.2.1. Communities of practice*

Chigada and Ngulube, (2016) identified Communities of practice as another knowledge retention strategy. Communities of practice (CoPs) are professional groups of individuals held together by a common sense of purpose, sharing a lot of issues,

concerns and energy for a particular theme (Chigada and Ngulube, 2016). The use of CoPs requires specialists to extend their knowledge and skills to a certain area of concern by interacting continuously with the real need to know what each other knows (Albers, 2009; Wenger, 1998, 2006). Thus, allowing people to share both tacit and explicit knowledge by captivating information and materials (Chigada and Ngulube, 2016). Communities of practice have demonstrated the most amazing assets for learning and sharing knowledge for scholarly cooperation and experience (Jain, 2009). Also, COPs can: convey the way to interpret nearby skill into worldwide, aggregate knowledge; assist representatives with trading thoughts, team up, and gain from one another; rise above limits made by work process, capacities, geology, and time; empower speed and advancement required for commercial centre authority; and coordinate into the texture of your organisation's centre work and worth cases and effectively line up with formal administration structures (Hubert, 2011).

#### *2.3.2.2. Mentoring and apprenticeship programmes*

The other knowledge retention strategy is mentoring and apprenticeship programmes. According to Nel, et al., (2016: 44) state that throughout mentoring and apprenticeship exercise, involve

senior or experienced managers transfer their knowledge, wisdom, specific insights and skills to their juniors within a short space of time so that, when the experienced employees leave the organisation, the organisation's practices, knowledge, history, stories and culture are preserved.

Numerous organisations are engaged with mentoring and apprenticeship programmes including the University of Aberdeen (Rusanow, 2004). At NIOH mentoring strategies would permit more seasoned representatives to move their knowledge, wisdom, explicit bits of knowledge and aptitudes to their juniors within a short space of time to such an extent that when the accomplished workers leave the organisation or pass on the organisation's meaningful practice, information, history, stories and culture are saved (Rusanow 2004; Dubin 2005).

#### *2.3.2.3. Leveraging retirees*

Leveraging retirees is one more knowledge retention strategy (Chigada and Ngulube, 2016). Retirees are used by organisations as consultants who provide serious services and knowledge for exceptional projects to monitor junior and less experienced staff, thus enabling them to share knowledge and experience. Poole and Sheehan (2006) underscore that retirees must be permitted to return to work as mentors who are directly productive as they know the organisation. “Organisations can implement a phased retirement method where workers getting close to retirement continue to work with reduced workloads” (Wamundila and Ngulube, 2011: 4).

#### *2.3.2.4. Personalisation*

Personalisation is another strategy that organisations like NIOH may consider using for knowledge retention. Salameh and Zamil, (2020), indicate that the knowledge management customization strategy includes knowledge being closely linked to someone who has established and shared it mostly through person-to-person contacts. This strategy focuses on the exchange of information between individuals, not knowledge objects in a data bank. In this situation, the knowledge that has not been sorted out is shifted to conceptualizing social affairs and one-on-one conversations. For this procedure to work, NIOH needs to be fully interested in building expert systems. “Information is shared, close and personal, but also through phone conversations, emails, videoconferences, and that is just the tip of the iceberg. Systems are created by moving individuals between workplaces, by supporting a culture in which specialists are required to return calls from associates dependably, by making manuals of specialists and by utilising counselling administrators inside the firm to help project groups” (Salameh and Zamil, 2020).

#### *2.3.2.5. Storytelling*

“Storytelling is the formation of mental pictures of the elements of a story over voice and gesture to an audience” (Naik and Srinivasan, 2017: 1). This strategy visualises face to face interactions, CoPs and teaching of lessons learnt, and storytelling provides the required interaction set-up (Poole and Sheehan, 2006). Stories are instrumental for knowledge sharing and joint effort since audience members are allowed a chance to pose inquiries which at that point places the story into viewpoint (Chigada and Ngulube, 2016). Storytellers in an organisation uphold solidity and



deliver guidelines for individuals to follow (Holbeche, 2005). Stories are viable in crossing over generational holes, communicate important information about an organisation's way of life, and assist workers with building up a feeling of hierarchical character (APQC, 2011; Holbeche, 2005). An organisation such as NIOH may utilise storytelling to catch victories, exercises educated and other knowledge explicitly in an organisation. Stories are instrumental for knowledge sharing and coordinated effort (APQC, 2011).

#### *2.3.2.6. Subject matter experts (SMEs)*

Subject matter experts (SMEs) are experienced people who have a specific theme or employment authority, (for example, a PC system engineer or a Scientist) and who have a key role to play in KM in the organisation, since they can provide solutions (Chigada and Ngulube, 2016). The Oxford Online Dictionary, (2015) characterises an SME as an individual who is an expert in an area or topic. Nel et al., (2012) stipulates that the retention of rare skills end up being a challenge for some organisations because of worldwide war for talent. The utilisation of SMEs is following knowledge usage exercise, where various activities and occasions associated with pros apply knowledge to business forms.

#### *2.3.2.7. Exit interview*

“Exit interview also known as Post-employment survey is defined as tool which can be deliberately used to source basic information about the organisations, reconsider and formulate policies, and in the end hold talented workers in long run” (Hossain, Himi and Ameen, 2017: 2). It is a verbal discussion among the leaving workers and a delegate of the organisation concerning the reasons for setting off the separation. Post-employment surveys offer input on why workers leave, what they enjoyed about their job, and where the organisation needs improvement. A post-employment survey is viable when information is gathered and followed after some time. “Post-employment surveys can be a success win circumstance: the organisation retain a bit of the leaver's knowledge and share it; the withdrawing worker talks remarkable commitments and leaves an imprint” (Serrat, 2017: 1023); (Kelleher, 2006). Concerning the creation of a knowledge repository, a specialist could be met while playing out his/her work (Wagner and Zubey, 2005: 406). Stephen, (2016) express

that in many organisations, interviews are directed when a representative is leaving, the attention is much on ordinary human asset matters, for example, what a worker probably will not have preferred during their residency in that organisation. Despite Even though such attempts can prompt staff retention, Kelleher, (2006) maintains that the concern should not be the loss of the individual's ability to perform a job, the capacity that can be replaced by a recruit, but the loss of knowledge of the organisation.

#### *2.3.2.8. Observation*

Stephen, (2016) identified observation as one of knowledge rotation strategies. In this strategy, an expert in a specific field trains another worker by the method of letting the new representative watch him/her doing out the job (Stephen, 2016). As outlined by Thompson, (2008) "this technique works gloriously in a circumstance of fledgling master". To guarantee that the work performed by the beginner masters is documented, the key steps associated with performing such task, the chronicle of the master are guaranteed. In general, this method of knowledge retention is used in expert-novice relations (DeLong, 2006). Related to observation is Brainstorming. As per Stephen, (2016) brainstorming as knowledge securing procedure is a gathering technique for creating thoughts and investigating their significance. , "In actuality, meetings to generate new ideas happen in board rooms and the result of such meetings are, among others, the creation of minutes" (Wamundila, 2008: 50-51).

#### *2.3.2.9. Workflow*

Workflow is commonly used by employees to exchange document, files and messages. According to Saharabudhe, (2001: 272) "Workflow tools allow documents and different types of information to be forwarded between people, and this means guiding a different record to different individuals in a working group or sending a draft report to people for survey and endorsement". De Grandis, (2020) demonstrate that knowledge that does not stream does not raise and in the long run ages and gets old and futile but then by contrast knowledge that develops by being shared, gained, and traded, creates new knowledge.

#### *2.3.3. Organisational philosophy and motivation*

Liebowitz, (2008: 26) state that “to be effective at knowledge retention activities in the organisation, individuals must be recognised and rewarded for achieving Knowledge retention functions”. Samatha, (2017: 173) expresses that reward system and retention strategies are significant for the accompanying reasons: holding representatives, pulling in new workers, to stay away from the expense of recruiting and preparing new representatives, to build loyalty and honesty, to create a healthy work environment, to empower inspirational perspectives and conduct, to make employees bound to look for progression and to strengthen the organisation's reputation. Jinchveladze, (2009) cautions that the reward system can make misery for certain individuals and accentuate remunerated conduct instead of effectiveness.

Performance appraisal (PA) can likewise be utilised to urge workers to share knowledge. Performance Assessment Systems refers to the degree to which organisations evaluate individual performance, taking knowledge sharing capacity as one of the core performance standards (Doan, et al., 2011). “Assessing how workers utilised knowledge assets in an organisation during performance reviews can motivate representatives to forcefully get knowledge from organised sources” (Salameh and Zamil, 2020). Appraising the process that a worker went to accomplish results can stimulate them to refine existing knowledge continually (Jinchveladze, 2009). The same author continues to state that PA may give employees the incentive to carry out existing obligations with increased perseverance and consideration. The focus should be on the existing knowledge domains and their expertise. This attitude may encourage workers to focus on the nature of the specific tasks to be performed and to try to improve and catch up on the skills required for this procedure (Stephen, 2016).

Performance appraisal as one of the HR practices can be viewed as a component of associating labourer interests, inspirations, limit and capability with the organisation's objectives (Jinchveladze, 2009). PA process can go about as a successful data trade device which may later be changed into knowledge by the workers. Above and beyond, it can channel KM exercises of workers, for example, compensating creative behaviour, sharing of new thoughts and yet tolerating disappointments for keeping the inspiration temperament of workers to find out more (Yahya and Goh, 2002). Learning is a piece of knowledge transformation and sharing procedure (Stephen, 2016).

#### 2.3.4. The effectiveness of knowledge retention strategies

The successful administration of knowledge retention procedures is considered as a basic element for organisation looking to guarantee a feasible key competitive advantage (Omotayo, 2015). Aggestam, Durst and Persson, (2014) opine that a successful knowledge retention strategy is reliant on what is saved in a repository and, likely to share. Venkitachalam and Busch, (2012: 359) conducted an exploratory study on *“Influence of Relational Psychological Contract and Affective Commitment in the Intentions of Employee to Share Tacit Knowledge”* and, found that the utilisation of knowledge retention strategies in an organisation can add to key advantages as business development, money related development and industry performance. A comparative report uncovered that retention and management of knowledge are significant as it improves performance and may profit organisations by: “encouraging better dynamic capacities, decreasing item advancement process duration (for example educational program advancement and exploration), improving scholarly and authoritative administrations, decreasing expenses, safeguarding corporate memory and battling staff turnover by encouraging knowledge capture and transfer” (Kidwell, Vander Linde and Johnson, 2000: 31). NIOH can take advantage of retention rehearsals, maintain the appropriate information base, and enhance access to knowledge, boost knowledge status and value knowledge (Loh, et al., 2003: 1).

The effectiveness of knowledge retention strategies depends on how to advance the organisation is (Omotayo, 2015). Some strategies might work for one organisation and not for another organisation. This means that the use of knowledge retention strategies is not one size fits all. The nature of the organisation and context in which they are used may determine success or failure thereof. For an open division organisations such as a telecom enterprise, overseeing knowledge retention can impact productivity over the entirety of its administrations to people in general through getting to the correct information for putting forth informed decisions and eliminating duplication of efforts (Dewah, 2012). In a study of knowledge management in the public sectors that was conducted in Botswana, Jain, (2009) noted that by harvesting tacit knowledge from the old or experienced workforce and by allowing simple access to all relevant information, can upgrade and improve the general performance of the organisation. As Jennex, (2007) would attest, organisations that grasped knowledge management and retention program have profited through improved cooperation, improved communication, and improved worker aptitudes, better dynamic, and increased

innovation. Besides, Knowledge management and retention can give chances attaining extensive savings, significant improvements in human performance, and other competitive advantages (Albers, 2009).

### *2.3.5. The challenges of knowledge retention strategies*

Several challenges impact the maintenance of Knowledge in organisations. One of the challenges might be that it is difficult to detain 20 or 30 years of experience in 4 or 5-hour exit interviews (Leibowitz, 2008). Similarly, Wamundila and Ngulube, (2011) discovered that the presence of the accompanying operational issues associated with knowledge retention: high staff turnover, failure to hold experienced and qualified staff, absence of express schedules and methodology manuals, lack of succession planning, absence of continued administration and ineffectual information management can prompt knowledge loss. Dewah and Matula, (2016: 42) add that problems with tracking information resources include “inadequate comprehension of benefits for KMs; expertise shortages; the shortage of incentives, or rewards for encouraging workers to share information; the absence of sufficient creativity”.

Various knowledge management difficulties influencing organisations, incorporate the absence of accommodating with regards to advantages of knowledge management, abilities in knowledge management strategies, financing for knowledge management, supportive gestures for sharing, suitable innovation, and responsibility from senior management (Dyer and McDonough, 2001). Different difficulties are that workers lacking the capacity to deal with knowledge retention and sharing and authoritative culture neglect to encourage sharing and retention of knowledge. Leonard, (1999) states that challenges in knowledge management relate to the complexity of knowledge management in different formats; problems relating to intellectual property security, assurance of confidentiality, management of immaterial products and wise capital inspection, which involves building up its fact, ownership and value. Dewah and Matula, (2014) express that organisation in sub-Saharan Africa face a few difficulties to knowledge management all in all and knowledge retention which incorporate Inadequate foundation; high government charges; low computerised education levels and constrained aptitudes; absence of mindfulness; deficient financing; the advanced gap; destitution; and nonappearance of empowering lawful structures and data arrangements (Mutula and Wamukoya, 2009).

## **2.4. Summary**

This chapter discussed the literature review related to this study. It began with the theoretical framework that guided this study. This study was based on two theories namely, the General knowledge management model by (Newman, Conrad and Pakm, 2000) and the Model of Knowledge management by (Torraco, 2000: 42). The research was driven by the aims of the literature review. The subjects or headings discussed in the literature review include organisational know-how management, knowledge retention methods efficacy, and organisational theory and motivation. The next chapter discusses the research methodology that has been followed to conduct this study.

### **3. CHAPTER THREE RESEARCH METHODOLOGY**

#### **3.1. Research methodology**

The preceding chapter discussed the theoretical framework and literature review that underpinned the current study. This chapter discusses the research methodology that has been followed to conduct this study. The research methodology is a systemic way to address the question of analysis. The situation may be comprehended as a discipline of learning how research is implicated logically (Stephen, 2016). “Defining the approaches used by a researcher is vital because they offer other scholars an opportunity to reproduce and assess methods used in the study” (Ngoepe, 2012: 88).

The research design applied to this study is clarified in Section 3.2. The subsequent section explains the population and sampling methods used, a pilot test, the location of the sample, methods and techniques for selection. Besides, the chapter deals with data processing approach. Finally, the parameters of quality and ethics of the research are discussed.

#### **3.2. Research design**

Akhtar, (2016: 14) define research design as a “strategy, arrangement and plan and examination indented so as to attain guaranteed to search problem and regulator alteration”. This study used exploratory research design to gather information required to meet the research objectives and to answer the research questions. Exploratory research is used when there is few data available in the subject area and the investigator aims to collect some perceptions about the problem. The purpose of exploratory research is to see the sights, the problem part and offer similar information that can be used for the descriptive or explanatory research. Explorative research can be both qualitative and quantitative research (Wohlin and Aurum, 2015).

##### *3.2.1. Research approach*

Research approaches include quantitative qualitative and mixed method. As indicated by Creswell, (2009: 4) quantitative research is a method for examining target theories by researching the relationship among objects which can be estimated, typically on instruments, so that numbered data can be broken down utilising factual systems. The

quantitative examination contains the usage and investigation of factual information utilising explicit measurable procedures to respond to addresses like who, how much, what, where, when, what number of, and how (Apuke, 2017: 2). Stangor, (2011: 15) “demonstrates that quantitative examination is distinct, it utilises increasingly formal proportions of standards, mentalities, aims, conduct, including polls and meetings exposed to the measurable investigation”. In this study, quantitative data supported the estimation of knowledge acquisition, knowledge sharing, knowledge transfer/sharing and retention.

Qualitative research is a method used to see the sights and understanding the importance of the individual, or gatherings offer credit to a social or human issue (Stephen, 2016). Stangor, (2011: 15) characterizes qualitative research as “enlightening exploration that is pointed on spotting unfolding occasions as they come about, with the goal of getting the entirety of the everyday behaviour”. Galt, (2009) pointed out that it incorporates stories, phenomenology, ethnographies, grounded hypothesis and contextual investigations as its methodologies of request. According to ACET Inc., (2013), qualitative research provides its preferred position: when knowledge is gathered rational information is collected and respondents are encouraged to react as they please. The problem with the approach is boring because knowledge will take a long time to collect and break up (Stephen, 2016). Creswell, (2009: 4) underscore that “the disparity between qualitative and quantitative research frequently occurs in articulations of meaningful terms (qualitative) in comparison to numbers (quantitative) or the use of close-ended questions (quantitative theories)”.

Another research approach is the Mixed Method Research (MMR). Punch, (2009: 288) defines MMR “as experimental research that comprises the gathering and examination of both qualitative and quantitative data”. Punch, (2009: 298) also defines it “as research in which the researcher gathers and analyses data, blend in the results, and pulls conclusions applying both qualitative and quantitative methods in a particular study or programmes of investigation”. Creswell, (2006: 5) states that the utilisation of quantitative and qualitative methodologies in the mix gives improved data on research issues than either approach all alone. Additionally, MMR gives solid suit that stabiliser the shortcomings of both quantitative and qualitative examinations (Ngoepe, 2012: 96).



The researcher employed quantitative methods for this study. This method permitted the researcher to have a better understanding of quantitative trends, attitudes or thoughts of a population about the topic under investigation (Creswell, 2013) which is knowledge retention. The quantitative approach was used to yield statistical data to control the numbers of respondents who supported or did not support certain statements or views to build a business case for knowledge transfer and retention.

### *3.2.2. Population*

Bless, Higson-Smith and Sithole, (2013) define a population as the set of components that the study concentrates on. It is a collection of components sharing similar features and feelings. The target population of this study were doctors, medical scientist, technicians and technologists at NIOH. This population was targeted because it was directly affected by the problem under investigation. This means that they create and use the knowledge daily to discharge their duties. In most instances when the population is too, large researchers sample the population.

### *3.2.3. Sampling*

*William*, (2020) defines, sampling as the procedure of choosing elements (e.g., people, organisations) from a population of focus so that by examining the sample we may appropriately take a wide perspective on our outcomes back to the population from which they were picked. A sample is typically drawn when it is not achievable to examine the entire population (Ledwaba, 2016). By and large, there are two plain classes of inspecting procedures, in particular, probability sampling and non-probability sampling. According to Bhattacharjee, (2012: 67) probability sampling is “a method wherein every segment in the population gets an opportunity (non-zero likelihood) of being selected in the example, and this possibility can be accurately decided. Example of probability sampling is simple random sampling, systematic random sampling, stratified sampling and cluster sampling” (Powell and Silipigni, 2004). Interestingly, non-probability sampling is a testing procedure wherein a few segments of the population has zero possibility of determination or where the likelihood of choice can't be decided (Bhattacharjee, 2012: 67). This implies in this sort of sampling, there is no affirmation that each part of the populace has some particular chance of being included in during data collection. Examples of non-probability sampling are convenience, quota,

purposive and snowball sampling. This study used non-probability sampling method called purposive sampling (also called judgment sampling). Purposive sampling technique is the cautious decision of an informant because of the characteristics the informant has (Tongco, 2007). In purposive sampling, the analyst to choose what is required to be notable and decides to find individuals who can and are anxious to make accessible the data by the righteousness of knowledge or experience. This means that purposive sampling includes choosing candidates across a wide-ranging spectrum linking to the subject of study (Etikan, Musa, and Alkassim, 2016). In line with this, the researcher purposively selected respondents who were believed to have relevant knowledge about the topic under investigation. The researcher visited the respondents' offices and explained the purpose of this study and ethical issues as well as the rights of the respondents. Those who agreed to participate in the study were given the questionnaire to complete. The questionnaires were collected after two weeks to give the respondents time to complete it.

#### 3.2.4. *Sampling frame*

Mathews and Ross, (2010: 162) define the sampling frame as a *“list of all the members of a population from which a sample may be drawn”*. A list of all employees was requested from the NIOH human resource (HR). This list helped in ensuring that the relevant people participated in the study. Based on the list there were 188 employees at NIOH.

#### 3.2.5. *Sample size*

The sample size involves the number of respondents selected from the populace needed to provide data. There different views regarding sampling size. Ngulube (2005: 130) states, *“There are no rules for sampling size”*. Similarly, Burns and Grove, (2001: 377) state that there are no firm or fast guidelines about the sample size. Nevertheless, a small sample, according to Ngulube (2005: 132), *“decreases readers' curiosity to use the conclusions and an enormous quantity of the sample assures the outcomes, even though it can be very costly to handle”*.

A sample should have at least 30 respondents (Burns and Grove, 2001: 377). Neuman, (2000: 217) believes that the least possible of 10% of the sample, especially for a big

population, is decent enough to draw concrete and trustworthy data. On the other hand, Krathwohl, (1998) recommends that a sample should be 10-20 per cent of the population, depending on the extent of the population the sample is drawn from. Hair et al (1995) point out that the sample size of 100 or higher is enough effective sample to generalise the findings. Based on what these research methodologists recommend, the researcher sampled 100 participants which were the target (C.f. 3.2.2) out of the total population of 188. The researcher distributed 100 questionnaires to the respondents. Out of this number 60 questionnaires were fully completed and returned. Thus achieving a response percentage of 60%.

### **3.3. Pilot study.**

Prior the administering the questionnaire to the Respondents, a pilot study was conducted. According to De Vos, et al., (2005: 206) “a pilot study is a limited experimental track of all features scheduled for use in the main study conducted before the main study, it is vital to check the practicality or to improve the design of the research”. Blaxter, Hughes and Tight, (2010: 138) define piloting as the “procedure whereby the researchers try out the research methods and approaches which they have in mind, comprehend how well they work in practice, and, if necessary, modify their plans accordingly”. The researcher also wanted to discover out the time required to administer the questionnaire. A pilot study was conducted out on NIOH staff members, but such members did not take part in the final sample as the objective was to test the design of the full-scale experiment which then can be adjusted (De Vos, *et al.*, 2005: 206).

In the key study, the pilot findings were not taken into account as the piloting concentrated on finding possible faults in the research mechanisms. There were no concerns raised by respondents during the pilot study phase, so the researcher presumed that the respondents understood the questions and questionnaire was fine and ready for data collection.

### **3.4. Study area**

Taylor and Bogdan, (1998) define a study area as an area where an observer has easy access, can establish an immediate understanding of interviewees and collect

data linked directly to research interests is the ideal research area. This research was conducted at the National Institute for Occupational Health (NIOH) located at 25 Hospital Street next to Johannesburg forensic department and Constitutional hill, South Africa. The study area was chosen because it was closer to the researcher and accessible. Most importantly, the researcher observed the potential loss of knowledge as a NIOH employee.

### **3.5. Data collection**

Data collection can be defined as a “gathering of organised data or subtleties through experience, perception, test or comparable conditions outer to the researcher” (Yin, 2010: 14). As indicated by Chaleunvong, (2013) data collection techniques allow the researcher to gather data on objects of study (individuals, artefacts and marvels) and the conditions under which they occur.

There are two categories of data, namely: primary and secondary data: “*the primary data are those which are collected afresh and for the first time, and thus happen to be original. The secondary data, on the other hand, are those which have already been collected by someone else and which have already passed through the statistical process*” (Kothari 2004: 95). This study used both primary and secondary data. Primary data was gathered from the participants via questionnaire whereas secondary data in a form of literature review which was used to lay concrete on way for the direction of this study and was collected from journals, books etc. The data collection instruments used to collect primary data are explained below.

#### *3.5.1. Data collection instruments*

To carry out any activity, or do any occupation, there must be tools accompanying with performing that task (Ledwaba, 2016). After the researcher had identified the sample from which data would be gathered, the choice of data collection instruments, which is sometimes referred to as techniques or tools, was necessary. In this regard, the researcher used Self-administered questionnaire to collect data.

#### *3.5.2. Self-administered questionnaire*

The questionnaire was utilised to assemble data from the respondents, and it was comprised of closed-ended and a few open-ended questions. De Vos, et al., (2011)

define the questionnaire as a document involving questions and additionally, different sorts of things wanted to approach data pertinent for investigation.

The benefit of using a questionnaire is that data can be gathered from a huge population relatively cheaply (Basil, 2017). Questionnaire ensured anonymity because the researcher could not see the respondent's comments and therefore could not attribute the responses to anyone (Ledwaba, 2016). Another advantage of using a questionnaire in this study was that it was made to be self-explanatory, so that it could be completed in privacy, at respondents' suitable time and without supervision, thus ensuring anonymity (Dikotla, 2016).

Just like other data collection techniques, questionnaires had its own shortcomings. According to Kumar, (2011: 149), some of the disadvantages of using questionnaires are: "Not everyone who gets the questionnaire returns it and this might lead to a low response rate, there might be lack of clarification on some issues because there was no face-to-face communication. To overcome the above disadvantages, the researcher gave the respondents enough time (two weeks) to respond to the questionnaire. Consequently, the researcher found that the advantages outweigh the shortcomings as the population was literate".

### *3.5.3. Questionnaire design and layout*

Babbie (2010: 262) explains that a questionnaire should be laid out and clean, so the researcher crafted an eye-catching technical questionnaire that had boxes enough separated to encourage the respondent to complete the questionnaire. The questions were straight to the point and constructed straightforwardly, since each question was followed by direct, specific instructions to help the respondents understand and complete the questionnaire without difficulty.

The questionnaire largely consisted of closed-ended questions and fewer open-ended questions. Neuman's, (2006) argues that a total reliance on closed questions can distort results. Closed-ended questions were planned using a Likert scale frame while others required respondents to select answers from a list of varieties. According to Lawal, (2009) closed-ended questions are the type of questions most useful when one has a well-defined concept for which evaluative response is required, for example; "Do you think your expertise and knowledge are valued by the organisation?" Participants can

tick from the boxes written YES and NO. Open-ended questions are those queries in which the response to a question may not be adequate. It depends on the extent to which the respondent can think hard to give adequate and complete answers (Lawal, 2009). An example of open-ended questions may be “What do you think through to be an obstacle to prosperous knowledge retention in your department?”

#### *3.5.4. Data collection procedure*

The researcher sought after and attained approval from the University of Limpopo’s Turfloop research ethics committee and NIOH acting executive director. Once this step was completed arrangements were made with the NIOH communication officer to send out a communication about the researcher’s visit to their offices for data collection purposes. When approaching the respondents, the following two general points as raised by Punch, (2013: 242) were borne in the researcher’s mind: the researcher ensured that the respondents were approached professionally and within restrictions, fully up-to-date about the purpose and perspective of the research, about discretion and secrecy and about what use would be made and by whom, of the data they Provided. Data collection took place at NIOH employees’ offices in August 2019. The respondents were all given questionnaires and were requested to go through the informed consent letter first. The researcher informed the participants that contribution was voluntary and guaranteed them that declining to take part in the study would not affect them in any way. This kind of assurance made respondents cooperative because they knew clearly what they were being asked to do (Punch, 2013). The study began once consent was given by signing the forms.

Data was collected through Drop-off and Pick-up (DOPU) self-administered questionnaire method. In this method, questionnaires were hand-carried out to respondents at their offices for later retrieval. In hand distributing the questionnaire, the researcher had a chance to encounter with respondents’ face to face. In most cases, this method results in a response rate as high as 93% (Allred and Ross-Davis, 2011). In this study, the response rate of 60% was achieved.

### **3.6. Data analysis**

After the collection of data, the findings and conclusions must be evaluated, interpreted and drawn (Kubayi, 2013). According to Lawal, (2009) data analysis is the method of looking at and summarising the data with the intent to extract useful information and draw conclusions.

Quantitative data obtained from closed-ended questions were analysed using Microsoft Excel 2016. Analysed data was represented in the form of graphs and tables. The accuracy of the percentages was also verified by Microsoft excel. The researcher used thematic analysis to analyse open-ended questions (Stephen, 2016). “Thematic analysis is a strategy for recognising, breaking down and reporting patterns (subjects) inside the data and is seen as a fundamental technique for qualitative analysis” (Liamputtong, 2009: 285).

The researcher followed the five steps of thematic analysis identified by (Creswell, 2009) to analyse qualitative data. The first thematic step was arranging, sorting, classifying or categorising the acquired raw data. The second stage involved going through the entire data to get a specific general understanding of the participants' thoughts reflected in them. In the third stage, the data were analysed in detail via a coding procedure. Coding refers to the process of categorising the content into pieces of text before connotation is given to knowledge (Rossman and Rallis, 1998 in Creswell, 2009). Step four involved the incorporation and summary of data through mainly inductive thinking (Leedy and Ormrod, 2005). The final step involved making an interpretation or understanding of the data (Kubayi, 2013).

### **3.7. Quality Criteria (Reliability, validity and Objectivity)**

De Vos, *et al.*, (2011: 419) assert that “researchers in general regard reliability and validity as unfortunate in establishing the truth value of a qualitative research project. When the study is within the quantitative approach, the researcher addresses the following aspects: validity, reliability and objectivity. When the study is within the qualitative approach, the researcher addresses the following aspects: credibility, transferability, dependability, and confirmability”. Since the study used both quantitative and qualitative approaches, the researcher addressed the following aspects: validity, reliability and objectivity (Cypress, 2017). The study also addressed the following aspects: credibility, transferability, dependability, and confirmability.

### *3.7.1. Reliability*

According to Leedy and Ormrod, (2010) reliability refers to the regularity of which an evaluating instrument benefits from its results because the value being measured has not changed and the validity of the measuring instrument is the point at which the measuring instrument calculates what it is intended to measure. The scientific function of reliability undertakes to determine the validity of the findings by repeated measurements of a phenomenon (with the same results) using objective techniques (Cypress, 2017). The same author continued to say the more times the conclusions of a study can be duplicated the more stable or trustworthy the phenomenon is thought to be. To ensure reliability the researcher conducted the pilot study. The function of reliability in research is to ensure that the observed score is almost similar to the true score obtained by minimising the errors in measurement (Kubai, 2019).

### *3.7.2. Validity*

Validity is defined as the state of being well-founded or justified, important, significant, reasonable, upholding appropriate principles or the quality of being good, fair and well-founded (Cypress, 2017). Cypress, (2017) continues to note that research validity is apprehensive with the accuracy and reliability of scientific results. To ensure the study's validity and reliability; the researcher piloted the questionnaires with 10 employees at NIOH to assess the questionnaire's efficiency before it could be distributed to the entire sample. Pilot research was for the purpose of pre-testing the measuring instrument, (Bezuidenhout, Davis and Du Plooy-Cilliers, 2014).

### *3.7.3. Objectivity*

The study is precise, unbiased, open, honest and receptive to criticism in imperative to accomplish a reasonable level of objectivity (Harding, 2015). To ensure objectivity the researcher presented the findings of the study as they are without taking any sides. In other words, the researcher did not influence the outcomes of the study in any way. Therefore, the results of the study are the true reflection of the state of the knowledge retention at NIOH.

## **3.8. Ethical considerations**



According to Bezuidenhout, Davis and Du Plooy-Cilliers (2014: 228), “Ethics are a matter of moral honesty, but they go way far beyond the individual's consequences. Ethical considerations are vital in research and arise in three phases of research projects”. They come into play when participants are selected, the assessment process during which participants are introduced and findings are shared (Welman, Kruger and Mitchell, 2005: 181). Major ethical considerations in this study included the following:

#### *3.8.1. Permission to conduct the study*

Authorisation for research should be obtained before any data are written for research in an organisation (Alemu, 2010: 119). Such permission was required and approved by the University of Limpopo's Turfloop research ethics Committee (Appendix B) and NIOH acting director (Appendix D) to conduct this research.

#### *3.8.2. Informed consent*

According Kumar (2011: 244), “Informed consent indicates that individuals have been made aware of the type of data that they are looking for by the researchers, the why they are asking for the details, the intent and how they plan to be involved in the study”. The researcher informed the respondents about the need to perceive the value of voluntary consent or enthusiasm in the research (Akaranga and Makau, 2016). In line with this, the researcher prepared a formal informed consent form (Appendix E) that was read, comprehended and signed up by all research participants (Pickard, 2013). The respondents voluntarily participated in the study knowing the determination of the research and how the outcomes of the research will be used prior data collection.

#### *3.8.3. Confidentiality and anonymity*

According to Pickard, (2013) confidentiality means that personality of the participant will not be exposed when using any data provided by that participant. Oliver (2004) states that participants would want reassurance that they would not be named in the research and that there would be no way in which the opinions they expressed could be associated with them personally.

“Anonymity is assured if the identity of participants cannot be associated with individual responses” (Fouka, *et al.*, 2011: 6). The researcher asked the participants not to reveal

their identities on the questionnaire so that no one would be able to recognise any participant after that.

#### *3.8.4. Plagiarism*

Bothma *et al.*, (2008: 125), state that “plagiarism is when someone else introduces or uses published or unpublished or creative work as if it were his own new and original ideas without acknowledging the original ownership”. In order to abide by the plagiarism guidelines, all sources that were used in the study are cited in text and referenced at the end of the research report (Kock and Davison, 2003). In addition, the researcher used turn-it-in system to detect any form of text similarities that may result in plagiarism.

#### *3.8.5. Respect, dignity and standard care*

Respecting a person ensures that dignity is valued. The researcher recognised that each participant had the right and ability to make his or her own decisions. Therefore, respondents were given all the required information desired to make good conclusions. The researcher protected the participants’ dignity by approaching and interacting with them with respect and ask them to complete the questionnaire not looking at their age, race, gender, culture and disability. The researcher has not abused his position or knowledge for personal gain.

#### *3.8.6. Benefits and risks/harm*

Akaranga and Makau, (2016) state that it is the obligation of a researcher to clarify the consequences of the study, which should be balanced against the risks involved. There was low risk of any physical and psychological harm because the study is not experimental in nature. Again, the researcher did not ask demeaning or derogatory questions.

Maximising the reimbursements of study for participants requires that researchers be responsible for practical pledges that the study population will gain in some way from the research being conducted (Ford, *et al.*, 2009). The principle of beneficence guarantees that research respondents are not unprotected to permanent or undue harm and exploitation (Burns and Grove, 2005). Hence, the researcher conversed the remunerations and hazards of the study to respondents. Akaranga and Makau, (2016)

Concur that it is the obligation of a researcher to clarify the consequences of the study, which should be balanced against the risks involved. The study should only carry on if the benefits overshadow the risks but if the risks prevail over the benefits, such research should be superseded because the principle of beneficence-do not harm is compromised (Dikotla, 2016). The researcher considered all likely consequences of the research and balanced the risks with proportionate benefit. There was low risk of any physical and psychological harm because the study is not experimental in nature. Again, the researcher did not ask demeaning or derogatory questions. The researcher informed the participants that a copy of the research report will be donated to NIOH institutional repository for everyone to read and possibly implement the recommendations so as to improve knowledge retention at NIOH.

### **3.9. Summary**

This chapter discussed the research methodology which was followed to conduct this study. The following methodological aspects were covered in this study: Design and method of the research have been clarified. This chapter presented the method of population and sampling as well as the reasons for selecting them. The chapter also clarified how data was collected, analysed, and interpreted.

This chapter clarified the research's quality requirements, ethical considerations including pilot analysis. The next chapter (Chapter 4) addresses data analysis and interpretation.

## 4. CHAPTER FOUR: DATA ANALYSIS

### 4.1. Introduction

The previous chapter discussed research methodology that was followed to undertake this study. This chapter discusses the outcomes from the results obtained from the questionnaires distributed to NIOH representatives. When information has been gathered, they should be breaking down, deciphered with the goal that discoveries can be made, and conclusions drawn. Data analysis is a procedure of transforming the information into "a reasonable, justifiable, smart, reliable and even original analysis" (Liamputtong, 2009: 277). Sixty respondents participated in this study. Data was presented in the form of tables and figures. The collected data were presented according to the aim and objectives of the study as stated in chapter one (C.f.1.2).

### 4.2. Respondents' profiles.

Demographic characteristics have a restraining effect on knowledge retention (Lin, 2008). As such the questionnaire's first unit aimed to determine the respondent's background information. They asked respondents to indicate their age, gender, work experience, race and positions.

#### 4.2.1. Gender

The opening question of the section on demography requested the respondents to specify their gender. The purpose was to find out the number of respondents that were male or female. Table 4.1 shows gender distribution of respondents.

Table 4.1: Gender of respondents (N=60)

<b>Gender</b>	<b>Frequency</b>	<b>percentages</b>
Male	21	35%
Female	39	65%
Total	60	100%

The results in Table 4.1 reflects that males make up 21 (35%) of the respondents in the study and females make up 39 (65%). The majority (65%) of the respondents were females.

#### 4.2.2. Age of respondents

The respondents were requested to indicate how old they were by selecting the suitable age group. The age distribution of respondents is shown in Figure 4.1.

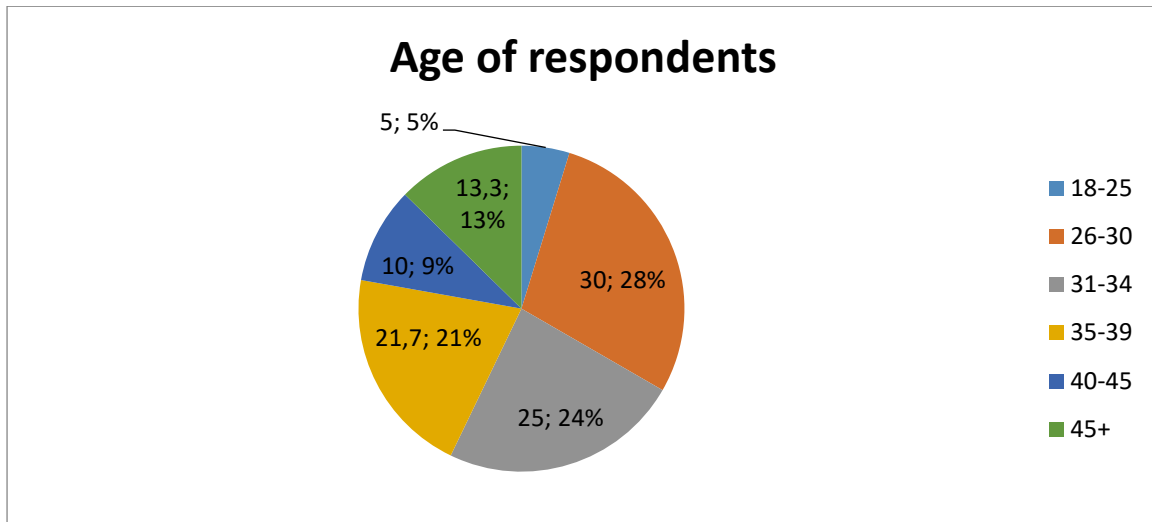


Figure 4.1: Age of respondents (N=60)

The age of the respondents varied between 18 years and above 45 years. Outcomes revealed that 3 (5%) indicated that they were older than 45 years, 6 (10%) were aged between 18 and 25 years, 8 (13%) were above the age of 45, 13(21.7%) were between the age of 35 and 39, 15 (25%) were aged between 31 and 34 and the highest 18 (30%) were between the age of 26 and 30.

#### 4.2.3. Race type

The respondents were asked to indicate their race by selecting the suitable box. Figure 4.2 indicate the Race of respondents.

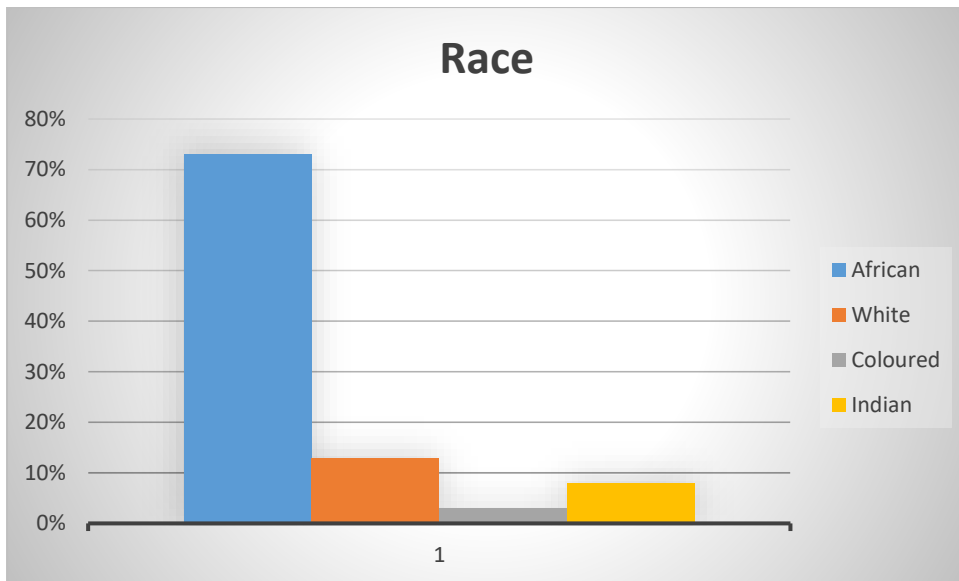


Figure 4.2: Race type of respondents (N=60)

Figure 4.2 indicate that 2 (3.3%) were Indian, 5 (8.3%) were Coloured, 8 (13.3%) respondents were white and 44 (73%) of the respondents were Africans.

#### 4.2.4. Highest educational/training qualification

The respondents were asked to state their educational / training qualification standard. They were asked to choose their education level by ticking the corresponding response on the table. Figure 4.3 indicates the highest training / education credentials respondents had.

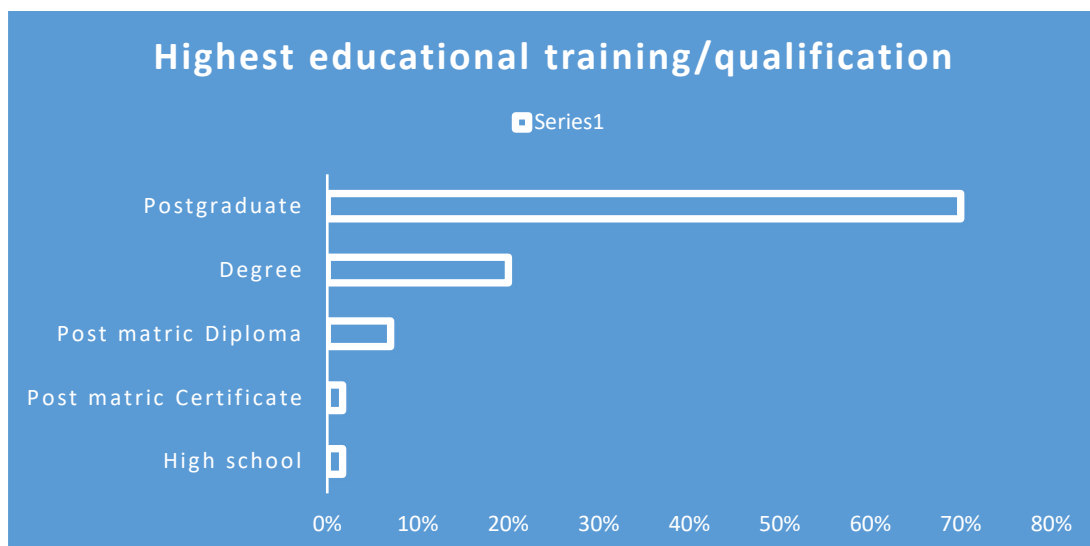


Figure 4.3: Highest educational/training qualification (N=60)

The results in Figure 4.3 revealed that respondents 1 (1.7%) respondents had high school qualification and 1 (1.7%) had post matric. Four (6.7%) respondents had post matric diploma followed by 12 (20%) respondents who had university degrees. The majority 42 (70%) of the respondents had postgraduate qualifications.

#### 4.2.5. Position in the organisation

Representatives were required to state their positions. This query was aimed at defining the types of work available at NIOH. Table 4.2 shows results: reflect comparative distribution of different groups.

Table 4.2: Position in the organisation (N=60)

Job category	Position	Frequency	Percentages %
Support services	Personal Assistant, HR officer, Training manger, Project manager Clerk, Librarian, Assistant Librarian, Library Assistant, Admin officer(records), Communication	11	18.3%

	officer, Media liaison, Cooperate services.		
Finance	Accountant, Pay roll officer, Data capture, Internal Auditor, Admin Officer	4	6.7%
Information technology	System administrator, IT officer, Supervisor	1	1.7%
Maintenance	Plumber, Electrician, General worker, Admin Officer	2	3.3%
Occupational health professionals	Medical doctors, engineers, occupational hygienists, scientists, technicians.	42	70%

Table 4.2 revealed that 1 (1.7%) respondents fell under the category of information technology, 2 (3.3%) fell under maintenance and 4 (6.7%) fell under finance. Furthermore 11 (18.3%) respondents fell under support services and the majority 42 (70%) were occupational health professionals.

#### *4.2.6. Years of experience in the current position*

Respondents were requested to specify their Years of experience in the position. The purpose was to establish how long NIOH retains its employees. Figure 4.4 shows years of experience that respondents had in the current position.



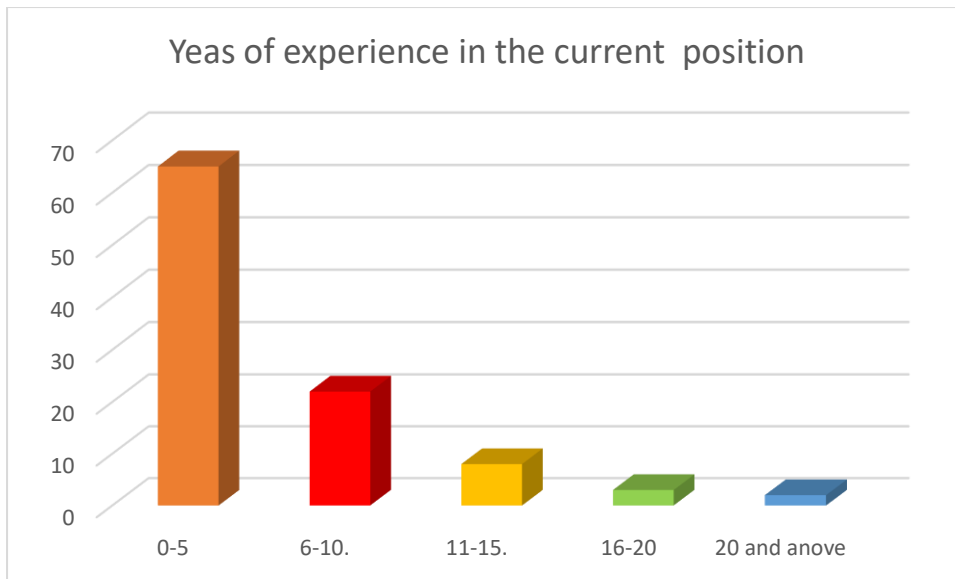


Figure 4.4: Years of experience in the current position (N=60)

Figure 4.4 indicate that 1 (1.7%) of respondents had more than 20 years' work experience, 2 (3.3%) had 16-20 years of experience in the current position, 13 (21.7%) respondents had between 6-10 years of experience and 39 (65%) respondents had less than six years of experience.

#### 4.3. Organisational philosophy and motivation.

##### 4.3.1. *With whom, internally, do you SHARE knowledge and collaborate?*

This was an open-ended question asking respondents to indicate with whom internally they share knowledge. The responses were grouped according to the themes that emerged from the data analysis.

### With whom internally do you share knowledge with



Figure 4.5: With whom, internally, do you share knowledge and collaborate? (N=60)

Figure 4.5 represent the themes. Two (3.3%) respondents revealed that they do not share their knowledge with anyone, majority 58 (96.7%) indicated that they share knowledge with colleagues at NIOH.

#### 4.3.2. *With whom, externally, do you share knowledge?*

The aim of this question was to find out whom externally do NIOH employees share knowledge with. This was also an open-ended question asking respondents to indicate individuals or institutions that they usually share knowledge with. Of the 60(100%) respondents 12 (20%) did not answer this question. Twenty (33.3%) respondents indicated that they mostly share knowledge with institutions like Government departments, Trade unions, Patients from the mines and other organisations, Doctors, Nurses and scientists, while the majority 28 (46.7%) indicated that they share knowledge with different universities within the country.

#### 4.3.3. *The views on organisational philosophy and motivation on knowledge retention.*

Respondents were asked to use a Likert scale, to indicate their level of agreement or disagreement on organisational philosophy and motivation on knowledge retention. Response is shown in table 4.3.

**KEY:** 1. **SD**- Strongly Disagree 2. **D**-Disagree 3. **A**-Agree 4. **SA**-Strongly Agree  
5. **U**-Uncertain.

Table 4.3: level of agreement or disagreement about statements on organisational philosophy and motivation on knowledge retention (N=60)

	Statement	SD	D	A	SA	U	Total
1.	Employees understand the value of retaining organisational knowledge	2	13	24	12	9	60
		3.3%	21.7%	40%	20%	15%	100%
2.	I am involved in coaching and mentoring other employees	4	10	30	15	1	60
		6.7%	16.7%	50%	25%	1.7%	100%
3	NIOH values my knowledge and expertise	12	7	28	8	5	60
		20%	11.7%	46.7%	13.3%	8.3%	100%
4.	Knowledge is the most important the factor for improving organisational performance	3	4	24	28	1	60
		5%	6.7%	40%	46.7%	1.7%	100%
5.	There is a policy that guides NIOH employees on how organisational knowledge should be shared and retained	10	9	13	7	21	60
		16.7%	15%	21.7%	11.7%	35%	100%
6.	The existing ICT at NIOH support Knowledge retention	4	10	19	5	22	60
		6.7%	16.7%	31.6%	8.3%	36.7%	100%
7.	The organisational knowledge in our department is well captured and documented for future use.	3	10	23	15	9	60
		5%	16.7%	38.3%	25%	15%	100%
8.	There are formal and informal activities to instil knowledge retention	1	12	25	15	7	60
		1.7%	20%	41.7%	25%	11.7%	100%
9.	The existing culture at NIOH support knowledge retention sufficiently	3	8	22	14	13	60
		5%	13.3%	36.7%	23.3%	21.7%	100%
10.	Retention of highly skilled and experienced staff is a priority	18	8	13	11	10	60
		30%	13.3%	21.7%	18.3%	16.7%	100%
11.	There is enough budget to support knowledge retention projects	22	9	8	4	17	60
		36.7%	15%	13.3%	6.7%	28.3%	100%
12.	Employees are rewarded either financially, through promotion or	23	7	13	6	11	60

	recognition for sharing and documenting their knowledge.	38.3%	11.7%	21.7%	10%	18.3%	100%
13.	NIOH Management support the process of creating, sharing, using and retaining the knowledge	7	9	29	8	9	60
		11.7%	15%	48.3%	13.3%	15%	100%
14	In general, it is easy to access knowledge that I need at NIOH	4	14	26	12	4	60
		4.7%	23.3%	43.3%	20%	4.7%	100%

The results in Table 4.3 indicate that 2 (3.3%) respondents strongly disagree with the statement that employees understand the value of retaining organisational knowledge and 13 (21.7%) disagree whereas 9 (13%) was uncertain. Twelve (20%) respondents agreed that they understand the value of retaining organisational followed by majority 24 (40%) respondents who strongly agreed with the statement.

Respondents were asked to indicate their level of agreement or disagreement about their involvement in coaching and mentoring other employees. Four (6.7%) strongly disagreed, 10 (16.7%) disagreed. Fifteen (25%) respondents strongly agreed with the statement that they were involved in coaching and mentoring other employees, followed by those who agreed 30 (50%).

Respondents were asked to agree or disagree with the statement that NIOH values their knowledge and expertise, 7 (11.7%) respondents disagreed with the statement, followed by 12 (20%) respondents who strongly disagreed that NIOH values their knowledge and expertise. Majority 28 (46.7%) agreed that NIOH values their knowledge and expertise. This suggests that employee's knowledge and expertise were not considered to be an important asset for the organisation.

Respondents were further asked to agree or disagree with the statement that knowledge is the most important factor for improving organisational performance. Three (5%) respondents strongly disagreed with the statement 4 (6.7%) disagreed, 24 (40%) agreed and the majority 28 (46.7%) respondents strongly agreed with the statement that knowledge is the most important factor for improving organisational

performance. This could mean that knowledge was not considered as the most important factor for increasing performance at NIOH.

Moreover, respondents were asked if there was a policy that guided NIOH employees on how organisational knowledge should be shared and retained. Findings revealed that 10 (16.7%) respondents strongly disagreed with the statement that there was a policy that guided NIOH employees on how organisational knowledge should be shared and retained, 13 (21.7%) agreed with the statement. The highest 21 (35%) respondents were uncertain about the statement.

The respondents were asked if the existing ICT at NIOH support Knowledge retention 10 (16.7%) respondents disagreed with the statement, 19 (31.6%) agreed. The highest number 22 (36.7%) neither agreed nor disagreed with the statement (uncertain).

There was a need for the researcher to investigate if the organisational knowledge in NIOH department was well captured and documented for future use. The results showed that 3 (5%) of the respondents strongly disagreed, 9 (15%) uncertain and 12 (20%) disagreed. Followed by 15 (25%) respondents who strongly agreed and 23 (38.3%) who agreed that organisational knowledge in their department was well captured and documented for future use. This could mean that documenting knowledge was not a priority at NIOH and this would lead to loss of organisational knowledge

Furthermore, respondents were asked if there were formal and informal activities to instil knowledge retention. Seven (11.7%) respondents uncertain while 12 (20%) respondents disagreed with the statement. Fifteen (25%) respondents strongly agreed and some 25 (41.7%) agreed that there were formal and informal activities to instil knowledge retention.

Respondents were asked if the existing culture at NIOH supported knowledge retention sufficiently. Eight (13.3%) respondents disagreed, 13 (21.7%) were uncertain. Fourteen (23.3%) strongly agreed and the mainstream 22 (36.7%) agreed with the statement. The findings reveal that the organisational culture at NIOH is conducive to for knowledge retention to take place. Lindner and Wald (2010) point out that culture is the most important factor of success for knowledge sharing and retention.

Another statement respondent was asked to state their level of agreement or disagreement was: “retention of highly skilled and experienced staff is a priority”. The findings revealed that 10 (16.7%) respondents were uncertain, followed by 11 (18.3%), who strongly agreed, 13 (21.7%) agreed with the statement. The highest, 18 (30%) strongly disagreed that retention of highly skilled and experienced staff is a priority.

Respondents were asked if there is enough budget to support knowledge retention projects. Eight (13.3%) respondents agreed, 17 (28.3%) were uncertain. The results indicate that the highest 22 (36.7%) strongly disagreed with the statement “there is enough budget to support knowledge retention projects”. This indicates that the organisation does not invest much in knowledge retention activities and this could be detrimental to the organisational knowledge.

Respondents were asked if employees were rewarded either financially, through promotion or recognition for sharing and documenting their knowledge. The finding revealed that 11 (18.3%) respondents uncertain with the statement followed by 13 (21.7%) who agreed. the highest 23 (38.3%) strongly disagreed that employees were rewarded either financially, through promotion or recognition for sharing and documenting their knowledge.

Answers to the statement about “NIOH Management support the process of creating, sharing, using and retaining the knowledge” were as follows: 7 (11.7%) strongly disagreed, 8 (13%) strongly agreed. There was an Equal number 9(15%) of respondents who disagreed and those who were uncertain that NIOH Management supports the process of creating, sharing, using and retaining the knowledge. Majority 29 (48.3%) agreed that NIOH Management supports the process of creating, sharing, using and retaining the knowledge. This could mean that NIOH management does not give enough support when it comes to knowledge retention. This is despite (Davenport and Prusak, 1998) showing that Management support is essential to guarantee that knowledge sharing match with organisational culture

Lastly, respondents were given the statement “In general, it is easy to access knowledge that I need at NIOH” to state their level of agreement or disagreement. The results revealed that 14 (23.3%) respondents disagreed with the statement. Majority 26 (43.3%) agreed that it is easy to access knowledge that I need at NIOH.

#### 4.4. Knowledge retention strategies

##### 4.4.1. Strategies used to retain knowledge.

Respondents were asked to indicate the strategies used in NIOH for the retention of knowledge. The questions allowed the respondents to choose techniques which were widely used to maintain awareness of the results as shown in Table 4.4.

Table 4.4: Strategies used to retain knowledge (N=6)

Strategies	Frequency	Percentage
Community of practice( group discussions)	25	41.7%
Observation	14	23.3%
Email (Workflow)	46	76.7%
Brainstorming	10	16.7%
Mentoring programmes	21	35%
Staff meetings	41	68%
Website	30	50%
Intranet	31	51.7%
lectures (Inviting experts to give lectures)	40	66.7%
Information repositories	31	51.7%
Databases	13	21.6%
Exit interviews	8	13.3%
Story telling	8	13.3%
Paper document	11	18.3%
Audio tapes	1	1.7%
Video tapes	7	11.7%
Microfiche	0	0%

Table 4.4 indicate that the knowledge retention strategies that are used at NIOH: Email (workflow) 46 (76.7%), staff meetings 41 (68%), lectures (Inviting experts to give lectures) 40(66.7%), internet 31 (51.7%), information repositories 31 (51.7%), website 30 (50%), communities of practise 25 (41.7%), mentoring programmes 14 (23.3%) and databases 13 (21.6%). The top 3 strategies used by NIOH to retain knowledge are Email, staff meetings and lectures.

#### 4.4.2. Collaborative knowledge retention programmes.

Respondents were asked to select appropriate knowledge retention programmes that NIOH is involved in (and they could select as many options as applicable). This question aimed to find out if the NIOH worked collaboratively with other organisations. The results are presented below in Figure 4.6:

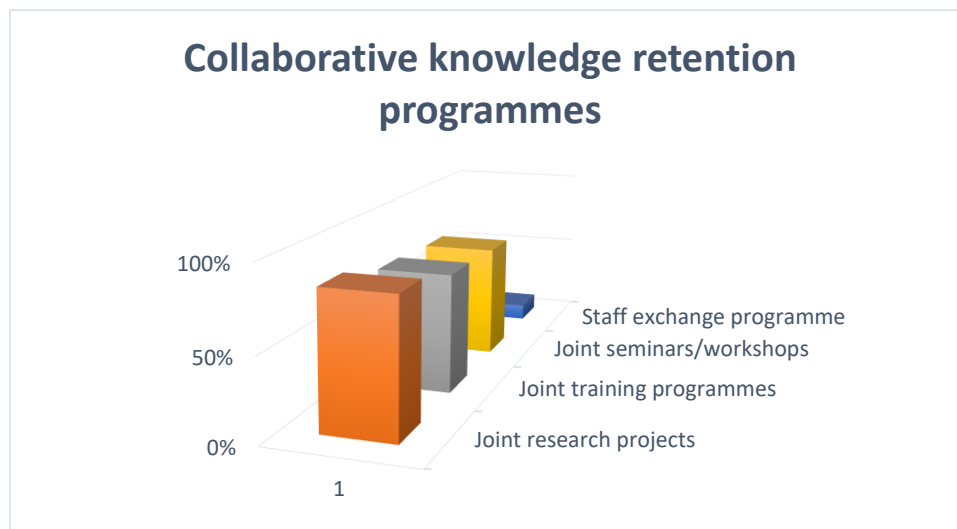


Figure 4.6: Collaborative knowledge retention programmes (N=60)

Fifty (83.3%) respondents indicated that NIOH is involved in joint research, 44 (73.3%) respondents selected training programmes, 42 (70%) Joint seminars/workshops, Six (10%), staff exchange programme, while majority 54 (90%) indicated that the exchange of staff programme was not being utilised.

#### 4.5. The effectiveness of knowledge retention strategies.

##### 4.5.1. Level of agreement and disagreement on knowledge accessibility.

Respondents were asked to rate their level of agreement or disagreement on the statement that "knowledge stored in their department was always available when required".



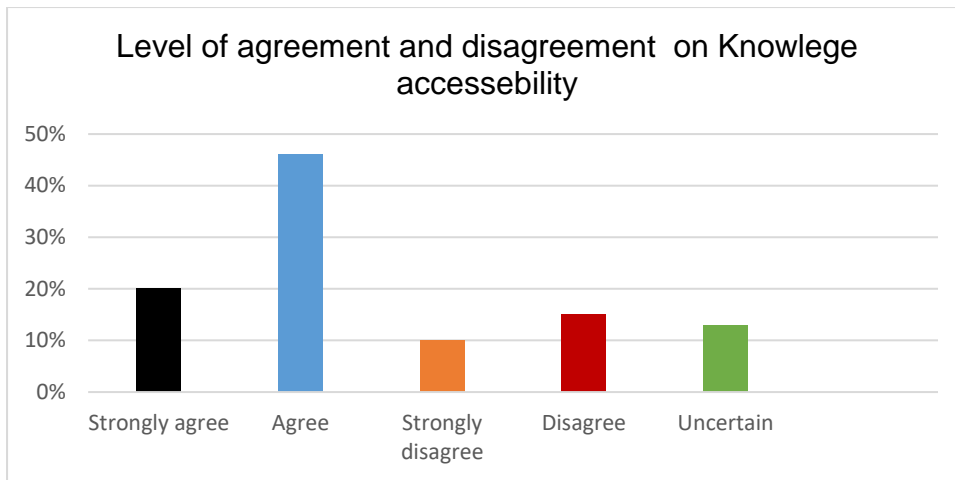


Figure 4.7: Level of agreement *and disagreement* on knowledge accessibility (N=60)

The results in figure 4.6: revealed that 6 (10%) respondents strongly disagreed, 8 (13.3%) was uncertain and 9 (15%) disagreed with the statement that the knowledge stored in their department was always accessible when it is required. Followed by the 12 (20%) respondents who strongly agreed and 25 (41.7%) agreed that knowledge that was stored in their department was always accessible when it is required.

#### 4.5.2. The effectiveness of knowledge retention strategies.

Respondents were requested to rate the effectiveness of knowledge retention strategies used at NIOH. Figure 4.8: Indicates the responses to this question.

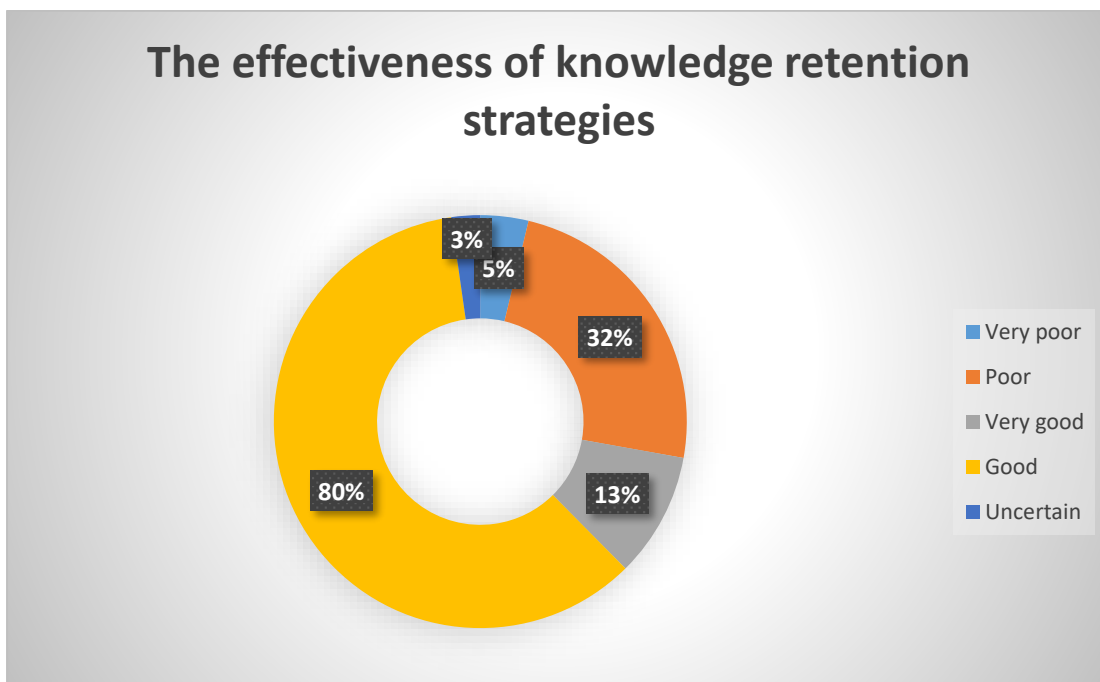


Figure 4.8: The effectiveness of knowledge retention strategies (N=60)

Two (3.3%) respondents were uncertain 3 (5%) rated knowledge retention strategies as very poor, 8 (13.3%), very good, 19 (31.6%) poor, 48 (80%) rated the effectiveness of knowledge retention strategies used by NIOH as good.

#### 4.6. The extent to which organisational knowledge is managed at NIOH.

Respondents were asked to rate the extent to which organisational knowledge is managed at NIOH using the following scale: Less extent, Great extent Not at all Uncertain. This question aimed to understand how often knowledge was created at NIOH.

Table 4.5: The extent to which organisational knowledge was managed. (N=60)

Statements	Less extent	Great extent	Not at all	Uncertain	Total
To what extent is knowledge created at NIOH?	5	42	2	11	60
	8.3%	70%	3.3%	18.3%	100
To what extent do you document SOPs process documented?	10	39	3	8	60
	16.7%	65%	5%	13.3%	100
To what extent is organisational knowledge accessible to all staff?	12	34	7	7	60
	20%	56.7%	11.7%	11.7%	100
To what extent do you share your work knowledge?	14	37	2	7	60
	23.3%	61.7%	3.3%	11.7%	100
To what extent does management encourage knowledge retention?	9	28	10	13	60
	15%	46.7%	16.7%	21.7%	100
	12	36	9	3	60

To what extent do you document your knowledge?	20%	60%	15%	5%	100
To what extent do you use your knowledge to perform your duties?	3	53	0	4	60
	5%	88.3%	0%	6.7%	100
To what extent do you use procedure manuals to perform your duties?	15	35	8	2	60
	25%	58.3%	13.3%	3.3%	100
To what extent do you think NIOH is losing organisational knowledge (due to resignations, deaths and retirement)?	12	28	7	13	60
	20%	46.7%	11.7%	21.7%	100
To what extent do you think NIOH keep organisational knowledge for future use?	25	11	0	24	60
	41.7%	18.3%	0%	40%	100

Respondents were asked to indicate the extent to which knowledge is created at NIOH. Table 4.5 reveals that 2 (3.3%) of respondents stated that knowledge was not created at all while 5 (8.3%) indicated that knowledge was created to a less extent. Followed by 11 (18.3) respondents were uncertain if knowledge was created, and the majority 42 (70%) respondents indicated that knowledge was created to a great extent. This might mean that NIOH prioritises the process of knowledge creation.

Respondents were asked to indicate the extent to which SOPs process was documented. The aim was to understand if there were knowledge documents to guide employees doing their day to day work. The findings showed that 8 (13.3%) respondents were uncertain if there were documented SOPs, while 10 (16.7%) indicated that the SOPs were documents to a less extent. The highest was 35 (65%)

respondent revealed that SOPs were documented to great extent. This means that they take into consideration the importance of documenting the SOPs for future reference.

The respondents were asked to “what extent is organisational knowledge accessible to all staff?” The purpose was to understand if organisational knowledge was accessible to all staff when needed. The results indicated that 12 (20%) respondents showed that organisational knowledge was accessible to less extent while majority 34 (50.7%) indicated that knowledge accessible to a great extent. This means that organisational knowledge was mostly accessible to all staff when needed.

The respondents were asked to what extent they share their knowledge. The purpose was to understand if employees do share knowledge amongst themselves to retain the organisational knowledge within the institution. The response indicated that 2 (3.3%) respondents do not share knowledge at all while an average of 14 (23.3%) respondents’ least share their knowledge and 37 (61.7%) participants greatly share their knowledge.

The participants were asked to what extent management encourages knowledge retention. The aim was to determine the extent to which management encourages knowledge retention for the future benefit of the organisation. The results revealed that 9 (15%) respondents indicated that management least encourages knowledge retention while 10 (16.7%) participants indicated that management does not encourage knowledge retention at all and 28 (46.7%) respondents indicated that management greatly encourages knowledge retention.

The respondents were asked to what extent they documented their knowledge. The results revealed that 3 (5%) participants were uncertain about the extent to which they documented their knowledge while 9 (15%) participants do not document their knowledge at all, 12 (20%) respondents documented their knowledge to a less extent and 36 (60%) respondents documented their knowledge to a great extent. This means that the majority of staff do document their knowledge.

Respondents were asked to what extent their knowledge was used to perform their duties. The results indicated that 3 (5%) of respondents used their knowledge to perform their daily duties to a lesser extent, while 4 (6.7%) indicated that there was

uncertainty as to how they used their knowledge to perform their duties. Majority 53 (88.3%) respondents used their knowledge to a large extent to carry out their work.

The respondents were asked to what extent they use procedure manuals to perform their duties. The purpose was to understand if they perform their daily duties by the book. Procedure manuals were identified as support materials used to solve some work-related problems (Dikotla, 2016). The results revealed that 8 (13.3%) respondents do not follow procedure manuals to perform duties, followed by 15 (25%) participants who used procedure manuals to perform your duties to less extent. The majority 35 (58.3%) respondents used procedure manuals to perform duties to a great extent. This could mean that majority of the staff did their job according to the book or used captured knowledge.

Respondents were asked to give their opinions about organisational knowledge loss at NIOH. This was done to understand if respondents think NIOH was losing knowledge when employees leave the organisation due to resignations, deaths and retirement. The result indicated that 7 (11.7%) respondents indicated that NIOH was not losing knowledge at all, while 12 (20%) respondents thought the organisation was losing knowledge to less extent and 13 (21.7%) were uncertain. The highest 28 (46.7%) respondents thought that the organisation was losing knowledge to a great extent.

Respondents were asked to give their views about how NIOH keeps knowledge for future use. The findings revealed that 11 (18.3%) respondents indicated that organisational knowledge was kept for future use to a great extent and 24 (40%) were uncertain. The highest 25 (41.7%) respondents indicated that organisational knowledge was kept to less extent. It could be assumed that there was still a gap when it comes to the management of organisational knowledge.

#### *4.6.1. How often is organisational knowledge retained?*

Respondents were asked to use the scale: always, sometimes, never, and when a need arises to indicate how often organisational knowledge is retained, this question sought to determine the frequency of knowledge retention at NIOH. The results are shown in Figure 4.9.



Figure 4.9: how often is organisational knowledge retained? (N60)

Figure 4.9: shows that 11 (18.3%) respondents indicated that organisational knowledge was always retained, 14 (23.3%) showed that organisational knowledge was retained when a need arises. Majority 26 (43.3%) respondents indicated that organisational knowledge was sometimes retained. Five (8.3%) respondents did not answer the question.

#### 4.7. The challenges of knowledge retention at NIOH.

##### 4.7.1. Barriers to successful knowledge retention.

Respondents were asked what they consider to be barriers of successful knowledge retention in their department. Respondent could select multiple answers from the choices given. Figure 4.10: indicate the responses.

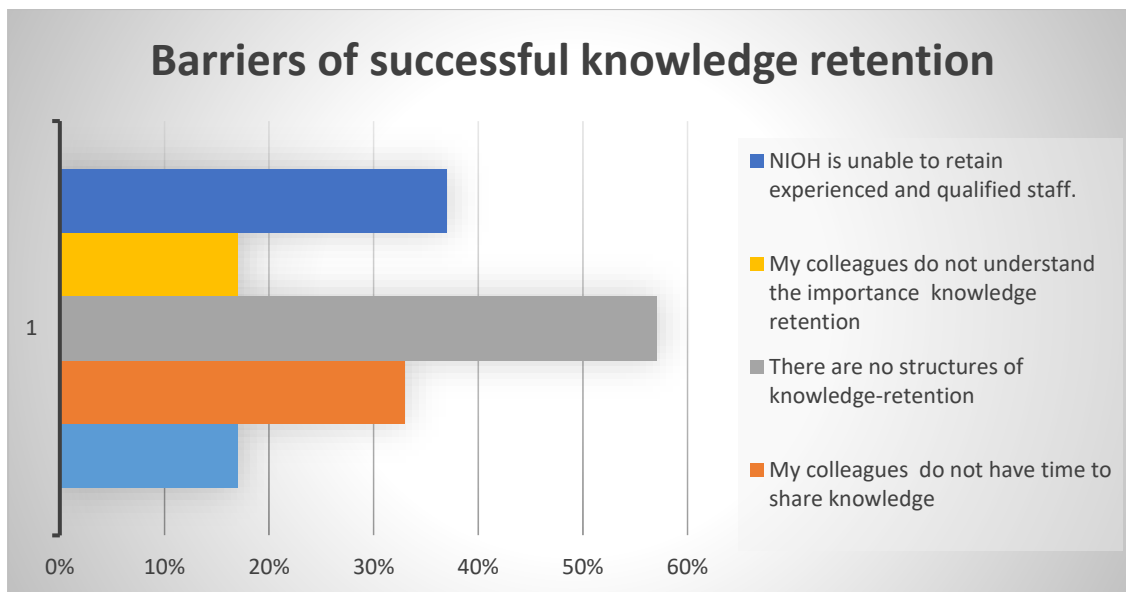


Figure 4.10: barriers to successful knowledge retention (N60)

The results reveal that 10 (16.7%) respondents believe that colleagues are not willing to document what they know, 10 (16.7%) respondents indicated that colleagues do not understand the importance of knowledge retention. Twenty (33.3%) respondents indicated that colleagues do not have time to share knowledge, 22 (36.7%) respondents showed that NIOH is unable to retain experienced and qualified staff. Twenty-six (43.3%) respondents indicated that there is a lack of sustained leadership and ineffective information management, 33 (55%) respondents showed that there is a lack of succession planning. Majority 34 (56.7%) respondents indicated that there are no structures of knowledge-retention.

4.7.2. *Suggestions to improve knowledge retention.*

The last question on the questionnaire was open-ended and required, respondents, suggest strategies that may be used to improve knowledge retention at NIOH. The responses were grouped according to themes that emerged from the analysis and such themes are presented in table 4.6.

The last question on the questionnaire was open-ended and required, respondents, suggest strategies that may be used to improve knowledge retention at NIOH. The responses were grouped according to themes that emerged from the analysis and such themes are presented in table 4.6.

Table 4.6: Suggestions to improve knowledge retention (N=60)

Themes	Frequency	Percentage
Motivate staff (reward system).	6	10%
Develop Knowledge retention policy.	15	25%
Develop Knowledge databases.	2	3.3%
Develop a culture that supports knowledge sharing culture.	8	13.3%
Improve ICT infrastructure for capturing and documenting knowledge	8	13.3%
Succession planning	6	10%
Knowledge retention training	4	6.7%
Increase collaboration with other science organisation	3	5%
No answer	8	13.3%

Table 4.6 reveals that 2 (3.3%) respondents Knowledge databases should be improved, 3 (5%) indicated that the organisation need to collaborate with other science organisations to improve knowledge retention. Six (10%) respondents indicated that reward system and succession planning should be enforced, 8 (13.3%) showed that ICT infrastructure for capturing and documenting knowledge needs to be improved and the organisation should develop a culture that supports knowledge sharing culture. The highest 15 (25%) respondents indicated that Knowledge retention policy needs to be developed to improve knowledge retention strategies.

#### 4.8. Summary

The purpose of this chapter was to provide an analysis and interpretation of the results of the research based on data collected from 60 NIOH staff. Data collected through close-ended questions were analysed using Microsoft Excel 2016. The findings of some of this analysis were transferred to Microsoft Word and Microsoft Excel for graphical demonstration and recording of results. Data collected through open-ended questions were physically analysed by grouping them according to their themes and the data was presented in tables and charts. The results offered in this chapter provide a context for the discussions in the next chapter. The following chapter interprets and discusses the findings of the study as presented in Chapter Four. The interpretation and discussion are based on the objectives of the study.



## **5. CHAPTER FIVE: DISCUSSION OF RESULTS AND FINDINGS**

### **5.1. Introduction**

The data analyses in Chapter 4 provided the results of the survey questionnaire. This chapter provides a discussion of the findings presented in Chapter 4. discussion of the results were conducted concerning the research objectives, the literature review discussed in chapter two and the data presented in chapter four. The findings are also discussed concerning two theories discussed in chapter two (C.f. 2.2). These theories are General Knowledge Management Theory and Knowledge Management Model. This chapter discusses the research findings to determine how they can contribute to the field of knowledge management. As defined in chapter one (C.f 1.2.1 and 1.2.2) the study introduced the aim and objectives of the study as follows:

The study aims to examine Knowledge retention strategies at NIOH. The objectives of the study were to:

- To determine the extent to which organisational knowledge is managed at NIOH.
- To identify methods of knowledge retention strategies preferred by NIOH.
- To investigate the philosophies and motivation of knowledge retention strategies that are in place at NIOH.
- To establish the effectiveness of knowledge retention strategies at NIOH.

### **5.2. Patterns of data for each research objective**

This chapter provides a discussion of the findings in line with the objectives outlined in Chapter One (C.f 1.2.2) and the findings are discussed in the context of extensive comparisons with the literature review.

#### *5.2.1. Respondents' profiles.*

Although the characteristics of the research participants did not form part of the objectives of the research study, Section A of the questionnaire guide required the profile of the respondents. Lin, (2008) argues that demographic characteristics have

a moderating effect on knowledge retention. Similarly, Brčić and Mihelič, (2015: 855) advises that “characteristics of workers themselves also contribute to the initiation and effectiveness of knowledge sharing and retention. More specifically, employees of different ages, who belong to different generational cohorts vary in their desire to share knowledge with co-workers”. Respondents' profile was therefore vital to show that knowledge management strategies, processes, and methods were useful and necessary to bridge generation opening; to develop sensitivity to diversity; to enhance open communication; and to understand the strengths and benefits of the multigenerational labour force; (McNichols, 2010). Respondents' profile revealed that NIOH had more females than males.

The higher number (30%) of the respondents are still relatively young aged between 26-30 years. The younger workforce may not be willing to learn from older ones, while occasionally older persons may not be keen to share knowledge due to their insecurities and perceiving younger ones as threats (Bratianu and Orzea, 2011). Therefore, age is unlikely to affect knowledge retention as mentioned by Bratianu and Orzea, (2011) given the minority of older group at NIOH.

Additionally, the results revealed that the most dominating race were Africans with 73%. This can be referred to the employment law such as equity act. The identity of the people can have an impact on the process of knowledge sharing and retention due to the existence of stereotypes and racism (Dikotla, 2016). This means that different race results in a different background which makes it difficult by requiring more time and effort for knowledge retention because of diversity. Regarding the qualification of respondents, the results revealed that respondents are highly qualified as 70% had a postgraduate degree. Possibilities are that educated workforce is likely to have a better understanding of KR and engage in knowledge retention.

Wang and Noe, (2010: 120) concur that employees with a higher level of qualifications are more likely to share and retain their expertise. The results further showed that the dominating positions were medical doctors, engineers, occupational hygienists, scientists, technicians: which were under the occupational health professionals' category. This could mean that NIOH employees can share and retain knowledge smoothly since the majority are within the work profession.

Work experiences play a role in knowledge retention. Connelley and Kelloway, (2003) mentioned that experienced employees may be willing to share their knowledge because they know more of the right people in the organisation. The results then revealed that NIOH employees are less experienced since the majority of the respondents had less than six years of experience. One may assume that employees with fewer years in a position are less experienced. Equally, those with longer periods of service had more experience and organisational knowledge worth retaining (Dikotla, 2016).

### *5.2.2. The extent to which organisational knowledge was managed at NIOH.*

Respondents were asked to what extent was knowledge created at NIOH. Knowledge creation is vital in the sense that innovation is motivated by the creation of knowledge and knowledge creation is viewed as one of the key assets (Pei, 2008). The stage of knowledge creation is well developed at NIOH. This is evidenced by the majority 70% of respondents who indicated that knowledge is created to a great extent. According to General knowledge management model by Newman, Conrad and Pakm, (2000) Knowledge is created in one of the two metaphors of the creation of Knowledge, namely the acquisition metaphor and the participation metaphor (Sfard, 1998). The acquisition metaphor sees learning as a scholarly procedure. Knowledge is understood as the property of the individual psyche, in which learning involves development, achievement and results that are recognized during the time spent in the exchange (Paavola, et al., 2004: 557). The participation metaphor, paradoxically, sees learning as a social procedure. Learning involves cooperation in practices and activities where knowledge is obtained by social exercises (Du Chatenier, *et al.*, 2009). Takeuchi, (1995) argues that in an organisation knowledge is created through socialisation which involves face to face meetings. In the studied organisation knowledge is created when employees socialise during lunch breaks, or when they meet on corridors and formally there are staff meetings and research forums.

Knowledge at NIOH is well documented. This is supported by the majority (65%) of respondents who relied on SOPs to do their job. According to the general knowledge management model, if the original knowledge owner departs from the organisation, the transfer of knowledge still exists within the organisation in documents for future use. Standard operating procedures (SOPs) are human-readable documents that

characterize the system's steps and are generally received in numerous controls where it is significant that the procedure is repeatable or auditable (Angiuoli, et al., 2008). As an employee of NIOH, the researcher observed that SOPs are used to guide how a certain task should be done. In the absence of documented knowledge in the form of SOPs, it will be difficult for employees to perform their job because there will not be any document to guide how tasks need to be done. This is in line with the study by Angiuoli, *et al.*, (2008) it will be difficult to trace the procedures that are used to perform a certain task.

The results show that access to knowledge that was saved in the intranet is not satisfactory as evidenced by 50.7% response rate. In line with this intranet are an influential tool for correspondence and coordinated effort that awards knowledge and information and the way to make, share and retain knowledge in one effectively open spot (Sayed, Jabeur and Aref, 2009: 228). Similarly, Leask, et al., (2008) state that knowledge captured needs to be accessible across the organisation through its intranet system. The model of knowledge management further state that accessibility of knowledge is the degree in which knowledge is open to be shared through the system (Torraco, 2000). The same theory continues to state that, Knowledge that is spread amongst sources, particularly sources of diverse types (for example, people, paper documents, and electronic media), is less reachable than knowledge from a one, focused source like the intranet.

Furthermore, the majority indicated that they share their knowledge with other staff, although the organisation need to improve their level of knowledge sharing ensure that everyone participates. This can be done by looking at some ways to improve knowledge sharing. It has been mentioned that mentoring is another strategy for transferring tacit knowledge amongst employees (Swap, Leonard and Mimi Shields 2001).

This study further revealed that the majority used their knowledge to perform their duties while the average relied on documented knowledge. This is consistent with Stephen, (2016) who stated that one needs tacit knowledge when talking about issues with a client instead of making references to recorded knowledge. Contention express that recording important operational knowledge has been bolstered to ease weakening

difficulties and help the learning time frame for new workers (DeLong 2002; DeLong 2004; Hanes, Gross and Ayres 2001; IBM Consulting Services 2006).

The results demonstrate that NIOH was greatly losing knowledge due to retirements, death and resignation. The results of a study by Daghfous, Belkhodja, and Angell, (2013) indicate that organisations ought to hold and diffuse architectural knowledge, advance strategic management between units, create current capacities through various systems administration methodologies and progressively viable systems, and change these capacities into viable authoritative systems to decrease knowledge loss and increase retention of staff. Some others continue to state that depending just on standard operating procedures (SOPs), data frameworks, and codification of knowledge in databases could sabotage knowledge retention and lead to knowledge loss.

Lastly, the findings revealed that knowledge was not sufficiently retained for future use, this is because (41.7%) of the respondent indicated that knowledge was retained to a less extent. This means that knowledge retention was not a priority at NIOH which lead to knowledge loss. Jennex (2014) cautions that the knowledge loss can reduce the competitive advantage and put an organisation into economic difficulties. On the other hand retention and management of knowledge improves performance and may benefit organisations by assisting in better decision-making capabilities and preserving corporate memory (Wamundila and Ngulube, 2011).

### *5.2.3. The challenges of knowledge retention at NIOH.*

Various challenges impact the extent of knowledge retention. Riege, (2005) defined challenges and factors that may affect the organisation as communication skills, management support, reward system, office politics and knowledge sharing strategies and other technological challenges. It can be difficult to share knowledge by its nature. Dikotla, (2016: 239) showed that it is harder to share knowledge because most people believe that their knowledge will become absolute once they share it.

The majority revealed that barriers of successful knowledge retention were that there were no structures of knowledge retention and there was a lack of succession planning. This suggests that NIOH had no plan to retain the knowledge of the experienced employees when they leave the organisation. As Eshiteti, et al., (2013)

would attest, succession planning programmes permit worker advancement openings and occupation satisfaction which thus has over the top impact on staff retention. In line with this Joseph and Dieter, (2013: 17) "Knowledge mapping is about facilitating the discovery of sources of knowledge, tracing its flow, structuring its existence and its changes, and identifying relationships with other sources of knowledge". Without knowledge structures, NIOH might not be able to know, locate and use the knowledge they already have.

To improve knowledge retention respondents suggested: reward system, development of knowledge retention policies, cultures to support knowledge sharing and improvements on ICT infrastructures. Terera and Ngirande, (2014) point out that, monetary rewards play a significant role in employee retention. This view is fortified by Selesho and Naile, (2014) who express that unappealing compensation contribute to staff leaving in many organisations. The prize is the most significant angle workers consider when settling on the choice to leave or remain in an association (Terera and Ngilande, 2014).

#### *5.2.4. Knowledge retention strategies.*

The results revealed that the major strategies used by NIOH include Email, staff meetings, lectures (Inviting experts to give lectures), internet, and Information repositories to be the common highest strategies to retain knowledge.

The use of Email is consistent with the findings of an investigation done by Staplehurst and Ragsdell, (2010) on two UK small and medium enterprises (SMEs), where it emerged that knowledge streams using emails.

Succeeding Emails 68% of respondents indicated that staff meetings were used a one the knowledge retention strategies. As the employee of NIOH, the researcher observed that staff meetings are held quarterly. This practice is steady with Nemani's, (2010) who argues that significant sharing of knowledge occurs during managerial staff meetings, where more youthful managers gain from increasingly experienced ones.

The findings also indicated that 66.7% of respondents showed that lectures (Inviting experts to give lectures) were one of the major strategies used to retain knowledge at NIOH.

This is consistent with a study conducted by Poole and Sheehan, (2006) view those retirees and experts must be permitted to return to work give lectures to who are closely productive as they know the field. Stephen, (2016) noted that key aspect of a knowledge retention strategy is not only identifying the units within an organisation that could be vulnerable but to also identify individual personnel who, if they left the institution, could severely affect operations.

Lastly, the findings revealed that 51.7% of the respondents use intranet and information repositories as knowledge retention strategies. This is consistent with a study by Albers' (2009) and Dixon's (2000) perceptions that information innovation has made the sharing, capturing and coordinating knowledge progressively reasonable. Similarly, Fombad (2009), and Stafford and Mearns, (2009) found that the internet was the most significant strategy for knowledge sharing and dissemination. Carisson, (2008: 54) indicate that the use of information and communication technologies is a basic method in the realisation of knowledge. This explains why most associations urge employees to utilise the internet, intranet, notice boards, and shared databases for knowledge sharing (Holbeche, 2005).

The respondents were further asked which joint knowledge retention programmes were being used at NIOH. The findings revealed that NIOH was involved in the following Joint knowledge retention programmes: joint research, Joint training programmes, and Joint seminars/workshops. This could mean that NIOH had prioritised the process of learning from other organisation with a similar practice. Joint knowledge retention programs can help the organisation to stay up to date and relevant. Complimentary joint activities result in new information that can be kept as operational expertise for the potential use and growth of an organisation (Mohamed, et al., 2006). From these results, it can be concluded that NIOH takes organisational learning as an important factor.

#### *5.2.5. The effectiveness of knowledge retention strategies*

This results in conflict with the findings in (C.f 5.3.2) which revealed that knowledge was accessible to the majority (61.7%) of employees at NIOH. The results suggest that majority of employees consider knowledge retention strategies AS effective FOR KR. of. Wai Lin, et al., (2009) argued that knowledge sharing and retention is effective

when communication channels permit collaboration amongst those who are sharing and receiving knowledge.

As a follow-up question, respondents were asked to motivate the choice they made on the effectiveness of knowledge retention strategies used in this organisation. Thirty-one (51.7%) respondents did not respond to this question. responses given by (28.3%) of the respondents are as follows:

- Very good/good

Respondents who stated that the effectiveness of knowledge retention strategies used in this organisation was good, as information was easily accessible on the intranet. Some stated that there were staff and systems responsible for knowledge retention. Some respondents indicated that the effectiveness of knowledge retention strategies used in this organisation was good because there were monthly research forums, publication and mentoring and teaching. Others motivated by saying that there were always skilled individuals who were ready to share knowledge. This is consistent with a study by Stephen, (2016) who stated that an effective and good knowledge retention strategies in an organisation can be seen when there are formal and informal knowledge retention practices like documented work processes; training and development for specific job tasks; orientation for general and job-specific and knowledge repositories.

- Poor

The motivations of those who indicated that the knowledge retention strategies used in this organisation were not effective or poor, revealed that lack of communication was always an issue. Another was that the retention strategies were not well organised and the knowledge was not easily accessible. Respondents stated that what leads to poor knowledge retention strategies was selfishness and not willing to share knowledge with the subordinates. Some stated that there was no evidence of the existence of knowledge retention strategies. This is consistent with a study by Dewah, (2012) which indicate that poor knowledge retention strategies can be seen when there are no measures put in place in the organisations to retain the knowledge to ensure that once those who hold vital tacit knowledge are gone, the knowledge may still be available and accessible.



#### 5.2.6. Organisation philosophy and motivation.

The respondents were asked who they share knowledge with internally and externally. The results revealed that 2 (3.3%) respondents exposed that they do not share their knowledge with anyone while the majority 58 (96.7%) indicated that they share knowledge with colleagues within the NIOH. This could mean that there is a great exchange of knowledge within the NIOH department and it can be assumed that the organisation is benefiting from this. Dikotla, (2016) stated that knowledge sharing can ensure continuity and consistency in service delivery. In agreement with Islam, *et al.*, (2011: 5900) the sharing of knowledge amongst staffs, departments and through the organisation is necessary, to transfer individual and group knowledge into organisational knowledge, which leads to the upgrading of organisational performance (Islam, *et al.*, 2011: 5900).

NIOH share knowledge with external institutions like Government departments, Trade unions, Patients from the mines and other organisations, Doctors, Nurses and scientists. Although the majority indicated that they share knowledge with different universities within the country. Joint operations of this nature result in the generation and attainment of new knowledge that could be retained as organisational knowledge for future use and development of an organisation (Mohamed, *et al.*, 2006). The process can help organisations to share best practices and improvement of service delivery.

The higher number (40%) of respondents strongly agreed with the statement that employees understand the value of retaining organisational knowledge. This could mean that there was a lack of understanding when it comes to the value of knowledge retention since the majority was below the average. Lack of understanding values of retaining organisational knowledge can result in the organisation losing more valuable knowledge when employees leave the organisation. According to Ajimal, Helo and Kekale, (2010) a comprehensive information technology system facilitate the conversion, compilation and re-use of knowledge within a project-based organisation.

The higher number (50%) of respondents agreed that they were involved in coaching and mentoring other employees. The findings indicate a positive perception about knowledge sharing and retention. Mentoring and teaching strategies allow senior

employees to transfer their expertise, experiences, unique perspectives and skills to their juniors in a short period so that the realistic practice, information, history, stories and culture of the company can be maintained when experienced employees leave the organisations or die (Rusanow 2004; Dubin 2005). Chowdhury, (2006) argues that one of the most challenging obstacles delaying its extensive adoption is that people need to trust each other for knowledge sharing to happen naturally and powerfully.

The higher number (46.7%) of respondents indicate that NIOH does value their knowledge and expertise. This means that an employee's knowledge and expertise were not well taken into consideration at NIOH. This is despite, Aggestam, Durst and Persson, 2014) advising that knowledge and expertise of workers should be valued as can contribute to strategic benefits in the form of business innovation, financial growth and industry performance

A higher number (46.7%) of respondents indicated strongly agreed that knowledge was not seen as the most important factor at NIOH. This could mean that knowledge was viewed as an asset which can add value to the organisation. This is inconsistent with the results of the study conducted by Stephen, (2016) which established that Knowledge is progressively perceived as the most important economic resource, outstanding the traditional resources of capital, labour and land. DeLong, (2004) add by stating that the value of knowledge in enhancing working efficiency and effectiveness in organisations can no longer be denied. Similarly, Kidwell, *et al.*, (2000: 31) emphasise that retention and management of knowledge are important as it enhances organisational performance.

Additionally, some (35%) of the respondents were uncertain if there was a policy that guided NIOH employees on how organisational knowledge should be shared and retained. The response rate indicates that it was grey whether there is a policy that guided NIOH employees on how organisational knowledge should be shared and retained or not. Without a policy, the organisation might not be able to control all the process of knowledge management, so NIOH must develop a clear policy that will guide all the processes of knowledge management. Reasons are that the benefits of knowledge management may be realised if there is a knowledge management policy (Chigada, 2014: 42).

The study reveals that 36.7% of the respondents were uncertain if the existing ICT at NIOH supported Knowledge retention. This could mean that there was not enough ICT support for knowledge retention at NIOH. The knowledge-based view focuses on the organisation's capability to gather, produce, maintain and disseminate knowledge (Peterson, 2012: 210). ICT is impacting deeply on the means organisations operate and plays a vigorous role in the knowledge society (Carison, 2008). ICT makes it possible for connections that enable knowledge transfer, sharing and retention in an organisation (Carison, 2008). ICT resources can be a vital part of any knowledge retention strategy, but managers must be careful not to view technology as the answer to their knowledge retention problems (DeLong, 2004).

The higher number (41.7%) agreed that there were formal and informal activities to instil knowledge retention. This could mean that there is little communication amongst the employees or that the respondents did not know what formal and informal activities of knowledge retention are. Khalid and Mahmood, (2010) and Staplehurst and Ragsdell, (2010) indicated that employees and management shared knowledge in small groups informally during lunch or smoking breaks. The study also established that community of practice, intranets, mobile phones, social events and mentoring are infrequently used as tools to transfer and share knowledge.

The higher number of respondents (30%) strongly disagreed that the retention of highly skilled and experienced staff is a priority. This could mean that whenever skilled and experienced staff decides to leave the organisation does nothing to encourage them to stay. Lack of knowledge retention suggests a lack of commitment towards KR at NIOH. This results in the organisation losing valuable knowledge due to skilled and experienced staff leaving. Chigada, (2014) argues that knowledge retention denotes to entirely structures and activities that preserve knowledge and permit it to stay in the system once implemented. The results showed that the lack of budget to support knowledge retention activities affect knowledge retention at NIOH. According to Dikotla, (2016), if knowledge sharing and retention are being budgeted for, factors such as rewards and incentives for those involved in knowledge sharing and retention would be addressed.

### **5.3. Summary**

This chapter discussed the results of the study. The results were discussed based on the study objectives and theoretical framework and supported by the literature. The study revealed that knowledge that was highly created and well capture was mostly accessible when needed. The results further showed that employees share knowledge both internally (with colleagues) and externally on joint knowledge retention projects. The results on the effectiveness of knowledge retention strategies reflected that the majority rated the effectiveness at the extent of the good. The response rate shows that it was grey whether there is a policy that guided NIOH employees on how organisational knowledge should be shared and retained or not. The reward system to encourage knowledge retention seemed to be a problem. This chapter is followed by chapter 6 which entails a summary of results, recommendations and conclusion.

## **6. CHAPTER 6: SUMMARY, RECOMMENDATIONS AND CONCLUSIONS.**

### **6.1. Introduction**

The previous chapter provided a discussion of the findings presented in chapter four. This chapter outlines the summary of the major findings to present the research objectives stated in chapter 1 (C.F. 1.2.2) as have been addressed. This chapter presents the summary of the findings, conclusions and recommendations.

The study aimed to examine knowledge retention strategies at the NIOH. The objectives of the study were:

- To determine the extent to which organisational knowledge is managed at NIOH.
- To identify knowledge retention strategies preferred by NIOH.
- To investigate the philosophies and motivation of knowledge retention strategies that are in place at NIOH.
- To establish the effectiveness of knowledge retention strategies at NIOH.

### **6.2. Summary of findings**

#### *6.2.1. Findings on the extent to which organisational knowledge is managed at NIOH.*

Organisational knowledge at NIOH is fairly managed to some extent. It emerged from the finding of the study that knowledge was created and documented for future use. The finding of the study also revealed that knowledge that was created and well captured was mostly accessible when needed. Although the majority indicated that they share their knowledge with other staff, the results showed that the sharing process was dissatisfactory. It was also revealed in the study that management did not encourage knowledge sharing satisfyingly. Majority of the respondents indicated that they use their knowledge to perform their duties while the average relied on documented knowledge. Furthermore, the finding of the study revealed that NIOH was greatly losing organisational knowledge due to retirement, better work opportunities and death.

#### *6.2.2. Findings on knowledge retention strategies.*

NIOH uses different KR strategies. The Knowledge retention strategies which were mostly used by NIOH employees were Email, staff meetings, internet, Information repositories, Websites. The study also revealed that NIOH was highly working in joint programs as part of knowledge retention. To support this, Inter-organisational collaboration encourages knowledge creation and sharing through joint projects like training programmes, seminars and exchange of staff (Peterson, 2012: 182).

#### *6.2.3. Findings on philosophies and motivation of knowledge retention strategies.*

There is less understanding within the employees when it comes to knowledge retention process and the organisation does not value knowledge of experts to a satisfactory level. This could be because it was not clear if there was a knowledge retention policy that guides the process. It was also not clear if existing ICT at NIOH support Knowledge retention. The research also revealed that the retention of highly skilled and experienced staff was not a priority and there was no enough budget to support knowledge retention projects. There was little or no reward system in place at NIOH to encourage knowledge retention. Contradictory Robertson and Hammersley, (2000) argue that a reward system can be important predictors of knowledge retention and sharing. Although there was little or no reward system NIOH managed to retain some organisational knowledge. It is assumed that NIOH employees are highly motivated and enjoy doing their work even if they are not being rewarded.

#### *6.2.4. Findings on the effectiveness of knowledge retention strategies at NIOH.*

The then knowledge retention strategies in place at NIOH were greatly effective. This is evidenced by the finding that information that was easily accessible on the intranet, monthly research forums, publication, mentoring and teaching and skilled individuals who were readily available to share knowledge.

### **6.3. Conclusions**

The conclusions of the study are based on the findings provided in research findings chapter. The conclusion reached in this study was completely supported by the data

presented (Leedy and Ormrod, 2010: 296). The conclusion is provided according to the order of this study's research objectives.

#### *6.3.1. Conclusions on the extent to which organisational knowledge is managed at NIOH.*

Notwithstanding that to some extent knowledge created and captured is accessible as and when needed, KM and KR in particular, NIOH can be placed at “initial” stage of KM because KM processes are not consciously controlled (Johnson, et al., 2011) substantial amount of knowledge is lost when staff reign or leave the organisation through natural attrition.

#### *6.3.2. Conclusions on knowledge retention strategies.*

NIOH recognises the different levels of information literacy and individual preferences when coming to KR. However, the dominant strategies are web-based as evidenced by the use of Email, internet, Information repositories and Websites. This is not surprising because ICT is considered a major enabler of KM (Carison, 2008).

#### *6.3.3. Conclusions on philosophies and motivation of knowledge retention strategies.*

This objective aimed to investigate organisation's ways of motivating employees to participate in knowledge retention activities. Based on the findings the researcher concludes that without a policy to guide knowledge retention, lack of ICT support, lack of reward system method to motivate employees to engage in knowledge retention, NIOH will continue to lose more organisational knowledge. Again for as long as NIOH does not prioritise the retention of highly skilled employees the organisation will continue to suffer organisational knowledge loss.

#### *6.3.4. Conclusion: the effectiveness of knowledge retention strategies at NIOH.*

The then knowledge retention strategies in place at NIOH were greatly effective. This was because the information was easily accessible on the intranet, there were monthly research forums, publication, mentoring and teaching and skilled individuals who were ready to share knowledge. Therefore, it is concluded that the use of various knowledge

retention strategies with web-based being dominant seems to be relevant and effective for NIOH.

#### **6.4. Recommendations**

This section reports the recommendations of the study as informed by the findings and conclusions of this study.

##### *6.4.1. Recommendations on the extent to which organisational knowledge was managed.*

The overall finding was that organisational knowledge was fairly managed, even though some areas still needed improvement. Therefore, it is recommended that NIOH implement and strengthen the reward system to encourage knowledge retention amongst the employees. There should be a knowledge management section to ensure that all the processes from creation, retention access and sharing of knowledge are well done in time. This can aid to avoid late capturing and loss of organisational knowledge. This motivates the desire to preserve information through the use of information retention strategies (Young's, 2007).

##### *6.4.2. Recommendations on knowledge retention strategies.*

It emerged from the results that ICT and staff meetings methods are commonly preferred as strategies for knowledge retention. Therefore, the organisation should formalise the current knowledge retention strategies and explore more strategies which are not in place. Among other, NIOH needs to consider the use of communities of practice (CoPs) as another strategy for knowledge retention. CoPs are professional groups of individuals held together by a common sense of purpose, sharing a lot of issues, concerns and energy for a particular theme (Chigada and Ngulube, 2016). A policy to guide knowledge retains at NIOH is also a prerequisite for successful knowledge management and knowledge retention in particular.

##### *6.4.3. Recommendations on the philosophies and motivation of knowledge retention strategies.*



This study found that employee's knowledge and expertise were not highly considered. It is recommended that employee's knowledge and expertise be valued, and the organisation try by all means to retain more experienced experts so that they can transfer knowledge to the new employees. Providing incentives for generating new ideas can be beneficial for double-loop learning (Stephen, 2016). Incentives may be in a form of monetary value or social recognition.

#### *6.4.4. Recommendations on the effectiveness of knowledge retention strategies.*

Since the study found that the knowledge retention strategies are effective, the researcher applauds and recommends that NIOH should maintain the status quo and continue using the strategies that work for the organisation while exploring additional strategies in line with trends and developments in the industry. The knowledge management system should also facilitate communication and knowledge exchange across diverse organisational units that share knowledge and skills (Du Plessis, 2007).

### **6.5. Recommendations for further studies**

Based on the results of this study, the researcher recommends to other researchers to consider the following for further research:

- Further studies covering a larger sample can be conducted to measure knowledge retention strategies in other similar organisations. This would be more appropriate if done in an organisation that already has a formalised KM practice in place.

### **6.6. Limitations of the study**

It is common for most studies to have limitations. The current study was limited to the NIOH. Therefore, the results of the research may not be generalised nevertheless might be used to validate findings from similar studies somewhere else.

### **6.7. Summary**

This was the last chapter of the study. This chapter presented a summary of results and drew conclusions based on the findings and the review of the related literature. The findings of this study given in chapter five allow specific conclusions to be drawn

in line with the objectives. Recommendations were subsequently provided to help develop the strategies for information retention at NIOH as well as recommendations for further research. Eventually, the chapter dealt with the drawbacks of this analysis.

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## APPENDICES: A QUESTIONNAIRE

### An exploration of Knowledge retention strategies: the Case study of National Institute for Occupational Health (NIOH)

#### Questionnaire

#### 1. Instructions

Write in the provided spaces where appropriate.

Please indicate your response by ticking (X) in appropriate boxes as provided

##### 1.1. Respondents' Profile

1.1.1. Please indicate your gender

1. Male	<input type="checkbox"/>	2. Female	<input type="checkbox"/>
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1.1.2. Which of the following age range do you belong?

18-25	<input type="checkbox"/>	26-30	<input type="checkbox"/>	31-34	<input type="checkbox"/>	35-39	<input type="checkbox"/>	40-45	<input type="checkbox"/>	Over 45	<input type="checkbox"/>
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1.1.3. Your race (just for purposes of statistics)

1. Black	<input type="checkbox"/>
2. White	<input type="checkbox"/>
3. Coloured	<input type="checkbox"/>
4. Indian	<input type="checkbox"/>

1.1.4. Highest educational/training qualification

1. High school	<input type="checkbox"/>	2. Post matric Certificate	<input type="checkbox"/>	3. Post matric Diploma	<input type="checkbox"/>	4. Degree	<input type="checkbox"/>	5. Postgraduate	<input type="checkbox"/>
----------------	--------------------------	----------------------------	--------------------------	------------------------	--------------------------	-----------	--------------------------	-----------------	--------------------------

1.1.5. What is your position in the organisation?

.....

1.1.6. Number of years in the position

1.	<input type="text"/>
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#### 2. Organisational philosophy and motivation.

2.1. With whom, internally, do you SHARE the knowledge and collaborate?

.....

2.2. With whom, externally, do you share knowledge?

.....

2.3. The views on organisational philosophy and motivation. **(please select an applicable answer by ticking in the box)**

**KEY:** 1. **SD**- Strongly Disagree 2. **D**-Disagree 3. Agree 4. **SA**-Strongly Agree  
5. **U**-Uncertain

	Statement	1. <b>SD</b>	2. <b>D</b>	3. <b>A</b>	4. <b>SA</b>	5. <b>U</b>
1.	Employees understand the value of retaining organisational knowledge					
2.	I am involved in coaching and mentoring other employees					
3.	NIOH values my knowledge and expertise					
4.	Knowledge is the most important the factor for improving organisational performance					
5.	There is a policy that guides NIOH employees on how organisational knowledge should be shared and retained					
6.	The existing ICT at NIOH support Knowledge retention					
7.	The organisational knowledge in our department is well captured and documented for future use.					
8.	There are formal and informal activities to instil knowledge retention					
9.	The existing culture at NIOH support knowledge retention sufficiently					
10.	Retention of highly skilled and experienced staff is a priority					
11.	There is enough budget to support knowledge retention projects					
12.	Employees are rewarded either financially, through promotion or recognition for sharing and documenting their knowledge.					
13.	NIOH Management support the process of creating, sharing, using and retaining the knowledge					
14.	In general, it is easy to access knowledge that I need at NIOH					

### 3. knowledge retention strategies

3.1. Which of the following strategies are used to retain knowledge at NIOH?  
(You can choose multiple answers)

The community of practice( group discussions)	
Observation	
Email (Workflow)	
Brainstorming	
Mentoring programmes	
Staff meetings	
Website	
Intranet	
lectures (Inviting experts to give lectures)	
Information repositories	
Databases	
Exit interviews	
Storytelling	
Paper document	
Audiotapes	
Videotapes	
Microfiche	
Any other (Please specify)	

3.2. In as far as you know which of the following knowledge retention programmes is NIOH involved in? (tick as many answers as apply)

Joint research projects	
Joint training programmes	
Joint seminars/workshops	
Staff exchange programme	
Other specify	
Any other (please specify)	

**4. The effectiveness of knowledge retention strategies.**

4.1. The knowledge that is stored in our department is always accessible when it is required.

Strongly agree		Agree		Strongly disagree		Disagree		Uncertain	
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4.2. How would you rate the effectiveness of knowledge retention strategies used in this organisation?

Very poor		Poor		Very good		Good		Uncertain	
-----------	--	------	--	-----------	--	------	--	-----------	--

4.3. Motivate for your answer given in question 4.2.

.....

.....

.....

**5. The extent to which organisational knowledge is managed at NIOH.**

5.1. The extent to which organisational knowledge is managed at NIOH. Knowledge management involves the process of creating, sharing, using and retaining the knowledge and information of an organisation.

Statements	Less extent	Great extent	Not at all	Uncertain
To what extent is knowledge created at NIOH				
To what extent do you document SOPs process documented				
To what extent is organisational knowledge accessible to all staff				
To what extent do you share your work knowledge				
To what extent does management encourage knowledge retention				
To what extent do you document your knowledge				
To what extent do you use your knowledge to perform your duties?				
To what extent do you use procedure manuals to perform your duties				
To what extent do you think NIOH is losing organisational knowledge (due to resignations, deaths and retirement)				
To what extent do you think NIOH keep organisational knowledge for future use?				

5.2. How often is organisational knowledge retained?

Always		sometimes		Never		When a need arises	
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**6. The challenges of knowledge retention at NIOH.**

6.1. What do you consider to be barrier\’s of successful knowledge retention in your department? (multiple answers are allowed)

My colleagues are not willing to document what they know	
My colleagues do not have time to share knowledge	
There are no structures of knowledge-retention	
My colleagues do not understand the importance of knowledge retention	
NIOH is unable to retain experienced and qualified staff.	
There is a lack of succession planning	
There is a lack of sustained leadership and ineffective information management.	
Other, please specify	

6.2. What do you think can be done to improve knowledge retention at NIOH?

.....

.....

.....

## APPENDICES B ETHICS CLEARANCE



**University of Limpopo**  
Department of Research Administration and Development  
Private Bag X1106, Sovenga, 0727, South Africa  
Tel: (015) 268 3935, Fax: (015) 268 2306, Email: anastasia.ngobe@ul.ac.za

**TURFLOOP RESEARCH ETHICS COMMITTEE**  
**ETHICS CLEARANCE CERTIFICATE**

**MEETING:** 05 November 2019

**PROJECT NUMBER:** TREC/474/2019: PG

**PROJECT:**

**Title:** An exploration of knowledge retention strategies: the case study of National Institute for Occupational Health (NIOH)  
**Researcher:** BB Nkuna  
**Supervisor:** Dr MA Dikotla  
**Co-Supervisor/s:** Mr LA Makgahlela  
**School:** Languages and Communication Studies  
**Degree:** Master of Information Studies

PP. 

**PROF P MASOKO**

**CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE**

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: REC-0310111-031

**Note:**

- i) This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.
- ii) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.
- iii) PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

*Finding solutions for Africa*

## APPENDICES C REQUESTING FOR PERMISSION



UNIVERSITY OF LIMPOPO  
Faculty of Humanities  
School of Languages and Communication Studies  
Private Bag X1112, Sovenga, 0727, South Africa  
Tel: (015) 268 4198, Fax: (015) 268 2868, Email:Maoka.Dikotla@ul.ac.za

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Acting Director  
National Institute for Occupational Health and Safety  
25 Hospital Street  
Constitution Hill  
Johannesburg South Africa  
2001

Dear Dr Spo

**REQUESTING A PERMISSION FOR MR BB NKUNA 201308477 TO CONDUCT RESEARCH AT NATIONAL INSTITUTE FOR OCCUPATIOAL HEALTH (NIOH).**

This serves to formally introduce. Mr. BB Nkuna who is doing Master of Information Studies student in the Department of Media, Communication and Information Studies at University of Limpopo. Mr. BB Nkuna has proposed to conduct research on a research project titled "an exploration of knowledge retention strategies: case study of the National Institute for Occupational Health (NIOH)".

Mr. BB Nkuna's research proposal has been approved by the University of Limpopo Higher Degrees and Research Committee of the School of Languages and Communications. Mr. BB Nkuna would like to collect data for the research project by way of distributing questionnaire to those deemed to be sources of relevant information and knowledge at NIOH. You are therefore requested to permit Mr. BB Nkuna to distribute questionnaires.

Mr. BB Nkuna will share the findings of the study with the department and assist in the implementation of the recommendations. For any further information about the student please do not hesitate to contact the undersigned.

Thank you for your kind assistance.

Yours sincerely

  
Dr MA Dikotla

DATE  
29/10/2019

## APPENDICES D REQUESTING FOR PERMISSION TO COLLECT DADA NIOH



Information Services Section  
25 Hospital Street, Constitution Hill, Johannesburg, 2000  
Tel: +27 (0)11 712 8557 Fax: +27 (0)11 712 8545  
[angelm@nioh.ac.za](mailto:angelm@nioh.ac.za)

Dear Dr Kgalamono

Warm greetings,

I humbly request your permission to allow Bongani Nkuna from the Information Services section to collect data from NIOH staff for his master's research project titled "*An exploration of knowledge retention strategies: the case study of National Institute for Occupational Health (NIOH)*".

Ethics clearance was granted by the University of Limpopo Department of Research Administration and Development. All information provided will be kept confidential and will be used for academic purposes. The names of the participants will not appear in any publication resulting from this study. After the data have been analysed you will receive a copy of the research report.

Your approval to conduct this study will be greatly appreciated. Thank you in advance for your interest and support of the research to date.

Yours sincerely

Angel Mzansi  
Head of Section

02/12/2019 \_\_\_\_\_  
Date

Approve  disapprove

Dr Siso Kgalamono  
Acting Executive Director

03/12/2019.  
Date



## APPENDICES E INFORMED CONSENT

### Consent cover letter

Dear Participant

My name is; Bongani Bright Nkuna and I am doing Master's degree in Information Studies at the University of Limpopo on "*An exploration of Knowledge retention strategies: Case study of the National Institute for Occupational Health (NIOH)*" under the supervision of Dr M.A Dikotla.

The aim of the study is to examine Knowledge retention strategies at NIOH. The study will assist NIOH to identify factors influencing knowledge retention. The study will suggest possible strategies that may assist NIOH to manage organisational knowledge.

Please be assured of the following:

- Your identity will be kept confidential and anonymous throughout the study
- Your participation is voluntary. You can withdraw and discontinue participation without penalty.
- You may also refuse to answer any questions you don't want to answer and still remain in the study.
- I may also withdraw you from this research if circumstances arise that warrant doing so.


If you volunteer to participate in this study, I request you to do the following things:

- Sign the consent form that is attached
- Participate in filling in the questionnaire

Please do not write your name of any of the questionnaire.

If you have concerns or questions about this study, please contact: Researcher: B.B Nkuna: Cell: 0769728945, Email: [bonganibrightnkuna@gmail.com](mailto:bonganibrightnkuna@gmail.com) OR the Supervisor: Dr M.A Dikotla at: Tel: 015 268 4198, Email: [Maoka.Dikotla@ul.ac.za](mailto:Maoka.Dikotla@ul.ac.za).

Thank you for your co-operation.



.....

Yours Sincerely

Mr BB Nkuna