ADOPTION AND USE OF THE INTEGRATED LIBRARY MANAGEMENT SYSTEM IN THE NKANGALA DISTRICT MUNICIPALITY COMMUNITY LIBRARIES, SOUTH AFRICA

by

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ABSTRACT

Adoption and implementation of Integrated Library Management Systems (ILMS) are essential components of modernising library operations and improving user experiences in community libraries. Some District Municipality Community Libraries in South Africa have not completely adopted the use of an ILMS, even though libraries have moved to ILMS to better manage their collections and improve their services. The aim of this research was to ascertain the extent of the adoption and use of the ILMS in the Nkangala District Municipality Libraries (NDMCL). This study employed a constructivist research paradigm to guide the research process, as this paradigm aligns with the qualitative nature of the study. A case study research approach was used to explore the experiences and challenges faced by the librarians within the district. Seventeen (17) Librarians from the District were purposefully chosen to participate depending on their subject knowledge for this qualitative study. Data was obtained through semi-structured interviews and it was thematically analysed using Atlas.ti®. Findings revealed that the NDMCL had not fully adopted and used the Mpumalanga Library Management System (MPULIMS) due to several challenges such as system compatibility, scalability, user experience resistance to change, computer illiteracy, lack of funding, inadequate training, as well as personnel and organisational unpreparedness. The research methodology involved a rigorous qualitative data collection strategy, ensuring comprehensive insights into these challenges. The research concluded that the organisational, financial, and technological aspects have a major impact on the adoption and use of ILMS in the NDMCL. The research recommended the implementation of effective change management strategies such as the hiring of computer literate personnel as well as training of staff before the adoption and implementation of ILMS to facilitate the transition to the new ILMS. Moreover, NDMCL should be provided with relevant technological equipment and materials as well as adequate funding needed for the smooth implementation and adoption of an ILMS.

Keywords: Integrated library management systems, Community libraries, Public libraries, Nkangala district municipality, South Africa

DECLARATION

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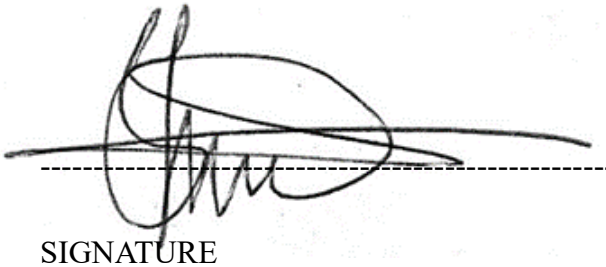
I hereby declare that this dissertation is my own work and has not been submitted for any other degree at any other university. I have acknowledged, through appropriate citation, the work of others where I have made use of it. I understand that my dissertation may be made electronically available to the public.



---------- 14 September 2024

SIGNATURE DATE

DEDICATION

This research is dedicated to the following people:

- My wife, Pontsho Phaswana Maoko, who has been my anchor and source of strength throughout this journey.
- My best friends, Simon Mohatli, Jeffrey Nkosi and Tsholo Mothoagae, who may have left this world too soon but live forever in my heart and memories.
- My son, Kamogelo Praise Phaswana, who brings me joy and reminds me of why I must continue to strive for excellence.
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LIST OF ABBREVIATIONS

Abbreviation	Full Form
ILMS	Integrated Library Management System
NDMCL	Nkangala District Municipality Community Libraries
MPULIMS	Mpumalanga Library Management System
ICT	Information Communication Technologies
OPAC	Online Public Access Catalogue
ILL	Interlibrary Loans
SLIMS	Slim Library Management System
KZNPLS	KwaZulu-Natal Provincial Service
LIS	Library and Information Services
ERM	Electronic Resource Management
MISAO	Management Information System Adoption by Organisations
PLAS	Papyrus Library Administration System
SDI	Selective Dissemination of Information
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISA	University of South Africa

CHAPTER ONE

INTRODUCTION: SETTING THE SCENE

1.1 INTRODUCTION

Libraries are fundamental to communities and societies, serving as pivotal access points to information—a vital resource for decision-making and daily activities. They act as centralized hubs for social interaction, economic development, and progress by facilitating information exchange and fostering networking opportunities among individuals (Hirsh 2022:2–8). Libraries offer readily available knowledge about several aspects of life. In his publication, Acharya (2024:13–29) proposed a concise definition of a library as a physical or virtual space inside a community or institution that offers a diverse range of books and information resources to the public. There exist several categories of libraries, including national, public or community, academic, special, and school libraries. However, this study mostly concentrated on public or community libraries.

The expansion of digital libraries is directly attributed to the development of information technology, particularly in the current era of internet technologies. Libraries have been consistently developing to enhance their effectiveness and broaden the range of services they offer (Li, Jiao, Zhang & Xu 2019:22). Ranganathan's fifth law of library science asserts that a library is an evolving organism (George 2022:155–161). Safi (2018:24) states that in the 21st century, this law represents the different forms a collection can assume and how a library can adjust and accommodate the evolving environment and its users in the digital era. Dalvi and Chitte (2021:228) recognise that in the present knowledge-based culture, the concept that a library is a developing organism refers to the library's continuous expansion and rapid accumulation of information in many forms, mediums, and formats. This implies that a library should not remain unchanged but rather adapt to meet the requirements of its customers by consistently increasing the quantity of materials and improving the quality of its collection.

Dalvi and Chitte (2021:228) propose that for a library to thrive, it should give priority to operations such as obtaining, distributing, organising, amassing, and providing online services. To effectively meet the expectations of library users and ensure the library functions smoothly, librarians must stay updated on technological advancements that improve library operations (Safi 2018:26). The advancements in technology and changes in library administration during the 21st century have posed challenges and possibilities for information specialists and library

users. The primary issue identified is the difficulty in categorising, shelving, and acquiring materials when relying on the traditional manual approach (Adebayo 2019:1; Singh et al. 2020:47). In addition, library patrons encounter comparable difficulties when it comes to uncovering, loaning, and extending the loan period of books utilising the conventional approach. The issues faced by the Nkangala District Municipality Community Libraries (NDMCLs) in the Mpumalanga province of South Africa are not exclusive to this region, but are also widespread in Nigeria, India, and Pakistan, as highlighted by the writers referred to above. Regularly assessing the effectiveness of library and information services (LIS) is necessary to identify obstacles and possibilities, ensuring that public libraries stay pertinent to their major objectives. The current circumstances may necessitate the implementation of a comprehensive library management system as a viable solution to tackle the various challenges encountered by community libraries, including the six local municipality community libraries in NDMCLs in South Africa and other developing nations.

The importance of information communication technologies (ICTs) in helping libraries meet their goals is widely recognised due to their versatility, simplicity, and decreasing cost, among other factors (Stilwell & Hoskins 2013:156). Likewise, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) acknowledges and underscores the need of libraries integrating Information and Communication Technologies (ICTs) into their services. Nevertheless, numerous academics concur that while public libraries and the utilisation of ICTs are significant in provinces like Mpumalanga and Limpopo, a considerable portion of the population in these provinces resides in rural areas characterised by poverty, illiteracy, and unemployment (Boloka 2022:11; Makhanya, 2018:29). Public and community libraries in the Limpopo province, South Africa encountered several obstacles, including insufficient internet connection, policy limitations, budgetary constraints, and inadequate infrastructure (Ledwaba 2018:110-117; Bopape, Dikotla, Mahlatji, Ntsala & Lefose 2021: 7; Boloka 2022:11-15).

An Integrated Library Management System (ILMS) is a computerised system designed to handle various library operations, including acquisitions, cataloguing, circulation, administration, serial management, Online Public Access Catalogue (OPAC), interlibrary loans (IL), and statistical reporting. It allows direct access to sub-modules within these main functional modules. Zunjar et al. (2020:614) define a community library as a library that is created, maintained, and financed by the community. This can be done through government support at the local, regional, or national level, or through other community organisations. The

purpose of a community library is to provide access to information, knowledge, and creative works through various resources and services. It is typically open to all members of the community, regardless of their race, nationality, age, or gender. These community libraries, which are managed by the Nkangala district and overseen by the Department of Culture, Sport and Recreation in South Africa, fit this description.

1.2 BACKGROUND TO THE STUDY

Libraries are integral to the current reading environment, providing society with essential information and knowledge resources. According to Withorn, Eslami & Lee (2021:329–418), libraries supply books and other informational materials that foster knowledge development among community members and institutions. This research study is about public or community libraries in Nkangala District. The Nkangala District Municipality (NDM) is situated in Mpumalanga province, South Africa. It is one of three districts constituting 22% of its total area. It has six local municipalities: Victor Khanye, Emalahleni, Steve Tshwete, Emakhazeni, Thembisile Hani and Dr JS Moroka. Rural settlement patterns dominate Nkangala district municipalities characterised by huge backlogs for basic household infrastructure and services delivery. According to UNESCO Manifesto 1994 on Public Libraries, a public library is an information centre which allows all categories of information and knowledge to be retrieved by the users. Throughout this research 'community library' and 'public library' are referred interchangeably as they both serve communities where they are found (Bopape et al. 2021:10).

Previously, library systems were administered manually, serving as physical storage or repository of books and other written material (Ogunsola 2011:42). Baharuddin and Rosman (2020:2) state that library activities such as registering books, borrowing library books, stocktaking, storing and disseminating information were all done manually using the old card catalogue index. For example, access points to retrieve author, title, name, subjects, classification or call number, and codes such as ISBN are all entered manually on the card system when creating a bibliographic, authority or metadata record. However, Yalagandula and Dahlin (2002:379) argue that these manual systems or operations created other problems, such as the information on the manual system was difficult to trace and was vulnerable to hazards such as theft, vandalism, wear and tear, as well as human error. Moreover, recording the numerous customers who visit the library is very time consuming with the manual approach and preserving the physical records takes up much space, which increases as the number of library users increases (Adebayo 2019:1). This is the situation in the NDMCLs, where a

stocktaking report from the six municipalities' community libraries revealed that sources were missing and could not be tracked by the manual processes used by the libraries. In order to efficiently manage and serve its users, libraries have been forced to implement a variety of ILMS. The automated system offers the basic features and capabilities of a library management system. Management information software makes it easy to manage registration features for newly registered users, adding and deleting users, updating user information, adding new books, deleting book records, checking the availability of books, updating books information, checking the location of books, and so forth (Tong & Nawi 2022:13).

In the 21st century, technology has led to a shift from physical operations to software/online operations in almost every organisation. The traditional methods of managing libraries have been ineffective in the contemporary day (Timothy & Chan, 2019:14). In addition, Patil and Sutar (2016:155) assert that libraries have not remained idle in the face of technological advancements, but rather have enthusiastically adopted technology and transitioned to digital platforms. As a consequence, a more contemporary method emerged, allowing for the complete automation of library services through an ILMS. Since the advent of digital libraries and the integration of computer technology in the library industry, it has become necessary to constantly update libraries by automating the majority, if not all, of their jobs and services (Lamba 2022:32). This system comprises digital resources, including online databases, electronic journals, and e-books, which can be accessed even outside the library's operating hours. Library electronic services encompass the utilisation of computers, databases, networks, and online technologies to gather, categorise, store, and convert conventional library information resources (Alokluk 2018:13). Online or electronic services encompass a range of functions, such as public access catalogues, reference services, circulation services, administrative services, serial control services, bibliographic services, and acquisition.

Alokluk (2018:12-15) argues that the implementation of online or e-services for library management has facilitated more effective and efficient operations for libraries. In addition, Sundram, Bahrin, Munir, and Zolait (2018:2) argue that the introduction of computerization prompted many libraries to shift from physical books to electronic books, and manage their inventory, updates, and accessibility using online systems. Asim and Mairaj (2019:8) substantiate this claim by presenting an instance in which libraries in Pakistan have implemented the use of ICTs in order to ensure continuous access to information for library administration purposes. This advancement resulted in the utilisation of Information and

Communication Technologies (ICTs) for the administration of various types of libraries and information resource centres. The implementation of online or e-services in library management has streamlined operations, enabling libraries to function with greater effectiveness and efficiency. Several computerised Library Management Systems (LMSs) have been created to facilitate the integration of ICTs in improving library functions. Some of the software used for this purpose are Koha, Evergreen, Emelda, NewGenLib, Opals, and WebLIS (Adegbore 2018:1-7; Asim and Mairaj 2019:19). An ILMS is a collection of systems implemented in a structure that carries out tasks such as storing and managing inventory/books, controlling access, and facilitating the sharing of resources such as books, periodicals, media, and staff. The staff members of an ILMS are proactive and responsive in maintaining materials, addressing reference inquiries, providing guidance on bibliographic instructions, and performing various other responsibilities (Hirsh 2022:12).

However, the NDMCLs are still relying on manual methods for performing library operations and management. Users experience inconvenience as they are required to be physically present at the library. One major drawback of traditional libraries is the requirement for users to be physically present, but online libraries allow users to access library resources from the convenience of their homes, which is less burdensome (Patil & Sutar 2016: 11; Asim & Mairaj 2019:12-19).

1.3 PROBLEM STATEMENT

Amid rapid technological advancements, communities are increasingly interested in accepting and utilizing online libraries (Song, Chen & Zhihan 2019:119). The information sector is transitioning from traditional methods of managing and disseminating hard copy information to embracing online services and digital information dissemination (Kros, Kirchoff & Falasca 2019:4). Previous studies conducted in different libraries indicated that the public now prefers to access books from various libraries they have subscribed to while at home, at their office or while travelling (Asim & Mairaj 2019:1–19; Mushtaq, Soroya & Mahmood 2021:389–401; Hirsh 2022:1-43). This is time saving and cost efficient and allows the user to be involved in other activities because they can access the library material at any time. ILMSs simplify librarians' job of keeping track of books that have been lent out and are in stock, as well as of missing books and books that are due to be returned. Therefore, technology has made the manual library management to be time consuming as compared to the management offered using library management software (Liu, Jiang & Osmani 2019:10).

According to Ahmed & Ibrahim (2024:1–13) and Stilwell & Hoskins (2013:154–171), numerous libraries and library consortia in South Africa have transitioned to Integrated Library Management Systems (ILMS) in order to efficiently manage their collections and facilitate their accessibility for the country's overall development. However, it appears that NDMCLs that have not completely embraced the implementation of an ILMS do not fall into this category. Although ILMS offers various advantages to libraries, certain public libraries in South Africa persist in utilising outdated manual techniques to manage their libraries. There is a scarcity of material regarding the level of use of ILMS in public libraries in South Africa. Much of the existing literature on this topic has been produced by university libraries, including research conducted by Stilwell and Hoskins (2013), Tosin (2015), Mandal (2016), Radebe (2017), Adegbore (2018), and Dzandza (2019), among others. This study aims to fill a research vacuum by providing a more thorough assessment of the strategies employed by public libraries to solve this issue. The aim of this study is to examine the implementation of ILMS in the NDMCLs. This study is significant due to the difficulties posed by the manual system.

Adegbore (2018:1) observes that the implementation and utilisation of ILMS face significant challenges when transitioning from one system to another, leading to the loss of library records. The overarching issue at hand is that libraries face difficulties in evaluating the characteristics of an appropriate ILMS and lack knowledge on the optimal software they may implement and utilise. Furthermore, the Nkangala District Community Library Report (2019) highlighted the challenges encountered in choosing suitable software for the library management system. As a result, the researcher decided to investigate the implementation and use of an ILMS. This would significantly enhance the overall efficiency of the libraries.

1.4 PURPOSE OF THE STUDY

The objective of this study was to investigate the implementation and use of an ILMS in Nkangala District Community Library. The rationale was to gain a deeper understanding of how these systems facilitate information accessibility and enhance literacy and learning in the Non-Dominant Mother Tongue Community Libraries (NDMCLs) in South Africa.

1.5 RESEARCH QUESTIONS AND OBJECTIVES

The specific objectives of this study are presented in Table 1.1.In pursuit of this study's objectives, the study sought to address the following research questions as outlined in Table 1.1.

Table 1.1: Research dashboard

OBJECTIVES	RESEARCH QUESTIONS	DATA SOURCE
To determine the influence of technological factors on the implementation of ILMS at NDMCLs.	What is the influence of technological factors on the implementation of ILMS in NDMCLs?	Librarian: interviews Literature review
To establish the organisational factors affecting the adoption of ILMS in NDMCLs.	Which organisational factors affect the adoption and use of ILMS in NDMCLs?	Top management (interviews) Librarian (interviews) Literature review (interviews) Literature review
To ascertain the views of librarians' experiences on the adoption and use of an ILMS in the NDMCLs.	What are the librarians' experiences on the adoption and use of an ILMS in the NDMCLs?	Librarians (interviews) Literature review
To discover the influence of funding on the adoption and use of an ILMS in the Nkangala NDMCLs.	How does the funding status influence the adoption and use of an ILMS in the NDMCLs?	Top management (interviews) Librarian (interviews) Literature review
To determine the factors hindering the adoption and use of an ILMS in NDMCLs.	What are the factors hindering the adoption the adoption and use of an ILMS for NDMCLs?	Library managers (interviews) Librarian (Interviews) Patron (interviews) Literature review
To suggest operational characteristics for selecting an ILMS for NDMCLs.	Which operational characteristics can be proposed for selecting an ILMS at NDMCLs?	ICT personnel (interviews) Librarian (interview) Literature review

1.6 LITERATURE REVIEW AND THEORETICALFRAMEWORK

Creswell (2018:111) say that a literature review assumes knowledge is cumulative and builds on what has been done before. However, this study reviews literature obtained from books, journal articles, dissertations and theses as well as online sources in line with the research

questions. The reviewer used a thematic approach towards reviewing the literature based on the following:

• Technology factors influencing implementation of ILMS in community libraries.

• Organisation factors affecting adoption and use of ILMS in community libraries.

• Adoption and use librarians' experience on ILMS.

• Funding status for adoption and use of ILMS.

• Hindrances towards adopting the adoption of ILMS in community libraries.

• Operational characteristics proposed for selecting an ILMS.

Kumar (2014:57) defines a theoretical framework as "a skeletal structure holding or supporting a theory of research work" to answer why the problem exists. Thus, it is a theory that gives a foundation for conducting research. They added that this helps one to find out what already exists about the topic and what is yet to be found out or known. In other words, it makes explicit why each variable is hypothesized to relate to others; why certain variables are considered relevant; how they will be measured; how they are realistically linked together within each hypothesis; how they might be influenced by contextual factors; besides establishing logical connections between hypotheses etc which may result into unambiguous findings or results (Adegbore, 2018:11). This study was grounded in a MISAO theoretical framework that supports ILMS. Theoretical framework was suggested by Al-Mamary, Shamsuddin and Aziati (2014:121) as MISAO model but later modified by Adegbore (2018:11); these ideas are shown through figure 2.1 to suit library and information studies on adoption of ILMS. This choice was made because the framework seemed to match with this study, and it appeared to give adequate guidance for the research questions and objectives of the study. According to Adegbore (2018:10), libraries in this model were regarded as a single unit of analysis in as much as their adoption of ILMS is concerned. Chapter two elaborates more on literature review and theoretical framework for this study, figure 2.1.

1.7 RESEARCH METHODOLOGY

Bryman and Bell (2014:100) explain that research methodology guides the study process, involving the collection of data necessary to answer specific research questions, organizing it

appropriately for accurate analysis, and drawing conclusions to generate knowledge in a particular area. This chapter will briefly discuss research paradigms, nature of research, research methods, study population, sampling procedures, data collection methods and instruments, data presentation and analysis and ethical considerations. These topics were extensively discussed under the section "research methodology" in chapter three. Thus this section explains how the researcher collected analysed coded them etcetera. This part presents methodological processes employed by researchers while collecting data as follows: Research approach Research design Methods of collecting Data Unit of analysis Sampling techniques Data analysis. Table 1.2 gives a summary of what would be extensively discussed throughout chapter three.

Table 1.2: Outline of research methodology (Researcher 2024)

Research phase	Type
Research paradigm	Constructivist paradigm
Research approach	Qualitative
Research design	Case study
Population	Municipality managers, assistant librarians, ICT, personnel and chief librarians
Ethics application	Application of ethical clearance from the Higher Degrees Committee
Data collection	Semi-structured interviews
Data analysis and interpretation	Thematic analysis

1.8 SIGNIFICANCE OF THE STUDY

van der Waldt (2021:1–20) argues that it is important for a researcher to demonstrate the study's importance to the reader, including its societal value and impact on other research. The ILMS combines all the major library modules such as searching, cataloguing, circulation, acquisitions, periodicals and serials control, network communication, selective dissemination of information (SDI), OPAC, electronic resource management (ERM), library management among others into one software application (Adegbore 2018). This research work is of importance to NDMCLs because they want to have their library management system software enhance efficiency and manageability of their operations. For example, this study's findings

may help district library management understand that online reference services are still possible on mobile phones even in remote areas. Thus, with an ILMS in place some manual aspects of library management can be eliminated as well as the need for physical presence at the library. So, this research assists users of community libraries within the district to get timely access to library materials without having to go for them. Apart from adding more information on wheel of knowledge in LIS Management another purpose was also provide insight on how ILMS advances performance levels in different libraries across diverse environments. Recommendations made by this study are therefore aimed at making practical improvements regarding policies, infrastructures and human resource involved in managing these libraries. One way or another this study will also concretise knowledge about ILMS used by rural public libraries. The same recommendations can apply to non-profit libraries located within villages which lack integrated library management system.

1.9 JUSTIFICATION OF THE STUDY

The research's justification is the rationale behind a study being carried out. Justification tells why a researcher wants to undertake this topic, including what it intends to mean and the gaps that it wants to cover (Wald, Harland & Daskon 2024:308–323). It is acknowledged that many studies have been done on the adoption and usage of library management systems in South Africa, Nigeria, Ghana, Namibia, India and Pakistan. However, the existing literature about adopting and using library management systems deals with school as well as academic libraries. The current study will produce new information about how ILMSs are utilized in public or community libraries. Viriri (2019), Diyaolu and Oso (2019) as well as Babatope et al. (2022) are some of the works from which these studies were done thus looking at: Implementation of the ILMS; Staff assessment on whom designed an effective ILMS; Development of an ILMS; Challenges of an ILMS; Standard requirements for an ILMS. In addition, this research is important because it examines how NDMCLs adopt and utilise ILMS in public or community libraries based on the NDMCLs' perspective. Therefore, this study aims at providing information that could be helpful to districts when planning and strategising towards implementing an ILMS. The main significance of this research lies in focusing on NDMCLs from Mpumalanga province in South Africa where no other study has been conducted yet.

1.10 SCOPE AND LIMITATIONS OF THE STUDY

The limitations of a study establish the boundaries and constraints within which it is conducted (Mökander, Morley & Taddeo 2021:44). This study specifically focused on the community libraries located in the NDM. The libraries that were included are Marapyane community library, Libangeni community library, Siyabuswa community library, Thembisile Hani community library, and Kwamhlanga community library. This study primarily examined the implementation of an ILMS in these community libraries. This study aimed to examine and recommend the implementation of an ILMS in the National Digital Media and Cultural

Libraries (NDMCLs). The researcher conducted a comprehensive survey of all the community libraries in order to get data from the research participants. Figure 1.1 below displays the map of community libraries in Nkangala Municipality

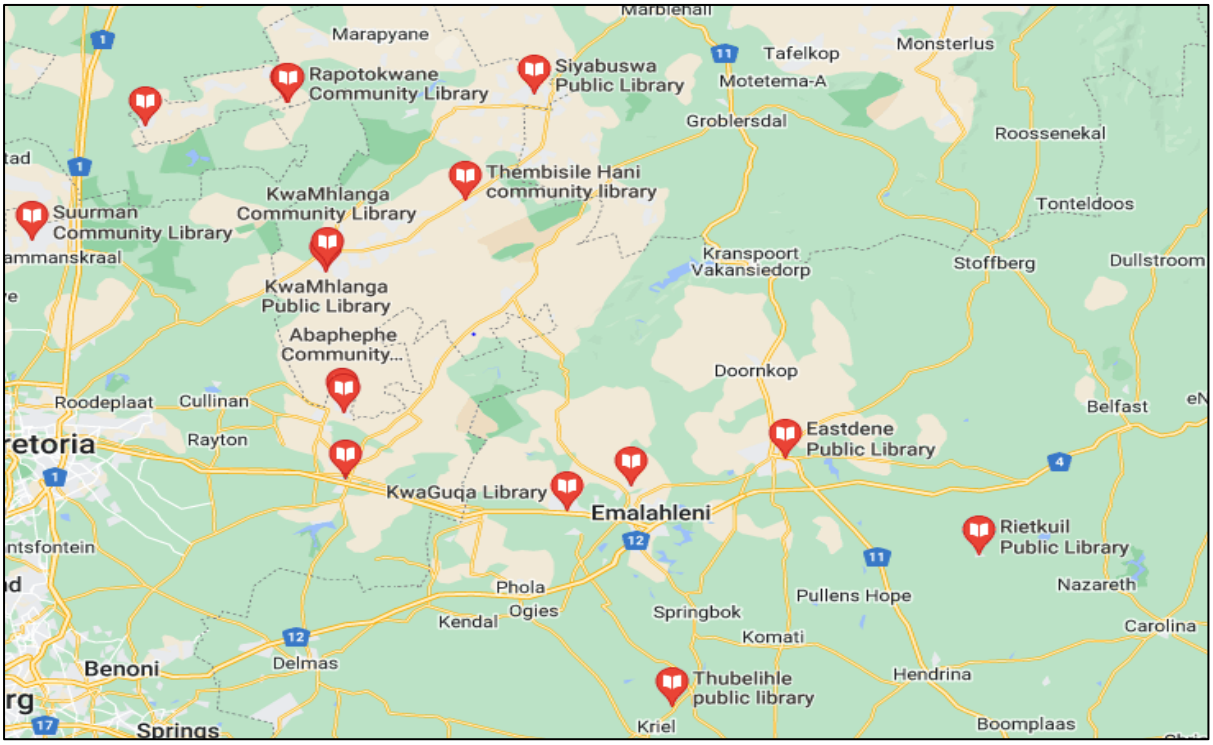

Figure 1. 1: Nkangala Municipality Community Libraries. Source: Google maps

1.11 ETHICAL CONSIDERATIONS

Ethics is not an add-on matter: it is inevitable and important in research. In this sense, Marusic (2023:2–7) defines research ethics as the rightness of researcher's behaviour towards those he investigates. The University of South Africa granted the researcher permission to proceed with

the study after seeking approval and ethical clearance. When permission was granted, the researcher requested for authorisation from the Nkangala District Municipality authorities to collect data on their behalf. Informed consent was obtained from all respondents prior to conducting any part of the research; this implies that respondents were aware of the purpose and nature of this research. There were no details about participants' personal lives or instruments used throughout this study due to respect for privacy by the researcher. For example, participants were initially assigned pseudonyms such as librarian 1, library assistant 1; librarian 2 who was later tagged as manager among others. Information was stored in a computer which had a password only known by the researcher specifically for safekeeping purposes. Participants received an information sheet requesting their consent to be tape-recorded during interviews. These recordings were kept on cloud storage that had a password so that they could not be easily accessed by unauthorised people. On this note, there was a general statement on confidentiality and anonymity on the information sheet indicated above. No one was compelled into taking part in any interview since participation was voluntary in nature only. Before collection of data commenced each participant signed a letter of consent stating clearly that there would be no financial remuneration for participating among other things. They could stop taking part at any time without giving reasons if they felt like it, because they had been given their freedom to choose whatever way they wanted even before then came up with their reasons. The autonomy of research respondents was highly respected; only information relevant to the study was solicited and utilised. Observing these ethical values helped protect participant rights (Creswell 2018:88). The data collected in this research did not pose any harm to the participants. For more details about ethical considerations, please see chapter three below.

1.12 DEFINITION OF KEY WORDS

This section provides the definition of key words that were used in this research for the adoption of the ILMS in community libraries.

1.12.1 Library

A library is a collection of resources, such as books and media, available for use by patrons. It provides physical and digital resources and can exist as a physical location, a virtual environment, or both (Baharuddin & Rosman 2020:2).

1.12.2 Integrated library management system

Tiamiyu and Olatunji (2022:2) define an Integrated Library Management System (ILMS) as software that integrates various modules for cataloguing, circulation, acquisition, end-user searching, database access, and other library tasks. These modules are accessed through a shared set of interface databases. The system is utilised to oversee the manual operations of a library and consists of a network of interconnected procedures that facilitate the input and retrieval of information for both librarians and library users.

1.12.3 Online library services

These library services and materials are accessible 24/7 on any device. In their study, Singh et al. (2020) found several web-based library services that are frequently utilised. These include the library web page, web OPAC, bulletin board services, ask-a-librarian services, web forms, digital reference services, online document delivery, interlibrary loan, online help and information skill tutorials, online current awareness bulletins, and e-mail-based services.

1.12.4 Community libraries

Omeluzor (2020:50) asserts that community libraries are developed, owned, and operated by a particular community, with a clear focus on meeting the specific requirements of that group. Community libraries are often compact and designed to enhance and offer diverse educational opportunities to underprivileged communities.

1.13 STRUCTURE OF THE DISSERTATION

This study is divided into six chapters as follows**:**

Chapter One

This chapter is an introductory chapter that provides the general background, the statement of the problem, purpose, objectives, significance of the study, a summary of the methodology and scope, as well as limitations of the study. The definition of terms is also included in this chapter.

Chapter Two

This chapter focuses on identifying and reviewing literature in line with this study. Literature is reviewed with the guidance of the research objectives and questions. The theoretical framework is also discussed in this chapter.

Chapter Three

This chapter presents the research methodology for the study. This includes the research paradigm, approach and design, data collection instruments, population and sampling, data analysis and ethical considerations.

Chapter Four

This chapter analyses, interprets and discusses the findings presented in the previous chapter. References are made to the literature related to the findings. Findings are compared with those of other, related studies.

Chapter Five

This chapter serves to present the summary, conclusions of findings in line with research questions and recommendations based on the findings. Finally, the chapter proposes areas of further research.

1.14 SUMMARY

Chapter One introduced the study, emphasizing the research inquiries, the importance of the investigation, and the study goals. The objective was to determine the level of adoption and utilization of ILMS at NDMCLs. This chapter outlined the research problem—the lack of ILMS adoption by NDMCLs despite its advantages over manual library management systems. Furthermore, Al-Mamary et al (2014:121) formulated a theoretical framework known as the MISAO model, which was subsequently revised by Adegbore (2018:11). This chapter provided a concise overview of how a qualitative approach was used as a strategy for conducting this inquiry. The data collection method adopted was a semi-structured interview guide, which involved conducting face-to-face interviews. Furthermore, this chapter has highlighted the significance of online services, indicating that library administrators in the district can recognise that these services can be accessed in remote locations using mobile phones and

applications. Additionally, it elucidates the rationale for the necessity of performing this task and the potential applications of the collected data inside an institution that has adopted this practice. The chapter ends by addressing ethical considerations, including privacy rights, informed permission, data storage, secrecy, and anonymity (Helander & Hellström, 2007). Chapter one offers a comprehensive summary of all the chapters included in this study, with each chapter's substance being succinctly stated by the researcher. Chapter one functioned as an introductory section for a literature study that explored relevant theories. The next chapter (Chapter 2) tackles literature review and theoretical framework.

CHAPTER TWO

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 INTRODUCTION

The preceding chapter presented an introduction to the study, including the research topic, research objectives, research questions, as well as an outline of the literature review and theoretical framework. The chapter also presented an outline of the research methods, the significance and reason of the study, the scope of this work, and its limits. The literature review is an essential component of the research process as it influences other aspects of the study, including the selection of research questions, discussions of findings, conclusions, and the refinement of the theoretical framework (Bryman et al., 2021). Bryman et al. (2021) contend that conducting a literature study might enhance clarity regarding the research topic and simultaneously expand one's knowledge base. This is the part where different models are recognised for future reference. This topic covers the impact of technology on the deployment of ILMS at Nkangala community libraries. The factors that affect the implementation or adoption of ILMs at NDMCLs include organisational factors, librarian experiences, financial implications, obstacles to integration, and operational considerations for selecting an ILM for community libraries within the Nkangala region.

2.2 THEORETICAL FRAMEWORK

Theoretical frameworks are fundamental in academic research as they offer a structured lens through which researchers can analyse complex phenomena. Ibrahim (2023:27–39) highlights the importance of literature reviews, emphasizing that a strong theoretical framework helps in identifying the key variables, concepts, and ideas that are integral to the study. Theoretical frameworks offer a roadmap for understanding, guiding research, and shaping data interpretation. In this context, the study adopted Adegbore (2018:1–14) Integrated Library Management System Adoption (ILMSA) Model and the Technology Acceptance Model (TAM) as its theoretical foundations to explore the factors affecting the adoption of Integrated Library Management Systems (ILMS) in South African community libraries.

The ILMSA model and TAM are particularly relevant because they address the technological, organizational, librarian, and funding constructs that are crucial for understanding how libraries adopt and integrate ILMS. These models help in providing a comprehensive view of the

adoption process, allowing researchers to investigate the multifaceted challenges faced by libraries. This section will justify the selection of these models, delve deeper into their constructs, and explain their relevance in the current study.

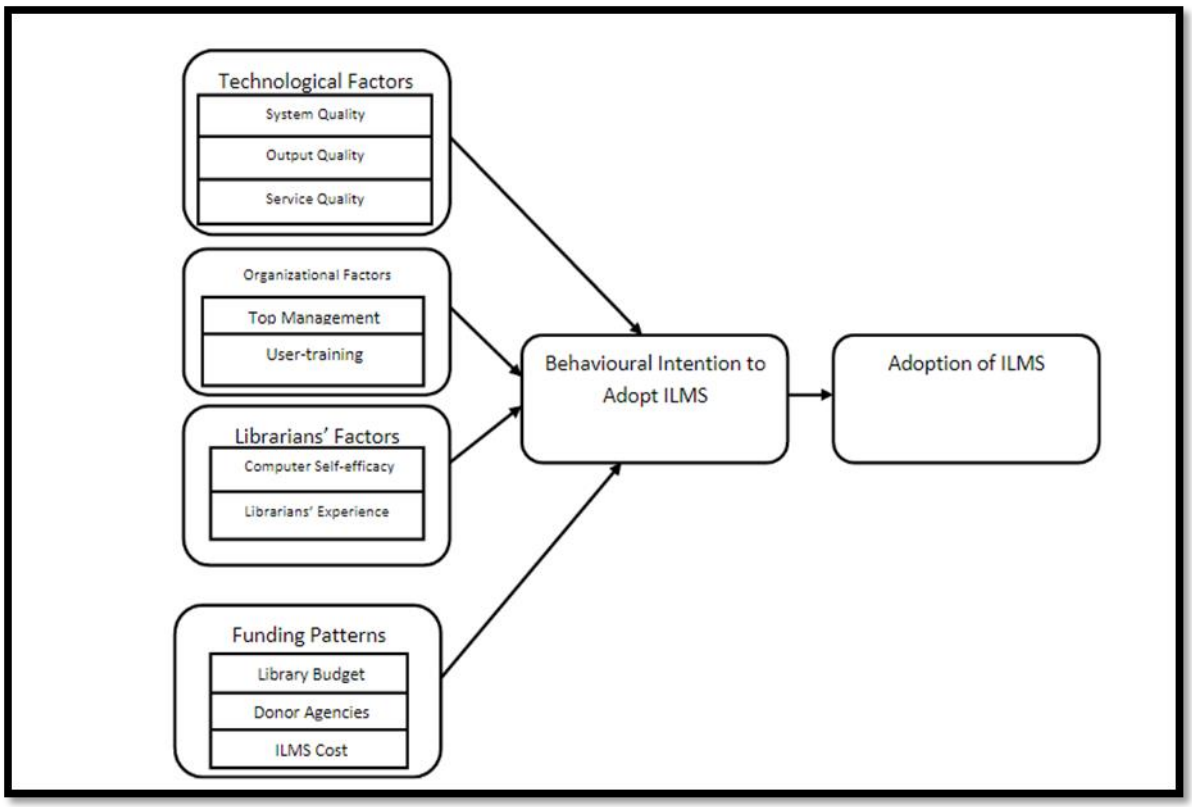

Figure 2. 1: ILMS adoption model modified by (Adegbore 2018)

Adegbore's (2018) model was selected for this study due to its comprehensive approach to analysing ILMS adoption. The model highlights four primary constructs: technological factors, organizational factors, librarians' factors, and funding patterns. These constructs are vital in the South African context, particularly for community libraries, where challenges like resource limitations, lack of skilled personnel, and infrastructural deficits are common. Adegbore's ILMSA model is robust because it treats libraries as complex entities where multiple factors influence the successful adoption of an ILMS.

One of the key reasons for selecting Adegbore's model is its emphasis on holistic adoption. Unlike other models that may focus exclusively on either technological or financial aspects, Adegbore (2018:12) considers the interplay between technology, organizational support, and the capabilities of library personnel. This is particularly important for South African community libraries, where the adoption of ILMS requires more than just access to technology.

It also depends on strong management support, adequate funding, and the availability of well-trained librarians.

Additionally, the Technology Acceptance Model (TAM) is chosen because it provides insight into the behavioural dimensions of technology adoption, focusing on how users perceive and interact with new systems. Davis (1989:319–340) posits that perceived usefulness and perceived ease of use are critical in determining whether individuals will accept and utilize a new technology. For ILMS adoption in South African libraries, this is particularly relevant because librarians' attitudes toward new technology and their confidence in using it (i.e., self-efficacy) are critical determinants of the system's success. By integrating both models, this study aims to provide a nuanced understanding of the ILMS adoption process in community libraries. Adegbore's model provides a macro-level view of the factors influencing adoption, while TAM offers a micro-level analysis of how librarians perceive and engage with the technology.

The Technology Acceptance Model (TAM) was originally introduced by Davis (1989:320) as a way to explain user behaviour in adopting technology. Its simplicity and adaptability made it a widely accepted model in technology adoption research. The model's two primary constructs—perceived usefulness and perceived ease of use—offer a clear framework for predicting whether individuals will embrace a new system.

- ✓ **Perceived usefulness** refers to the extent to which a person believes that using a particular system will improve their job performance.
- ✓ **Perceived ease of use** refers to the degree to which a person believes that using the system will be free of effort.

TAM has since evolved to accommodate a variety of technological contexts. As technological systems have become more complex, researchers have expanded TAM to include additional constructs like social influence, facilitating conditions, and self-efficacy (Venkatesh and Bala 2008:275). This evolution has made TAM applicable to diverse technological environments, including library management systems, where the user's perception of the system plays a pivotal role in its success.

In the context of this study, TAM is particularly useful because it sheds light on how librarians in South African community libraries perceive the ILMS. TAM's emphasis on user attitudes

aligns with the objectives of this research, which seeks to understand the behavioural barriers that may hinder ILMS adoption. For example, if librarians perceive the ILMS as difficult to use or unnecessary for their tasks, adoption rates will likely suffer. However, if the system is perceived as useful and easy to learn, adoption is more likely to succeed.

Adegbore (2018:4–7)'s ILMSA model identifies four primary constructs that influence ILMS adoption. These constructs are:

Technological factors encompass the attributes of the ILMS itself, including its system quality, reliability, user-friendliness, and integration capabilities. According to Grant (2020:115), a high-quality ILMS should offer seamless integration with existing hardware and software systems, have a user-friendly interface, and provide reliable service. Adegbore (2018:12) further emphasizes that an ILMS must have robust security features to protect library data and must adhere to international standards like MARC 21 and Z39.50. In South Africa, technological challenges such as infrastructure limitations and poor network connectivity can impede ILMS adoption. Many rural libraries, for instance, may not have the necessary bandwidth to support a cloud-based ILMS, making it difficult to implement advanced systems like Koha or Evergreen. Additionally, Aregbesola et al. (2019:21) argue that scalability is a critical technological factor. Libraries need ILMS that can evolve with their growing collections and user bases while being adaptable to new technologies as they emerge.

Organizational factors pertain to the readiness and support provided by the library's management and overall structure. Adegbore (2018:14) highlights that management's commitment to the system's implementation is a determining factor in its success. Without managerial buy-in, the necessary resources—both financial and human—may not be allocated efficiently, leading to a failed implementation. In South African libraries, organizational culture plays a significant role in the adoption of ILMS. Weber and Peters (2020:47) argue that libraries with a culture of innovation and adaptability are more likely to adopt new systems. On the other hand, those with rigid, bureaucratic structures may resist change, even if the technology offers clear benefits. The level of staff involvement in the decision-making process is also critical. Libraries that engage staff in the early stages of ILMS selection and requirements analysis are more likely to see positive outcomes, as staff will feel more invested in the system's success (Grant 2020:118). In addition, strategies such as change management and continuous professional development are essential for building organizational readiness. Libraries must establish clear communication channels between management and staff and

provide sufficient training and support throughout the adoption process. Chanderdeo (2020:169) emphasizes the need for comprehensive planning that includes staff input and accounts for potential disruptions in service during the transition to the new system.

Librarians' factors are centred on the abilities, attitudes, and perceptions of the individuals responsible for operating the ILMS. According to Adegbore (2018:15), librarians' self-efficacy—their confidence in using digital tools—plays a crucial role in the system's adoption. If librarians do not feel comfortable or competent using the ILMS, they are less likely to engage with it, and the system may fail. In many South African libraries, particularly those in rural areas, librarians may not have received formal training in digital systems, which can create a barrier to adoption. Aregbesola et al. (2019:23) note that continuous professional development is essential for ensuring that librarians are equipped with the necessary skills to operate and manage an ILMS. This includes training in database management, digital cataloguing, and user interface navigation. Further, librarians' attitudes toward new technologies are often shaped by their experiences with previous systems. If a previous system was difficult to use or caused operational disruptions, librarians might be more resistant to adopting a new one (Ajala 2018:3). To overcome this, libraries must foster a positive learning environment that encourages experimentation and gradual adaptation to the new system. Including librarians in system testing and feedback loops during the system design phase can also help mitigate resistance.

Funding is often the most significant constraint in the adoption of ILMS, particularly in resource-limited settings like many community libraries in South Africa. Adegbore (2018:16) argues that the funding model chosen by a library directly affects the type of ILMS adopted and the timing of its implementation. In cases where funding is limited, libraries may be forced to choose less sophisticated systems or delay adoption altogether. In South Africa, libraries often rely on government grants, international donors, or public-private partnerships to fund ILMS adoption. Aregbesola et al. (2019:25) suggest that exploring alternative funding models, such as community fundraising or corporate sponsorship, could provide much-needed financial support for ILMS implementation. Additionally, donor agencies are increasingly looking to fund projects that demonstrate a clear return on investment in terms of improved library services and expanded access to information. According to Samzugi (2018:35), adopting open-source ILMS like Koha or Evergreen can help reduce costs while providing a flexible and

customizable system. However, even open-source solutions require ongoing maintenance, technical support, and staff training, which can strain already limited budgets.

Adegbore's (2018) study focused on university libraries in Nigeria, which presents both similarities and differences when compared to the community libraries in South Africa. Both contexts share common challenges like funding constraints, technical support limitations, and the need for staff training. However, the institutional settings are notably different. University libraries typically have access to larger budgets and more robust infrastructures, while community libraries often struggle with outdated technology and inconsistent internet access. Moreover, South African community libraries must contend with rural environments where telecommunications infrastructure may be lacking, and power supply can be unreliable (Weber and Peters 2020:49). These differences make the adoption of ILMS more challenging, as systems that work well in urban, well-funded libraries may not be viable in rural settings. Despite these challenges, Adegbore's framework is adaptable to both settings. The constructs of technological, organizational, librarian, and funding factors are relevant in assessing ILMS adoption across diverse library environments.

This study adapts Adegbore's model to the South African context by focusing on the unique challenges faced by community libraries, particularly in rural areas. By examining how technological capabilities, organizational readiness, staff attitudes, and funding structures shape ILMS adoption, this research aims to provide actionable insights for libraries navigating similar constraints. The theoretical framework for this study, grounded in Adegbore's (2018) ILMSA model and the Technology Acceptance Model (TAM), provides a robust lens through which to examine the adoption of ILMS in South African community libraries. The integration of both models allows for a comprehensive analysis of the factors influencing ILMS adoption, from technological capabilities to organizational readiness and user perceptions. Through this framework, the study will explore how these factors interact to either facilitate or hinder the adoption of ILMS in community libraries, providing valuable insights that could inform future strategies for improving access to digital library services in resource-limited settings. This approach also highlights the relevance of both theoretical and practical considerations in understanding technology adoption, making it a crucial contribution to the field of library management.

2.3 TECHNOLOGICAL FACTORS AFFECTING THE ADOPTION AND USE OF AN ILMS

The successful adoption and implementation of Integrated Library Management Systems (ILMS) depend significantly on technological factors that influence their efficiency, compatibility, and usability in a library setting. As outlined by Reitz (2016:112), an ILMS is a comprehensive system designed to manage key library functions such as acquisitions, cataloguing, and circulation, while facilitating the management of both physical and digital resources. Libraries, particularly in the context of developing countries, face a myriad of technological challenges that impact the decision to adopt and the subsequent use of ILMS. This section explores in depth the key technological factors—system quality and reliability, compatibility and integration with existing systems, user interface and experience, security features and data protection, and the choice between proprietary and open-source ILMS—and their effects on ILMS adoption in libraries.

2.3.1 System Quality and Reliability

System quality is a crucial determinant of ILMS adoption. The term refers to the system's reliability, scalability, and capacity to handle the library's operational needs. Grant (2020:115) argues that system quality directly impacts a library's ability to maintain efficient workflows and provide reliable services to users. In this context, reliability refers to the system's uptime and operational stability, ensuring that users can access library services without frequent interruptions. For libraries in resource-constrained settings, Adegbore (2018:12) notes that system reliability is often compromised by issues such as poor infrastructure, outdated hardware, and unreliable internet connections, which can severely disrupt library operations.

To address these issues, libraries must invest in robust network infrastructure and redundancy systems that ensure consistent uptime. For example, Adegbore (2018:13) highlights the experience of academic libraries in Nigeria, which faced frequent downtimes due to unreliable power supplies and internet services. These interruptions not only limited access to online resources but also disrupted cataloguing and circulation processes, affecting overall library efficiency. Similarly, Darch, Rapp & Underwood (2018:82) describe similar challenges faced by South African community libraries, where power outages and internet failures led to delays in service delivery and limited user access to the library's digital resources.

Another key aspect of system quality is scalability. As libraries expand their collections and services, their ILMS must be able to scale accordingly without requiring significant overhauls. Scalability ensures that the system can accommodate growing data loads and increasing numbers of users. Aregbesola et al. (2019:20) emphasize that the ability to handle larger collections and user bases is essential for the long-term success of ILMS in public and community libraries, where demand for services tends to grow over time. Libraries that fail to implement scalable systems may find themselves limited in their ability to meet user needs as their operations expand.

The quality of the user interface (UI) and user experience (UX) also play a vital role in determining the effectiveness of an ILMS. A well-designed interface allows library staff and patrons to navigate the system easily and perform tasks efficiently. As Weber and Peters (2020:45) observe, systems with poor UI designs or overly complex workflows can lead to user frustration and reduced system adoption. Library staff, in particular, may resist using an ILMS if it requires extensive training or if the interface is not intuitive. Ajala (2018:3) argues that ensuring ease of use is critical for gaining the support of library staff, especially in environments where technical literacy may be limited.

2.3.2 Compatibility and Integration with Existing Systems

One of the primary technological considerations in the adoption of an ILMS is its compatibility with the library's existing hardware, software, and network infrastructure. Libraries often operate with a mix of legacy systems that are not easily compatible with modern ILMS solutions. This can present significant challenges during the data migration and system integration processes. According to Asim and Mairaj (2019:9), compatibility issues are among the leading causes of delays and cost overruns in ILMS implementation, as libraries must either upgrade their infrastructure or customize the ILMS to fit their existing systems.

The concept of interoperability is central to the discussion of compatibility. An ILMS must be able to integrate seamlessly with other systems used by the library, such as digital archives, research databases, and external service platforms. For example, libraries that participate in interlibrary loan networks require ILMS solutions that can connect with external systems to facilitate the borrowing and lending of resources. Grant (2020:116) argues that adopting ILMS solutions that adhere to industry standards, such as MARC 21 and Z39.50, is crucial for

ensuring system interoperability and enabling libraries to engage in broader resource-sharing networks.

The importance of integration extends beyond internal systems to include external services. Many libraries now rely on third-party vendors for services such as electronic resource management and digital content delivery. As Weber and Peters (2020:46) note, libraries must choose ILMS solutions that can easily integrate with these external platforms to streamline workflows and improve service efficiency. For example, integrating open-access repositories into the ILMS enables libraries to manage both subscription-based and freely available resources from a single platform, improving accessibility and user satisfaction.

Libraries that fail to prioritize compatibility and integration during the ILMS selection process may encounter operational inefficiencies that hinder the system's overall effectiveness. Adegbore (2018:14) highlights the case of Nigerian university libraries, where inadequate integration between the ILMS and external research databases led to delays in resource discovery and difficulties in managing digital content. To avoid such issues, libraries must carefully evaluate the technical specifications of ILMS solutions and ensure that they align with the library's existing systems and future needs.

2.3.3 User Interface and User Experience (UI/UX)

The success of ILMS adoption is heavily influenced by the user interface (UI) and user experience (UX) offered by the system. Weber and Peters (2020:47) emphasize that a well-designed UI allows library staff and patrons to perform tasks efficiently and with minimal frustration, while a poor UI can lead to resistance and dissatisfaction. The importance of UI/UX is particularly relevant for libraries that serve diverse user groups with varying levels of technical proficiency. An intuitive, user-friendly interface enables staff to manage library functions such as cataloguing, acquisitions, and circulation with ease, reducing the need for extensive training and minimizing errors.

The Online Public Access Catalog (OPAC) is the primary interface through which library patrons interact with the ILMS. A well-designed OPAC allows users to search for resources, check their borrowing status, and place holds on items efficiently. Aregbesola et al. (2019:21) argue that OPAC design plays a crucial role in determining user satisfaction, particularly in academic libraries where patrons rely heavily on digital access to resources. Libraries that implement mobile-optimized OPACs and responsive design features are better equipped to

meet the needs of users who access library services through smartphones and other mobile devices.

The importance of a positive UX extends beyond library staff and patrons to include library administrators and IT personnel responsible for system maintenance. Systems that are difficult to troubleshoot or that require frequent manual updates can impose a significant burden on IT staff, particularly in libraries with limited technical support resources. Ajala (2018:4) notes that adopting ILMS solutions with built-in self-service tools and automated updates can reduce the workload on IT staff and improve the overall user experience.

2.3.4 Security Features and Data Protection

Security is a key consideration for libraries implementing ILMS, particularly in the context of data protection and patron privacy. Libraries handle sensitive information, including personal patron data and borrowing histories, which must be protected from unauthorized access or breaches. According to Adegbore (2018:15), ILMS solutions must include robust security features such as data encryption, user authentication, and access control mechanisms to ensure that library data remains secure.

For libraries that adopt cloud-based ILMS, ensuring data security is even more critical, as data is stored on remote servers managed by third-party providers. Libraries must evaluate the security protocols used by cloud service providers, including their encryption standards, disaster recovery mechanisms, and backup protocols. Grant (2020:118) stresses the importance of data redundancy and automated backup systems to prevent data loss in the event of system failures or cyberattacks. Libraries that fail to implement adequate security measures risk compromising patron trust and may face legal liabilities in the event of data breaches.

In addition to protecting patron data, libraries must also ensure the security of their digital collections. Many libraries now provide access to digitized materials, such as e-books and academic journals, which must be protected from unauthorized distribution. Sparks (2018:9) highlights the role of digital rights management (DRM) systems in safeguarding digital content and preventing illegal downloads or sharing of materials. Libraries that manage large digital collections must adopt ILMS solutions with built-in DRM capabilities to ensure compliance with copyright laws and protect their digital assets.

2.3.5 Proprietary vs. Open-Source ILMS

Libraries face a key decision when selecting an ILMS: whether to adopt a proprietary system, such as SirsiDynix or Innovative Interfaces, or an open-source system, such as Koha or Evergreen. Each option has its own set of advantages and challenges, which can significantly impact adoption and use.

Proprietary ILMS systems are typically developed and maintained by commercial vendors, who provide technical support and customization services to libraries. These systems often offer advanced features, such as automated reporting tools and integrated analytics, which can enhance the library's ability to manage resources and track usage patterns. However, proprietary systems come with significant licensing fees and maintenance costs, which can be prohibitive for libraries with limited budgets. Taole (2018:5) notes that while larger libraries with substantial funding may benefit from the advanced features and dedicated support offered by proprietary systems, smaller libraries may struggle to afford these systems and their associated costs.

In contrast, open-source ILMS systems provide a more affordable alternative, as they are typically free to use and can be customized to meet the specific needs of the library. Weber and Peters (2020:47) highlight the growing popularity of open-source ILMS in South Africa, where libraries face budget constraints and are increasingly turning to cost-effective solutions such as Koha and Evergreen. These systems offer libraries greater flexibility in terms of customization and allow them to modify the software to suit their unique workflows and requirements.

However, adopting an open-source ILMS requires significant in-house technical expertise to manage system updates, customization, and troubleshooting. Libraries that lack the necessary technical staff may find it challenging to maintain open-source systems, as they do not benefit from the vendor support provided by proprietary systems. Grant (2020:119) cautions that libraries considering open-source ILMS must carefully assess their technical capacity and the availability of external support before making a decision.

2.3.6 Recent Developments and Trends in ILMS Adoption

The rapid evolution of cloud-based ILMS represents one of the most significant recent trends in library technology. Cloud-based systems allow libraries to reduce maintenance costs, as data is stored and managed on remote servers rather than on-site infrastructure. This shift toward

cloud computing also enhances the scalability of ILMS, enabling libraries to expand their services without requiring additional physical infrastructure. Bopape et al. (2021:14) document how the National Library of South Africa successfully adopted a cloud-based ILMS to improve resource management and provide remote access to its collections.

In addition, there is growing interest in mobile access features for ILMS, which allow patrons to access library services through smartphones and tablets. Darch, Rapp & Underwood (2018:84) note that the increased use of mobile devices has prompted libraries to adopt mobile-optimized OPACs, enabling users to search for resources, reserve items, and check their accounts from their mobile devices.

Finally, the rise of open-access initiatives has influenced ILMS adoption, as libraries seek systems that can manage and provide access to open-access resources. Libraries are increasingly integrating open-access repositories into their ILMS, enabling them to manage both subscription-based and freely available resources within a single platform (Sparks 2018:9). This trend highlights the need for ILMS to offer flexible content management capabilities that can accommodate diverse types of digital content.

Technological factors, including system quality, compatibility, user interface design, security features, and the choice between proprietary and open-source solutions, play a significant role in determining the success of ILMS adoption in libraries. Libraries must carefully assess their specific needs, technical capacity, and available resources when selecting an ILMS, ensuring that the chosen system aligns with their operational goals and enhances their ability to provide information services efficiently. As ILMS technology continues to evolve, libraries must remain adaptable and responsive to emerging trends such as cloud computing, mobile access, and open-access integration to ensure that their systems remain relevant and effective in meeting the needs of their users.

2.4 THE ORGANISATIONAL FACTORS AFFECTING THE ADOPTION AND USE OF AN ILMS

The adoption of Integrated Library Management Systems (ILMS) in libraries is a multifaceted process, influenced by various organizational factors that shape the decision-making process and ensure successful implementation. Public libraries adopt ILMSs to enhance service delivery, streamline operations, and manage both physical and digital resources (Ruff & Avriel 2017:114-116). Implementing an ILMS improves library management, resource handling, and

the efficient dissemination of information to users (Shivaran 2017:67-70). However, to successfully adopt and integrate an ILMS into library operations, several organizational factors such as staff skills and training, budget and resource allocation, decision-making structures, organizational readiness, and infrastructure, and user engagement and feedback must be carefully managed. This section provides a detailed exploration of each of these factors and their implications for ILMS adoption.

2.4.1 Staff Skills and Training

The skill levels and technical proficiency of library staff are critical determinants in the adoption of an ILMS. According to Asim and Mairaj (2019:56-61), the successful implementation of ILMS requires that library staff possess adequate technical skills and knowledge to operate and manage the system. It is essential for senior management to assess whether existing staff have the necessary competencies or if further training or the hiring of additional skilled personnel is needed. The lack of such competencies can slow down the adoption process or result in the system being underutilized, thereby reducing its effectiveness in streamlining library operations.

Training programs are pivotal in bridging skill gaps and ensuring staff can effectively engage with ILMS. Such programs should not only focus on technical skills, such as managing the software and troubleshooting, but also on soft skills, including adapting to new technologies and working collaboratively with IT support (Aregbesola et al. 2019:65-68). For example, in a study by Ajala (2018:21-24), it was found that libraries that invested in ongoing training for their staff saw higher levels of staff engagement and satisfaction with the new system. Furthermore, staff training contributes to higher levels of confidence and acceptance, ensuring smoother transitions and reducing resistance to change, which is a common barrier in the adoption of new technologies (Adgebore 2018:23-27).

In addition, continuous professional development (CPD) is necessary to keep staff updated on new system features and updates that may be introduced post-implementation. This approach helps to build staff capacity in a sustainable manner, fostering a culture of learning and adaptability within the library organization (Weber & Peters 2020:32-35). Training programs should also include feedback loops, where staff can communicate any challenges, they face in using the system. Such feedback mechanisms allow libraries to adjust their training approaches

as necessary and ensure that all staff members are adequately supported (Aregbesola et al. 2019:70-73).

2.4.2 Budget and Resource Allocation

The allocation of sufficient financial resources is one of the most significant organizational factors influencing ILMS adoption. Without appropriate budget planning, libraries may face significant challenges in acquiring and sustaining ILMS infrastructure. Aregbesola et al. (2019:72-76) and Adgebore (2018:23-27) emphasize that decision-makers must account for all costs associated with the implementation of ILMS, including hardware, software, licensing fees, training costs, and the ongoing maintenance of the system. Insufficient budget allocation can lead to system downtimes, lack of staff training, and ultimately, a system that fails to meet its intended objectives.

In particular, small or underfunded libraries often face challenges in securing the financial resources needed for ILMS implementation. For these libraries, cost-effective solutions such as open-source ILMS may be more viable. For instance, libraries in South Africa have adopted Koha, an open-source ILMS, to manage their resources efficiently while minimizing the cost burden (Darch, Rapp & Underwood 2018:84-87). However, even when adopting open-source systems, libraries must consider the costs of customization, technical support, and staff training, which can still represent a substantial financial commitment.

Resource allocation must also consider the long-term sustainability of the system. Libraries must ensure that there is sufficient budget for upgrades, troubleshooting, and system maintenance over time (Grant 2020:118-121). Budget constraints can lead to delayed system updates or inadequate training, both of which can negatively impact the library's ability to keep up with technological advancements. Furthermore, an inadequate budget can compromise the effectiveness of the ILMS in providing seamless and reliable services to users (Aregbesola et al. 2019:79-82).

Libraries must also prioritize investments in technology infrastructure, including servers, networking equipment, and cloud storage solutions that are essential for the effective functioning of modern ILMS. Without sufficient infrastructure investments, even the best ILMS may fail to deliver the expected improvements in efficiency and service delivery (Weber & Peters 2020:36-39). Therefore, comprehensive budget planning is essential to address both

the initial implementation costs and the ongoing operational expenses associated with ILMS adoption.

2.4.3 Organisational Readiness and Infrastructure

Organisational readiness is a crucial factor in determining whether a library is well-prepared to adopt and integrate an ILMS into its operations. This readiness includes assessing the library's existing infrastructure, technical capabilities, and the overall organizational culture that supports technological adoption. According to Aregbesola et al. (2019:79-82), libraries must evaluate their network capabilities, server capacity, and hardware compatibility before implementing an ILMS. This evaluation is necessary to ensure that the existing infrastructure can support the system's requirements or to identify any upgrades needed to facilitate seamless integration.

For example, a study conducted in Nigerian university libraries found that inadequate network infrastructure and power supply issues were among the primary barriers to ILMS adoption (Adgebore 2018:28-31). These issues caused frequent system downtimes, limiting access to online resources and disrupting daily operations. Libraries with similar infrastructural challenges must therefore invest in robust IT infrastructure, including backup power systems and high-speed internet, to ensure continuous system availability (Darch, Rapp & Underwood 2018:89-93).

In addition to infrastructure, organisational culture plays a significant role in determining readiness for ILMS adoption. Libraries that foster a culture of innovation and openness to technological change are more likely to embrace new systems successfully. Conversely, organizations with resistance to change may face internal barriers that hinder adoption. Encouraging a culture of continuous improvement and technological experimentation can help to ease the transition to ILMS and ensure staff buy-in (Weber & Peters 2020:40-44).

Data migration is another critical consideration when assessing organizational readiness. Many libraries operate legacy systems, and transitioning to a new ILMS may involve complex data migration processes, including transferring catalog records, circulation histories, and user information. Inadequate planning for data migration can result in data loss or corruption, which could significantly disrupt library services. Therefore, libraries must develop comprehensive data migration plans to minimize these risks (Aregbesola et al. 2019:83-87).

2.4.4 Decision-Making Structures

In the successful adoption of an ILMS, the decision-making structures within a library play a key role. Effective decision-making involves transparent, inclusive processes that engage all relevant stakeholders in evaluating system options, making informed choices, and securing the necessary institutional support. According to Aregbesola et al. (2019:83-87), decision-makers must involve not only the library administration but also the IT department, library staff, and users in the decision-making process to ensure that the selected ILMS aligns with the needs and capabilities of the organization.

Decision-making structures that are hierarchical and exclusive may hinder ILMS adoption by creating resistance among staff and users who feel excluded from the process. By contrast, inclusive decision-making fosters a sense of ownership and commitment to the new system. For instance, library staff should be involved in system evaluation, testing, and customization to ensure that the ILMS meets their daily operational needs (Ajala 2018:21-24). Engaging users in the decision-making process also helps to identify specific user requirements, ensuring that the ILMS enhances the user experience and delivers value to patrons (Weber & Peters 2020:44-48).

Moreover, the involvement of top-level management is crucial in securing the financial resources and organizational commitment needed for ILMS implementation. Without strong management support, ILMS projects may face delays or lack the necessary institutional backing for long-term success (Adgebore 2018:33-36). Leaders must provide clear guidance on system integration, training, and resource allocation to ensure that the ILMS is fully supported at all levels of the organization (Aregbesola et al. 2019:87-89).

2.4.5 User Engagement and Feedback

User engagement and feedback are vital components of ILMS adoption. Libraries must actively involve both staff and patrons in the system's development and deployment processes to ensure that the ILMS meets their needs and expectations. According to Aregbesola et al. (2019:89-93), engaging users early in the process can help to identify potential challenges and adjust the system's design to address these issues before full implementation. This proactive approach reduces the likelihood of system failures or user dissatisfaction, which can hinder successful adoption.

Feedback mechanisms should also be established to gather input from users on an ongoing basis, allowing the library to continually improve the system. Libraries that incorporate user feedback loops are better able to monitor system performance, address technical issues, and implement feature enhancements that improve the user experience (Adgebore 2018:36-39). For example, in South African community libraries, regular user feedback surveys have been used to refine ILMS features and improve user satisfaction (Darch, Rapp & Underwood 2018:93-95).

By maintaining open channels of communication and engaging users in the decision-making process, libraries can ensure that the ILMS remains responsive to the needs of all stakeholders, ultimately increasing its effectiveness and sustainability over time (Weber & Peters 2020:48-51).

The successful adoption of an ILMS in libraries depends on a combination of organizational factors that must be managed comprehensively. Staff skills and training, budget and resource allocation, organizational readiness and infrastructure, decision-making structures, and user engagement and feedback all play pivotal roles in shaping the outcomes of ILMS implementation. Libraries that address these factors proactively create an environment conducive to successful system integration, ensuring that the ILMS can deliver its intended benefits in enhancing library services and improving operational efficiency.

2.5 LIBRARIANS' VIEWS ON AND EXPERIENCES WITH THE ADOPTION AND USE OF ILMS

The perspectives and experiences of librarians are critical when evaluating the adoption and implementation of Integrated Library Management Systems (ILMS) in libraries. Their insights provide valuable context on the preparedness, motivation, and challenges faced in embracing new technologies. The success of ILMS adoption is often directly tied to the involvement, engagement, and training of librarians, who are responsible for day-to-day system operations. Research by Chanderdeo (2020:91-95) and Odendaal (2019:78-82) underscores the importance of librarians acknowledging both the benefits and challenges of ILMS, with particular emphasis on training and change management to ensure successful system integration.

2.5.1 Importance of Training and Librarian Engagement

Staff training is one of the most crucial elements for successful ILMS adoption. Librarians must be well-versed in the system's functionality to ensure its effective implementation and daily use. According to Sani (2018:43-47), investing in thorough training programs for library staff not only improves their technical skills but also positively influences their motivation and readiness to adopt new technologies. Well-structured training programs can have long-term positive impacts on both the librarians and the overall system usage, leading to increased efficiency and better user experience for patrons.

Odendaal (2019:78-82) similarly emphasizes that comprehensive training is essential for equipping librarians with the necessary skills to use ILMS effectively. This is particularly important in public libraries where personnel may have limited technical experience and where the introduction of such systems may be met with resistance due to fear of change. Training programs must, therefore, be designed to address specific skills gaps, and they should be ongoing to accommodate system updates and new features. In a study on the adoption of ILMS in Namibia, it was found that libraries that invested in continuous professional development for their staff experienced smoother transitions and less resistance to technological change (Lates, Ouma & Muthiani 2019:105-109).

In the context of National Digital Media and Content Libraries (NDMCLs), ensuring that librarians are adequately prepared and trained for ILMS usage is critical to successful implementation. Kochtanek and Matthews (2020:203-206) argue that it is vital for libraries to have clear training objectives that address both the technical and operational aspects of the system. Without this, librarians may struggle to engage fully with the system, leading to inefficiencies or underutilization of the ILMS.

2.5.2 Overcoming Resistance to Change

One of the most significant challenges faced by libraries when adopting new systems is the resistance to change. Library staff, particularly those who are accustomed to traditional manual systems, may feel threatened by the introduction of ILMS, fearing that it will complicate their work or make their skills obsolete. Shikongo (2015:207-211) emphasizes the importance of involving prospective users, such as librarians, early in the project planning stages. By engaging librarians from the outset, they are more likely to develop a sense of ownership and commitment to the new system, thereby reducing resistance.

Early engagement can help librarians understand the potential benefits of ILMS, such as improved cataloguing, circulation, and user services. When librarians are involved in system testing, they are also better equipped to provide feedback on the system's functionality, which can lead to necessary adjustments being made before full-scale implementation (Shikongo 2015:212-215). Such involvement helps mitigate uncertainty and fears, fostering a more positive attitude toward the system.

Moreover, change management strategies must address the concerns and fears that librarians may have. Spacey, Goulding, and Murray (2013:125-129) argue that librarians' attitudes toward new technology are a key determinant in the success or failure of ILMS adoption. Libraries that implement clear communication strategies, engage staff in decision-making, and offer supportive environments for learning are more likely to experience successful transitions. Providing librarians with opportunities to share their concerns and contribute ideas can help in reducing resistance and building a collaborative culture that supports innovation (Chanderdeo 2020:98-101).

2.5.3 Involvement of Librarians in Decision-Making Processes

For ILMS adoption to be successful, it is essential that librarians are not only trained but also actively involved in the decision-making process. Odendaal (2019:82-85) highlights the importance of involving librarians in selecting and testing ILMS. Since librarians will be the primary users of the system, their insights are invaluable in ensuring that the selected ILMS meets the library's operational needs. Libraries that exclude librarians from the decision-making process often encounter problems later on, such as poor system integration or lack of staff buy-in.

Libraries that engage librarians in system evaluation and selection processes benefit from their practical knowledge of service delivery requirements. Librarians are often best positioned to identify the system features that will be most beneficial in improving library operations. In a case study conducted at the Maxwilili Community Library in Namibia, it was found that the successful adoption of ILMS was largely due to the involvement of librarians in every stage of the process, from system selection to implementation (Lates, Ouma & Muthiani 2019:111-115). This inclusive approach led to higher satisfaction levels among library staff and a smoother integration of the ILMS into daily operations.

Similarly, Adegbore (2019:30-33) emphasizes the need for collaborative decision-making in the context of Nigerian university libraries. The study highlights that involving all library personnel in the process prevents feelings of alienation and promotes a collective sense of ownership. The same principle applies to public and community libraries, where staff engagement is key to ensuring that the system aligns with both the operational goals of the library and the needs of the community.

2.5.4 Addressing Librarians' Concerns and System Customization

Librarians often express concerns about how new systems will impact their workflows and responsibilities. One of the main concerns is whether ILMS will increase their workload or complicate routine tasks. Addressing these concerns through customization of the system can significantly improve the adoption process. Adegbore (2019:35-39) found that librarians are more likely to embrace ILMS when they have the opportunity to participate in system customization, ensuring that the system is tailored to the specific needs of the library. Customizing the system allows libraries to streamline workflows, automate repetitive tasks, and integrate the system with other digital tools used in library management.

Customization also enables libraries to adjust the user interface to match the technical proficiency of the staff, making it easier for librarians to navigate and utilize the system's features. In the case of the Koha open-source ILMS, several South African libraries have successfully customized the system to meet their unique operational requirements, resulting in improved service delivery and higher staff satisfaction (Darch, Rapp & Underwood 2018:95-98). The flexibility of open-source systems is particularly beneficial in settings where librarians may have diverse levels of technical experience, as it allows the system to be adapted to the specific context of the library (Odendaal 2019:85-89).

2.5.5 Librarian Collaboration and Peer Learning

Collaborative approaches to learning and system use can also enhance the ILMS adoption process. Librarians can benefit from peer learning environments where they share knowledge, best practices, and troubleshooting techniques with colleagues. Kochtanek and Matthews (2020:214-217) emphasize the importance of creating peer networks among librarians, especially in environments where formal technical support may be limited. These networks allow librarians to learn from one another's experiences and develop solutions to common challenges in ILMS usage.

Peer learning is particularly valuable in public and community libraries where resources for formal training may be limited. Sani (2018:50-53) advocates for the establishment of intra-library and inter-library networks where librarians can collaborate on ILMS-related projects, share training resources, and offer support to one another. Such collaboration not only improves the technical proficiency of librarians but also fosters a sense of community and shared responsibility for the system's success.

In the context of National Digital Media and Content Libraries (NDMCLs), fostering collaboration among librarians can significantly enhance the overall system adoption process. The establishment of ILMS user groups within and between libraries can help librarians exchange valuable insights and provide mutual support, thereby improving the overall user experience and system performance (Chanderdeo 2020:110-113). These networks can also serve as platforms for ongoing professional development, ensuring that librarians remain up to date with the latest system updates and technological advancements (Lates, Ouma & Muthiani 2019:117-120).

The successful adoption and implementation of ILMS in libraries rely heavily on the views, experiences, and active participation of librarians. Librarians play a critical role not only in the technical operation of the system but also in ensuring that the system meets the library's operational needs and enhances service delivery. To foster successful ILMS adoption, libraries must invest in comprehensive training programs, address resistance to change through early engagement and collaborative decision-making, and ensure that librarians have a voice in system selection and customization.

Furthermore, the creation of peer learning networks and collaborative environments can enhance the sharing of knowledge and best practices, ensuring that librarians are fully equipped to manage the ILMS effectively. By acknowledging the central role of librarians and addressing their concerns throughout the adoption process, libraries can create a supportive environment that promotes innovation, efficiency, and the successful integration of new technologies into library services. The lessons learned from these experiences can provide valuable insights for other libraries seeking to implement ILMS, particularly in resource-limited settings such as National Digital Media and Content Libraries (NDMCLs).

2.6 THE INFLUENCE OF FUNDING PATTERNS ON THE ADOPTION AND USE OF ILMS

The adoption and successful implementation of an Integrated Library Management System (ILMS) is significantly influenced by the availability and distribution of funding. The extent to which libraries are able to secure sufficient financial resources directly impacts their capacity to acquire, implement, and maintain these systems, as well as to provide necessary training for library staff. Various factors such as geographical location, size of the library, and type of library contribute to the differences in funding patterns. Furthermore, government policies, economic conditions, and the level of community support also play crucial roles in determining the accessibility of funding sources for libraries (Darch et al. 2018:75-77). This section explores the influence of different funding models, including government grants, library budgets, collaborative funding, and cost-sharing models, on the adoption and use of ILMS, with reference to recent studies and examples from the literature.

2.6.1 Government Grants and Library Budgets

Government funding is one of the most significant sources of financial support for libraries, particularly those in the public sector. Sani (2018:54-58) points out that government grants are often aimed at modernizing library infrastructure and operations, including the adoption of ILMS. These grants are typically allocated at the national or regional level and may be used specifically for technology upgrades, software acquisition, and staff training. In regions with strong governmental support for library services, such as parts of Europe and North America, libraries are able to secure substantial funding for ILMS implementation. However, in many developing countries, government funding is often limited or inconsistent, making it challenging for libraries to undertake major technological advancements (Darch et al. 2018:78-81).

In countries like South Africa, where libraries are largely dependent on government allocations, public libraries face significant financial constraints that impact the adoption of ILMS. Samzugi (2018:90-93) explains that libraries in underfunded regions often struggle to maintain even basic services, let alone afford the costs associated with implementing advanced ILMS solutions. In these cases, targeted government grants could make the difference between successful ILMS adoption and failure. Libraries in countries with proactive library policies have been able to leverage state-funded grants to modernize their services. For example, in

Nigeria, academic libraries have benefited from technology-focused government grants aimed at upgrading library services and resources (Sani 2018:58-60).

In addition to direct government grants, the library's internal budget is another critical factor in funding ILMS projects. Grant (2020:117-120) highlights the importance of library budgeting for ongoing operations, including the allocation of resources for IT infrastructure, software licensing, hardware upgrades, and staff training. Libraries with well-planned budgets are better positioned to adopt and sustain ILMS systems over the long term. However, in cases where library budgets are limited or tightly controlled, even the initial cost of acquiring ILMS software can be prohibitive.

2.6.2 Collaborative Funding and Consortia

Another effective method for funding ILMS adoption is through collaborative funding efforts and consortia. Libraries that are part of consortia or collaborative networks can pool their financial resources to make collective technology investments, thereby reducing the financial burden on individual institutions (Grant 2020:120-123). These consortia may include regional library associations, municipal networks, or partnerships with universities and other educational institutions. Samzugi (2018:95-97) points out that collaborative funding efforts not only make ILMS adoption more affordable but also provide libraries with access to more advanced systems that would otherwise be unattainable due to cost limitations.

Collaborative funding models have been particularly successful in countries with strong library networks. In South Africa, for example, public and academic libraries have formed regional consortia to share the costs of ILMS implementation, training, and system maintenance. By working together, these libraries are able to achieve economies of scale and negotiate better deals with ILMS vendors (Darch et al. 2018:81-83). In addition, consortia members often benefit from shared knowledge and expertise, which improves the overall success rate of ILMS projects.

A key advantage of collaborative funding is that it allows smaller libraries, which may not have the financial resources to independently adopt ILMS, to benefit from advanced technology. For example, the South African Library Consortium has enabled several rural libraries to adopt open-source ILMS systems like Koha by sharing both the cost and the technical expertise required for successful implementation (Grant 2020:123-126). Samzugi (2018:97-99) agrees

that collaborative funding and consortia provide a cost-effective way for libraries to modernize their services and improve resource-sharing capabilities.

2.6.3 Fundraising, Donations, and Community Support

Libraries can also secure funding through fundraising efforts, donations, and community support. Fundraising campaigns targeting library patrons, alumni, local businesses, or philanthropic individuals can provide much-needed financial resources for ILMS adoption (Grant 2020:126-128). These campaigns can take various forms, including crowdfunding, sponsorships, or charitable events. Fundraising efforts have become increasingly popular in libraries that serve communities with a strong sense of civic pride and engagement. For example, public libraries in the United States have raised substantial funds for technology upgrades through community-driven campaigns, which have successfully financed ILMS projects (Darch et al. 2018:84-86).

Similarly, donations from businesses and philanthropic organizations can provide libraries with the financial support needed to implement ILMS. Many libraries have developed partnerships with local businesses or corporate sponsors, who see value in supporting educational and community resources. In some cases, libraries have successfully solicited donations of hardware and software, which significantly reduces the overall cost of ILMS adoption (Asim & Mairaj 2019:60-64). Sani (2018:60-63) suggests that libraries should seek out partnerships with technology companies that may be willing to provide discounted or donated software licenses, thereby reducing the financial barriers to ILMS implementation.

Fundraising and community support have proven particularly successful in smaller, community-based libraries that may not have access to significant government funding or large institutional budgets. In Kenya, for example, a public library in Nairobi raised enough funds through a community-based campaign to implement Koha, an open-source ILMS. This effort was supported by local businesses and individual donors who recognized the value of modernizing the library's services (Grant 2020:128-130). Such efforts demonstrate the power of grassroots support in overcoming financial constraints and ensuring that even underfunded libraries can adopt ILMS.

2.6.4 Cost-Sharing Models

Cost-sharing models represent another innovative approach to funding ILMS projects. These models involve libraries sharing the financial burden of ILMS adoption with other departments within their parent organizations, such as universities or municipal government agencies. In university settings, for example, the costs of ILMS acquisition and maintenance can be shared between the library, the IT department, and other academic units that benefit from the system's capabilities (Asim & Mairaj 2019:64-67). This approach allows libraries to access the funding needed for ILMS adoption without bearing the entire financial burden.

Aregbesola et al. (2019:33-36) highlight that cost-sharing is particularly beneficial in large institutions, such as universities or government libraries, where multiple departments rely on the same system for resource management. By distributing the costs across different departments, libraries can implement more advanced ILMS systems, which might otherwise be out of reach. For example, in India, university libraries have successfully adopted shared-funding models to implement integrated systems that manage both academic resources and student services (Asim & Mairaj 2019:67-70).

Cost-sharing can also extend beyond the parent institution, with libraries partnering with neighbouring libraries to share the costs of ILMS implementation. This is particularly useful in municipal library systems where several libraries operate under the same jurisdiction. By pooling resources, these libraries can implement a centralized ILMS that serves all the branches, leading to reduced costs per library and improved service integration (Grant 2020:130-133). The success of cost-sharing models depends on effective coordination between the involved parties and clear agreements regarding financial contributions and system management responsibilities.

The successful adoption and use of ILMS in libraries are heavily influenced by the availability of funding and the effectiveness of different funding models. Government grants, library budgets, collaborative funding efforts, and cost-sharing models all play critical roles in determining whether a library can implement and sustain an ILMS. Each funding model offers distinct advantages and challenges, depending on the library's size, location, and type. Libraries that can diversify their funding sources and collaborate with other institutions are better positioned to adopt advanced ILMS systems and improve their services.

Moreover, libraries that engage in fundraising efforts and seek support from the community can overcome financial barriers and ensure that even underfunded institutions have access to modern technology. By leveraging a combination of government support, community involvement, and collaborative efforts, libraries can secure the necessary resources to implement ILMS and enhance their service offerings to patrons. As libraries continue to face financial challenges, especially in developing regions, exploring innovative funding models will be crucial to their ability to modernize and remain relevant in an increasingly digitized world.

2.7 FACTORS HINDERING THE ADOPTION AND USE OF ILMS

The third research question of this study sought to determine the factors hindering the adoption and use of Integrated Library Management Systems (ILMS) at National Digital Media and Content Libraries (NDMCLs). In the context of developing countries, various challenges are typically associated with this process, such as inadequate continuous training, insufficient top management support, a lack of demand from patrons for automated services, and limited exposure to library automation trends (Nelson 2018:45-47). These challenges impede the effective implementation and use of ILMS, thereby slowing down the digital transformation of libraries.

One of the most significant barriers to ILMS adoption is the lack of adequate training and skills among library staff. Adebayo (2017:23-25) emphasizes that an ILMS is a complex resource planning system that requires staff to be proficient in managing both physical and digital resources. However, many libraries, particularly those in developing regions, struggle with training their personnel to effectively utilize these systems. This lack of skill transfer limits the benefits that ILMS can provide. According to Samzugi (2018:14-16), insufficient training programs leave library staff reliant on system administrators, creating bottlenecks whenever technical issues arise. In such cases, the inability of staff to troubleshoot problems can lead to operational delays, hampering service delivery to library patrons.

Moreover, the technological demands of ILMS often exceed the skill levels of current staff, many of whom are trained in traditional librarianship. This knowledge gap hinders the proper functioning of the system, making it difficult for libraries to transition smoothly from manual processes to automated ones. Chile (2020:78-79) supports this view by asserting that successful ILMS adoption requires continuous and comprehensive training initiatives that are customized

to the specific needs of the staff. Without this, even well-funded systems will fail to achieve their intended goals.

Another major hindrance is the lack of top management support. Management plays a pivotal role in decision-making, resource allocation, and establishing a supportive environment for technology adoption. Ruff and Avriel (2017:101-103) argue that the introduction of an ILMS in an organization involves not only a technical change but also significant managerial and operational shifts. When top management fails to fully support these changes, whether through lack of involvement or insufficient funding, the system's adoption is often stunted. Libraries require leadership that recognizes the long-term benefits of ILMS and is willing to invest in the necessary infrastructure and staff training. The absence of such backing can create a resistance to change among employees and reduce the overall effectiveness of ILMS adoption.

In addition, there is a growing need for libraries to modernize their infrastructure to fully integrate ILMS. As noted by Shivaram (2017:34-36), the sheer volume of information handled by modern libraries makes it impractical to rely on manual systems. Libraries must invest in technological upgrades, from improving network capacity to upgrading outdated hardware. In regions where internet infrastructure is unreliable, such as many rural libraries in developing countries, this becomes a significant challenge (O'Brien 2014:56-58). An ILMS relies on a stable and robust technological backbone to function effectively, and without such infrastructure, its benefits remain unrealized. The need for libraries to evolve into modern information centres is critical, yet many struggle to meet this requirement due to poor infrastructure investments.

Financial constraints are another barrier. The high costs associated with acquiring and maintaining an ILMS are significant. Breeding (2018:203-205) highlights that while ILMS offers significant operational benefits, the long-term financial commitment—including the initial setup, licensing fees, ongoing maintenance, and staff training—can be prohibitive for many libraries, especially those in developing countries. The lack of sufficient budget allocation for technological advancements prevents libraries from accessing the latest systems, further hindering their ability to provide efficient services to users. In the same vein, Samzugi (2018:64-65) points out that many public universities in Tanzania faced issues related to inadequate funding, which restricted their ability to adopt and maintain ILMS. The situation was exacerbated by the high maintenance costs required to keep the system updated and operational.

Similarly, many libraries experience vendor-related challenges during ILMS adoption. According to Tanwar (2014:145-148), libraries in West and East Africa reported difficulties during the ILMS implementation phase, particularly with selecting vendors. Vendors often preferred remote support, which clashed with the preference of library management for on-site training. The cost of on-site vendor support proved to be another obstacle, further delaying implementation. This mismatch between library needs and vendor capabilities can disrupt the smooth rollout of ILMS, and in some cases, may lead to underutilization of the system.

There is also staff resistance to the adoption of new technology, particularly in situations where the transition from manual to automated systems is abrupt. Mutula's (2017:212-215) study on ILMS adoption at the University of Botswana revealed that staff feared the additional responsibilities and the potential job loss that came with the implementation of new technologies. Many employees were reluctant to acquire the necessary skills for operating an ILMS, particularly because of anxiety surrounding increased workloads and changes in workflow patterns. This resistance to change can derail ILMS projects, and in some cases, lead to outright project failure. Therefore, organizations must carefully manage change by implementing thorough training programs and creating an environment where staff feel secure in their roles despite the technological advancements.

Lastly, funding allocation often prioritizes other sectors, leaving libraries underfunded. For instance, Mcharazo (2016:63-64) found that community libraries in Namibia experienced significant challenges due to insufficient financial support. Funds that were initially allocated for library development were often redirected to other sectors, leaving libraries without the necessary financial resources to maintain or upgrade their ILMS. Similar challenges were reported by Uzomba (2015:111-112) in Nigeria, where community libraries were among the most underfunded institutions, further hindering their quest for technological modernization.

The factors hindering the adoption and use of ILMS are multifaceted, spanning financial limitations, lack of infrastructure, inadequate management support, staff resistance, and vendor-related challenges. The literature review indicates that both academic and community libraries face similar barriers in the implementation of ILMS, with a lack of financial resources, insufficient staff training, and infrastructural inadequacies being the most significant. As this study investigates the adoption of ILMS in NDMCLs, it is clear that overcoming these barriers requires a multifaceted approach, with a focus on securing adequate funding, providing

continuous training, and ensuring strong management support to navigate the complexities of ILMS implementation.

2.8 OPERATIONAL CHARACTERISTICS OF ILMS

The final objective of this study was to propose the operational characteristics essential for selecting an Integrated Library Management System (ILMS) for National Digital Library Collections (NDCLs). A comprehensive understanding of the operational features of ILMS is crucial for community libraries to make informed decisions when choosing a system. A review of the literature, particularly from Grant (2012:115-118), Hopkinson (2018:23-27), and Rajnikant and Patel (2014:100-105), provides a detailed analysis of ten key operational attributes of ILMS. These attributes play a significant role in shaping how libraries manage resources, interact with patrons, and ensure the efficient operation of their services.

Cataloguing is one of the primary operational functions of any ILMS. According to Rajnikant and Patel (2014:101), cataloguing refers to the systematic process of creating a comprehensive catalogue that includes various library materials such as books, journals, audiovisual materials, and other resources. The ILMS software offers tools that streamline the organisation and management of bibliographic data. Grant (2012:117) argues that an ILMS enables libraries to not only manage bibliographic records but also perform critical cataloguing tasks such as searching, retrieving, and editing bibliographic information. The system can also generate and print catalogue cards and labels, which are essential for organizing physical and digital resources. By simplifying the cataloguing process, ILMS significantly enhances the overall efficiency of library operations, enabling staff to handle large volumes of materials with greater accuracy and speed.

Another essential feature is circulation management, which refers to the lending and return processes of library materials. As Hopkinson (2018:24) explains, ILMS software allows libraries to monitor all circulation activities, including checking materials in and out, setting holds for patrons, and renewing loans. This system also assists in managing fines and fees associated with overdue items. Libraries can generate detailed reports on circulation numbers and usage patterns, which are crucial for assessing the demand for particular resources and ensuring the timely availability of materials to users. The ability to track these patterns helps libraries optimize their collection management strategies and align their services with user needs. Grant (2012:115-118) highlights that circulation functions also include real-time

notifications for patrons, informing them of due dates, holds, and other critical updates, thereby improving the overall user experience.

Acquisitions management is another fundamental operational characteristic of ILMS. According to Rajnikant and Patel (2014:103-105), acquisitions refer to the process of selecting and purchasing library materials such as books, journals, and digital resources. An ILMS streamlines this process by providing functionalities for searching and ordering items from suppliers, tracking order statuses, and managing invoicing and payments. Grant (2012:118) emphasizes that the integration of acquisition functions within an ILMS not only ensures timely procurement but also helps libraries stay within budgetary limits by maintaining detailed financial records. Libraries can automate the acquisitions process, reducing the likelihood of human error and allowing for better resource planning. By integrating acquisitions with other ILMS modules like cataloguing and circulation, libraries can create a seamless workflow from the point of purchase to when items become available to patrons.

Serials management, which involves overseeing subscriptions to journals, magazines, and other periodicals, is another key feature of an ILMS. Grant (2012:118) explains that serials management includes tracking subscription information, managing renewals, and keeping accurate records of journal issues and volumes. This is particularly important for academic libraries, where serials form a significant portion of the library's collection. The ILMS enables librarians to monitor the status of subscriptions, ensuring that patrons have access to the most recent publications. Furthermore, the system helps manage cancellations and adjustments to subscriptions, allowing libraries to respond flexibly to changing user needs or budget constraints. Hopkinson (2018:25) also notes that serials management within an ILMS offers comprehensive reporting tools that allow librarians to analyse trends in journal usage, which can be used to make informed decisions about renewals or cancellations.

Another operational attribute of ILMS is the reporting and analysis functionality, which is vital for the strategic management of library resources. Hopkinson (2018:26) states that an ILMS provides advanced tools for generating reports on various aspects of library operations, including circulation statistics, acquisition activities, and serials management. These reports are essential for library administrators to analyse user trends, evaluate the performance of library services, and make data-driven decisions about resource allocation and service improvements. Grant (2012:118) adds that the reporting capabilities of an ILMS help libraries maintain accountability, particularly when reporting to stakeholders such as university

administrators, funding agencies, or local governments. Detailed reports can demonstrate the library's impact on the community and justify requests for additional funding or resources.

Interlibrary loan management is another significant feature provided by an ILMS. As Grant (2012:116) points out, interlibrary loan (ILL) refers to the borrowing and lending of materials between libraries on behalf of patrons. The ILMS facilitates the entire ILL process, allowing libraries to search for, request, and track materials from other libraries. Hopkinson (2018:24) adds that ILMS software ensures that loan transactions, including both incoming and outgoing loans, are handled efficiently. The ability to manage ILLs effectively expands the range of resources available to patrons, enabling them to access materials that are not part of the local collection. This collaborative approach enhances the library's ability to meet the diverse information needs of its users.

Patron management is a critical operational feature of ILMS that involves handling all aspects of user accounts, from registration to monitoring borrowing history. Hopkinson (2018:26) explains that ILMS allows for the creation and updating of patron records, management of holds and renewals, and the administration of fines and fees. The system can also track patron interactions with the library, such as borrowing histories and fines, providing libraries with valuable insights into user behaviour. Pandya (2017:80-82) notes that effective patron management ensures that libraries can offer personalized services, such as tailored recommendations or notifications, enhancing user satisfaction and engagement.

The management of electronic resources (ERM) is becoming increasingly important for libraries, given the growing shift towards digital content. Pandya (2017:83) asserts that ILMS software includes tools for managing e-books, databases, and other digital resources. The system helps libraries monitor licensing agreements, control access to digital materials, and track usage statistics. Hopkinson (2018:27) highlights that ERM capabilities are essential for libraries that provide access to large collections of digital content, as it ensures compliance with licensing agreements and prevents unauthorized access to proprietary materials. By streamlining ERM processes, ILMS enables libraries to manage both physical and digital resources within a unified system.

Mobile access is another increasingly important feature of ILMS, reflecting the growing demand for on-the-go access to library services. Hopkinson (2018:23-25) explains that mobile access allows patrons to use library resources and services through their smartphones or tablets.

ILMS software can include mobile-optimized interfaces for the library's online catalogue, circulation system, and other services, ensuring that users can access the library's offerings from any location. Grant (2012:115-116) adds that mobile access enhances the accessibility of library services, particularly for users who may not be able to visit the library in person. By providing seamless access to resources on mobile devices, ILMS ensures that libraries remain relevant in an increasingly digital world.

Lastly, integration with external systems is an operational feature that enhances the functionality of an ILMS. According to Rajnikant and Patel (2014:104-106), integration refers to the ILMS's ability to connect and work in conjunction with other software systems, such as learning management systems, digital repositories, or external databases. Hopkinson (2018:26-27) highlights that integration is critical for academic libraries, where the ability to link the ILMS with campus systems such as student information systems or research databases can improve workflow efficiency and provide a more seamless user experience. Libraries that effectively integrate their ILMS with external platforms can offer more comprehensive services to their users and improve overall operational efficiency.

2.9 SUMMARY

In summary, this chapter has provided an in-depth review of the existing literature on the adoption and use of Integrated Library Management Systems (ILMS), with a focus on the challenges and operational characteristics specific to community libraries. While much of the literature centers around academic libraries, there is a clear gap when it comes to the practical realities of implementing ILMS in community libraries, particularly in South Africa. Key areas such as financial constraints, insufficient training, inadequate management support, and infrastructure limitations were discussed as critical factors hindering ILMS adoption. The chapter also outlined the essential operational features of an ILMS that libraries must consider, including cataloguing, circulation management, acquisitions, and electronic resource management, all of which are crucial for efficient library operations.

The importance of the theoretical framework in guiding the study was emphasized, with Adegbore's ILMS adoption model serving as a foundation for understanding the factors that influence ILMS implementation. The literature review highlighted significant knowledge gaps, particularly the lack of focused studies on ILMS adoption in South African community libraries, where challenges such as limited funding and inadequate staff training prevail. This

study aims to address these gaps by exploring the unique factors affecting ILMS adoption in these libraries and proposing solutions to ensure successful implementation. The next chapter will delve into the research methodology, outlining the approaches used to investigate these identified issues.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter reviewed literature on the implementation of ILMS in Non-Metro City Libraries (NMCLs). The literature was examined in accordance with the objectives of this study, as specified in section 1.5. This chapter delineates the methodologies employed by the researcher to collect, analyse, and methodically organise the acquired data. This chapter primarily aims to outline the methodology employed in the study, with a specific emphasis on the research methodology, research design, unit of analysis, sample procedures, data collection methods, data analysis, and presentation of ethical considerations. Creswell (2014:100) defines research technique as the set of procedures for collecting data, analysing it, and interpreting it in a study. Research methodology encompasses the systematic procedures that need to be carried out in order to tackle the research issue at hand (Mohajan 2020:50–79:14). The research methodology plays a crucial role in the research process, since it establishes the basis for the reliability of the research's conclusions.

3.2 RESEARCH METHODOLOGY

Research methodology refers to the specific approach used by researchers during a research project (Pandey & Meenu 2021:20). In his book, Creswell (2014:100) provides a clear definition of research methodology. He explains that it involves the various steps involved in collecting, analysing, and interpreting data in a study. As per the research conducted by Pandey & Meenu (2021:1–4) and Newman & Gough (2020:3–22), a research methodology encompasses the structured processes that must be undertaken to tackle a research problem. Research methodology is a structured approach and collection of tools utilised to carry out research and gather data to address research inquiries. It covers the overall design, processes, and tactics used in a research study. This study employed a qualitative research methodology and was guided by the constructivism research philosophy. The study utilised a case study research approach and collected data from a carefully selected sample of library workers. Data collection was extended until the point of data saturation. This chapter provides an overview of the research context, research beliefs, research methodology, research structure, study population, study sample, techniques for collecting data, and procedures for collecting data, data analysis, and ethical considerations.

Mastering research techniques is crucial for conducting comprehensive and systematic research. It ensures that the research project is carefully planned, the data collection is appropriate, and the analysis is reliable and trustworthy. Researchers should carefully consider their study inquiries, data prerequisites, available resources, and ethical considerations when selecting the most suitable research approach. The research methodology roadmap for this work is depicted in Figure 3.1 below.

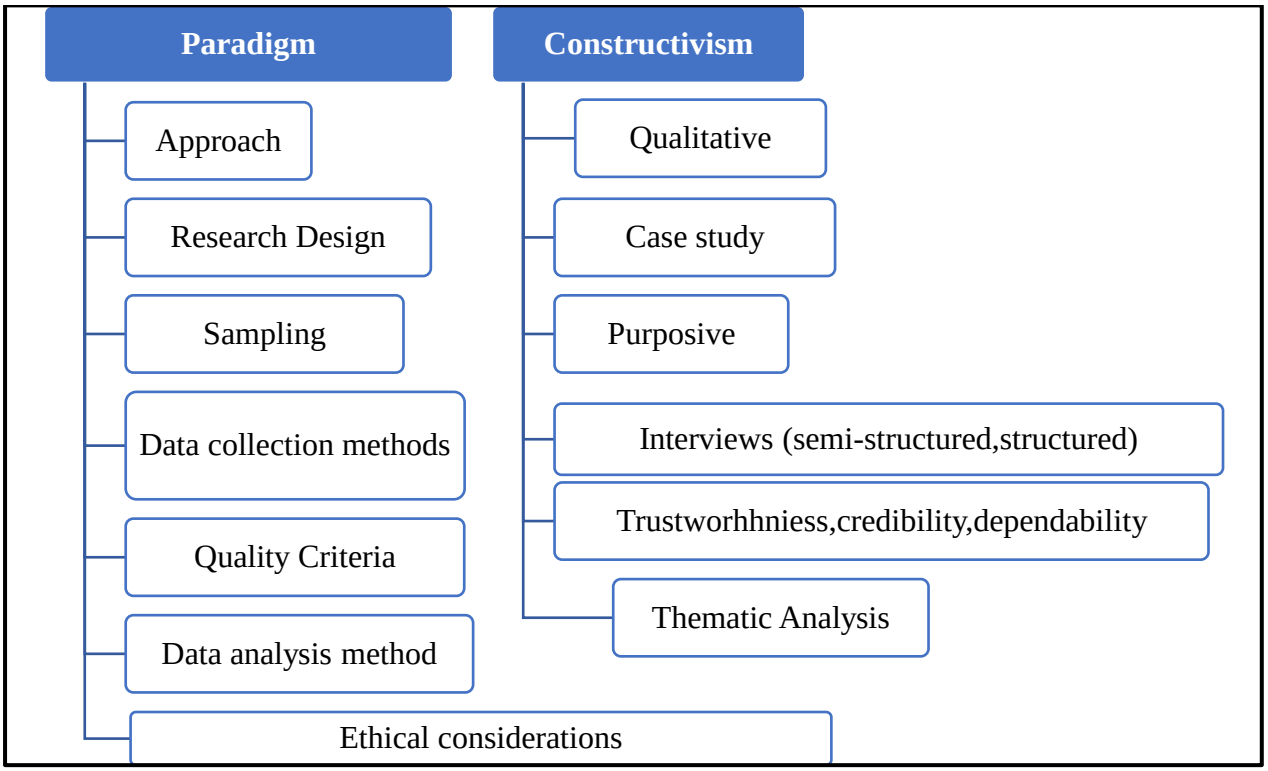

Figure 3. 1: Research methodology roadmap for the current study (Researcher 2024)

3.3 RESEARCH PARADIGM

Erciyes (2020:181) provides a definition of a research paradigm as a fundamental framework of perspectives that guides behaviour. Paradigms capture a shared perspective and offer a structure for comprehending the essence of the world, an individual's place in it, and the diverse connections to different elements of the universe. Pandey & Meenu (2021:2) explains that a research paradigm plays a crucial role in guiding researchers to selecting and defining research problems, as well as determining the appropriate methodological approaches to be employed. According to Bryman and Bell (2014:381), the choice of research paradigm has a profound influence on the study, influencing everything from the research process to the interpretation of findings and proposed solutions to the research problem. A research paradigm functions as

a cognitive framework that enables the researcher to perceive and comprehend the environment. Furthermore, Kivunja and Kuyini (2017:26) recognise a research paradigm as a philosophical framework that acts as a compass for formulating the research methodology. It oversees the research process and the methods for analysing data. According to Creswell (2013:7), academics have five fundamental worldviews or beliefs when it comes to their inquiries. These are post-positivism, interpretivism, constructivism, transformational, and pragmatism. In the field of social sciences, there are two prominent research traditions that have greatly influenced the modes of reasoning and research procedures, ultimately impacting the results. These are the positivist and interpretivist tradition which lead to quantitative and qualitative research respectively (Kalusopa, 2011:122).

3.3.1 Post-positivism

Post-positivism, on the other hand, involves academics attempting to apply scientific research methods used in the natural sciences to the social sciences (Bryman & Bell 2014). Post-positivist assumptions have long been dominant in research, especially in quantitative studies as opposed to qualitative studies. This perspective is often known as the scientific method, or conducting scientific study, positivist/post-positivist research, empirical science, and post-positivism (Creswell 2018:6). Post-positivists follow a deterministic ideology that considers causes as the determining factors of effects or outcomes. Thus, research conducted by post-positivists focuses on uncovering and evaluating the various factors that influence outcomes, especially in experimental settings. In addition, this approach can be seen as reductionist as it aims to simplify intricate concepts into a narrow and well-defined set, like variables and research questions, for the purpose of testing. Bryman and Bell (2014) argue that post-positivism generates knowledge through careful observation and measurement of the objective reality that exists in the external world.

3.3.2 Interpretivism

Interpretivism, a social science research paradigm, is rooted in the understanding that reality is shaped by social interactions and is subject to change. According to Bryman & Bell (2014:14), truth in interpretivism is arrived at through dialogue and conversation. This statement suggests that it is important for research methodologies to recognise and respect the differences between individuals and the subjects of natural sciences. The interpretative research approach aims to gain a deep understanding of human experiences from a holistic perspective (Creswell & Poth

2018). This approach requires the social scientist to understand the subjective meaning of social action. The interpretivist researcher often relies on the viewpoints of the participants when studying the situation at hand (Bryman & Bell 2014: 13). In addition, data gathered within the interpretivist research paradigm tends to focus on describing phenomena. This can include qualitative measurements of living spaces, coded surveys, or analysis of documents (Creswell 2018:10).

3.3.3 Constructivism

This study employed a constructivist philosophical framework. According to Pandey & Meenu (2021:11), this worldview is commonly seen as a qualitative research approach. Creswell (2018:8) defines constructivism, sometimes associated with interpretivism, as a widely accepted paradigm for conducting qualitative research. According to Creswell (2018:24), constructivists hold the belief that individuals have a desire to comprehend the environment in which they reside or operate. Individuals form subjective interpretations of their experiences that are focused on particular items or entities. Constructivists believe that the primary objective of research is to heavily depend on the participants' perceptions of the situation being investigated (Creswell 2018:8).

The selection of the paradigm in this study was informed by the researcher's ontological stance regarding the nature of reality in relation to acceptance and utilisation of the ILMS in the Nkangala District. The constructivism worldview was chosen for this study because of its emphasis on understanding, social dynamics, and historical context (Bryman & Bell, 2014:17). Furthermore, this approach enables the researcher to have a comprehensive understanding of the research context by personally visiting the location and collecting data. This community interaction enables the researcher to acquire a comprehensive grasp of the many viewpoints held by the NDMCLs regarding the implementation and utilisation of an ILMS in the library. Furthermore, the present study opted to utilise the constructivist philosophical perspective due to its capacity to promote critical analysis of situations and foster cognitive growth. By adopting a constructivist perspective, researchers can deviate from the conventional approach in social science research, where studies are typically conducted to assess the accuracy and relevance of specific theories. This paradigm allows the researcher to analyse the collected data and develop strategies for implementing and utilising ILMSs in libraries within the Nkangala District. Given this context, the study was classified as purely qualitative, use interviews as the primary method for data collection.

3.3.4 Transformative

According to Creswell (2018:8), a transformative worldview emphasises the importance of combining scientific investigations with political considerations and a reform agenda to tackle social inequality, no matter how extensive it may be. Therefore, the research involves a well-thought-out plan for change that could have a significant impact on the lives of those involved, the institutions, and the researcher. According to Creswell (2018: 53), transformative research allows participants to have a voice and empowers them to make positive changes in their lives. This philosophical perspective utilises a programme theory of beliefs concerning the operation of a programme and the underlying causes of issues related to oppression, dominance, and power dynamics. This philosophical ideology focuses on addressing the needs of societal groups and individuals who may face marginalisation. This research delves into the inequalities in power dynamics among different groups, focusing on gender, race, ethnicity, disability, sexual orientation, and socioeconomic status.

3.3.5 Pragmatists

The pragmatists offer an alternative perspective on worldviews. Pragmatism has its roots in the works of influential pragmatists like Pierce, James, Mead, and Dewey (Creswell & Creswell 2018:10). Pragmatism is an approach that focuses on finding practical solutions to problems, rather than getting caught up in philosophical debates. This text highlights the importance of actions, situations, and the results they generate (Creswell 2018:51). As stated by Creswell (2018:10), pragmatism as a worldview is based on the practical outcomes of actions and events, rather than predetermined circumstances. The statement emphasises the importance of considering a wide range of sources of knowledge, rather than being restricted to only positivism or interpretivism. It suggests that a practical problem-solving approach should be prioritised. In addition, pragmatism does not align with any particular system or philosophy of reality. Instead, individual researchers have the freedom to select their research topics and methodologies, considering the anticipated results. This perspective can be applied to mixed methods research, as researchers have the flexibility to incorporate both quantitative and qualitative assumptions in their investigations. For researchers who use mixed methods, pragmatism enables the use of multiple methodologies, diverse perspectives, alternative assumptions, and varied approaches to collecting and analysing data.

3.4 RESEARCH APPROACH

Mik-Meyer (2020:357–374) refer to the research approach as the plans and procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis and interpretation. A research approach can therefore be best described as utilisation of different ways, procedures and ideologies to obtain data. The distinguishing characteristics of quantitative and qualitative research approaches can be discussed according to purpose, process, data collection, data analysis and research findings.

3.4.1 Qualitative research Approach

Following a constructivist paradigm, this study used a qualitative research approach. Upagade and Shende (2013) indicate that qualitative research aims to comprehend the process and the social and cultural contexts that underpin various behavioural patterns. Mik-Meyer (2020:357–359) concurs, indicating that qualitative research is focused on formulating explanations for phenomena. This type of research approach generally involves studying and observation in their natural settings, emphasising the participants' meaning and interpretations. It primarily seeks to explore the what, why, how, when and where of the phenomenon being studied (Creswell & Plano Clark 2023:21–36). This therefore allows the researcher to understand the processes and context of adopting and using an ILMS in the NDMCLs.

Creswell & Plano Clark (2023:21–36) explains that qualitative research focuses on understanding the concepts, meanings, metaphors, definitions, characteristics, descriptors and symbols of phenomena that are not quantified through experimental measurement of quantity or frequency. This approach involves various philosophical assumptions, inquiry strategies, and data collection methods, analysis and interpretation. One of the key advantages of qualitative study is that it can delve deeply and gather rich, descriptive data about a phenomenon. Therefore, the study employed a qualitative approach to allow the researcher to engage in detailed discussions with participants. Specifically, management, librarians, users, and information technology officers provided in-depth insights into the adoption and use of ILMS in the NDMCL. Apart from this, qualitative studies facilitate understanding the opinions, attitudes and experiences of stakeholders regarding ILMS adoption and use. Thus, yielding results that are likely to be accurate due to the direct interaction between the researcher and participant (Adegbore 2018:12; Acharya 2024:17).

Pandey & Meenu (2021:18) and Lim (2024:1-31) agree that qualitative research is naturalistic, focusing on studying real-world situations as they naturally unfold. This approach is emergent, allowing the study to adapt as understanding deepens and situations evolve, avoiding rigid designs that prevent exploring discovery paths. Furthermore, qualitative is intentional, selecting cases such as organisations, groups, cultures and events for their rich data (Lim 2024:1-31). These cases provide meaningful insights into the phenomenon of interest, with sampling aimed at gaining understanding rather than empirical generalisation. The researcher chose a qualitative approach to understand the perspectives of library personnel and users on the adoption of ILMS by NDMCLs.

According to Eatough & Tomkins (2022:163–182) the qualitative approach often involves interpreting and assigning meaning to participants' words, feelings, and emotions, enabling, the researcher to make informed decisions about the events being studied. This approach will be employed to gather insights from the librarians, management, users and information technology officer's feelings and opinions on the adoption and use of an ILMS in the Nkangala District.

Mattke *et al.* (2021:1493–1517) state that qualitative research avoids using numerical variables or quantity, focusing instead on providing explanations and descriptors of the subject under study. As a result, the study was based on the experiences of the users, management, librarians, and information technology officers on the use of ILMS. Swain & King (2022:1-10) further notes that in qualitative, the researcher plays a crucial role in collecting data by observing, conducting interviews with participants and analysing their experiences. As such, data were collected from five community libraries in the Nkangala Local Municipality.

3.4.2 Quantitative research approach

The quantitative approach involves gathering data in numerical form, which can then be analysed using rigorous and formal quantitative methods. In his study, Mohajan (2020:50–79) highlighted the quantitative approach as being highly organised and reliant on numerical data for assessing and evaluating concepts whenever feasible. When testing a theory, the researcher carefully crafts hypotheses and collects data to either validate or challenge them. Quantitative methods enable the measurement, counting, and analysis of statistics and numerical data (Ghanad 2023:1–9).

Furthermore, the quantitative research approach is well-known for its ability to establish clear objectives, ensure testability, replicability, accuracy, confidence, objectivity, and parsimony (Mohajan 2020:50–79). Data is collected using a specialised instrument to evaluate attitudes, and then analysed using statistical techniques and hypothesis testing (Creswell & Plano Clark 2023:27). These statistical tests ensure precise measurement of quantitative variables and establish a high level of confidence to support the findings. Quantitative research is used to investigate the relationships between measured variables, with the goal of understanding, predicting, and controlling phenomena. Quantitative researchers strive to uncover explanations and predictions that have broader applications beyond the scope of their specific study (Bryman & Bell 2014). The purpose is to establish, confirm, or authenticate connections and to generate generalisations that contribute to theory.

Quantitative research entails collecting data from a population or one or more significant samples that effectively represent the population. The data is collected in a format that is easily convertible into numerical indices (Bryman & Bell 2014). Quantitative research is a method of study that emphasises the collection and analysis of numerical data. As per Creswell (2018), quantitative research focuses on measuring size or aggregation by utilising numbers, percentages, numerical counts, statistical tests, and mathematical models. They also make the case that quantitative research is known for its descriptive nature, heavy reliance on numerical data, and frequent use of tables and graphs to present findings. According to Mohajan (2020:57), quantitative research is deductive in nature. This indicates that researchers begin with abstract concepts and then employ deductive reasoning and precise numerical data to arrive at conclusions. The results and data analysis are presented in a format that emphasises numbers and quantitative information.

3.4.3 Mixed method research approach

Ajimotokan (2022:2–7) defines a mixed method approach as the integration of qualitative and quantitative methodologies within a single research study. The researcher use a variety of techniques to collect and assess data. Creswell & Plano Clark (2023:30–33) support this approach of data display and analysis. They contend that these two methodologies collaborate to offset each other's deficiencies. A more thorough comprehension is attained, and the study issue is addressed by employing the mixed methods technique, involving the collection, analysis, and interpretation of data. Bryman and Bell (2014) assert that the integration of both methodologies yields good research outcomes. By employing several tactics and

methodologies, these approaches offer valuable insights that cannot be attained by the use of a single method alone. This enables the gathering of both numerical and descriptive information.

According to Creswell (2018:19), the mixed methods strategy in research involves collecting various forms of data to gain a more comprehensive understanding of a study problem. This approach is considered superior than depending simply on quantitative or qualitative data. Ajimotokan (2022:2–7) emphasises the study's two-phase strategy. Firstly, a thorough survey is carried out to derive overarching findings about the population. Afterwards, qualitative interviews are done to collect detailed o pinions from participants, which help to clarify the findings of the initial quantitative survey.

3.5 RESEARCH DESIGN

The research design is a crucial aspect of any study, acting as the adhesive that integrates all its components. It establishes the methodology, framework, and guidelines necessary to accomplish the study's objectives. It details the steps for data collection, analysis and interpretation (Salter 2023:19–27). Essentially, it is the blueprint that indicates how the researcher's questions will be addressed and resolved. The qualitative research design varies in methods used to gather data. Priya (2021:94–110) indicate that there are several types of qualitative research designs, including case studies, grounded theory, action research and narrative enquiry. The current study adopted a case study design because it allowed the researcher to explore the adoption and use of ILMSs by Nkangala community libraries.

Creswell (2018:96) describes case study design as a qualitative method where the researcher delves into a real-world case through comprehensive and detailed data collection, utilising various sources such as interviews, documents, observations and reports. This approach allowed the researcher to determine the issues from multiple perspectives, thereby exploring various aspects of the research problem. A case study involves an intensive analysis of a limited number of units including, groups and institutions (Priya 2021:94–110). According to Cleland, MacLeod & Ellaway (2021:1131–1141) a case study is an in-depth investigation of a real-life case aimed at understanding a phenomenon within its real-world context.

This case study was grounded in the constructivist worldview, which is based on the concept of socially constructed reality (Pilarska 2021:64–83). The methodology involved close collaboration between the researcher and the participants, allowing the participants to share their stories (Maher 2022:1–17). These narratives enabled the participants to express their

perspectives of reality, helping the researcher to gain a deeper understanding of their experiences and actions. The researchers' goal was to obtain a richly detailed understanding of the extent to which ILMS were adopted and used in the NDMCLs. Furthermore, explores the participants' perception towards this adoption. Using a single case study design in this study enabled the researcher to concentrate on Nkangala District community libraries to obtain comprehensive information. The researcher picked the participants from the subject being studied, being the district chief library managers, librarians, assistant librarians and ICT personnel.

Despite the advantages mentioned above, case studies have constraints, such as insufficient depth (Yin 2009). The author further argues that the researchers often overlook vague evidence or biased perspectives, affecting the outcome and conclusions. Additionally, due to their limited subject/participants, case studies offer minimal grounds for scientific generalisation. Therefore, Yin (2009) views case study methodology as microscopic due to its restricted sampling. Regardless of these cited criticisms against case studies, this design was chosen by the researcher as it permitted an in-depth understanding of the trends emerging from the diverse participants. An opportunity was also presented to the researcher to better understand and describe the current status on the adoption and use of the ILMS in the NDMCLS. Participants in semi-structured interviews discussions were used to collect data from the target population.

3.6 POPULATION OF THE STUDY

The population refers to the participants who share common features, experiences, characteristics, attitudes and behaviours, among other features, which can be rich sources of information when they answer the research questions (Cooper & Schindler 2011). Population, also called universe, refers to the large collection of interest (Neuman 2014:250). Therefore, a study population has the characteristics the researcher is interested in. However, Polit and Beck (2014:177) note that "it is not always viable to include an entire population in a study, as this could mean that the researcher would have to spend more funds and time on data collection and analysis when the entire population is included in the study". The study was conducted across five community libraries in Nkangala District Municipality, namely Siyabuswa community library, Libangeni community library, Marapyane community library, Thembisile Hani community library and Kwamhlanga community library, as well as the management of the Nkangala District Municipality. Therefore, the target population for this study was the Nkangala District Municipality chief library managers and staff from five libraries, including

librarians, assistant librarians and ICT personnel. These individuals were relevant because they were the relevant people who dealt with the adoption and use of an ILMS.

Many researchers face a major problem when determining sample sizes. In the context of this study, there was no sampling frame to indicate the total number. This is because the current researcher assumed the position that there are no rules for sample size in qualitative inquiry (Creswell & Poth 2018:152). Sample size depends on what the researcher wants to know, what will be useful, what will have credibility, what is at stake and what can be done with the available time and resources (Pandya 2012:150). However, there was no sampling frame to indicate the total number in this study. The researcher collected data until saturation was reached. Creswell (2018:186) state that with saturation, the researcher stops collecting data when the themes are saturated and when gathering data no longer sparks new insight; this is when an adequate sample is determined.

3.7 SAMPLING METHOD AND SAMPLE SIZE

According to Ajimotokan (2022:2–7), sampling involves selecting a subset of individuals who can provide data for researchers to make inferences about a larger group they represent. It entails selecting a subset of the population group under investigation. When determining the sample, several factors must be considered, including resources, time and relevancy of participants as stated by Creswell (2018). Upagade and Shende (2014) define a sample as a subset selected from a larger population specifically for analysis purposes. Bryman and Bell (2014) describe it as a selected portion of the population chosen to achieve the purpose of the study. Thus, it reflects the whole population in which the selection can be made using either a probability or a non-probability method.

Ajimotokan (2022:2–7) posits that probability sampling is often referred to as random sampling. This technique ensures that every subject in the population has an equal chance of being selected (Creswell 2018). The foundation of probability sampling lies in the randomisation. This method results in more representative samples and greater external validity. As a result, it is typically employed when researchers require a high level of confidence in their data collection. According to Creswell and Poth (2018), probability sampling allows for rigorous analysis to identify potential biases and errors. Types of probability sampling consist of systematic, stratified, simple, multi-stage, multi-phase and cluster random sampling.

Alternatively, non-probability sampling encompasses any method where certain members of the population have no chance of being selected for participation in the study (Upagade & Shende 2014). This type of sampling, also known as non-random sampling, involves choosing elements based on assumptions about the population of interest, which then determine the selection criteria (Creswell 2018:22). In non-probability sampling, subjects are chosen arbitrarily by the researcher to form the sample. This approach is significant for researchers aiming to meet the specific objectives of the study, because the selected sample is either the most knowledgeable or the most representative (Mohajan 2020:50–79). Examples of non-probability sampling include convenient or accidental sampling, judgemental sampling, quota sampling, snowball sampling and sequential sampling. For this study, participants were selected using a non-random probability sampling technique. The researcher intentionally targeted a specific population for this study by employing purposive sampling.

Purposive sampling is also known as judgemental or deliberate sampling. It is deliberate in that the choice of sources is due to the qualities they possess. According to Bernard (2013), the researcher is clear about their objectives and actively seeks out individuals who have the necessary knowledge and are willing to share the information. Ajimotokan (2022:2–7) stipulates that this method is thought to save both time and money, as it employs a representative sample. Researchers assert that this sampling is effective only when a small group of individuals is used as the primary source. This is due to the specific nature of the research objectives and design.

Carter and Little (2017) argue that qualitative researchers typically use purposive sampling to select their samples. This method was employed to choose select participants for this study as it encompasses various non-probability sampling techniques including judgemental or deliberate sampling. Purposive sampling aims to target specific characteristics within a population that are most relevant to study questions. Bernad (2013) is of the view that researchers seek specific information and therefore choose individuals who can provide it due to their knowledge. Black (2010) note that purposive sampling involves selecting sample elements based on the researchers' judgement. This approach is considered cost and time efficient. However, researchers believe it is most effective when only a limited number of participants are used as primary data sources due to the nature of the research design and its objectives. The researcher engaged or rather selected the Nkangala District Municipality management, chief librarians, librarians, assistant librarians and ICT personnel because they

were the relevant people who dealt with the adoption and use of an ILMS. Creswell (2016) emphasises the importance of selecting individuals who have experienced the phenomenon being studied.

Despite critiques that purposive sampling can introduce research bias and may not be representative, it was deemed the most suitable for the study. The researcher intentionally selected participants based on their experience and knowledge, using judgment to ensure the appropriateness of the participants as stated by Creswell and Poth (2018). As a result, the researcher selected three staff members, including one ICT staff member, one librarian and one library assistant from each of the five libraries. Thereafter, two chief library managers from the district office were selected purposively. Table 3.1 shows the total population and the sample size from the entire population of the study.

Table 3.1 Total population and Sample size

NKANGALA DISTRICT MUNICIPALITY & COMMUNITY LIBRARIES	District chief library management, information communication technology personnel, librarians and library assistants	
	TOTAL NUMBER OF POPULATION	TOTAL % OF POPULATION
Nkangala district municipality office	2	12%
Siyabuswa library	3	17.6%
Libangeni library	3	17.6%
Marapyane library	3	17.6%
Thembisihle Hani library	3	17.6%
Kwamhlanga library	3	17.6%
GRAND TOTAL AND SAMPLE SIZE	**17**	**100%**

Purposive sampling involves the use of the researchers' judgement on who can provide the best answers to the research questions on a problem (Creswell & Poth 2018). With purposive sampling, participants were selected because they were likely to generate useful data for the study by providing information based on the experience that they have in working in the NDMCLs. Purposive sampling is aimed at obtaining as much relevant and valuable information for the research as possible. It can therefore be noted that the researcher assumed that they

would obtain specific information needed for this study. Deciding on who the informants would be was done by selecting the subjects who the researcher believed would satisfy the requirements of the research. This is because there are specified representatives from the departments that the researcher thought will have an overall say in every aspect that takes place within their departments.

3.8 DATA COLLECTION METHODS

Kumar (2014:100) highlights the importance of data collection methods by stating that the methodology and analytical approach used by the researcher determine the information collected and provide explanations. The data collection method is the research technique used to gather information about an individual's or group of individuals' opinions and views about an issue under research. Methods of collecting data enable researchers to systematically gather data on objects, individuals, and phenomena and their context (Creswell 2018). As Creswell and Poth (2014) observe, qualitative researchers usually rely on interviewing, observation and participation as well as document reviews as methods for collecting information. This study used semi-structured interviews as data collection method. The following sub-sections describe the methods in detail.

3.8.1 Semi-structured interviews

Ajimotokan (2022:2–7) explains an interview as a method of data collection through a dialogue between two or more people. According to Bryman and Bell (2014), interviews are one of the mostly utilised and most powerful methods of data collection used by researchers, in which they try to understand their participants, as other methods do not allow the researcher to explore the thoughts, experiences and feelings of the participants of the study. It reveals the interviewees' understanding of the topic and aids in identifying concepts for deeper exploration and analysis. Creswell and Poth (2018:144) highlight that interviews are valuable because the researcher considers the perspective of individuals with firsthand experiences on the subject as essential information sources. Therefore, interviews were suitable for this study, which relies on individual perspectives, beliefs and emotions on the topic within the study's context.

One significant advantage of interviews is that they enable the simplification of complex questions through follow-up queries, which helps eliminate ambiguity and reduces the likelihood of participants providing false responses (Mohajan 2020:50–79:100). This approach allows researchers to gather comprehensive information with a clearer understanding, as any

confusion or lack of clarity can be addressed directly. Additionally, probing questions can be used to obtain more detailed information, making it easier to analyse and interpret the responses. Another benefit of using interviews for data collection is that respondents can express themselves more freely in their own words, which helps uncover the meaning behind their behaviours (Creswell & Creswell 2018:160).

Semi-structured face-to-face and telephone interviews were used in this study and were augmented with observation and document analysis. Creswell (2018:140) states that semi-structured interviews extract detailed information or seek to get a deep understanding of the subject being researched. Questions are asked in a particular order and format, but participants are given room to expound and explain further as they see fit. Kumar (2014:260) supports the use of semi-structured interviews, highlighting their focus on predetermined questions with flexibility in their order, depending on the interviewer's judgement. The wording of questions can be altered, explanations provided, and irrelevant questions omitted, with the possibility of adding new ones as necessary. Semi-structured interviews enabled the researcher to ask prepared questions that could be adjusted while providing the interviewees with the opportunity to elaborate on their thoughts. This approach facilitated the collection of richer qualitative data regarding the use and adoption of ILMS in the NDMCLs. The personal interaction and the chance to elaborate help build rapport and trust between the interviewer and interviewee, increasing the chances of obtaining accurate data.

Moreover, the researcher employed semi-structured interviews, fully aware of the general challenges associated with this method, such as the lack of anonymity (Mohajan 2020:50–79:142).The researcher addressed this by -maintaining anonymity in accordance with the UNISA Ethical Clearance guidelines. Additionally, interviews can be prone to bias due to factors such as fatigue and over-involvement with interviewees, as noted by Kumar (2014:100). Subjectivity on the part of the researcher is another potential issue. To mitigate these drawbacks, the researcher sought guidance from experienced researchers and used open-ended questions to allow for detailed responses and follow-ups. Interviews were recorded with participants' consent to avoid bias and ensure that questions remained aligned with the study objectives. Recording the interviews allowed the researcher to focus on listening and engaging with the interviewee without the distraction of notetaking, facilitating a smoother discussion. Moreover, recording helped reduce interviewer bias by capturing the entire conversation and

providing complete data for analysis. This method also allowed the researcher to revisit the recordings multiple times to catch any details or arguments missed during the initial interview.

3.8.2 Interview schedule

Bryman and Bell (2014:225) ascertain that a semi-structured interview uses an interview guide, which is a list of questions that will assist in addressing the study objectives. To facilitate the interview process, the researcher created this guide after a comprehensive literature review to identify gaps in the area of study. The schedule included key questions that were prepared in advance (refer to the appendix D and E). In a semi-structured interview, the questions might not follow the exact sequence outlined in the guide, and the interviewer may alter the wording. Furthermore, questions not originally included in the guide may be asked as the interviewer responds to the interviewees' answers. The guide serves as a memory aid and helps to standardise questions across different participants.

3.8.3 The researcher as key instrument

In qualitative research, the researcher serves as the primary instrument (Pezalla, Pettigrew & Miller-Day, 2015). Creswell (2018:183) state that the researcher is generally engaged in prolonged and in-depth interactions with participants. To gather meaningful data, researchers must dedicate substantial time to preparing for data collection. This preparation includes extensive reading of research methods literature. Through this process, the researcher learns that "qualitative interviewing is more than a set of skills, it is also a philosophy, an approach to learning" (Rubin & Rubin 2011:2). Consequently, researchers understand that obtaining rich and detailed data requires enhancing their interviewing skills and encouraging participants to articulate their experience in their own words, a vital element of qualitative interviewing. The pilot study (described above) provided an excellent opportunity for rehearsals and the development of interview skills.

3.8.4 Data collection procedures

This section highlights how data were collected in this study. Qualitative data were collected using semi structured-interviews. The qualitative semi structured-interviews were conducted face-to-face and the process only started after ethical clearance was granted by the relevant office. The researcher identified the research questions to be addressed by the participants (Creswell & Poth 2018:165). The participants best suited to answer these questions were

selected using the intentional sampling method. Informed consent was then obtained from the participants, which included explaining their rights, such as confidentiality, anonymity, voluntary participation, and the right to withdraw from the study without any negative repercussions, among other rights. The researcher then designed and used an interview guide (Creswell& Poth 2018:165). This guide had at least seven open-ended questions, which were refined through pilot tests, as recommended by Pandya (2012). This enabled the researcher to refine and develop the guide and adapt to research procedures. The pilot test was selected based on convenience. Data were collected using recording equipment that was sensitive to the acoustics of the room. Hence, a suitable location to conduct the interview was sought. Permission to utilise a digital audio recorder was requested from each participant. Recording audio facilitated precise data capture for subsequent transcription, the data collection was conducted in English, eliminating the need for translation during transcription. The researcher maintained neutrality throughout questioning and conducted supplementary research to ensure comprehensive topic understanding. Additionally, the researcher enlisted assistance from multiple individuals to code and validate data against additional sources, bolstering confidence in the legitimacy of the findings.

3.9 QUALITATIVE DATA ANALYSIS

Qualitative data analysis encompasses non-numeric data such as notes, interview transcripts, images, video, audio recordings and text (Creswell & Poth 2018). It involves activities such as categorising, examining, summarising and identifying evidence to address the objectives of the study (Mohajan 2020:50–79). According to Pandya (2012), data analysis is the process of interpreting collected data. Bryman and Bell (2014) stress the importance of conducting data analysis concurrently with data collection. This process integrates information to extract meaningful insights from the data.

Qualitative data were analysed thematically using the Atlas.ti®, which offers several benefits including the ability to group codes, code quotations and make quotations into categories, and thereby establishing themes and sub-themes for analysing data in qualitative studies (Creswell & Poth 2018:162). To ensure credibility, the researcher was transparent throughout the coding process. The researcher adhered to the three stages in Atlas.ti® to maintain transparency: pre-coding stage for data familiarisation, the coding stage for identify patterns and relationships between nodes and uncovering underlying ideas, and the post-coding stage for deriving themes that address research questions and present findings.

3.10 QUALITY CRITERIA

Qualitative validity means that the researcher seeks for the accuracy of the findings by employing certain procedures while qualitative reliability indicates that the researcher's approach is consistent (Creswell 2014:201). Creswell (2014:201) further notes that the validity and reliability of qualitative research are established by using four strategies: credibility, transferability, dependability and conformability.

3.10.1 Credibility

Anney (2014) defines credibility as the assurance of the accuracy of research findings, indicating whether they faithfully reflect the original perspective of the participants. According to Creswell (2014), credibility criteria in qualitative research involve assessing whether the findings are plausible and trustworthy from the participants' standpoint. In this study, participants were given transcripts of their interviews to verify accuracy and ensure their views were accurately represented. Apart from this, the researcher ensured clear communication of participants' perspectives in data presentation using Atlas.ti®.

3.10.2 Dependability

Dependability pertains to the reliability of the findings over time, encompassing consistency of quality data (Creswell 2014). In this study, dependability is ensured by providing detailed explanations of the systematic procedures used for data collection, analysis and interpretation. Additionally, participants were asked to assess the findings, interpretation and recommendations presented.

3.10.3 Confirmability

Confirmability refers to the extent to which the findings of a study can be verified or supported by other researchers (Mohajan 2020:50–79). It ensures that data and interpretations are grounded in the collected data rather than being subjective interpretations (Creswell 2014). In this study, the researcher employed audit trails and reflexivity as methods to ensure the confirmability of the study's findings (Bryman & Bell 2014). An audit trail involves documenting the data collection, analysis process, and interpretation of findings, ensuring transparency and reliability in reporting results (Shenton 2004).

Reflexivity is particularly valuable in qualitative studies; the researcher critically examines their backgrounds and biases that may influence the research process including topic selection, methodology, data analysis, interpretation and conclusions (Shenton, 2004). Maintaining a reflexive journal allows the researcher to reflect on how their values and perspectives shape the study's outcomes.

3.10.4 Transferability

Transferability in qualitative research refers to how applicable the findings can be to different contexts and participants (Bryman & Bell 2014). Researchers enhance transferability through purposeful sampling, which involves selecting participants based on their relevance to the study's focus. Detailed descriptions of the research and careful selection of participants contribute to this process. By collecting, analysing, and cross-verifying data from diverse sources on a specific aspect, researchers strive to ensure that their study findings can be applied across settings. Purposive sampling enables researchers to engage with participants who possess in-depth knowledge of the issues being investigated. These are the issues to do with the adoption of an ILMS by Nkangala community libraries.

3.11 ETHICAL CONSIDERATIONS

Ethical considerations are crucial, particularly in research involving human participants, even when data collection does not occur in person. Ajimotokan (2022:2–7) characterises research ethics as the guidelines governing moral conduct for research. Bryman and Bell (2014) emphasise that ethical issues are not optional but essential in social science and education research. Upagade and Shende (2013) underscore the importance of ethics in protecting participants' physical and mental well-being, as well as respecting their cultural, moral, philosophical beliefs and religious.

Research ethics encompasses the ethical considerations relevant to a study, addressing potential impacts on those being researched. It emphasises protecting participants, as highlighted by Flick (2011) and Maree (2016:300), who stress the necessity of ethics committee approval for studies involving subjects or human participants. This requirement underscores the importance of seeking ethical clearance before implementing research procedures such as developing interview schedules. The researcher in this case adheres to the 2016 University of South Africa policy on research ethics, applying for and receiving

clearance from the research ethics committee. The UNISA research ethics policy outlines the ten general ethics principles the researcher must follow:

- Essentiality and relevance
- Maximisation of public interest and social justice
- Competence, ability and commitment to research
- Respect for and protection of participants' rights
- Informed and non-coerced consent
- Respect for cultural differences
- Justice, fairness and objectivity
- Integrity, transparency and accountability
- Risk minimisation
- Non-exploitation

3.11.1 Informed consent and voluntary participation

The researcher obtained consent from the participants and assured them that whatever information they shared would remain confidential and their names would not be revealed to anyone else. The researcher obtained verbal informed consent (see appendix D) before administering the interviews with participants. In addition, the researcher ascertained that the volunteers were available and willing to participate in follow-up interviews at a later stage, and most of them assured the researcher that they would be available (Maree 2016).

3.11.2 Privacy, confidentiality, and anonymity

Tourani,Misra, Mick and Panwar (2018) state that both the researcher and the participant must have a clear understanding regarding the confidentiality of the results and findings of the study. All participants' information and responses shared during the study were kept private and subsequently will be kept in a safe at the Department of Information Science at UNISA. The results presented in an anonymous manner in order to protect the identities of the participants. All the recordings and audio recordings would be destroyed three years after the study has been completed, in accordance with university policy.

3.11.3 Management of information

Management of information can be defined as a control use of resources and information provided by participants in an anonymous and confidential manner. The researcher assured that audio tapes, notes and transcripts were locked away in a safe at the researchers house and accessible only by the researcher. The researcher would destroy all the tapes and transcripts on completion of the research to honour the promise made to the participants that no one would know their identity.

3.11.4 Protection from harm

The researcher should ensure that participants are not exposed to any undue physical or psychological harm (Leedy & Ormrod, 2017). During this study, the researcher strove to be honest, respectful and sympathetic towards all participants and, if by any chance the participants require debriefing after an interview, the researcher was willing to provide it.

3.12 EVALUATION OF THE RESEARCH METHODOLOGY

It is important for the researcher to evaluate the research methods in order to explain what information was required, how it was collected and how it was analysed. Ajimotokan (2022:2–7) note that it is necessary to evaluate the procedures involved in collecting and analysing data to describe weaknesses in the study. In his view, Creswell (2014:55) affirms that "the value of evaluating the research methodology is not only to inform other researchers about the challenges encountered during the process of the study but also to contribute towards improving social research practice".

3.13 SUMMARY

The chapter presented the research methods adopted in the study, described the study setting, the research approach adopted and the other research components. It also presented the research design, sampling strategy, data collection and procedures, and ethical considerations. The above techniques and explanations outlined in this relevant chapter served as a proper guideline for the results and analysis of the data. The next chapter presents the analysis and interpretation of data.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 INTRODUCTION

The previous chapter covered the research methodology that was applied in this study. The chapter covered various aspects of the research process, such as the research paradigm, approach, design, methods, population, sampling techniques, data collection and analysis, and ethical considerations. The researcher used interviews to collect data to explore the adoption and use of the integrated library management system in the NDMCLs. The 17 participants' interviews were quoted verbatim. The term "verbatim" means that the researcher used the exact words uttered by the interview participants. This chapter focuses on the presentation, analysis and interpretation of the collected data. Creswell 2018 describes data presentation as the display of data in a clear, concise and informative manner. Bryman and Bell 2014 are of the view that analysis and interpretation of findings is where the researchers examine the collected data to draw conclusions and make sense of the results. The participants' responses to the interviews were transcribed verbatim and coded into different themes for detailed analysis and interpretation. Thus, presentation of data is in accordance with the six objectives of the research, which were:

- To examine the influence of technological factors on the implementation of an ILMS at NDMCLs.
- To determine the organisational factors affecting the adoption of an ILMS in NDMCLs.
- To assess the views of librarians' experiences on the adoption of an ILMS in the NDMCLs.
- To examine the influence of funding on the adoption of an ILMS in the NDMCLs.
- To determine the challenges to the adoption of an ILMS in NDMCLs.
- To suggest operational characteristics for selecting an ILMS for NDMCLs

4.2 DESCRIPTION OF PARTICIPANTS

The participants in this study were chief librarians, librarians, assistant librarians and ICT personnel of the Nkangala District Municipality management. They were the relevant people who dealt with adopting and using an ILMS. The participants who took part in this research study were purposefully selected by the researcher because they were the relevant individuals who provided answers to the interview questions. All the participants were library staff of NDMCLs and district management office. There was a total of 17 participants, and they were selected according to their position and the deemed expert knowledge they had, as indicated in Table 4.1. Moreover, the participants consisted of both males and females.

Gathering personal data was not part of any of the objectives, but it was important to solicit the participants' bio data because it provides valuable insights into a person's background, experiences and motivations. The issue of demographic data shapes many facets of human lives, as has been noted by Ajimotokan (2022:2–7). Creswell (2018) are of the view that the demographic characteristics play an essential role in human interaction. The demographic characteristics considered for the study included level of education, job position and working experience, as outlined in Table 4.1.

Table 4.1: Distribution of participants

PARTICIPANTS' POSITION	EDUCATION QUALIFICATION	WORKING EXPERIENCE (YEARS)	REPRESENTATION
District chief library manager	Master's in information science	12 years	P1
District chief library manager	Postgraduate Diploma in Library & Information Science	10 years	P2
ICT personnel	Postgraduate Diploma in Library & Information Science	10 years	P3
ICT personnel	Honours in Information Technology	8 years	P4

ICT personnel	Bachelor's in information science	8 years	P5
ICT personnel	Bachelor's in information science	7 years	P6
ICT personnel	Bachelor's in information science	7 years	P7
Librarian	Bachelor's in information science	6 years	P8
Librarian	Bachelor's in information science	5 years	P9
Librarian	Bachelor's in information science	5 years	P10
Librarian	Degree in Information Technology	4 years	P11
Librarian	Degree in Information Technology	4 years	P12
Library assistant	Diploma in Information Technology	4 years	P13
Library assistant	Diploma in Information Technology	3 years	P14
Library assistant	Matric certificate	3 years	P15
Library assistant	Matric certificate	3 years	P16
Library assistant	Matric certificate	1 year	P17

The position of each of the participants is shown in the above table, which ranged from chief librarian, ICT personnel, librarian and library assistant. The participants were library staff members of the Mpumalanga District Municipality library. In addition, Table 4.1 reveals the education and qualifications of all the participants. For example, one participant had a master's degree in information science; two participants had a postgraduate diploma in library and information science, while only one participant held an honours degree in information technology. There were six participants that had a bachelor's degree in information science,

two participants had a degree in information technology, and there were two participants that held a diploma in information technology. Moreover, three participants were matric certificate holders. From the table, it can be concluded that the majority of participants were holders of bachelor's degrees in information science. This shows that the participants had a good understanding of the library operations.

Finally, the working experience of each of the participants is indicated in Table 4.1; 16 out of 17 participants had more than two years' working experience. This implies that most of the participants understood the benefits and challenges of adopting an ILMS at NDMCLs very well. In addition, it is assumed that the participants understood the organisation very well, including the type of ILMS adopted by the library. For the sake of ethical process, the participants' names were not mentioned, but there should be an identity of reference to each of them. As a result, the participants were coded; for example, 'P' represented participant. Therefore, P1, P2, P3 represented participant 1 or 2 or 3, to name a few.

4.2.1 Research process

This section focuses on the analysis of data that were thematically analysed with reference to each of the study's objectives, as outlined in section 4.1. The researcher collected data from the 17 participants through semi-structured interviews. The participants were purposefully selected from Nkangala District Municipality libraries and their positions are indicated in Table 4.1. The participants willingly decided to participate in the research. The researcher introduced the purpose of the research study to the participants and informed them that they could withdraw from the research at any time without informing the researcher why they wish to do so.

During the semi-structured interviews, the researcher spent 30 minutes each on the participants to answer the questions. The responses of each participant were written on a field note, and the interviews were audio-recorded. Data collected from the participants through semi-structured interviews were analysed thematically from the study's objectives. Data analysis of interviews and interpretation of the data were discussed in this section.

4.3 ANALYSIS AND INTERPRETATION OF PARTICIPANTS' INTERVIEW SCHEDULES

In the next sections, data obtained through the interview schedules from participants were discussed. During the interviews, participants explored their views on and experiences in the adoption and use of the ILMS in the NDMCL. Further to this, only the most salient responses per question were reported verbatim, while the rest of the raw verbatim responses were summarised, recorded and saved.

Interpretation of data is the process through which a researcher draws conclusions from acquired analysed data and compares these with conclusion advanced by other researchers (Alexis 2021:87). Incorporating evidence from the data collected during interviews, the researcher also incorporated literature into the themes, as they were being discussed. On that note, the findings were interpreted and discussed in accordance with the study's objectives. In this section, only the data of the semi-structured interviews conducted with 17 participants are presented as follows:

4.3.1 Influence of technological factors

The first objective of the study determined the influence of technological factors on the implementation of ILMS. There are several technological factors that influenced the implementation and adoption of an ILMS in NDMCLSs. It was revealed by the participants that NDMCLs used and adopted a system called MPULIMS, which is driven by technology. For example, the researcher posed the following question during the interview: "Do you use an integrated library management system in library?" When this question was asked, most participants responded that they did use an ILMS. For example, Participant 2 responded as follows; *"Currently we are using Mpumalanga Library Management System (MPULIMS)."*

Participant 16 indicated the following: *"There is a system but we as library assistant are not yet using it."* For instance, the library assistant mentioned that they have not been using the MPULIMS, but that did not mean that they were not aware of its existence in the library. The participants said that the system was adopted and used to manage the collection, catalogues, circulation and retrieval of information. This view is supported by Reitz (2016), who states that an ILMS is an information retrieval system that allows users of the library to search for articles, books, websites, computer files and electronic resources.

When the participants were asked about the influence of technology in the implementation of an ILMS in their library, many of the participants indicated that MPULIMS was customised to suit the needs of the library because it is influenced by technology, such as computers, laptop, Wi-Fi, software, hardware, and more. However, seven participants mentioned that it had limited services. For instance, P6 indicated that: *"The services of MPULIMS are limited because it involved the use of technology which requires tools that the library does not occupy."*

Grant (2020) and Adegbore (2018) highlight that the adoption and use of ILMS highly depends on the technological availability of resources. The participants' responses agreed with these authors, as they indicated that the adoption of ILMS is influenced using technology such as, computers, hardware, software and more. Grant (2020) and Adegbore (2018) further mentioned that the adoption and use of an ILMS are also influenced by technological factors such as system compatibility, scalability and flexibility, user interface, user experience and integration with external users. All these factors promote the functioning of the system. Technology plays a vital role in the implementation of an ILMS; therefore, the librarians and users of the system must have good knowledge in technology. Nevertheless, the participants indicated that they relied on external services for the system on certain functionalities in the library. This was in support of Grant's (2020) statement when pointing out that integration of external services allows for rationalised workflows, enhanced efficiency and a more all-inclusive user experience. Above all, some participants indicated that technology influenced the MPULIMS in the Nkangala District Municipality community library by making it easy, user-friendly and fast to use by assisting to connect with more users, such as through social media and online platforms. For instance, P4 mentioned that:*"It is more user-friendly than the previous one (SLIMS). In the new integrated system, for example, users or any person at home who is aware of the system can check operation hours and services offered by a certain library. Further, the system is user-friendly in the sense that it makes the work of librarians and library staff easy. The system was very secure and traceable as each user of the system has their own login credentials."* The notion of the participants concurred with the assertion of Weber and Peters (2020), who state that a user-friendly interface makes it easier for library staff to steer and use the system effectively.

Table 4. 2: Influence of Technological Factors (Primary Data)

Key Findings	Details from Primary Data (Participant Responses)	Relevant Participants
Adoption of MPULIMS as ILMS	Most participants confirmed the use of the Mpumalanga Library Management System (MPULIMS), while some, such as library assistants, mentioned they were aware of the system but not actively using it.	Participants 2, 16
Technological Dependency of MPULIMS	Participants noted that MPULIMS relies on various technological tools (e.g., computers, software, Wi-Fi) for its operations. Customization of MPULIMS to meet library needs was reported, but technological limitations were noted.	Participants 6, 4, Various others
Technological Resource Constraints Limiting Services	Participants expressed concerns about the limited services due to inadequate technology tools and resources in some libraries, restricting the full functionality of MPULIMS.	Participant 6, Various others
Reliance on External Technological Services	Some libraries depend on external services for specific functionalities, enhancing the overall system efficiency. Integration of external services helps improve system workflows and user experience.	Various participants
User-Friendliness of MPULIMS	MPULIMS was described as more user-friendly than previous systems like SLIMS. It facilitates user engagement through online access to library information, making work easier for librarians.	Participant 4
Improved Access and Security	The system provides secure access with individual login credentials, and enhances connectivity to users, including through online platforms and social media.	Participant 4
Need for Technological Proficiency	Participants highlighted that librarians need good technological knowledge to operate the system efficiently. Training is essential to maximise the potential of the system.	Various participants

4.3.2 Organisational factors affecting adoption and use of ILMS

The purpose of the second objective was to determine the organisational factors affecting the adoption and use of an ILMS. It is vital to determine the organisational factors before adopting an ILMS in any library. For example, to determine the organisational factors affecting the adoption of an ILMS in the NDMCL, the researcher posed questions to the participants to find out how ready they were to fully implement the adoption of an ILMS in their library. This question related to Aregbesola et al (2019) who cite that it is important to assess the overall readiness and infrastructure of libraries before adopting an ILMS. In the participants' responses, some indicated that they were ready for the full implementation to adopt an ILMS while some participants mentioned that they were not ready to fully adopt an ILMS due to some factors. For example, P1 stated that: *"I think we may start full implementation if only we have enough funding to procure the necessary equipment as well as to provide the trainings for the rest of our staff. More so, it also important that as top management to evaluate our readiness by making necessary consultations with the whole staff.";* Whereas P3 cited that: *"We are fully ready to adopt the implementation of ILMS in as much other staff go for training since we have gone through the training as ICT personnel."*

The response of P1 corresponded with Sahu et al. (2015) as it stated that the adoption of ILMS is determined by some organisational factors such as staff skills, training, budgeting, resource allocation, decision-making structure, organisational readiness and infrastructure. According to P3, the librarians were ready to adopt full implementation of the ILMS because they have undergone the training. However, not all the staff was trained. P3's response was aligned with the views of Asim and Mairaj (2019), who opine that skills and knowledge of library staff are essential considerations in the adoption and implementation of an ILMS. However, P12's response was far contrary, as it indicated that: *"As far I am concern, I do not think we are ready for the full implementation of ILMS, we do not understand the use of the system."* This highlights that the participants were not ready for the full adoption of an ILMS in the library, since they have not undergone the required training. Many of the participants came to the same conclusion as P12. They indicated the need for training and support as staff, as well as availability of necessary resources. According to Asim and Mairaj (2019), ample training and support programmes can assist staff members to become skilful in using the system and increase their confidence of the new technology.

Table 4. 3: Organisational Factors Affecting Adoption and Use of ILMS (Primary Data)

Key Findings	Details from Primary Data (Participant Responses)	Relevant Participants
Readiness for Full ILMS Implementation	Some participants expressed readiness to fully adopt ILMS, provided sufficient funding for necessary equipment and training. P1 stressed the importance of management consultations and adequate resources before full implementation.	Participant 1, Participant 3
Training and Skills of Library Staff	While certain participants (e.g., P3) were ready due to their ICT training, many others lacked training, which was a major hindrance to readiness. Training was highlighted as a critical organisational factor affecting ILMS adoption.	Participant 3, Participant 12, Others
Lack of Confidence and Understanding Among Staff	Several participants, such as P12, expressed concerns about the lack of understanding and skills in using the ILMS, indicating that they were not ready for full adoption.	Participant 12, Various others
Need for Organisational Support	Participants emphasized the need for organisational support, particularly in terms of budgeting, resource allocation, and decision-making processes, as these factors directly influence readiness for ILMS adoption.	Participant 1, Various others
Infrastructure and Resource Limitations	Participants highlighted that the library's infrastructure and available resources, including funding, play a critical role in determining whether the ILMS can be fully implemented and used effectively.	Participant 1, Various others
Importance of Training and Support Programmes	Ample training and support programmes were seen as essential for increasing staff confidence and skills in using ILMS. This aligns with the views of Asim and Mairaj (2019) on the importance of proper training for technology adoption.	Various participants

4.3.3 Experiences of librarians on ILMS

The third objective of the study was aimed at ascertaining the views of librarians' experiences on the adoption and use of an ILMS. The views of librarians on the adoption of ILMS are of paramount significance, as it determines the level of preparedness and involvement of library staff. Odendaal (2019) notes that adopting a new system demands careful planning, resource allocation and change in management strategies. Therefore, in order to establish the preparedness and involvement of the library staff towards the adoption of ILMS in the Nkangala District Municipality community library, the researcher asked the participants if they received support as library staff in using ILMS. The researcher further asked if the participants received any training on the adoption of ILMSs. Very few of the participants responded by saying that they received support, which was in the form of a workshop, whereas the majority of participants responded that they had not received any support whatsoever in the use of ILMSs. Most of the responses provided were similar; as a result, the varying responses are indicated by the researcher below:

P10 was of the view that: *"As librarians we received some forms of support in the form of workshop on how to handle the laptops and Wi-Fi connections."* Contrary to this, P15 stated that: *"We did not receive any support at all, maybe it will come in some times to come. Without being trained it will be difficult for us to fully adopt the use of the system in our library."* P16 responded that: *"The management must offer a more comprehensive training on all aspects of the system including advanced features for all staff which will assist all staff being able to use the system.*" P17 emphasised: *"Offer more training for us and this training must be done quarterly so that we are able to understand it as well as provide new equipment to use for the system such as computers that can work nicely with the system because most computers are very old."*

Nonetheless, the responses of the participants were in accordance with the statement made by Sani (2018) that there was a dire need for the involvement and participation of library staff through training, which may promote a lasting and positive effect on the motivation and willingness of the staff to embrace technological change, which is the adoption of an ILMS. From the participants' response, apart from being aware of the benefits of the use and adoption of an ILMS, it could be seen that only a few went through training, while the majority have not been trained in the use of the system. The library staff, whose work is subjected to significant production, requires enough training. Therefore, the participants' perceptions of training in the

adoption of ILMSs is also supported by Odendaal (2019), who affirms that there is a need for broad librarian training programmes to guarantee successful adoption of ILMSs.

The researcher was also interested to find out if the staff were involved in the planning the adoption of the ILMS in the library of Nkangala District Municipality. The following question was posed to the participants: "Where you carried along with or involved in the planning of adopting ILMS in your library?" Many of the participants responded by saying that they were not carried along or involved in the planning to adopt an ILMS in the library of Nkangala District Municipality. An example is that P14, who stated as follows: *"It is my view that the top management should carry us along and we all agree before adopting the ILMS because of so many factors otherwise it will be difficult to implement."* P15 said; *"We need to be involved in the planning and adoption of the system but unfortunately, we were not consulted."* P17 cited that: *"The management does not consider us at all, maybe because we are junior staff. They will just introduce new things without our knowledge of them such as this system."*

According to Shikongo (2015), in an event where library staff have to reduce resistance, future new users of a system must be involved in the early phases of the project to create a sense of ownership. Adegbore (2019) further states that segregation of certain staff members' involvement in automation project implementation should be ultimately discouraged. The participants' responses were in total agreement with the statements and recommendations made by the two authors mentioned above.

Table 4. 4: Experiences of Librarians on ILMS (Primary Data)

Key Findings	Details from Primary Data (Participant Responses)	Relevant Participants
Lack of Comprehensive Support and Training	A majority of the participants indicated that they had not received adequate support or training on ILMS. Some mentioned workshops for basic tasks, but many felt that more advanced and ongoing training was necessary to fully adopt ILMS.	Participant 10, Participant 15, Participant 16, Participant 17
Limited Involvement in	Many participants expressed that they were not involved in the planning phase for the adoption of ILMS. They felt that involving all	Participant 14, Participant 15, Participant 17

Planning the Adoption of ILMS	staff members, particularly junior staff, would have helped create a sense of ownership and reduce resistance to the new system.	
Need for Equipment and Infrastructure to Support ILMS	Several participants highlighted the lack of modern equipment such as updated computers to efficiently support the ILMS. They indicated that this was a barrier to effectively using the system and requested new equipment.	Participant 17
Desire for Regular and Advanced Training	Participants emphasized the need for more in-depth training, including training on advanced features of the ILMS, and proposed regular, quarterly training sessions to ensure staff stays updated on system functionalities.	Participant 16, Participant 17
Impact on Motivation and Willingness to Embrace ILMS	Participants noted that proper training and involvement in the ILMS adoption process would positively influence their motivation and willingness to embrace the new system, as indicated by Sani (2018).	Participant 16, Participant 17

4.3.4 The influence of funding in the adoption and use of an ILMS

The fourth objective was intended to discover the influence of funding on the adoption and use of an ILMS. Funding plays an important role in the adoption of an ILMS because it supports the acquisition, implementation, maintenance and training of staff. The researcher wanted to find out whether funding or budgeting affects the adoption and implementation of an ILMS in NDMCLs. In this vein, the researcher asked the participants if they were provided with funding to implement the adoption of ILMS in the library. All the participants responded that no funding and budgeting were set aside to implement or maintain the system, even though adequate funding will make the transition, efficient operations and improved services of the system smoother. No specific amount of budget was set aside for training or workshop of staff. According to P1: *"There was no budget or funding to even provide training or workshop for*

staff." P14 responded that: *"Many of us work overtime; we are not receiving any compensation for that. We always told that there is no extra fund to pay for that."*

The above responses from the participants resonated with the statement made by Samzugi (2018) that library budget can greatly impact the implementation of an ILMS. According to Grant (2020), adequate funding makes it possible for a successful transition, effective operations and improved services for the library and patrons. Nevertheless, a follow-up question was asked regarding what the participants can do or suggest sourcing funding for financing the adoption of an ILMS. In their responses, the participants mentioned that private donors may help in terms of funds. For example, P2 stated that: *"Apart from the government who donate grants which of course are not enough to cater for all the expenses of the library and the implementation of ILMS. I will suggest that the library afflict or collaborate with external donors as well as organise fundraising campaign".* Another response from P4 emphasised: *"I think since funding is an issue here, I will suggest that the library should partner with local businesses, foundations and corporate organisations for donations and sponsorships."* Based on the responses of the participants, it can be seen that funding is crucial for the adoption of ILMS, but more importantly, financial support from external organisations will assist. This view is supported by Grant (2020) who states that libraries can seek for funding through fundraising or donations from individuals, businesses and/or community organisations in order to promote efficient library operations.

Table 4. 5: The Influence of Funding on the Adoption and Use of ILMS (Primary Data)

Key Findings	Details from Primary Data (Participant Responses)	Relevant Participants
Lack of Dedicated Funding for ILMS Implementation and Maintenance	All participants confirmed that no specific budget or funding had been allocated for the implementation, maintenance, or training related to ILMS. This lack of financial resources hinders the smooth transition and operational efficiency of the system.	Participant 1, Participant 14

Impact of Budget Constraints on Staff Training and Compensation	Participants noted that due to budget constraints, no funds were available for staff training or compensation for overtime work, which directly affects staff preparedness and motivation to adopt and use ILMS.	Participant 1, Participant 14
Suggestions for Alternative Funding Sources	Participants suggested seeking financial support from external donors, private businesses, and corporate organisations. Collaboration with external entities, including local businesses and foundations, was recommended to secure additional funding for the implementation of ILMS.	Participant 2, Participant 4
Importance of Financial Support for Successful ILMS Adoption	Participants emphasised that sufficient funding is crucial for effective ILMS adoption, as it supports not only the initial implementation but also staff training, system maintenance, and overall operational efficiency. They expressed a need for government and external donor support.	Participant 2, Participant 4
Potential Solutions to Overcome Funding Gaps	Suggestions included organising fundraising campaigns and exploring partnerships with private organisations and businesses, which could help bridge the funding gaps and provide necessary resources for ILMS implementation and ongoing support.	Participant 2, Participant 4

4.3.5 Factors hindering the adoption and use of ILMS

The fifth objective was focused on factors hindering the adoption and use of ILMS. In the interview session, the researchers asked the participants about the factors and challenges faced within the implementation of the ILMS in their library. In response to this question, participants indicated that apart from the fact that the adoption of an ILMS is beneficial, its adoption is coupled with several factors such as a lack of funding and budget, a lack of technical expertise, outdated equipment, inadequate staff, a lack of infrastructure and a lack of training as well as network challenges in the implementation of an ILMS. P2 responded as follows: "*The barriers*

experienced by library are lack of IT infrastructure and resources, resistance to change, lack of funding, load shedding and staff training".

This response by this participant was also highlighted by Uzomba (2015), stating the lack of commitment by staff, a lack of maintenance, negligence by professionals involved in the automation in the selection of software and a lack of training. P5 responded *"I think there should be massive investment on technology because of the growing numbers of library users but the reverse is the case because of shortages of technological equipment."*

It is not new that ILMSs are driven by technology; therefore, it is imperative to invest more in technological equipment for the smooth operation of an ILMS, according to P5. In support of that, Shivaram (2017) states that there is a need for libraries to invest in ICT to replace the libraries manual system. Furthermore, a participant said that the lack of training is a factor that hampers the full adoption of an ILMS in the NDMCL. P16 mentioned in the response that "*We are not receiving any training at all, only the top management does received training on the use of the ILMS. Many of us are computer illiterate".* Samzugi (2018) emphasises the importance of staff training in the adoption of ILMSs. It was mentioned that a lack of skilled staff causes a drastic setback in the adoption of an ILMS, especially to attend to technical issues that might arise at any time.

Table 4. 6: Factors Hindering the Adoption and Use of ILMS (Primary Data)

Key Findings	Details from Primary Data (Participant Responses)	Relevant Participants
Lack of Funding and Budget Allocation	Participants indicated that a significant challenge in adopting and implementing ILMS is the lack of financial resources. Without sufficient budget allocation, libraries struggle to procure necessary technological equipment, maintain systems, and train staff.	Participant 2, Participant 5
Inadequate IT Infrastructure and Equipment	Many libraries face outdated or insufficient IT infrastructure, which impedes the smooth implementation of ILMS. The absence of proper technology and resources was identified as a major barrier to ILMS adoption.	Participant 2, Participant 5

Resistance to Change and Lack of Technical Expertise	Participants mentioned resistance from staff as a challenge. Additionally, the lack of technical expertise among staff, many of whom are not computer literate, creates hurdles in using and maintaining the ILMS effectively.	Participant 2, Participant 16
Inadequate Training and Support for Staff	Only top management received training on the ILMS, leaving the majority of staff without the necessary skills to operate the system. Participants stressed the need for comprehensive training programs for all staff to ensure the successful use of ILMS.	Participant 16, Participant 2
Network and Connectivity Issues	Participants pointed out that frequent network challenges, including slow or unstable internet connections, disrupted the effective use of ILMS, further complicating the adoption process.	Participant 2
General Lack of Skilled Personnel	The lack of skilled staff was highlighted as a critical barrier to addressing technical issues that may arise with the ILMS, making the system's long-term sustainability difficult.	Participant 16

4.3.6 Operational characteristics for selecting ILMS

The last objective of the study intended to suggest operational characteristics for selecting an ILMS. The researcher asked the participants about the operational characteristics that could be proposed for selecting an ILMS in NDMCLSs. Unfortunately; almost all the participants could not answer this question, except two – P1 and P2. P1 stated that: *"Although, I am aware that there several operational characteristics but for the sake of our library, I suggest cataloguing because we need to keep records of all the books and other resources in the system (MPULIMS) for now".*

Cataloguing is a process of creating a catalogue of library materials, including books, journal, audiovisual materials and other resources (Rajnikant & Patel 2014). In support to the response of P1, Grant (2012) stresses that cataloguing ILMS software provides tools for cataloguing (ability to search, retrieve and modify bibliographic) and managing bibliographic data associated with library resources. Nevertheless, the response of the P2 was that *"As for me,*

apart from cataloguing, I will prefer us to adopt mobile access because the ICT personnel are skilled to handle anything around the technologic aspect. Secondly, since we are gradually migrating to MPULIMS and many of the staff is yet to be trained, mobile access will be effective for us as the ICT personnel will handle all operations online through smartphones". The view of P2 is in support of what was stated by Hopkinson (2018). The author indicates that ILMS software provides an instrument for managing mobile access, which include the ability to create mobile-optimised interfaces for the library's online catalogue, circulation system and library services. Above all, mobile access is the ability to access library services and resources through mobile devices, such as smartphones and tablets.

Table 4. 7: Operational Characteristics for Selecting ILMS (Primary Data)

Key Findings	Details from Primary Data (Participant Responses)	Relevant Participants
Cataloguing	P1 emphasized the need for cataloguing as an operational characteristic for selecting ILMS. Cataloguing is crucial for keeping records of all library materials, such as books and journals, within the system (MPULIMS). Cataloguing tools help manage and retrieve bibliographic data.	Participant 1
Mobile Access	P2 highlighted the importance of mobile access, suggesting that it could facilitate ease of use, especially as the ICT personnel are skilled in handling technological aspects. Mobile access allows users to operate the ILMS via smartphones, providing flexibility for library staff and users.	Participant 2
Lack of Responses from Other Participants	Most participants could not provide input on the operational characteristics for selecting ILMS. The lack of responses indicates limited knowledge or involvement in the decision-making process for ILMS selection within the library.	Majority of Participants

4.4 SUMMARY

This chapter presented, analysed and interpreted the data collected from the participants and provided detailed interpretations. The data were analysed thematically and the responses of the participants during the semi-structured interviews were transcribed verbatim and coded. Some

of the issues raised in this chapter included the limited technological infrastructure affecting the system services, and poor user-friendly interfaces. Some participants felt unprepared for the full implementation and use of the ILMS due to inadequate funding and insufficient staff training. Moreover, participants highlighted the need for substantial investment in technology to meet the growing demand for library services. Additionally, the lack of training especially among the lower-level staff was a significant barrier, with many staff being computer illiterate and only top management receiving ILMS training. These findings underscore the necessity of improving infrastructure, funding and staff training for ILMS implementation. The final chapter (chapter five) presents the summary, conclusion, recommendation and avenues for future study.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

Chapter four presented analysed and interpreted data in accordance with the study's objectives. Thus, chapter five summarises the findings of this study and provides conclusions and recommendations based on the findings. This chapter, with reference to the study's objectives, presented the summary of findings, conclusions, recommendations and suggested topics for further research. The purpose of this study was to explore the adoption of an integrated library management system in the NDMCL.

In order to achieve the purpose of this study, the research objectives served as the building blocks for this study.

Thus, presentation and interpretations of data were done according to the six specific objectives.

- To determine the influence of technological factors on the implementation of ILMSs at NDMCLs.
- To establish the organisational factors affecting the adoption of an ILMS in NDMCLs.
- To ascertain the views of librarians' experiences on the adoption of an ILMS in the NDMCLs.
- To discover the influence of funding on the adoption of an ILMS in the NDMCLs.
- To determine factors hindering the adoption of an ILMS in NDMCLs.
- To suggest operational characteristics for selecting an ILMS for NDMCLs.

5.2 SUMMARY OF FINDINGS

In this section, the researcher provides a summary of the findings according to the study's objectives. The researcher provides some detailed explanations of the research findings pertaining to each of the study's objectives. The summary of the findings explains the factors that affected the use and adoption of an ILMS in the NDMCL.

5.2.1 The influence of technological factors on the implementation of ILMS

The first objective intended to determine the adoption and use of an ILMS in Nkangala

community library. This was very helpful even though it posed challenges. It was clear that all the participants alluded to fact that the library used a system known as MPULIMS. Although they mentioned that they have not been using the system, it did not mean that they were not aware of its existence in the library. The participants said that the system was adopted and was not fully functional. The system is also a retrieval of information system that allows the patrons and end-users of the library to search for articles, books, websites, computer files and electronic resources (Dzandza 2019:1–7). The key issue is that the implementation of the system is coupled with some challenges; this is not peculiar to South Africa (Weber & Peters 2020: 102).

5.2.1.1 Technological influences on ILMS adoption and use

However, the adoption and use of ILMS are influenced by technology (Grant 2020; Adegbore 2018). There are several technological factors that influenced the system, such as system compatibility, scalability and flexibility, user interface, user experience and integration with external users. All these factors promote the functioning of the system. Technology plays a vital role in the implementation of ILMSs; therefore, librarians and users of the system must have good knowledge of technology. Nevertheless, the participants indicated that they relied on external services for the system on certain functionalities in the library. This was in support of Grant's (2020) statement, who points out that integration of external services allows for rationalised workflows, enhanced efficiency and a more all-inclusive user experience.

5.2.2 The organisational factors affecting the adoption and use of ILMS

Despite the potential benefits, the Nkangala community library faces significant challenges in fully implementing the ILMS. The challenges were similar to other libraries and consortia that have transitioned to ILMS for better management of collections and to contribute to national growth, including some in the Mpumalanga province as Nkangala is still grappling with issues. Data analysis revealed that challenges such as insufficient training for staff and inadequate funding are major barriers to the complete implementation of the system in the Nkangala District Municipality Community Libraries (NDMCLs). These obstacles highlight the on-going struggle to maximize the potential of ILMS in improving library services and management (Bangani & Dube 2023:773-784; Muruli & Harinarayana 2023:11).

The purpose of the second objective was to determine the organisational factors affecting the adoption of an ILMS. It was discovered through the analysis of empirical data collected from the participants that there were organisational factors that affected the adoption of an ILMS in

the NDMCL. There are factors to be considered before the adoption and implementation of an ILMS, which include staff skill and training, budget, resource allocation, organisational readiness and infrastructure (Yeboah, Onyancha & Mhlongo 2023:159). Below is a summary of each factor:

- **Staff readiness**

The readiness of staff is paramount since the organisational factors can affect decision-making processes and the successful implementation of the system. The participants were of the opinion that before full implementation and adoption of an ILMS in NDMCLs, the above-mentioned factors should be considered. Most participants suggested that full adoption of an ILMS is not feasible, if staff have not undergone training because skills and knowledge are imperative to implementing the system. It was discovered that not all the staff have gone through the training and workshop on the use of the system. This hampered the full implementation of the system. It was revealed that training of staff to use the system was compulsory since some of the staff were computer illiterate. This is significant as the system is influenced by technology, which makes it difficult for them to handle the technological requirements to use in an ILMS. Hence there is need to recruit computer literate librarians in future to realise the full benefits of the ILMS.

- **Budget and resource allocation**

Budget considerations and resource allocation are also significant organisational factors. Adequate funding is needed not only for the initial implementation of the ILMS but also for on-going maintenance and upgrades. Ensuring sufficient resources are allocated can facilitate a smoother transition and sustained operation of the system.

- **Library readiness and infrastructure**

The overall readiness of the organisation and the existing infrastructure were identified as pivotal. Organisational readiness includes having the necessary technological infrastructure in place and ensuring that the environment is conducive to adopting new systems. This involves assessing current capabilities and making necessary adjustments to accommodate the ILMS.

- **Importance of practical experience**

Experience with system usage is vital for library staff. As Aregbesola et al. (2019) noted, libraries have an obligation to provide training opportunities in the use of current software and hardware. Practical experience with these technologies is necessary to ensure staff can effectively utilize the ILMS, thereby enhancing the system's efficiency and effectiveness. According to Aregbesola et al. (2019), it is vital for library staff to have experience on system usage. They buttress by saying that the library is obliged to provide training opportunities for the library staff in the use of computers, more importantly in the use of current software and hardware with enough practical experience.

5.2.3 The views of librarians' experiences on the adoption and use of an ILMS

The objective of the study was aimed at ascertaining the views of librarians' experiences on the adoption and use of an ILMS. The key highlights were staff competence and technological readiness.

5.2.3.1 Staff competence and management support

It was discovered that many of the library staff in NDMCLs were not competent to use or implement an ILMS, even though it seemed that it would be a better system to use, since it would save them from strenuous manual processes, which they were used to. Hence, they indicated that support in the form of professional development programmes was required from the management. Management support is critical for the adoption and use of an ILMS in the library (Grant 2020). Training should be continuous, hence professional development programmes should be organised by the management with which the staff will be trained, retrained and reskilled for successful implementation of an ILMS (Adgebore 2018).This continuous training will enable and increase the use of the implemented ILMS.

Engagement and participation of staff through training and workshops were seen as vital for fostering motivation and willingness to embrace technological changes. This perspective aligns with Sani (2018) who advocated that there is a need for engagement and participation of staff through training, which may cause a lasting and progressive effect on the motivation and willingness of library staff to embrace technological changes towards the adoption of an ILMS.

5.2.3.2 Technological Readiness

Participants emphasised the need for comprehensive readiness before implementing an ILMS. They noted several factors to be considered including adequate preparation and involvement from top management. Training tailored to the staff's skills and capacities was deemed crucial. They also mentioned that the top management and decision-makers should endeavour to carry them along by organising training for the staff before adopting an ILMS. Zendehdel Nobari, Gholipour & Ebrahimi (2021:117–136) also suggests that to reduce staff resistance, top management should involve the staff members in decision-making and should organise training according to the skills and capacity of the staff.

The provision of necessary technology, along with the continuous maintenance of materials and infrastructure, was highlighted as a priority by the participants. They stressed the importance of decision-makers and top management ensuring that the required resources and support are in place. This view is supported by Asim and Mairaj (2019), who emphasized the significance of the skills and knowledge of library staff in the successful adoption of an ILMS.

5.2.4 The influence of funding on the adoption of an ILMS

This objective was intended to discover the influence of funding on the adoption and use of ILMS. The funding had a crucial influence on the budget for ILMS and strategies to mitigate resource allocation.

5.2.4.1. Impact of funding and budgeting on ILMS implementation

Allocation of resources has a big influence on the implementation or adoption of ILMSs in NDMCLs. It was discovered that funding and budgeting affect the smooth running of the ILMS, as indicated by some of the participants. The funds are meant to support the purchase of materials, maintenance, training, and other staff support (Samzugi 2018). It was discussed that the lack of training and workshops for library staff was due to the unavailability of funding or budgeting, hindering the smooth implementation of ILMS. Despite the commencement of ILMS implementation in libraries, its full operation is impeded by financial constraints, impacting service delivery and user experience.

5.2.4.2 Strategies to mitigate limited resource allocation

According to Grant (2020), the availability of resources promotes smooth take-off, effective operations and improved library services and its patrons. Nonetheless, in NDMCLs, it was revealed through the participants that resource allocation, meaning funding and budgeting, have been a challenge in the smooth implementation of an ILMS in the library. For instance, it was indicated that non-availability of funding affects the purchase of necessary technologies, maintenance of infrastructure and training of staff, even though the implementation of ILMS has commenced in the library, the system was not in full operation because of the factors stated. Samzugi (2018) states that budget allocation to libraries has a big impact on the implementation of an ILMS.

Nonetheless, in order to reduce the impact of resource allocation in the implementation or adoption of an ILMS, some participants suggested seeking for donations and grants by partnering with local businesses, foundations and corporate organisations. This strategy aims to supplement limited budgets and facilitate effective library operations. This view was also echoed by Darch et al. (2018), who argues that libraries should pursue opportunities for funding from foundations and non-profit organisation who are interested in supporting libraries and encouraging effective library operations as well as improved user experiences. By diversifying funding streams, libraries can potentially overcome financial barriers and achieve smoother implementation and operation of ILMSs, thereby improving overall service delivery and patron satisfaction.

5.2.5 Factors hindering the adoption and use of ILMS

The fifth objective of the study focused on the factors hindering the adoption and use of ILMS. The analysis of data revealed that the adoption and use of an ILMS are dependent on factors including financial and human resources, and technological and operational factors.

5.2.5.1 Financial and human resource challenges

The participants identified significant barriers hindering the adoption and use of ILMS and these were related to financial constraints and inadequate human resources. The participants indicated the lack of funding and the lack of staff training as challenges, while a few participants, who were members of the top management, mentioned the unpreparedness of staff and their resistance to change as key hindrance factors. The literature revealed that several

universities' libraries in West Africa cannot fully adopt or implement an ILMS due to limited and lack of funds (Chandler 2021:243–251). In accordance with the findings, Samzugi (2018) indicates that a lack of skills on the part of library staff has led them to rely on ILMS administrators whenever an issue arises, which resulted in wasted time. This is because the ILMS administrators are not always available.

5.2.5.2 Technological and operational challenges

Another critical challenge identified by participants was the technical complexity associated with ILMS adoption. Lack of training in technology emerged as a significant obstacle, impeding the effective operation and maintenance of ILMS. According to them, handling or operating the technology, which comes with the use and adoption of an ILMS, has posed many barriers because they are neither skilled nor trained to operate them. This barrier identified by these participants is supported by Breeding (2018), who states that there are technical and operational factors associated with the adoption and use of an ILMS. These factors include the costs associated with library automation, the inability of an ILMS to properly function due to poor internet coverage and limited or no knowledge on the part of the library staff. Nonetheless, some of the participants pointed out the issue of preparedness as a hindrance in the adoption of an ILMS, in the sense that some library staff was reluctant to adopt the use of an ILMS because of the perception that they might lose their jobs if they moved from a manual system to a technological system. Adegbore (2018:1–14) supports these statements by the participants.

5.2.6 Operational characteristics for selecting ILMS

The last objective of the study intended to suggest operational characteristics for selecting an ILMS. As a result, cataloguing and mobile access were highlighted as key characteristics.

5.2.6.1. Cataloguing

Participants in the study highlighted cataloguing as a fundamental operational characteristic of ILMS. One participant suggested that cataloguing should be adopted as an operational characteristic to use in ILMS. The participant indicated that they used MPULIMS in NDMCLs, and therefore, cataloguing was a relevant operational characteristic mainly because it assists in keeping records of all books and other resources in the system. Agyeiku (2021:1–33) assert that cataloguing involves the creation of catalogue library materials, including books, journals, audio-visual materials and other resources. This function not only facilitates efficient resource

management but also enhances accessibility and retrieval of library materials, thereby supporting academic and research pursuits within the institution.

5.2.6.2 Mobile library accessibility

Another operational characteristic recommended by participants is mobile access. Some participants suggested mobile access as an operational characteristic for an ILMS in their library. This suggestion was based on the participants' experience. Despite challenges like staff training and financial constraints hindering full ILMS implementation, mobile access was perceived as a valuable addition to the library's technological infrastructure. This feature allows users to interact with library services using mobile devices, thereby reducing dependency on traditional desktop setups and catering to the needs of diverse user demographics, including those less proficient with technology. Hopkinson (2018) underscores that modern ILMS software integrates tools for mobile access, enabling libraries to offer mobile-optimized interfaces for browsing catalogues, managing circulation, and accessing various library services remotely. This flexibility not only enhances user engagement but also aligns with contemporary trends in digital information management, fostering a more inclusive and accessible library environment.

5.3 CONCLUSIONS ON THE FINDINGS

This section provides the conclusions of this study. These conclusions are provided in accordance with the objectives of this study.

5.3.1 The influence of technological factors on the implementation of an ILMS

In the first objective on determining the influence of technological factors, it was evident that technology plays a significant role in the adoption and use of ILMSs in NDMCLS. The findings of the study revealed that technological use is important when adopting an ILMS in the municipality library. For instance, the retrieval of information and searching for articles, books, periodicals, websites and many more are done using technology like computers and laptops. Grant (2020) and Adegbore (2018) cite that the adoption of ILMS is influenced by many technological factors. Therefore, the influence of technology in the use and adoption of ILMS resulted in ILMS not being fully implemented in NDMCLs, even though the library has adopted the use of MPULIMS.

5.3.2 The organisational issues affecting the adoption and use of ILMS

The organisational factors were established in the second objective of the study. Although the adoption of an ILMS in public libraries enhances the quality of library services (Bangani & Dube 2023:773–784), this depends on the readiness of the library staff. It was revealed from the findings that some of the staff were not ready to implement and adopt the use of an ILMS in the NDMCLs because the staff needed skills, training and support, which unfortunately did not happen and, consequently, this factor affected the full implementation of an ILMS. However, this was in line with the view of Chandler (2021:243–251) who indicate that the adoption of an integrated library management is significantly impacted by various factors such as, staff skills and training, budget and resource allocation, organisational readiness and decision-making structure.

5.3.3 The views of librarians' experiences on the adoption and use of ILMS

The third objective ascertained the views of librarians' experiences. The library staff in NDMCLSs had different views of and experiences towards the adoption and use of an ILMS. The study findings revealed that full implementation of an ILMS is not feasible and realistic because many of the library staff are not computer literate since they were not trained. In addition, the readiness of the staff is paramount; therefore, it is important for the top management to carry every staff along and not just imposing it on them without prior consultation and buy-in. Although, it was further revealed that the library staff acknowledged the importance and efficiency of an ILMS, they were dismayed because no training was organised for majority of them. These experiences and views of the staff were in accordance with Chanderdeo (2020) and Odendaal (2019) who state that even though librarians acknowledged the benefits and importance of ILMS, they also recognised that the adoption and implementation of ILMS pose various challenges, including a lack of staff training and non-readiness of the staff.

5.3.4 The influence of funding on the adoption and use of ILMS

The fourth objective was intended to discover the influence of funding on the adoption of an ILMS. Funding and budgeting have been identified as significant factors that affected the full implementation of an ILMS in NDMCLs. Funding played major role, for instance, the procurement of equipment and technological materials, training of staff and maintenance of infrastructure. It was also mentioned by Samzugi (2018) that the adoption and use of an ILMS

in public libraries is influenced by the availability of funding because it supports the acquisition of materials, maintenance of infrastructure, training of staff, which support the successful implementation. The findings further revealed various funding models a library can adopt to provide financial support for the smooth implementation and operation of an ILMS in NDMCLs. It was suggested that funds can be raised through fundraising campaigns, soliciting support from local businesses, non-government organisations and private companies. This assentation was in line with what Grant (2020) proposed in terms of funding model for the implementation and adoption of an ILMS. He states that libraries can ask for funding through fundraising and donations from individuals, businesses or organisations.

5.3.5 Factors hindering the adoption and use of ILMS

The fifth objective was focused on the factors hindering the adoption of an ILMS. In the NDMCLS, there were factors noted and mentioned, which were revealed in the study's findings. These factors range from a lack of training of staff, a lack of funding and budget allocation, a lack of support and non-readiness of staff. These factors bring along barriers on the full implementation of an ILMS in the municipality library. It was revealed that NDMCLs are faced with barriers to maintain their ILMS due to financial and technical issues. Furthermore, it was discovered that most of the staff were not prepared to fully adopt the use of an ILMS because no training and support were offered to them. There were several studies that indicated the impact of funding as a serious barrier in the implementation of an ILMS. For example, Adegbore (2018:1–14) states that Nigerian community libraries in the implementation of an ILMS because of a lack of funding. He further states that poor funding was the main problem facing Nigerian community libraries in the sense that they were under-funded.

5.3.6 Operational characteristics for selecting ILMS

The last objective of the study intended to suggest operational characteristics for selecting an ILMS. There are several operational characteristics for selecting an ILMS. However, the study's findings revealed that there were two major operational characteristics that were suggested for the implementation and adoption of an ILMS in NDMCLs, which includes cataloguing and mobile access. It was revealed that cataloguing is the most relevant operational characteristics that can use in an ILMS at NDMCLs; therefore, it will assist the library staff to

keep record of all books and other resources in the system. Moreover, it was suggested that mobile access can also be used as an additional operational characteristic, since the library was yet to implement full adoption and use of an ILMS in the library because it involves the use of mobile devices, which would reduce the workload on the library staff and those who are not technologically skilled.

5.4 RECOMMENDATIONS ON THE FINDINGS

This section outlines the recommendations to deal with the concerns identified during the study. The study's recommendations are provided based on the research objectives of this study.

5.4.1 The influence of technological factors on the implementation of ILMS

The first objective of the study was aimed at determining the influence of technological factors on the implementation of an ILMS. This study recommends the following:

i. Libraries should be provided with relevant technological equipment and materials needed for smooth implementation and adoption of an ILMS.
ii. The libraries must identify the most-suited technology relevant for the adoption and of an ILMS.
iii. The technology must be upgraded and maintained from time to time to be operational all the time without failure or breakdown of the system.
iv. There should be a continuous evaluation to regularly access the effectiveness of ILMS adoption and use, using feedback from librarians and patrons to inform adjust and improvement.

5.4.2 The organisational issues affecting the adoption and use of an ILMS

The purpose of the second objective was to establish the organisational factors affecting the adoption and use of an ILMS. This study provides the following recommendations:

i. The library management should take into consideration the factors that can hinder the implementation of an ILMS before its adoption and focus on how some issues can be rectified.
ii. The library staff must be willing and ready to adopt and use the ILMS before its implementation.

iii. The library staff must be skilled or trained before the adoption and implementation of the ILMS.

5.4.3 The views of librarians' experiences on the adoption and use of ILMS

The third objective of the study was aimed at ascertaining the views of librarians' experiences on the adoption and use of ILMS. The study provides the following recommendations:

i. The staff must be trained in the use of technology before adoption of an ILMS because many of the staff members are computer illiterate.
ii. The staff must be ready for the adoption and implementation of an ILMS.
iii. All the library staff should be involved in terms of policy and preparedness before the adoption and use of an ILMS.
iv. The computers should be maintained often, and training must be provided to staff.

5.4.4 The influence of funding on the adoption and use of ILMS

The fourth objective was intended to discover the influence of funding on the adoption and use of ILMS. The recommendations are as follows:

i. There should be enough funding and budget allocation for the adoption and implementation of an ILMS.
ii. Funds should be set aside for continuous training of staff and maintenance of the infrastructure.
iii. The library management should endeavour to explore partnership with other libraries or organisation that have successfully adopted an ILMS to share resources, experiences and best practices.

5.4.5 Factors hindering the adoption and use of an ILMS

The fifth objective was focused on the factors hindering the adoption and use of an ILMS. The study recommends the following to address the identified hindering factors:

i. Accessibility and user experience: prioritise accessibility and user experience in the design and implementation of the ILMS. This includes considerations such as intuitive interfaces, mobile responsiveness and support for diverse user needs.

ii. Change management: implement effective change management strategies to facilitate the transition to the new ILMS. Communicate openly with staff about the reasons for change, address concerns and provide support.
iii. Budgeting and resource allocation: allocate sufficient budget and resources for the implementation and maintenance of the ILMS. Consider the long-term costs associated with licensing, upgrades and technical support.
iv. Customisation and flexibility: the ILMS implemented should offer customisation options and flexibility to adapt to the changing needs of the library.
v. Evaluation and continuous improvement: regularly evaluate the performance and effectiveness of the ILMS, soliciting feedback from users and stakeholders. Use this feedback to identify areas for improvement and implement enhancements as required.

5.4.6 Operational characteristics for selecting an ILMS

The last objective of the study intended to suggest operational characteristics for selecting an ILMS. On this basis, this study recommends as follows:

i. The library management and staff should carefully consider their contexture factors before choosing an operational characteristic that will be used in the implementation of an ILMS in their library.
ii. Decision-making should be holistic in choosing an operational characteristic that is best suited for ILMS implementation.

5.5 AVENUES FOR FURTHER RESEARCH

It is suggested by the researcher that future studies focus on the impact or effectiveness of ILMS usage and adoption on the patrons in public libraries. This is significant since the patrons are the library end-users. It is therefore imperative to understand their experiences on the use and adoption of the ILMS, as compared to the old system public libraries were using. Future research should also conduct longitudinal studies to monitor the long-term effects of ILMS adoption in community libraries. This would provide insights into the evolving challenges and benefits over time, allowing for more informed decision-making and policy adjustments.

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APPENDICES

APPENDIX A: ETHICAL CLEARANCE FROM UNISA COLLEGE OF HUMAN SCIENCES

UNISA university of south africa

COLLEGE OF HUMAN SCIENCES RESEARCH ETHICS REVIEW COMMITTEE

27 September 2023

NHREC Registration # :
Rec-240816-052
CREC Reference # :
33234043_CREC_CHS_2023

Dear Mr Tshepo Emmanuel Phaswana

Decision:
Ethics Approval from 27 September 2023 to 27 September 2024

Researcher(s): Name: Mr. T. E. Phaswana
Contact details: 33234043@mylife.unisa.ac.za
Supervisor(s): Name: B. A. Shibambu
Contact details: shibaba1@unisa.ac.za
Co-Supervisor(s): Name: Dr. M. J. Boloka
Contact details: bolokmj@unisa.ac.za

Title: Adoption and use of an integrated library management system in the Nkangala District Municipality community Libraries, South Africa
Degree Purpose: Masters

Thank you for the application for research ethics clearance by the Unisa College of Human Science Ethics Committee. Ethics approval is granted for one year.

The ***low-risk application*** *was reviewed by* College of Human Sciences Research Ethics Committee, in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
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4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No fieldwork activities may continue after the expiry date **(27 September 2024).** Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **33234043_CREC_CHS_2023** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

Signature: 

Prof. KB Khan
CHS Research Ethics Committee Chairperson
Email: khankb@unisa.ac.za
Tel: (012) 429 8210

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Prof ZZ Nkosi
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APPENDIX B: LETTER OF REQUEST TO CONDUCT THE STUDY

Ms BS Mthethwa
Ikhamanga Building
Department of Culture, Sport and Recreation
013 766 5032 bsmthethwa@mpg.gov.za / hoddcsr@mpg.gov.za

03 October 2023

Dear: Ms BS Mthethwa
: Mr BN Mtsweni
: Ms Z Ngobeni

Re: Request for permission to conduct research at Department of Culture, Sport and Recreation

Name of Researcher: Tshepo Emmanuel Phaswana

Research title: Adoption and use of an integrated library management system (ILMS) in the Nkangala District Community Libraries.

I am a former bursar at the department of Culture, Sport and recreation in Mpumalanga province and I am currently doing research with Dr Badimuni Amos Shibambu as the main supervisor and Dr Mamotshabo Johanna as a co-supervisor who are both senior lectures in the Department of Human Sciences towards a master's in information science at the University of South Africa. Together with my supervisors we are inviting you to participate in a study entitled Adoption and use of an integrated library management system in the Nkangala District Municipality Community Libraries, South Africa

The aim of the study is to assist the Nkangala District community libraries in the selection of library management system software that increases the efficiency and manageability of the library operations. (Targeted libraries to conduct interview in Nkangala district are as follows. Libangeni, Marapyane, Siyabuswa, Phumula and Kwamhlanga) and we will be using open-ended questionnaires/semi structured interview to collect data, which will then lead to the adoption and use of an integrated library management system.

Your department has been selected because it is the department that provided an entry level opportunity to the researcher in studying information science through bursary and the selected libraries are situated within the researcher's district. The researcher is also keen to help the district community libraries to adopt and use an integrated library management system. The benefit of this study is the users of the community libraries in the district which will access library materials timeously and remotely, thereby reducing time taken to locate and visit the library. The outcomes of the study may help library management in the district to acknowledge that library services such as online reference services can still be accessed using mobile devices and applications in remote areas.

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Feedback procedure will entail that a copy shall be availed of the suggested recommendations for implementations by the Nkangala District municipality community libraries.

See Attached approved ethical clearance certificate from UNISA. The researcher will also forward data collection tool or questionnaires upon request.

Yours sincerely

Mr. Tshepo Emmanuel Phaswana

Master's candidate student

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Supervisors

Dr Badimuni Amos Shibambu main supervisor

012 433 4823

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Dr Mamotshabo Johanna co-supervisor

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APPENDIX C: PERMISSION LETTERS TO CONDUCT STUDY

culture, sport & recreation
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

Ikhamanga Building , No.7 Government Boulevard, Riverside Park, Extension 2, Mbombela, 1200
Mpumalanga Province, P.O. Box1243, Mbombela, 1200
Tel: 013 766 5242, Fax: 013 766 8253/5591

Departement van Kultuur, Sport & Rekreasie | Litiko Letemasiko, Letemidlalo Netekukhibika | uMnyango wamaSiko, zemiDlalo nokuziThabisa

Ref: DCSR 4/3/2
Enq: Mr. .MI Thabethe
Tel: (013) 766 5090

Mr. TE Phaswana
University of South Africa
Preller Street, Mucleneuk Ridge
City of Tshwane
0002

Dear Mr. Phaswana

REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT THE DEPARTMENT OF CULTURE, SPORT AND RECREATION.

1. The above matter bear reference.

2. The Mpumalanga Department of Culture, Sport and Recreation note and acknowledge receipt of your letter dated 03 October 2023.

3. Kindly be informed that the Department hereby grant approval to your request to conduct a research titled: "Adoption and use of an Integrated Library Management System (ILMS) in the Nkangala Districts Community Libraries.

Kind regards,

MR. GS NTOMBELA
HEAD: CULTURE, SPORT AND RECREATION
DATE: 04/10/2023

MPUMALANGA
THE PLACE OF THE RISING SUN

APPENDIX D: INTERVIEW CONSENT FORM

PARTICIPATION CONSENT FORM

This consent form is to inform you of the nature and purpose of the research study and seek your consent to participate in the study.

This study is being conducted by **Tshepo Emmanuel Phaswana** to Investigate the adoption of ILMS in the Nkangala district community libraries. Your participation in this study is voluntary, and you may withdraw from the study at any time. You have the right to refuse to answer any questions that you do not wish to answer. All information gathered from this study will be kept confidential.

Participants signature: _____

Date: _____

APPENDIX E: INTERVIEW SCHEDULE

SEMI- STRUCTURED INTERVIEW FOR LIBRARY STAFF AND MANAGEMENT

ADOPTION AND USE OF THE INTEGRATED LIBRARY MANAGEMENT SYSTEM IN THE NKANGALA DISTRICT MUNICIPALITY COMMUNITY LIBRARIES, SOUTH AFRICA

SECTION A: Demographic background of Library Staff

1. What is your highest level of educational?
2. What is your job title or position in the library?
3. How long have you been working at this library?
4. What are the most challenging aspects of working in this library?
5. What opportunities have you had to learn about library automation?
6. In your opinion, how has automation improved library operations?

SECTION B: What is the influence of technological factors on the implementation of ILMS in Nkangala District Municipality community libraries?

1. What is the vision for the use of technology in the library?
2. Do your services require use on an integrated library management system?
3. What is the integrated library management system that you are using? How long have you used integrated library management system?
4. What systems are currently in place to manage library services?
5. What skills and training did you attend for integrate library management system recently?

SECTION C: What are the views of librarians on the adoption of an integrated library management system?

1. What is the process followed by this organisation to implement integrated library management system?
2. How easy, user-friendly and fast is the integrated library management system?
3. Was the integrated library management system customised well to meet this public library needs?

4. What support is currently available to the library staff to help them use technology effectively?
5. From your observation, what has been the attitude of library staff members towards the integrated library management system at this library?

SECTION D: What are the factors hindering the adoption of an integrated library management system for Nkangala District Municipality community libraries?

1. What in your opinion are the highest priorities of this library?
2. How do you keep up to date with emerging library trends?
3. What do you think are the barriers of implementing an integrated library management system in this library?
4. How best can the impact of these barriers be reduced or removed?
5. In your opinion, what would represent a successful implementation of the integrated library management system at this library?

SECTION E: Which operational characteristics can be proposed for selecting an integrated library management system at Nkangala District Municipality community libraries?

1. What are the staff training requirements for the proposed integrated library management system?
2. What could be the best procedure of implementing an integrated library management system in the community library?
3. How secure is the library information and data on integrated library management system in your opinion?
4. What steps can be taken to ensure that the library is prepared for future data and software migration in terms of both infrastructure and staff training?
5. Is the general maintanance of the library automation equipment up to date?

SECTION F: What are the librarians experience on the adoption of an integrated library management system in the nkangala district municipality libraries?

1. What has been the experiences with using an integrated library management syste?
2. What support is needed by librarians to use integrated library management system more effectively?

3. What benefits have the librarians seen from using the integrated library management system?
4. What are the future plans for using integrated library management system?
5. What are the library key goals for adopting intergrated library management system?

SECTION G: How does the funding status influence the adoption of an integrated library management system in the nkangala district municipality libraries?

1. What is the current funding situation for the adoption of the intergrated library management system?
2. How will the integrated library management system improve the library services and resources?
3. How does the library plan to measure the success of the intergrated library management system?
4. What impact will the integrated library management system have on the library user experience?
5. What are the potential rewards associated with funding the integrated library management system?