



**UNIVERSITY OF
ZULULAND**

RESTRUCTURED FOR RELEVANCE

**The use of Electronic Learning Centres by users of the City of
Johannesburg Libraries in South Africa**

by

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ABSTRACT

Public libraries globally are adopting the use of electronic learning (e-learning) in order to improve services to the users, particularly in this age of technology. Electronic learning centres in public libraries are enhancing services to the users by ensuring that services are available to them quickly and efficiently. The purpose of this study was to establish the use of electronic learning centres by users of the City of Johannesburg (COJ) libraries in South Africa, which resort under one of the biggest metropolitan municipalities in South Africa. The study set the following objectives as a guide to achieve the purpose: To identify services offered by e-learning centres to the users of the COJ libraries in South Africa; to determine the level of awareness of e-learning centres by the users of the COJ libraries in South Africa; to assess the competences of users of e-learning centres in the COJ libraries in South Africa; to establish the challenges faced in using e-learning centres in the COJ libraries in South Africa.

The Technology Acceptance Model (TAM) was used to determine the use of e-learning centres by users at COJ libraries, and it integrated aspects of theories from the literature, such as perceived usefulness (PU) and perceived ease of use (PEOU). The study adopted a positivist paradigm and employed a quantitative research approach with the survey research design. Questionnaires were used to collect primary data. The target population for the study was all the users of the electronic learning centres and librarians in the public libraries within the COJ. The total number of respondents was 84. This includes 60 e-learning library users, 23 e-learning librarians and 1 e-learning manager from 12 regional libraries.

Stratified sampling from the probability sampling technique was adopted and data collection involved the use of a closed-ended and open-ended questions. An online (Google form) self-administered closed-ended questionnaire was sent to participants' email addresses. Quantitative data collected were analysed using the descriptive analysis where the Statistical Packages for Social Sciences (SPSS) was used.

The study revealed that services offered were readily available for use in the e-learning centres since the activities of the e-learning users were mainly internet access, free Wi-Fi, computers and laptops. The e-learning centres need to continue to offer training programmes, as e-learning librarians need to improve their competencies to support and instruct e-learning users at e-learning centres. The e-learning centres were faced with innumerable challenges of internet connectivity and Wi-Fi, which resulted in poor usage of e-learning services in e-learning centres.

The conclusions of the study noted common and new services offered by e-learning centres, which needed computers and laptops, internet access and free Wi-Fi and electronic resources. The awareness of e-learning services by remote users' was very poor, as the majority of users were aware of e-learning centres through self-effort and one-on-one interaction with the library staff. The challenges faced in using e-learning centres included slow resource download speed, e-learning centres not being remotely usable and insufficient computers in the e-learning centres of libraries.

It is recommended that electronic resources and universal serial bus (USBs) should be made available in e-learning centres as services offered. The e-learning centres should ensure that enough time is made available to ensure that effective awareness programmes are developed and implemented. Considering the noted challenges, the e-learning unit should upgrade its ICT infrastructure (increase bandwidth) to facilitate easy access to internet connectivity and Wi-Fi. A further study to validate developed e-learning guidelines in the use of e-learning centres of COJ libraries is recommended.

Keywords: City of Johannesburg, e-learning centres, public libraries, services offered

DECLARATION

I, Sifiso Michael Mbambo, declare that this is my original research work as part of the fulfilment of master's degree in Library and Information Science in the Department of Information Studies at the University of Zululand. The dissertation has not been submitted before for any other degree or examination at this or any other university. All information in this document was obtained and presented in accordance with academic standards, as well as ethical procedures and practices. All materials and results in this work that are not entirely my original ideas have been fully cited and referenced.



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Finally, and above all, I thank God for the courage, focus, commitment and sheer will He gave me throughout this journey.

DEDICATION

This dissertation is in honour of my late father, Tapson Nkomo, who was a wonderful man. I dedicate the dissertation to my daughter, Lesedi Gugulethu Sarah Mbambo, and my mother, Irene Mbambo, who always stood by my side. She is a true definition of “Imbokodo.” Above all, I dedicate this dissertation to all who believed in me.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBT:	Computer-based training
CD:	Compact disc
COJ:	City of Johannesburg
COJLIS:	City of Johannesburg Library and Information Services
COJMM:	City of Johannesburg Metropolitan Municipality
E-learning:	Electronic learning
ICT:	Information and communication technologies
IBM:	International Business Machines
IT:	Information technology
LIS:	Library and information services
LMS:	Learning Management System
ODL:	Open and distance learning
PEOU:	Perceived ease of use
PU:	Perceived usefulness
SA:	South Africa
TAM:	Technology Acceptance Model
TRA:	Theory of reasoned action
USB:	Universal serial bus

CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION AND BACKGROUND

The use of Electronic Learning Centres (e-learning centres) by users of the City of Johannesburg (COJ) libraries in South Africa plays a huge role in remodelling learning and leisure. This includes the use of e-learning centres for the provision of public access to the internet, tablets, computers and e-learning programmes. Mobile e-learning classrooms also encourage resource sharing for the under-resourced libraries. Therefore, the e-learning is a collaborative initiative undertaken by the Library and Information Services in the Department of Community Development in the COJ.

COJ public libraries are hubs of education, giving residents access to books, magazines and audio-visual materials to assist them in their studies, careers, business, or personal development. Besides lending out material, the COJ's libraries offer a wide range of other services, including literacy classes, storytelling sessions for children, classroom support, gatherings for older residents, and literary competitions. There are also venues for lectures, exhibitions and talks.

A large number of studies addressed the topics e-learning and e-libraries. Abumandour (2019:14) states that most of the studies that cover the role of libraries in e-learning appeared recently in 21st century, as a direct outcome of the increasing number of libraries delivering e-learning. Sivankalai (2021) defines e-learning as the use of the internet to disseminate educational resources and learning materials. In addition, the system fosters interaction between users and instructors in order to improve the learning process (Bhatnagar 2016). E-learning, as described by Mbambo, Jiyane and Zungu in 2022, is a learning centre that is supported by digital resources. Computer equipment, networks, telecommunication, storage and sharing of technology are all used in the e-learning educational system. Furthermore, the National Science Teachers Association (NSTA 2016) describes e-learning as an effective teaching strategy that combines digital information with learning support and services to create an efficient learning technique. The intention is to point out the role of public libraries in spreading and supporting e-learning in e-learning centres. Recently, this topic was discussed from a different perspective in the published

literature (Abbasi & Zardary 2012; Han & Yates 2016). Abbasi and Zardary (2012), were interested about the role of e-learning libraries on supporting e-learning. They stated that digital libraries could provide both digitised services and electronic resources via Internet to support e-learning.

According to Phukubje (2019:24), one of the primary goals of e-learning or e-learning centres in libraries should be to assist users in self-development and independent learning, and to help and teach them to accept responsibility for developing their own skills so that their efforts can be directed towards ensuring efficient quality assurance of all units of distance or e-learning. Therefore, new skills and knowledge also lead to increased confidence among e-learning users and a stronger commitment to learn. With this in mind, Moyo (2015:20) argues that libraries should support the e-learning centres and develop them so that they, in turn, can be more effective.

In the information age, it is important to recognise the role of technology in providing access to information. Chadwick (2014) explained e-learning trends in 2014, including an increased interactivity, more learning for everyone, online classes, increased use of social media, the emergence of Massive Open Online Courses (MOOCs) as a venue for learning, effective learning content through the shift to mobile technologies, and the paradigm shift from textbooks to tablets. Hence, the COJ public libraries have adopted e-learning trends to promote social transformation by providing digital skills and access to the city's communities.

1.2 CONTEXTUAL SETTING

Contextual settings mean more than just how the ideas arose, but also refer to the characteristics of the people or organisation under study (Maya 2018:15). The City of Johannesburg Metropolitan Municipality (COJMM) is located in the Gauteng province of South Africa and serves a total of 4.9 million people (StatsSA Community Survey 2016). The current population makes it the biggest metro by population size in South Africa. The City of Johannesburg Library and Information Services (COJLIS) forms part of community development under the city's Human and Social Development Cluster. COJLIS is expected to contribute programmes that address some of the cluster's mandates such as illiteracy, the lack of information literacy skills, the

increasing digital citizenry in the 4th industrial revolution and inequality with regard to library service provision by bridging the digital divide and implementing e-learning programmes (the city's smart city's strategy) (Mpendulo & Ramela 2018:4).

The Libraries and Information Services is one of the directorates of the Community Development Department in the COJ, which oversees and manages 90 public libraries and three support sections responsible for delivering library services to its 4.9 million residents. It is important to note that it was only in the 1970s that the Johannesburg Public Library opened its doors to black users (Issak 2000; Mhlongo 2018:24).

In the 2006/07 financial year, the COJ restructured into seven regions, namely: Region A-G, which includes the Johannesburg City Library (also referred to as Johannesburg Central Library), which became part of Region F to ensure equitable levels of access to public library services and resources in compliance with the minimum norms and standards for public libraries in the COJ (Johannesburg City Library 2012). Figure 1.1 presents the map of the COJ libraries.

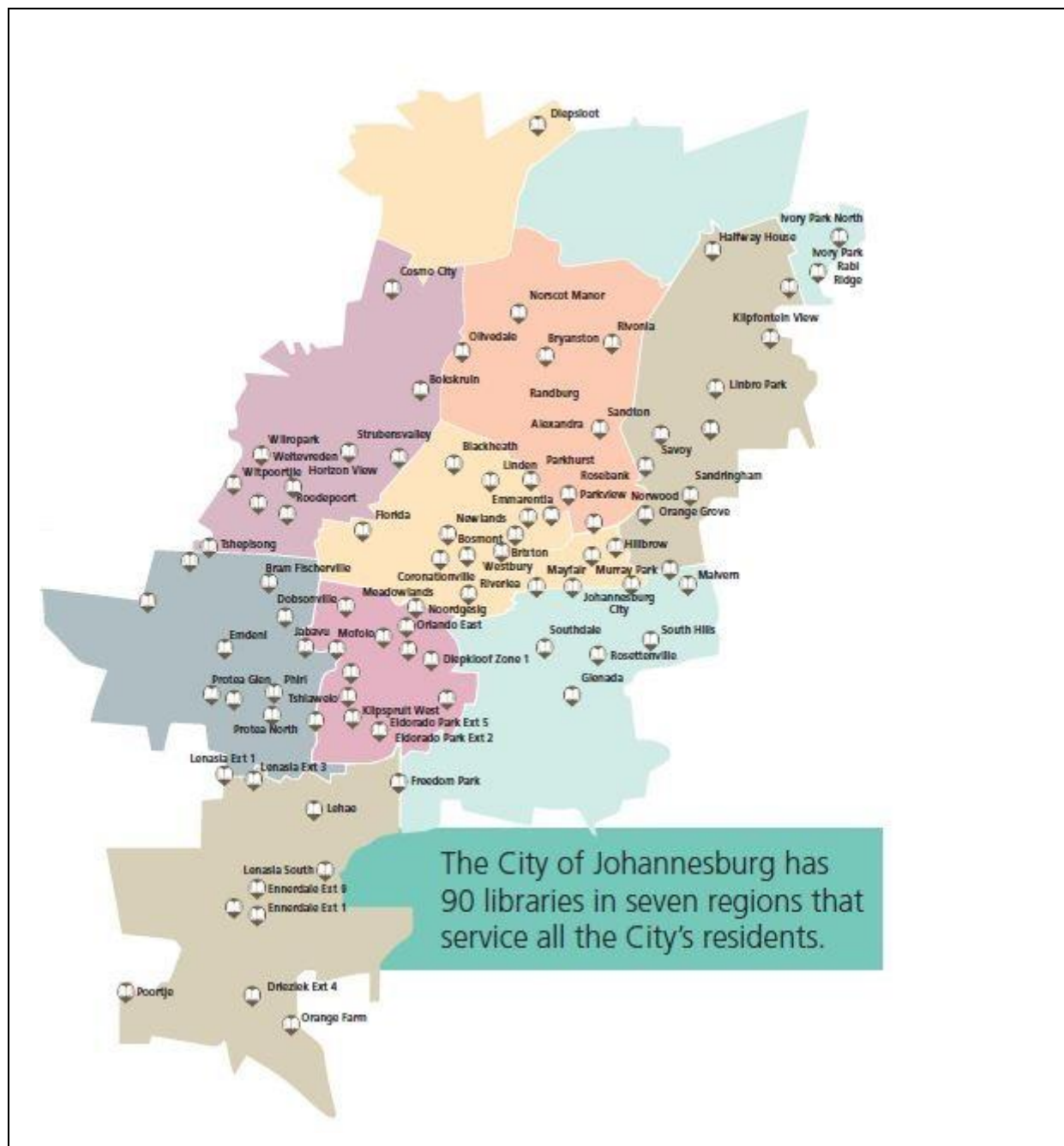


Figure 1.1: Public libraries of the City of Johannesburg
(Source: City of Johannesburg Planning Development: 2018)

There are seven regions with a total of 90 libraries servicing the COJ's communities. In the 12 regional libraries, there are 12 e-learning classrooms, which are computer laboratories that provide training for all age groups. There are two to three champions per region and at the City Library (which makes a total of 24) who are responsible for 'championing' e-learning to their region's library staff.

Several e-learning programmes have been rolled out and vary from region to region and library to library, depending on the needs of the community and the available resources. Public libraries (COJ) can reap the benefits of investing in e-learning centres' resources if their users have adequate skills to use the resources meaningfully (Mbambo et al. 2022). Moyo (2017:2) supports this idea and points out that, besides awareness, users also need skills, e-learning centres, resources, the ability to use related ICTs, and effective and efficient communication in the electronic environment. Based on the above-mentioned, Abbasi and Zardary (2012) state that e-learning centres in public libraries could provide both digitised services and electronic resources via the internet to support e-learning. As more users than ever before have turned to public libraries to use their space, access to materials, and access to online facilities, particularly with the advent of technology and the covid-19 pandemic.

However, little effort has been made to establish users' awareness and use of e-learning centres at the COJLIS. The problems of the e-learning centres are exacerbated by connectivity issues and inconsistent access to the internet. Users find it difficult to access and complete tasks when using e-learning centres in the COJLIS (Mbambo et al. 2022). It is known that once the users are unable to access information on the internet, e-learning services are also affected. This leads to poor use of e-learning centres and e-learning services, as librarians are unable to assist library users.

Dzandza (2019:60) mentions that libraries in Africa that had implemented ICTs generally experienced under-utilisation of the technology because of the lack of sound information technology exploitation skills and guidelines, and limited information and communication technology (ICT) tools such as laptops and tablets. These challenges hampered users in accessing e-learning library services. Therefore, it is important to improve the infrastructure of e-learning centres relating to internet connectivity and provide more resources (such as computers, laptops, and tablets) for users to access in public library e-learning centres (Mbambo et al. 2022).

1.3 AN OVERVIEW OF LITERATURE REVIEW

A literature review is a blend of research that has been done in a specific area of study with the aim of bringing diverse aspects of the literature together (Opeyemi, 2018:13). The literature in the following areas was reviewed: services offered by e-learning centres level of users' awareness of e-learning centres, competences of the users in using e-learning centres and challenges faced in using e-learning centres. Chapter two provides details of the literature review.

1.4 AN OVERVIEW OF THEORETICAL FRAMEWORK

The study was informed by the Technology Acceptance Model (TAM) to determine the use of e-learning centres by users at COJ libraries. Ocholla and Le Roux (2011:1) define a theoretical framework as, "The structure that holds and supports the theory of a research work. It serves as the lens that the researcher uses to examine a particular aspect of his or her subject field." The introduction and acceptance of information technology has been the subject of worldwide discussions, as evidenced by the wide-ranging literature examining factors that influence its acceptance (Averweg 2008; Baskerville & Pries-Heje 2001; Comin & Hobjin 2004; Kyobe 2011). As technology use spreads across societies, young people and organisations become more dependent on information technologies. Therefore, the use of e-learning centres by users refers to users' willingness to use e-learning centres for their intended purpose. This study focused on the use of e-learning centres by the users of the Johannesburg libraries. The study adopted the TAM, theory of reasoned action (TRA), perceived usefulness (PU) and perceived ease of use (PEOU).

TAM is a theoretical extension of the theory of reasoned action (TRA), which originated from social psychology and generalises explanations of a number of individual behaviours (Lee, Hsieh & Ma 2011:356). Based on the TRA, Davis (in Prinsloo, 2016:8) introduced TAM, which is a modified model and focuses on the user acceptance of computer technology (Zhang, Nyheim & Mattila 2014:300).

TAM is a research tool that can assist in explaining and predicting users' adoption of a system, which for this study, is e-learning (Zhang, Gao & Ge 2013:1030). Acceptance is the willingness of individuals to utilise an IT system for the tasks it is designed to perform (Camarero, Rodríguez & San José 2012:5). The TAM theory

states that behaviour is defined by two typical determinants of behavioural intention, which are attitude and subjective norm.

This model is illustrated in figure 1.2 and its discussion is elaborated on in chapter two.

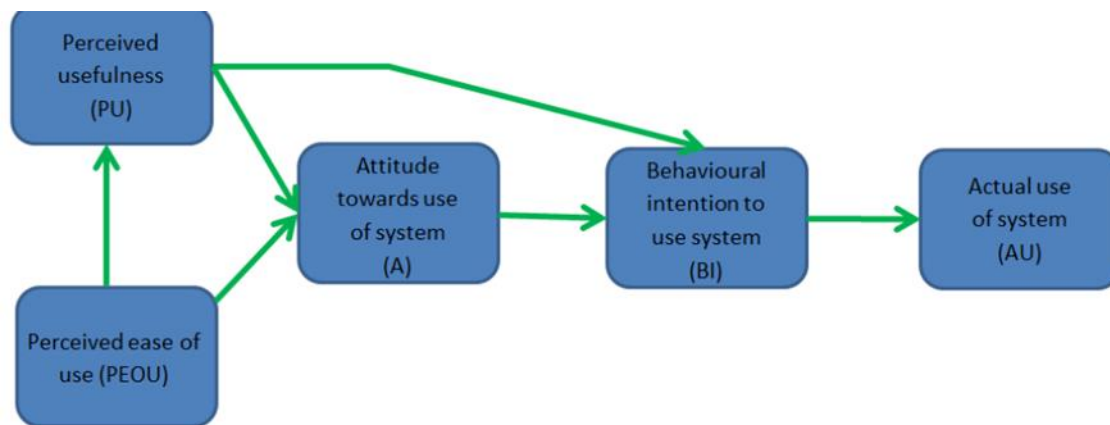


Figure 1.2: Variables of the TAM

Source: Adapted from Bradley (in Prinsloo 2016:9)

1.5 STATEMENT OF THE PROBLEM

Users cannot use and reap the benefits from electronic learning centres in public libraries if they are not aware of these facilities. The use of e-learning centres does not only benefit e-learning public libraries users, but also enables the public library e-learning centres as an entity to realise its purpose and calculate the benefit of investing in these resources (Moyo, 2017:2). The resources of e-learning centres are free access to computers and laptops, internet access and free Wi-Fi, electronic resources (open and closed access), printing and copying centres, adult learning courses, and specialised courses for librarians.

Hossain and Ahmed (2016) outline that users' motive for using e-learning centres must be taken into consideration as well as whether the low motivation to use e-learning centres is due to technological factors. Therefore, technical challenges such as a lack of computer skills and guidelines result in difficulty to implement e-learning programmes and use of e-learning centres.

Leonard (2013) states that e-learning advantages include learning at any place where an internet connection is available, flexibility and studying at your own pace. E-learning in libraries is crucial as it gives users access to online books, magazines and audio-visual materials through technological devices to enhance their knowledge of their studies, career, business and personal development.

Public libraries in the COJ have adopted the use of e-learning in order to improve services to the users through the use of e-learning centres. It is against this background that the researcher intended to determine the use of e-learning centres by users of the COJ libraries. If the users are aware of and actually use the e-learning centres and the services offered, regardless of the level of awareness, the challenges faced in using e-learning centres should be determined, so as to recommend ways of increasing the use of e-learning centres to the COJ libraries.

1.6 PURPOSE OF THE STUDY

The purpose of this study was to investigate the use of electronic learning centres in public libraries of the COJ.

1.7 OBJECTIVES

The following objectives were identified in order to achieve the purpose of the study:

1. To identify services offered by e-learning centres to users of the COJ libraries in South Africa
2. To determine the level of awareness of e-learning centres by the users of the COJ libraries in South Africa
3. To ascertain the competences of users of e-learning centres in the COJ libraries in South Africa
4. To establish the challenges faced in using e-learning centres in the COJ libraries in South Africa
5. To offer guidelines for e-learning centres in the COJ libraries in South Africa

1.8 RESEARCH QUESTIONS

1. What are the services that e-learning centres offer to users of the COJ libraries in South Africa?
2. Are users aware of the e-learning centres in COJ libraries in South Africa?
3. What competences should users have to use the e-learning centres in the COJ libraries in South Africa?
4. What are the challenges faced in the use of e-learning centres at COJ libraries?
5. What guidelines should be used in using e-learning centres by the COJ libraries in South Africa?

1.9 SCOPE AND DELIMITATIONS

The study was conducted in City of Johannesburg Metropolitan Municipality, which is located in the Gauteng province. The study was restricted to COJ libraries (e-learning centres). The reason for choosing the libraries' e-learning centres in the municipality was accessibility, time constraints and costs involved when conducting the study. Other libraries, like academic, special and mobile libraries did not form part of the study because they were not open to all members of the society, like public libraries are. The study also excluded users who were not using the library for e-learning services such as those who used the library for other purposes.

1.10 SIGNIFICANCE OF THE STUDY

The research is beneficial to COJ libraries, and information services' e-learning centres and other services. This research also serves as feedback to librarians regarding whether offering e-learning services achieves the intended results.

1.11 AN OVERVIEW OF RESEARCH METHODOLOGY

The techniques used to collect and analyse data, that is, the methodology, may be specific to a particular academic discipline (Leedy & Ormrod 2015:93), while research methods involve the forms of data collection, analysis, and interpretations that researchers propose for their studies (Creswell & Creswell 2018:250). Therefore, research methodology is the overall approach to research linked to the paradigm or theoretical framework. The research paradigm, research approach, research design,

target population, sampling, data collection instruments and all the research methodology aspects are introduced below.

Leedy and Ormrod (2015) define positivism as an approach to social research that seeks to apply the natural science model of research to investigations of social phenomena and explanations of the social world.

Interpretivism, on the other hand, indicates an alternative to the positivist view that was held as the main view for decades. Bertram and Christiansen (2014:17) note that interpretivism is predicated upon the view that an approach is required that respects the differences between people and the objects of the natural sciences and, therefore, requires a social scientist to hold the subjective meaning of social action.

Pragmatism is described by Ngulube (2015:127) as methodological pluralism born out of an attempt to bridge the gap between interpretivist and positivist epistemologies. This study adopted the positivist paradigm to ensure objectivity, unbiasedness and accurate conduct of the study.

According to Creswell and Creswell (2018:250), research approaches are plans and measures for research that cover decisions from the broad assumptions to detailed methods of data collection and analysis. There are three known approaches to research: qualitative research approach, quantitative approach and mixed methods approach.

This study employed the quantitative research approach, as it enabled the researcher to learn more about a problem from the perspective of participants to help find appropriate solutions to the problem.

The research design provides the overall structure for the procedure the researcher follows to collect and analyse data (Leedy & Ormrod 2015:92). Creswell (2014) states that research design is a process in research that specifies the selection of research participants, data gathering techniques and the data analysis to be done. This study was a quantitative investigation and the research design for this study was a survey. Chapter three elaborates research methodology aspects.

1.12 ETHICAL CONSIDERATIONS

According to Leedy and Ormrod (2015:120), ethical issues in research include protection from harm, informed consent, right to privacy, and honesty with professional colleagues. The researcher should make sure that participants in the study are duly protected in terms of confidentiality during the process of data collection, analysis and publishing of the dissertation or when disseminating the outcomes of the study. Therefore, ethical issues were considered in this study to ensure professionalism and quality research report. Thus, the anonymity, informed consent, conduct of the researcher when executing the research, and privacy and confidentiality of the information and/or data collected in this study were always considered.

Kumar (2011:244) points out that informed consent in a study means that respondents are informed about the kind of information needed from them, the reason why the information is needed, the purpose of the study and the way in which they are supposed to participate in the study. The researcher obtained authorisation from the University of Zululand research ethics committee (UZREC) and requested permission from the library management to conduct the study. Authorisation from UZREC, the relevant stakeholders, the director of library and information services, the unit head of the library and information services requesting permission to conduct the study with the library staff was obtained and presented. The participants were educated about the purpose of the study and notified of their freedom to withdraw from the survey if they wished to so.

1.13 DEFINITION OF TERMS

Electronic libraries: are the organisations in which the provision of resources, expert staff, the process to select information resources, reorganisation, assistance for logical access to information, interpretation, distribution, saving integration of information and guarantee to support and maintain a collection of digital works during a long time is paid enough attention to make digital information resources more accessible for the society and specialised groups economically and at a high speed (Hassanin, 2016).

Electronic learning centres: refers to the support provided by the libraries through facilities such as computers, tablets, e-learning classrooms and training on how to access electronic information and by providing free internet (2018/19 City of Johannesburg Case Study).

Electronic learning: refers to the intentional use of networked ICT in teaching and learning. A number of other terms are also used to describe this mode of teaching and learning. They include online learning, virtual learning, distributed learning, network-based learning and web-based learning (Natarajan, 2015).

Professional librarian: Kieserman (2014) describes a professional librarian as a person who has a bachelor's degree in information studies/science or a master's degree in library studies. In this study, they are also referred as e-learning champions.

Open and distance learning (ODL): means acceptance of the principle that learners, regardless of their geographic location and obligations, have a right to all support services for the purpose of completing their programmes successfully (Gil-Jaurena, 2014; Tait, 2003).

Information and communication technology: is a generic term that refers to the technologies that are used to collect, store, edit and communicate information in various formats (Raji, 2018).

Library: is derived from the Latin word *liber*, which means "book". Libraries ensure the provision of educational materials, books collections, electronic resources, periodicals, multimedia materials, referral services and others. At the same time, this term could refer to the building or space itself, which includes all the previously mentioned materials (Abumandour, 2019).

1.14 STRUCTURE OF THE DISSERTATION

Chapter One: Introduction and background

This chapter starts with an introduction and background to the study, the problem statement, purpose of the study, objectives of the study, research questions and the significance of the study.

Chapter Two: Literature review and theoretical framework

This chapter outlines some pertinent theoretical opinions about the research topic and gives an in-depth literature review and theoretical framework of the topic.

Chapter Three: Research methodology

This chapter presents the research paradigm, research approach, research design, target population, sampling and data collection instruments.

Chapter Four: Data analysis and presentation

This chapter presents the evidence and results of the data interpretation and the findings.

Chapter Five: Discussions of findings

This chapter discusses the findings about the use of electronic learning centres by users of the COJ libraries.

Chapter Six: Summary, conclusions and recommendations

This chapter provides an outline summary, conclusions and recommendations of the study based on the findings. The chapter assesses data collected, indicating its gaps, shortcomings, flaws and limitations.

1.15 SUMMARY

In any society, e-learning centres in libraries have the ability to make an enormously positive contribution in shaping the future. Modise (2015:9) asserts that librarians must willingly embrace learning and e-learning opportunities. Technology is constantly and rapidly changing the way we conduct business, and our target audiences are also changing; therefore, libraries' need to keep abreast of new technological developments (Modise, 2015:18).

This chapter gave the background of the topic of the study, and discussed the international and national perspective as well as the importance of e-learning in libraries. There are thoughts that state that the use of e-learning centres is evolving and others that state that the use of e-learning is proliferating in libraries. The problem statement, research objectives, research questions, scope of the study, significance of the study and definition of key terms for this study were also covered in this chapter. The next chapter discusses comprehensively the literature review and theoretical framework.

CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 INTRODUCTION

This chapter reviews relevant literature shares the results of other studies that are closely related to this study and presents the theoretical framework of the study.

Creswell and Creswell (2018:26) state that the literature review connects a study to a larger, ongoing conversation in the literature in order to fill gaps and extend previous research. A literature review, according to Netshakhuma (2017:25), should establish the need for the research and demonstrate that the author is knowledgeable about the subject. Furthermore, a literature review aims to reinforce research assertions, and to summarise and synthesise the concepts that have already been presented. According to Hargreaves and Forasacco (2015:3), a literature review is a critical discussion, scrutiny, synthesis, and appraisal of knowledge on a specific topic. Today, the library goal is to provide information services, and access to information resources is greatly improved by the use of e-learning through information communication technology (ICT). With ICT, library services and e-learning centres are taking on new creativity.

According to Schryen, Wagner and Benlian (2015:1), literature reviews play a significant role in the development of knowledge (Kazingizi, 2017:22). There are different views, perceptions and opinions of librarians and users in relation to the use of technology for e-learning. Ngulube (2003) and Creswell (2003) concur that literature review aids in discovering hypotheses and ideas that are tested for the purpose of building a theoretical or conceptual framework, regardless of whether a study follows a deductive or inductive paradigm.

As Ngulube (2017:15) points out, philosophy can be accomplished by drawing on personal experience or examining relevant scholarly literature. As a result, doing a literature review relevant to the use of electronic learning centres in libraries was used to theorise this study.

According to Bryman (2012:98), the researcher conducts a literature review to learn what is already known about a specific issue in order to find gaps, inconsistencies and

contradictions, and to avoid repeating work that has already been done by other researchers.

2.2 LITERATURE REVIEW

The COJLIS introduced e-learning services and technology in the library environment to ensure inclusion of digital society in the COJ. As a result, the focus of this research is on: the types of e-learning services offered, users' awareness e-learning centres, use of e-learning services by e-learning users, benefits of e-learning, competences of users in e-learning centres in libraries and challenges faced in using e-learning centres.

Abumandour (2019:7) opines that there are several examples revealing and inspiring public libraries and special libraries, such as the Library of Congress (Washington D.C., USA), Bibliotheque Nationale de France BNF (the National Library of France) and the Bibliotheca Alexandrina (the Library of Alexandria). Abumandour (2019) focuses on the Bibliotheca Alexandrina and its different facets. Furthermore, it highlights the efforts made by the Library of Alexandria to spread and increase public participation and support the e-learning educational system.

Although many literatures cast uncertainty on the origins of e-learning, some researchers purport that the antecedents of e-learning have emerged as far as back the 1980s (Joshua, Obille, John & Shuaibu 2016).

Detterbeck and Sciangula (2017) opine that public libraries have always supported e-learning to distance learners as members of the community, being entitled to support any library user.

However, according to Moropa (2010), libraries often fail to adapt to the needs of open and distance learning (ODL) users, especially in dual mode universities. For instance, they fail to provide library services like region-wide borrowers' cards and consortia membership between academic libraries.

Breeding (2016) states that some public libraries have proven more effective in supporting e-learning due to their consistent distribution across the country and the extent of services and facilities they can provide. They have regular opening hours, including weekends, reading space, a variety of reading materials (including research reports, government documents and reference books) and internet facilities, which provide e-books and online resources.

Corbrett and Brown (2015) confirm that public libraries have always purchased databases, journal subscriptions or reference books, specifically with e-learning users' needs in mind. However, they confess that there is a frontier to which public libraries can support e-learning users without a better partnership between library and the university.

Makori and Mauti (2016) opine that e-learning in libraries are seen as the great hope (Sivankalai, 2021). However, the building of these libraries are faced with quite a few challenges in building, such as a lack of financial resources, poor ICT infrastructure, guidelines, low computer and internet access rates, and others (Da Rosa & Lamas 2012).

Romero and Vernadat (2016) urge that the most resources public libraries keep are printed materials. Most library services such as cataloguing, classification and reference servicing to clients are done manually by librarians. On the other hand, with digital libraries, a distinguishing feature of this generation is that several resources and services are provided to users fast. Hence, COJ libraries provide e-learning centres and e-learning services through the free "cojsmart-WI-FI" for e-learning purpose.

Pappas (2015) notes that his investigation revealed that 63 percent of learning management system users are very satisfied with the application, and e-learning had a positive impact on them in libraries.

2.2.1 Types of e-learning services offered in the e-learning Centres

Leerbeleving (2015) opines that e-learning started around October 1999 at CBT Systems seminar in Los Angeles, at the seminar where the word “e-learning services” was used for the first time. This is interchangeably used as “online learning” or “virtual learning”. Supporting this contention by TalentLMS (2015) explains that e-learning has existed since 1999 when the CBT Systems seminar used the word for the first time.

Furthermore, Evans and Le Roux (2015: 26), citing E-learning Africa (2012), revealed that 42 percent of respondents attest to the use of ICT-enhanced devices for teaching and learning. The report showed that 83 percent of the respondents used laptops, and 71 percent used mobile phones, which are ranked more popular learning devices than smart boards, virtual desktops and tablets.

In a City of Johannesburg case study (2018/19) it was stated that e-learning services has greatly enriched library and information service delivery. Therefore, the use of e-learning centres in COJ libraries has undergone immeasurable levels of development, with e-learning services programmes aiming to promote social transformation by providing digital skills and access to the City’s communities. The e-learning centres in the COJLIS offer a wide range of services to its users (Mpendulo, 2017). The following are the main e-learning services provided by the libraries’ e-learning centres:

- (1) Free access to computers and laptops, internet and free Wi-Fi
- (2) Electronic resources (open and closed access)
- (3) Printing and copying centres
- (4) Adult learning courses
- (5) The e-learning services catalogue (enables users to search for items anytime, anywhere)
- (6) Specialised courses for librarians
- (7) Researchers’ services
- (8) Celebrity authors events

The e-learning services for the COJ libraries have become the answer to addressing radical inequalities in terms of digital access (City of Johannesburg case study 2018/19). Therefore, the COJLIS has integrated most services to e-learning this to allow diversity and to bridge the gap in traditional learning through partnership with

other universal known institutions such as Livity Africa, Siyafunda, Goethe M-Literacy, Microsoft, IBM, Vodacom, FunDza Literacy Trust and Google SA (Mbambo et al. 2022; Mpendulo & Ramela 2018).

E-learning users can use e-learning programmes at their own pace, or through unstructured or formal sessions with two or more participants. Furthermore, library users can access online resources that are subscribed to by COJ libraries, such as e-books, online newspapers and articles from the electronic resources collection. Users can ask e-learning librarians to show them how to access e-resources from their own devices or from the library computers.

According to Abumandour (2019), Bibliotheca Alexandrina e-learning services adopted the Moodle platform because of its unique characteristics, which include the following:

- (1) Open access learning management system (LMS)
- (2) Free platform with unlimited time
- (3) User-friendly platform (learners, tutors and administrators)
- (4) A well-organised and easy to navigate platform
- (5) The design to be responsive and accessible (it is easy to navigate on both desktops and smart devices)
- (6) Multilingual capability platform (the Bibliotheca Alexandrina uses Arabic, English, and French)
- (7) Various modules, features, tools and customisable themes and layout
- (8) Modular design that simplifies syllabus and curriculum arrangement
- (9) Interactivity between tutors and learners through various activities and collaborative tools (i.e. forums, chats, wikis, glossaries, databases, quizzes and others)
- (10) Supports multimedia integration (courses could be uploaded in all types of formats as text and multimedia files)
- (11) Can integrate with different cloud storage services to share files such as MS OneDrive, Dropbox and Google Drive
- (12) Implements both synchronous and asynchronous learning

The BA also aspires to be a place of interchange, learning, tolerance and understanding (Proudfoot & Kebritchi, 2017).

Abbasi and Zardary (2012) reviewed e-libraries' role in supporting e-learning services. Furthermore, Abbasi and Zardary (2012) state that e-learning, which is web based, has a huge advantage over traditional libraries, such as the user can access the information from any place at any time, the possibility of information in multimedia form, and equivalent educational opportunities are created for every nation. E-libraries, unlike traditional libraries, make services and library resources available via the internet to support e-learning (Hassanin, 2016).

Ilahi, Widiaty, Wahyudin and Abdullah (2019) argue that e-learning centres are different from regular libraries, which house a collection of printed books, in that the data in the e-learning centres are stored on the computer server that is placed at a remote location but can be accessed by users from a distance using a computer network. E-learning services are expected to improve reading interests and habits as information banks or reading resources centres.

Namirembe (2020:34) gives the benefits of e-learning services as being tactical, strategic, training and structure advantages. Jordan (2019) expresses the advantages of using e-learning services as one of two: it provides an enhanced ability to use and apply technology on learning outside the classroom setting as it makes experiences inside the classroom more productive. Namirembe (2020:34) opines that the use of e-learning services discussion boards can assist users to prepare their reading and to be proactive in discussions and networking (Joshua *et al.* 2016).

Hassanin (2016) explains the role of libraries and information centres or e-learning centres in libraries according to information technology (IT) and e-learning and indicates that no library alone is able to gather all resources for its users. In current situations, libraries and information centres share their information through the internet and provide the possibility of access to all informative networks, systems and resources from any place in the world, instead of possessing them.

In one of the studies done on the library information services to support e-learning, Jordan (2019) points that libraries should expand information services to include new types to support e-learning programmes. Hence, in 2016, the COJ libraries rolled out the e-learning programme as part of the holistic Smart City objective. The provision of technology and free access to electronic information gave rise to meaningful communication between the COJ and its citizens in poorer communities (City of Johannesburg case study 2018/19).

Another study conducted by Jordan and Carrigan (2018) rose some issues concerning the librarian's role in e-learning process, such as encouraging information literacy programmes among users, marketing library e-learning services, and using new IT to produce new e-learning services or new ways to deliver e-learning services.

According to Mojtahedzadeh, Mousavi, Shirazi and Mohammadi (2019), e-learning services could support e-learning programmes with a package of network e-learning services such as development of course-related electronic collections, virtual reference assistance, current awareness and online document delivery. E-learning centres play a vital role in promoting implementation and acceptance of e-learning services.

Most types of e-learning services available in public libraries include free Wi-Fi; eWorld computers for public access to the internet; e-learning centres; techno-literacy training; typing, printing, photocopying and scanning services; e-resources: Overdrive (e-books), <https://www.jurn.link/> (e-journals, e-theses and dissertations), PressReader (e-magazines, e-newspapers), e-research reports, e-bibliographic databases, e-Britannica, World Wide Web (WWW) and conference proceedings (City of Johannesburg case study 2018/19; Mbambo et al. 2022; Moyo 2017:26; Oyewo & Bello 2014).

2.2.2 Users' awareness of services in the e-learning centres

Electronic learning centres in public libraries are national organisations, subsidised and maintained by governments and communities (Abumandour, 2019). Public libraries have a great impact on society, and they play the vibrant role of spreading

literacy and lifelong learning to improve and satisfy the needs of communities. Therefore, e-learning centres are not limited to their buildings, physical collection or indoor services. Public libraries now successfully cope with the publics' increasing demands, as well as technological and educational challenges.

Opeyemi (2018:17) states that e-learning centres help to expedite access to information and facilitate learning/research activities carried out by library users. While Moyo (2017:26) laments that many valuable collections of e-learning centres are under-utilised simply because potential users are unaware of their existence. E-learning centres have been integrated into libraries for easy access to e-learning services. These e-learning centres have numerous e-databases to assist users and staff by creating awareness of the availability of e-journals, e-books and electronic reference materials, which can be accessed remotely (Mogale 2019:38). According to Phukubje (2019:32), users do not take advantage of available e-learning centres because of a lack of awareness of e-learning services in libraries. Opeyemi (2018:17) suggests that using patrons' contact details, offering awareness programmes through the internet and physically delivering information to users could help users to be more aware of e-learning centres.

Several studies (Bansal 2015; Gupta & Sharma 2015; Dadzie & Walt 2015; Opeyemi 2018:17; Phukubje 2019:30; Mogale 2019:51) on whether or not patrons were aware of e-learning centres discovered that as many as over 60 percent of respondents were aware of available e-learning centres. For example, Phukubje (2019:30) found that 67.3 percent of patrons were aware of available e-learning centres due to their quest to establish e-learning services and their eagerness to partake in training classes on the use of e-learning services. However, Phukubje (2019) states that patrons were more concerned with self-development, career and, occasionally, the use of e-learning centres for their studies, and the users' level of awareness was below expectation. Opeyemi (2018:17) found that, except for a few users, 70 percent of the users were aware of e-learning centres. Gupta and Sharma (2015:3) found that 95.83 percent of the respondents were aware of e-learning services; and 34.72 percent of those who were aware of the e-learning centres, used them, while 61.11 percent did not use them.

Phukubje (2019:24) and Mogale (2019:85) found that 100 percent of the respondents were aware of available e-learning services in the library because they received effective library e-learning centre orientation. Organising effective and efficient orientation training programmes to create awareness increases the popularity of e-learning services among library users. Comparing the level of awareness among gender distribution, Mdhluli (2019:53) found that 79.13 percent of male and 73.23 percent of female respondents knew that e-learning centres are available in the library. The results showed that male respondents were more aware than the female respondents. Although it was noted that the majority found out about e-learning centres through trial and error, others found out through friends and library staff. Dadzie and Walt (2015:62) found that 95.2 percent of research scholars were aware of e-learning centres. Over 60 percent were aware of electronic books, electronic journals, electronic magazines and electronic databases but almost all the respondents were unaware of the existence of e-learning centres. Proudfoot and Kebritchi, (2017) found that more than 70 percent of research participants were aware of e-learning centres, but they were more knowledgeable about the use of e-learning services for information retrieval. According to Rajput (2013:34), most research participants knew about the existence of e-learning centres via library brochures, digital displays, library websites and library staff. Kwafoa, Imoro and Afful-Arthur (2014) found that out of the 100 respondents, 92 percent were aware of e-learning services, but patronage was low. It is possible to be aware of e-learning centres and not use them, hence the need for regular, results-oriented sensitisation programmes of available library e-learning centres.

Bansal (2015) found that 100 percent of respondents were aware of offline/online databases, electronic journals and electronic books; 99.1 percent were aware of electronic reference sources, 96.4 percent were aware of digital libraries, 94.6 percent were aware of blogs, 91.1 percent were aware of information/subject gateways, 89.3 percent were aware of wikis and 83.9 percent were aware of institutional/disciplinary repositories. Gupta and Sharma (2015:3) found that more than 60 percent of research participants knew about the existence of e-learning centres in the library.

These studies concluded that the majority of research participants knew about e-learning centres and services in the library. To raise the level of awareness, the studies

recommended training, orientation, workshops and seminars for staff and users. In addition, librarians should improve their interpersonal communication skills and human relations. Furthermore, e-learning centres in libraries should develop effective and efficient marketing strategies, do more advocacies using emails and library websites to promote e-learning centres and work on creating more e-learning services content for e-learning centres.

However, some studies have indicated that respondents were not aware of e-learning centres. These include studies done by Kaur and Verma (2009:69), Okello-Obura (2011:54), Kumar and Singh (2011:40), Okiki (2012:5), Dadzie and Walt (2015:62), Opeyemi (2018:19) and Angello (2021:256). In most of the latter studies, some of the highlights were as follows: Kaur and Verma (2009:69) found that over 60 percent research participants were unaware of e-learning centres and services provided by the libraries. Angello (2021:256) found that over 70 percent of the livestock researchers in three livestock research institutes in Tanzania were not aware of e-learning centres, although they claimed to have e-learning skills. Opeyemi (2018:19) and Okello-Obura (2011:54) found that 76 percent of library and information science staff and 88 percent of users were unaware of most of the e-learning services available in the library e-learning centres. Kumar and Singh (2011:45) and Okiki (2012:5) found that more than 50 percent of research participants were unaware of e-learning centres available in the libraries because the libraries did not offer orientation programmes. Damilola (2013:7) found that 56.8- percent of distance users were unaware of e-learning centres in libraries; as a result, there was a low level of usage of e-learning centres. Dadzie and Walt (2015:62) found that more than 60 percent of respondents were unaware of available e-learning centres and digital library tools such as online public access catalogue (OPAC). According to Dadzie and Walt (2015), libraries did not place much value on e-learning centres, which led to a very low level of awareness.

These studies concluded that the majority of research participants were unaware of e-learning centres/services in the libraries. They recommended that libraries should create more awareness of e-learning centres during the orientation programme for users and staff. Regular training in all aspects of use of e-learning centres should be organised for all library users. Libraries' information access systems should be more user-friendly for users and staff and should guide them to e-learning centres. The

studies highlighted above, indicated that there is the need to investigate why library users were not aware of e-learning centres in libraries, how 100 percent awareness can be achieved and how the effectiveness of the awareness technique can best be measured.

2.2.3 Use of e-learning services by users of the e-learning centres

According to Opeyemi (2018:20), the value of e-learning centres in the library is determined not only by the depth and breadth of its contents, but also by how its e-learning services are used. Users who have been dependent on e-learning services and have adopted them as common tools in their activities, have increased their use of e-learning centres. Users of e-learning centres are encouraged to make use of e-learning services because physical library collections are becoming electronic and are stored in virtual spaces (Abayomi 2017:41). E-learning centres are helping libraries to provide e-learning services to e-learning centre users in an efficient and effective manner (Masenya 2019:50). Okiki (2012:1) states that all e-learning centres available have an accessible internet connection to improve the value and use of e-learning services over time.

Similarly, studies carried out by different researchers indicated that more than 60 percent of respondents use e-learning services such as the internet/the web, databases and electronic journals. Bansal (2015); Chen, Bastedo, and Howard (2018); De (2018); and Okiki (2012); Eagleton and Manolopoulou (2017); consider the frequency of e-learning service usage and reported that most of the research participants frequently used electronic journals and online databases. According to Bansal (2015); Heap (2017); and Chen et al., (2018), easy access to relevant and current information, availability in electronic format and the usability of the e-learning services resulting in improved performance were reasons why respondents used e-learning services regularly. Okiki (2012) states that the authenticity and reliability of e-learning services are key factors affecting the positive usage of e-learning services, While De (2018) highlights the richness of e-learning services content as one of the reasons for the high usage of e-learning services by respondents.

Anis (2016), Bhatnagar (2016), and Han and Yates (2016) state that library users make use of e-learning services for purposes such as research, publication of papers and academic work. Eagleton and Manolopoulou (2017), and Qasim and Khan (2015) state that respondents used e-learning services for writing reports, completing assignments and assisting in decision-making. Heap (2017) states that users used e-learning services for career, leisure and work purposes and De (2018) and Okiki (2012) opine that e-learning services were used for theses/projects; collection of study materials; and paper writing for seminars, conferences, and workshops.

The source of e-learning services could be either an open access source or a subscription-based source. Bhatnagar (2016) and Qasim and Khan (2015) note that respondents used e-learning services that are freely available on the internet and paid for by the library. De (2018), and Sethy and Jena (2021) found that most of the users obtained the required information from e-learning services.

Individual preferences, recommendations and the popularity of a resource usually determine the type of e-learning services used. According to De (2018), Gupta and Sharma (2015), Hassanin (2016), and Okiki (2012), the majority of respondents used e-learning services. It was also discovered by Sethy and Jena (2021) that a substantial number of study participants used electronic books. According to Heap (2017), several research participants used e-learning services for printing. Similarly, Bhatnagar (2016) discovered that open access resources were accessed by a substantial percentage of research participants. The majority of respondents used e-learning services for typing and scanning, according to Deng (2010).

Bhatnagar (2016), Eagleton and Manolopoulou (2017), and Okiki (2012) argue that the majority of respondents used e-learning services on a daily basis; Ranganathan (2011) states once a week; Anis (2016) twice a week and Abumandour (2019) once every two weeks.

However, Dadzie and Walt (2015), Ranganathan (2011:51), and Sethy and Jena (2021:7) state that fewer than 40 percent of respondents use the library e-learning services. Sethy and Jena (2021) identify limited access to computers as a factor responsible for the poor usage of e-learning centres despite the willingness of

respondents to learn more about using the internet and e-learning services. A lack of hardware, software, guidelines, and training, as well as knowledge of e-learning services, operating finances and time are all obstacles to the usage of e-learning centres, according to Anis (2016), and Ranganathan (2011). According to Dadzie and Walt (2015), libraries are not particularly interested in the use of e-learning centres, resulting in low usage. According to Heap (2017), fewer than 30 percent of users did not use e-learning services because they were unaware of their existence. Furthermore, Proudfoot and Kebritchi (2017) state that library e-learning services have rapidly risen and many techniques for their effective and efficient use have been devised, yet they are still underused. According to Dulle (2015), developing countries have a very low consumption rate of e-learning services, despite the fact that the availability of these resources has substantially improved. Despite the library's subscription to a substantial number of e-learning services, Abumandour (2019) found that the level of e-learning services use in e-learning centres is not encouraging. This was attributed to ignorance about the relevance and value of e-learning services for libraries.

These studies concluded that perceptions of availability and usability, insufficient infrastructure and inconsistent subscription to relevant e-learning services are factors responsible for the inadequate use. Although users browse the internet to obtain information, the level of use is still low when compared to the number of e-learning services available in libraries' e-learning centres. Only a few users could search and retrieve relevant information from e-learning services.

These studies then recommended that libraries should focus more on the integration of ICT and the conventional library e-learning centres to promote e-learning services usage. Staff members should publicise and support the use of e-learning services by providing references that will make patrons use library e-learning centres. The library e-learning centres should promote its e-learning services through announcements/advertisements of old and new acquisitions, and organise awareness, training programmes and seminars. Full-text e-journals, databases and e-books should be available to encourage greater use of e-learning services.

2.2.3.1 Role of e-learning centres in libraries

As a way of enhancing education, e-learning applications have been developed. Das (2016) and Namirembe (2020:34) indicate that Microsoft PowerPoint and comparable open-source software are most commonly used as e-learning applications. They further argue that the internet is sometimes a common application for communication between librarians and users sometimes (i.e., enhancing human capital and social capital among librarians and users). To illustrate this point, human capital are assets such as librarians' abilities, competencies, experiences, and skills may include education and work experience (Masenya 2020), and in most cases, the e-learning unit is very important for the development of the human capital assets of the librarians. Moreover, investing into human capital may increase the librarians and users' abilities, competencies, experiences and skills in e-learning centres.

The internet is beneficial in a way that it allows for the distribution of e-learning programmes and content through personal websites, blogs and platforms. E-mail technology is sometimes the primary means of communication between librarians and users. Course materials can include audio, video and text applications. E-learning can be classified as web-based learning, internet-based training, advanced distributed learning and online-learning, according to Kattoua, Al-Lozi and Alrowwad (2016), Nagata, Kigawa and Aoki (2018), and Namirembe (2020:34).

Amos, Adelani and Adebola (2015), and Nagata et al. (2018) assert that computer-based learning, computer-based training, computer-supported collaborative learning and technology-enhanced learning, among other forms of learning, are part of e-learning systems. e-learning is perceived as technology-supported learning. Technology-supported learning environments include individual workspaces equipped with desktop computers or laptops, or collective learning laboratories that all allow for web-based learning, mail exchange and video conferencing.

2.2.3.2 Benefits of e-learning for users in libraries

E-learning offers continuous self-improvements by offering online learning services (Bichsel 2013; and Sivankalai 2021). Users can collaborate with one another, for

example, using collaboration tools (Alkharang 2014; Nabushawo, Muyinda, Isabwe, Prinz & Mayende 2018). Furthermore, the use of e-learning technology improves students' learning and marks (Dawood, Syaryadhi, Irhamsyah & Roslidar 2018; Mikre 2011). E-learning has shifted learning from a leader-led paradigm to a constructivist paradigm, in which users are increasingly independent and responsible for their own learning (Mojžiš, Balogh, Ásványi & Budinská 2018). Users can learn at their own pace and in their own time. Timely access to information, up-to-date content materials, self-paced learning, cost-effectiveness, and tailored and continually upgraded course content are all advantages of e-learning (Barton 2010; Nabushawo et al. 2018).

E-learning ensures that users have access to a high-quality education (Namirembe, 2020:35). Instructors of a higher calibre can share their knowledge across borders, allowing users to participate in courses regardless of their physical, political or social location (Docherty & Gaubinger, 2018) and recognised scholars can disseminate information at a low cost over the world. Traditional learning is improved by e-learning information systems, which lessen the negative impacts of traditional learning (Dorobat, 2014). E-learning has blended learning methods by incorporating more than two methods of learning (Das 2016) and with blended learning, this can be adapted to an individual learning style. An individual learning style can be termed as the user's ability to assimilate new knowledge and skills. Users can receive e-learning materials in a variety of media (text, audio and visual), which helps them learn more effectively (Das 2016; Kwofie & Henten 2011).

E-learning has been regarded as a way to reduce costs in e-learning centres in public libraries. Unlike traditional learning, where lecturers must be present at a specific location to impart learning materials at a cost (i.e., lecturers may have to pay for transportation to go to lecture rooms), electronic learning allows for free delivery of such information to users over thousands of kilometers. According to Cotic, Rees, Wark and Car (2016), e-learning contributes to the reduction in costs in relation to course delivery.

2.2.4 Competences needed to use e-learning centres in libraries

Computing/digital/technical and information literacy competencies are required to access and use the resources of electronic centres (Kattoua et al. 2016; Nagata et al. 2018). Moyo (2017:30) defines digital literacy as "the knowledge and comprehension of digital media that enables one to function effectively with digital media in a digital world." A digitally literate individual has the ability to understand and evaluate digital content such as text, sound and images, and to reproduce data in digital environments.

While both computer and information literacy has an impact on the use of e-learning centres, Moyo (2017:30) discovered that computer literacy had a stronger impact. As a result, individuals who have computer expertise but lack information literacy are more likely to use e-learning centres than people who have information literacy but lack computer literacy. In a survey conducted in fishery scientific institutions in South India, Nabushawo et al. (2018) discovered that the majority of respondents (67.46 percent) had "average" computer competency skills, while 29.25 percent were "above average" and 3.28 percent were "below average." However, Nabushawo et al. (2018) further states that the e-learning services are available and accessible to improve the value and use of e-learning centres over time.

Abbasi and Zardary (2012), were interested about the role of e-learning libraries on supporting e-learning. They stated that e-learning centres in libraries could provide both digitised services and electronic resources via Internet to support e-learning. Han and Yates (2016) presented a case of a library called Monash University Library, Australia that has adopted e-learning system for both research and learning skills development within the university. In this study, the authors showed special interest about the library staff members gained competencies and the impact of this on the sustainability and improving of the e-learning strategy.

There has been an increase in e-learning centres usage, and competency skills by library staff and users who have become dependent to e-learning services and have adopted these e-learning services as common tools in their activities (Moyo 2017, and Opeyemi, 2018:20). Modern day library users are encouraged to make use of e-learning services as physical library collections are going electronic and stored in virtual spaces (Ranganathan, 2011) and ICT is helping library staff to provide e-learning services to library users in an efficient and effective manner (Nabushawo et al., 2018).

Furthermore, library staff make use of e-learning centres for purposes such as, according to Ranganathan (2011), research, publication of papers and work. Deng (2009), Peiris, & Peiris (2012), stated that respondents used e-learning centres for writing reports, and to help in decision-making.

However, Eagleton and Manolopoulou (2017) found that the use of e-learning centres' resources by computer studies students at the Glasgow Caledonian library's e-learning centre in the United Kingdom was relatively low, indicating that digital literacy alone, without information literacy, does not lead to significant use of e-learning centres. Despite the fact that these students majored in information technology, they were required to have high levels of e-learning literacy. A similar study by Heap (2017) was conducted at a Taiwanese research institution and discovered that, while computer science students spent much time on the internet, they used e-learning centres rarely. In a study conducted by Moyo (2017:31) at the National Open University of Nigeria and the Ibadan Study Centre, levels of competence in the use of computers, laptops, cellphones, internet access, printers and free Wi-Fi were high, while competence levels in the use of multimedia projectors, electronic databases, CD-ROMS, the internet and email were medium and low

Rehatschek (2018) discovered that not all users had the same computer skills when it came to using library e-learning centres. However, e-learning services has widened the knowledge divide between libraries in developed and developing countries (Nyeko & Ogenmungu, 2017). For instance, libraries in developing countries are in remote areas and do not have access to knowledge hubs or hotspots as compared to their counterparts in the developed world (Kithsiri et al., 2018). The advent of e-learning services and its penetration into all levels of education has challenged libraries to restructure their services, practices and their organisational infrastructures (Nyeko & Ogenmungu, 2017).

It is recommended that public libraries' management should provide enough facilities/infrastructure to allow patrons to access e-learning centres, and to conduct more research to explore new trends and emerging patterns of e-learning centres usage. Library management should strategically plan how to develop a better

relationship with patrons and formulate a framework on the use of e-learning centres and sustainable electronic services subscription. Libraries should do more advocacies to increase the patronage of e-learning centres.

2.2.5 Challenges faced in using e-learning centres in libraries

Several studies conducted worldwide, some of which are cited in this study, relating to the awareness and use e-learning centres revealed a number of challenges that hinder users from fully using e-learning centres. It is important to note that, although the challenges stated in these various studies may be similar, more challenges are observed in developing countries than in developed countries. One of the most significant challenges to the integration of e-learning in public library institutions, particularly in poor countries, is a lack of infrastructure (Namirembe 2020:40). Despite the fact that technology has enhanced the availability of information, not all countries and communities have access to the ICTs required to access online information.

Institutional adoption of e-learning poses financial and strategic hurdles (Barton 2010). Sustaining social services such as education is expensive. In addition, technology resulted in what is termed the *digital divide*, which refers to the gap between countries that can access and use ICTs and those that cannot access and use these technologies because of their poor economies (Moyo 2017:32). The noteworthy challenges recorded in literature include a lack of awareness, poor information and digital literacy skills, poor internet connectivity and poor ICT infrastructure. Challenges faced by e-learning centres are discussed in the sections below.

2.2.5.1 Lack of awareness of e-learning centres

A number of studies, including one conducted by Nabushawo et al. (2018) in Dublin, Ireland, found that library patrons may fail to use the e-learning centres offered to them because they are unaware of their existence. In this way, awareness is the first step before using: without awareness, using will not be realised. Some 58 percent of the respondents who participated in the e-learning research project that investigated the use, perceptions and impressions of libraries' e-learning centres and people's preferences for using information discovery tools, were not sure if their libraries' e-

learning centres provided access to e-learning services such as electronic databases (Kattoua et al., 2016). It is, therefore, critical that the library should establish measures to inform users of the availability of e-learning centres and e-learning services.

2.2.5.2 Poor information literacy and e-learning skills

In order to be able to use e-learning centres fully, a user needs to be “technically proficient”, meaning that the user must have basic ICT and information literacy skills. Levey, as cited in Chen et al. (2018), notes that “information access is not necessarily the problem but careful use is”. According to Sethy and Jena (2021), the continuous development of technologies has caused an influx of e-learning services in libraries and on the internet; hence the need for training in the best ways of accessing the needed information. Information literacy training gives users the ability to identify an information need and to locate, evaluate and use the information effectively (Mikre 2011).

Barton (2010) opines that search strategy skills are one of the most difficult aspects of electronic searching. Formulation of search strategies forms the major part of information literacy training. If users do not possess the skills needed to search for the relevant information resources to satisfy their information needs, they would find it difficult, if not impossible, to access and retrieve the relevant information. Because e-learning services are available 24/7 in the e-learning centres, it has been observed that some users start accessing the e-learning services without the proper knowledge of and skills in accessing the relevant information (Jordan 2019).

A study by Dulle (2015) in libraries of South-South in Nigeria established that awareness of e-learning centres was low, mainly because of the lack of computer and internet literacy skills. A similar study done by Barton (2010) in Uganda also identified a lack of computer skills and inadequate information literacy skills as the major challenge hindering users from using e-learning services (Nagata et al. 2018).

2.2.5.3 Poor ICT infrastructure

Contrary to traditional print sources, which can be accessed and used without the aid of technologies, this is not possible with e-learning services. As indicated in the definition of e-learning services, they are library services that are accessed through the aid of computing devices such as laptops, tablets smartphones (Namirembe 2020:40). Without a computing device and supporting technologies, such as internet connectivity, users will not be able to access the information resources. A number of authors highlighted the lack of adequate technologies as one of the major challenges that discourage users from using e-learning centres (Barton 2010; Bansal 2015; Chen et al., 2018; Angello 2021).

Bansal (2015) argues that, although ICTs have brought numerous advantages in distance learning, many of the distance learning institutions – particularly in developing countries – simply do not have adequate infrastructures, conditions and human capital to use these technologies fully. A study done by Okiki (2012) on the use and impact of e-learning at the library of Lagos in Nigeria revealed that 55.4 percent of the library staff and 54.3 percent of the users were not satisfied with their library and ICT infrastructures, which was a major challenge to the use of e-learning centres. Some 95.8 percent of the users in a study done by Sethy and Jena (2021) on the use of print and e-resources by students at the Library of Malawi and College of Medicine indicated that limited access to computer terminals was the major barrier that prevented them from using the e-learning centres.

The above necessitates a complete revamp of the conditions, infrastructure and human capital in order to fully appreciate the capabilities of these technologies – something that needs large financial investments, which most public libraries in developing countries do not have because of their countries' poor economic conditions. This is backed up by the findings of a study done by Damilola (2013) on the use of e-learning centres for open distance learning in Nigeria, which found that poor electricity and internet access were two of the biggest hurdles to respondents adopting electronic learning services.

While most public libraries are working to improve the accessibility of technologies that allow their users to access e-learning services, most e-learning centres are guided by the principle of sameness and equality for all users, which may prevent them from

offering highly sophisticated technologies that are only used by a few; for instance, those who have physical access to institutions and their support services departments, such as e-learning centres. In order to avoid the perception that users who do not have simple access to e-learning centres are being treated unfairly, distance learning institutions must be particularly cautious when assessing these technological changes (Mdhuli 2019:53).

2.2.5.4 Poor internet connectivity

Poor internet connectivity has been ranked as one of the biggest challenges that prevent users from using e-learning centres. Although certain e-learning services are available offline, such as hard drives, a significant number of these e-learning services are available online and require fast internet connectivity to download full-text articles. Internet connectivity that is both fast and economical can be a challenge, discouraging users from using e-learning centres' services (Moyo 2011:35).

The majority (68.56%) of participants in a study on the use and impact of electronic journals on the users of the Library of Pune, India, highlighted poor internet connectivity as a major hurdle that prevented them from using e-learning centres (Dadzie & Walt 2015). A study on the use of e-learning services at Krishnasamy College of Engineering and Technology Library in India established that the amount of time it took to download articles and slow internet connectivity were the biggest challenges that discouraged users from using e-learning centres (Abayomi 2017). Similarly, a study conducted by De (2018) on the use of e-journals by users in the libraries of Andhra Pradesh ranked poor internet connectivity as the biggest challenge preventing users from accessing and using e-learning services.

2.3 THEORETICAL FRAMEWORK

A theoretical framework is a useful tool that supports research (Swanson 2013; Grant & Osanloo 2014). It defines the theory and describes why the research problem under study exists. The theoretical framework binds the researcher to existing knowledge and makes research results meaningful (Abayomi, 2017:18); it is the basis from which all knowledge is created for the study. It supports the structure and justification of the

study, including the problem statement, the objectives and the research questions. Furthermore, it provides the foundation for the literature review, methodology and data analysis (Grant & Osanloo 2014:12).

The study was informed by the TAM to determine the use of e-learning centres by users COJ libraries. TAM is an information technology theory that simulates how users come to accept and use technology (Mogale 2019:20). The aim of the TAM is to anticipate IT acceptance, analyse design problems and develop better systems. TAM constructs anticipate user acceptance of any system as determined by two aspects: perceived usefulness (PU) and perceived ease of use (PEOU). Therefore, PU refers to the degree to which users believe that using an advance system will enhance their job performance. Users may accept or use a definite technology if they believe it is of benefit them. As Moyo (2015:11) states, people lack 'life experience' that could assist them to overcome day-to-day problems, and this presents a special significance for their need for information. This is one of reason that (users) may find it hard to determine the usefulness of the e-learning centres. Scholars tend to concentrate on the impact of e-learning centres and not on users; however, the actual long-term concern is how e-learning will influence the way in which users use e-learning centres and what they expect from it.

The TAM is a theoretical extension of the TRA. The TRA originates from social psychology and generalises descriptions of a number of individual behaviours (Prinsloo 2016:8). Based on the TRA, Davis (in Prinsloo, 2016:8) introduced the TAM, which is a reformed model and emphasises the user's acceptance of computer technology (Zhang et al. 2014:300). The TAM is one of the models that is broadly used to examine technology acceptance and was therefore chosen to support this study.

2.3.1 Technology Acceptance Model

The TAM was developed by Davis in 1986 by adapting the TRA. Therefore, there are two major aspects influencing a user's decision to accept and utilise technologies for e-learning. These aspects are PU and PEOU (Davis 1989).

PU is the point where a person believes that using a specific system would enrich his or her job performance (Davis 1989:320). PEOU is the point where a person believes that using a specific system would be free of effort (Davis 1989:320). The TAM is diagrammatically presented in Figure 2.1 below.

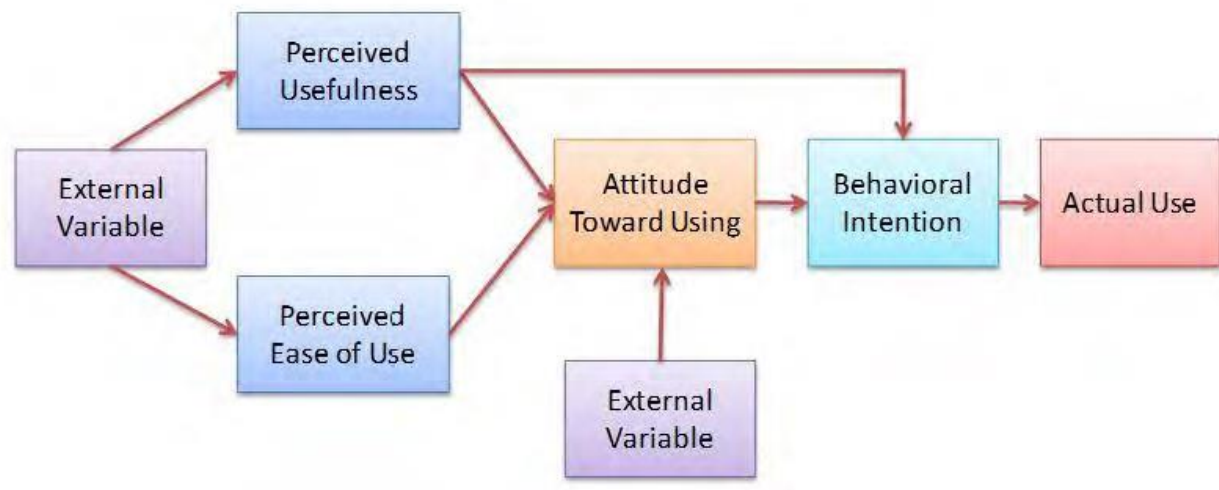


Figure 2.1: Technology Acceptance Model
Model (Source: Davis et al. 1989)

TAM is used extensively to underpin studies on acceptance and use of technologies for e-learning and has developed as a predominant model of choice. This resulted in the extension of perceived usefulness by Venkatesh and Davis (2000). The extension is referred to as the Technology Acceptance Model 2 (TAM2). Therefore, TAM2 incorporates additional theoretical constructs that include social influence processes (subjective norm, voluntaries and image) and cognitive instrumental processes (job relevance, result demonstrability and PEOU) (Venkatesh & Davis 2000). In TAM2, the social influences such as image and subjective norm are studied in order to overcome the limitations of the original TAM. In practice, constraints such as limited ability, time, environmental or organisational limits, and unconscious habits will limit the freedom to act. TAM2 incorporates social influences into an individual's perceptions of usefulness (Venkatesh & Davis 2000).

Sheikhshoei and Oloumi (2011) used TAM to investigate factors that determine the acceptance of technologies by librarians in engineering faculties of universities in

Tehran, Iran “Applying the technology acceptance model to Iranian engineering faculty libraries”. The study was used, and data were collected by means of questionnaires, which involved 160 librarians. The results showed that constructive aspects of TAM (PU and PEOU) were considered to have the most potential for studying IT acceptance. Moreover, these aspects have a big impact on the attitude of librarians towards using information technology.

In a similar survey conducted on 421 students, Edmunds, Thorpe and Conole (2012) used TAM to examine the use of ICT. The results revealed that PU and PEOU are vital aspects of students’ attitudes towards technology. Edmunds et al. (2012) also revealed that TAM is a vigorous model and can be effectively used to underpin studies on students’ attitudes towards adopting ICTs.

Spacey, Goulding and Murray (2004) studied the attitudes of public library staff towards the use of the internet in the United Kingdom. TAM was applied as a theoretical framework to support the study and data were collected through the blend of qualitative and quantitative methods. Fourteen public library authorities participated in the research and 1,870 surveys were distributed. The results showed that the use of TAM was effective in capturing the attitude of public library staff towards internet use. Therefore, it showed a rational indication of future behaviour.

Park, Roman, Lee and Chung (2009) investigated the aspects that influence people’s adoption and use of digital libraries and e-learning in 16 institutions in Africa, Asia and Central/Latin America. TAM was used to test the applicability in the context of developing countries. Questionnaires were disseminated to 1,370 participants and the results showed that PEOU of the digital library and e-learning had a significant effect on PU, which eventually led to behavioural intention to use such a system. Therefore, they recommended that in implementing and operating digital library systems, external variables that have an influence on PEOU and PU should be considered as crucial aspects. This would assist in the decrease of discrepancy between system design and users’ realities and would further allow successful adoption of digital library systems on e-learning in developing countries.

Several scholars have studied the structure of TAM and added external constructs and intermediaries. In an investigation into the attitudes of librarians and users towards using e-learning services, Aharony (2013) used TAM. Librarians and users in public, academic and special libraries participated in the study and data were collected by means of a questionnaire. The results highlighted the usefulness of TAM in technology adoption and indicated that PEOU and PU are two main variables that may anticipate librarians' and users' behavioural intention to use e-learning services in the library. Therefore, Abayomi (2017:21) recommends that libraries should implement more e-learning services that are simple, attractive and efficient. Moreover, librarians and users should be given exposure to benefits as well as ease of use of e-learning services to maximise their experiences of e-learning centres. Furthermore, librarians in charge should encourage librarians that have a negative attitude by arranging training programmes that would ease their level of resentment, anxiety and hesitation.

Al-Ziadat, Al-Majali, Al-Muala and Khawaldeh (2013) applied an extension of TAM. Two extended independent variables (trust and awareness) were used. Questionnaires were disseminated among graduate students of the M'utah University and the results indicated that there was a substantial relationship between trust, awareness, effect of PEOU and PU.

Ongena, Wijngaert and Huizer (2013) examined a theoretical and pragmatic analysis to explain aspects influencing individuals' intention to utilise the online audio-visual heritage archive service. Therefore, TAM is the constructs of perceived enjoyment, nostalgia proneness and personal innovativeness. The results indicated that perceived enjoyment is more important in anticipating users' acceptance of technology than PU. Nostalgia had a strong influence on behavioural intention to utilise the service. It was established that the hedonic characteristic (enjoyment) rather than instrumental value (usefulness) had an effect on the acceptance of an audio-visual heritage archive service (Abayomi 2017:21).

However, a few studies have been undertaken of the acceptance of technology by e-learning centres and services. Although TAM has been utilised mostly in technology adoption studies, it has also been criticised by several scholars. The criticisms consist of its "questionable experiential value and inadequate clarity and predictive power, and lack of any real value" (Priyanka & Kumar 2013:147). Moyo (2015:19) argues that TAM

has been used in work-related situations and little has been done in e-learning environments, especially those of e-learning centres in libraries between the librarians and users. The decision to use TAM was made because it is easier to apply. The benefit of using TAM to understand a system or e-learning usage behaviour is that it offers a background to investigate the effect of external variables on e-learning usage. The probability of TAM to analyse factors simultaneously is an advantage for studying acceptance of e-learning centres in libraries as they have a range of technologies, services and potential users.

South Africa comprises elements of both a developed country and a developing country. TAM is fairly accepted in the context of developed countries and there is no agreement on whether or how TAM functions in the context of developing countries (Miller & Khera 2010; Averweg 2008; Musa 2006). It is important to consider the impact of local conditions on the use and assimilation of e-learning centres libraries in South Africa. Contextual factors play a vital role in the use of TAM. Relating to contextual settings, the difference between developed countries and developing countries is that for many potential users in developing countries, acceptance is not about choice, since universal access to technology is not easily available (Ooko 2016).

2.3.2 Theory of Reasoned Action

The Theory of Reasoned Action (TRA) originated from social psychology and was proposed by Ajzen and Fishbein in 1980. It was created in an attempt to analyse the differences between behaviour and attitude and explained the connection between beliefs, attitudes, intentions and behaviour.

The philosophy proposed attitudes, subjective norms and behavioural intentions as the major constructs of TRA. For a better understanding, it is crucial that these fundamental perceptions are described. Behavioural intention is the intellectual demonstration of one's willingness to perform a given activity, which is considered to be the instantaneous antecedent of behaviour (Fishbein & Ajzen 1975). Attitude is "one's positive or negative feelings (analytic affect) about performing the target behaviour" (Fishbein & Ajzen 1975:216). Attitude is determined through analysis of one's beliefs concerning the significances that arise from behaviour and an evaluation

of how the necessary the consequences are perceived (Fishbein & Ajzen 1975). Subjective norm shows one's perception of whether people are significant to the individual and think the behaviour should be performed (Ajzen 1991; Fishbein & Ajzen 1975:302).

TRA is a very general model that can be used to explain virtually any conscious human behavior (Ajzen and Fishbein, 1980:4 in Evans 2013: 57 and Abayomi 2017: 25). The theory suggests that an individual's behavioural intention to use a certain technology is influenced by their attitude towards the perceived performance, ease of use and subjective norms of the technology (Ajzen & Fishbein 1980). Figure 2.2 presents TRA.

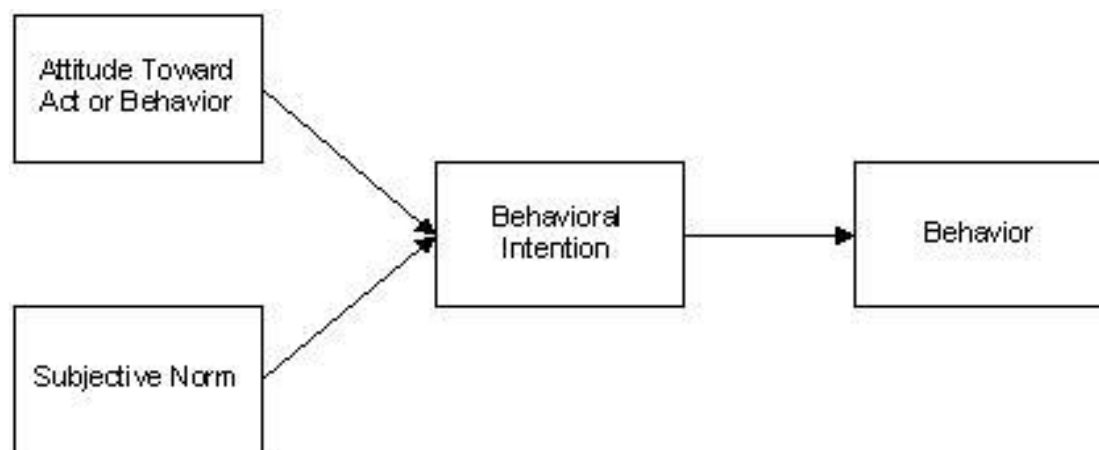


Figure 2.2: Theory of Reasoned Action (TRA)
(Source: Davis et al. 1989)

Ajzen and Fishbein (1980) state that the TRA is a researched intention model that has been recognised to be useful in forecasting and elaborating behaviour across a variety of disciplines. It is general and can describe virtually any human behaviour (Tan, Sim, Ooi & Phusavat 2012).

Davis, Bagozzi and Warshaw (1989) empirically scrutinised the ability of the TRA and TAM to forecast the acceptance or rejection of computer-based technology. A longitudinal study done by Alqasa, Isa, Othman and Zolait (2014) studied the applicability of the TRA in the banking system in Yemen. The study concentrated on university students and their intention to use e-learning services and the results indicated that the TRA had a strong analytical influence on describing university students' behavioural intention to use e-learning services. It also revealed that there were important relationships between students' attitude, subjective norm and

behavioural intention to utilise e-learning services. Al-Muala, Al-Majali and Al-Ziadat (2012) utilised the TRA to support the study of the aspects that influence a person's intention to adopt e-learning services. The results showed that TRA had a strong analytical power in explaining e-learning services (Jordan, 2019). The results supported the model's proposition that ones' behavioural intention to utilise e-learning services was influenced by their attitude and subjective norm.

However, the TRA has been utilised to support several studies on behavioural intention and has been indicated as being applicable to deliberate behaviour, where one may choose to perform or not to perform the behaviour at will (Ajzen & Fishbein, 1980; Ajzen & Madden, 1986). Moreover, the TRA does not take into consideration conditions where one has no complete or volitional control (Abayomi, 2017) to consider the point that most behaviours are not deliberate (Ajzen, 1988). Thus, the TRA model was found inadequate in describing behaviours that are not volitional.

2.3.3 Justification of the Technology Acceptance Model

The TAM is an information system theory that simulates the way in which users come to accept and use technology (Legris, Ingham & Colletette 2003). Nasset and Large (2004:149) argue that the users might find it difficult to determine the usefulness of the e-learning centres.

Hence, PEOU is the degree to which a person believes that the use of a system would be free from effort (Davis, in Chauhan 2015:60). This reveals that users tend to believe in their information-seeking skills, whereas they have shortcomings when operating information systems, even in electronic environments in which they are often imagined to be especially at ease. Users are likely to accept an application when they perceive it as easier to use based on their information-seeking skills. An e-learning centre with a high level of PU and PEOU is more likely to induce positive perceptions and thus influence its acceptance. PU has a direct impact on attitude and use, while PEOU influences attitude and use indirectly through PU by Johannesburg e-learning users.

Based on the postulation that people's actions are guided by their emotions or how they feel (Hayes, 2013:24), it has theoretically shown that a user's initial response or approach towards e-learning services and e-learning centres will affect their intentions to use them, which in turn will influence their actual use of such e-learning centres.

Table 2.1: Electronic Learning Centres in Regions

Region	E-learning classroom library name	Region	E-learning classroom library name
A	Diepsloot	E	Sandton library
A	Ivory Park	F	Johannesburg Central
B	Westbury	G	Eldorado Park
C	Cosmo City-	G	Poortjie
D	Emndeni	G	Orange Farm
D	Jabavu	E	Alexandra 8

E-learning services can be used in the library or remotely using the internet (online), for example, borrowing e-books, or just for using technology without the internet (offline), for example, viewing downloaded material or typing a document. Users can use e-learning services at their own pace or through unstructured sessions or formal sessions with two or more participants.

2.4 SUMMARY

This chapter provided a literature review and theoretical framework on the use of e-learning centres in COJ libraries. The chapter began with an introduction, discussing the importance of literature review and further looked at various types of e-learning services offered, users' awareness e-learning centres, and use of e-learning services by e-learning users. In addition, competences of users in e-learning centres in libraries and challenges faced in using e-learning centres. The chapter further discussed the

benefits that can be derived by using e-learning when engaging in e-learning centres as well as how public libraries can play a leading role in the promotion of the concept.

Additionally, this chapter highlighted some of the challenges hindering e-learning centres as being a lack of awareness, poor information and digital literacy skills, poor internet connectivity, poor ICT infrastructure for e-learning offered by COJ libraries. The review of the literature established the findings of similar studies done previously with the intention of informing the current study. Literature was also reviewed on the theoretical framework of TAM model that underpinned this study. The theoretical framework revealed that though many studies have been carried out around the world, on the use of e-learning services in libraries, limited studies are available on South Africa. Studies that are available seem to cover e-learning services of academic and special libraries. The study's research methodology is presented in the next chapter.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter reviewed the literature and presented the theoretical framework of this study. The research methodology influences the way in which data are gathered and it allows the research to meet its purposes and objectives. The component of the research that highlights the processes used to perform the study is known as the research methodology. The research methodology, as defined by Creswell and Creswell (2018:41), outlines the procedures for gathering and processing data for research and typically includes details about the approach/design used, population studied, sampling procedures, instrumentation used, procedures for gathering and processing data, and statistical treatment of data.

According to Ngulube (2015:6), methodology is a critical part of research because it determines how the researcher obtains knowledge about the subject being studied and makes conclusions about the research questions. Hence, research is a methodical effort to study a specific problem that requires a solution (Gray 2018: 7). In addition, the scientific research concept “systematic” means the procedures applied when undertaking a study by following a specific rational sequence. This sequence involves stating the problem, formulating the hypothesis, gathering the data, evaluating the data and finding results that may help solve a certain problem (Bryman, 2012).

Furthermore, research methodology permits explanations of why some techniques may be used in research and others not, so that research findings are assessed by the researcher and other external stakeholders, as pointed out by Almalki (2016:290). The research methodology concentrates on the philosophies guiding research practices, hence it serves as a framework within which the researcher works (Labaree 2014:2).

Ngulube (2015:6) states that the methodology is significant in research as it influences how the researcher gains knowledge about the matter being studied to come to conclusions about the research questions. This chapter is an important element of the

research process since the research methodology chosen has an impact on the research findings and the way in which the researcher interprets these findings. As Creswell and Creswell (2018:250) concur, the research methodology involves data collection, analysis and interpretation of the finding from the perspective of the researcher.

3.2 RESEARCH PARADIGM

Bryman (2012:630) defines a paradigm as a set of beliefs that dictates what should be examined, how the research should be conducted and how the results should be understood for researchers in a given profession. A paradigm, according to Creswell (2014:6), is a set of beliefs that guides the researcher in how to do research and includes previous research. Creswell and Creswell (2018:5) use the term 'worldview' as meaning, "a basic set of beliefs that guide action" (Guba 1990:17). Others call them paradigms (Lincoln, Lynham & Guba 2011; Mertens 2010), epistemologies and ontologies (Crotty 1998) or, broadly, research methodologies (Neuman 2009). These paradigms are general philosophical orientations about the world and the nature of research that a researcher brings to a study.

Positivism, interpretivism and pragmatism are the three types of paradigms listed by Neuman (2014:97), Bryman (2012:30) and Creswell and Creswell (2018:6). It is worth noting that the paradigms assist the researcher in determining the best methodology to apply for the particular study. In a positivism research paradigm, positivists feel that the universe should be viewed objectively, and that science should uniformly depict and explain the reality (Punch 2014:16). The positivist paradigm, which is part of objective epistemology, is a quantitative research methodological philosophy in which natural scientific procedures are used to uncover social science research (Pham 2018:2). As a result, paradigms provide guidance to the researcher regarding the research methodology to be used.

3.2.1 Positivism

Creswell and Creswell (2018:7) hold a deterministic philosophy that positivism is based on data, evidence and rational considerations that shape knowledge. The researcher collects information on instruments based on measures completed by the participants or by observations recorded by the researcher. On the same note, some social scientists have a perspective on positivism believing that true objectivity in seeking absolute truths can be an elusive goal (Leedy & Ormrod 2015:25). According to Creswell and Creswell (2018:7), positivist researchers aim to form an explanation rather than an understanding, as the researchers see themselves as outsiders detached from, and having no relationship with, the phenomenon under investigation. Positivism applies scientific approaches to human issues and believes that there is only one universally recognised and best solution to any situation, according to Ali and Chowdhury (2015:226), which explains why it is associated with the quantitative method.

Creswell (2014:36) refers to this paradigm as postpositivism, as it depicts thinking after positivism. According to Hussain, Elyas and Nasseef (2013:2377), this paradigm includes ideas that regard reality as being apart from the observer. The information gathered is quantifiable, and Makombe (2017:3374) emphasises that the research conducted under this paradigm is objective, with no researcher bias influencing the findings. The strengths of positivism, according to Ali and Chowdhury (2015:224), are its clarity, standardisation and generalisability. However, inaccuracies in scientific data, on the other hand, may influence the hypothesis's end-results, as participants may not provide genuine responses to questions.

This paradigm has a realism ontology. This indicates that social reality may be viewed and examined objectively and scientifically, regardless of the observer, as Hussain et al. (2013:2378) put it. Positivism's epistemology is objectivist and dualist, according to Creswell and Creswell (2018:7). This means that positivists believe that human experiences of the world are objective, reflecting an independent reality, thus providing the foundation for human knowledge.

In terms of research methodology, positivism focuses on experimental research, which looks at cause and effect relationships as well as non-experimental research, where

the researcher does not manipulate or control independent variables or subjects. Data collection instruments include tests, structured interviews and closed-ended questionnaires. To ensure the quality of this paradigm, reliability and validity must be undertaken, as highlighted by Hussain et al. (2013:2377). These authors further add that in selecting a sample, positivists often use random or probability sampling techniques.

3.2.2 Interpretivism

According to Creswell (2014:39), this paradigm is referred to as humanistic, constructivist, naturalistic or anti-positivist. Creswell and Creswell (2018:7) highlight that interpretivism (often combined with constructivism) is a perspective, typically seen as an approach to qualitative research. Social constructivists believe that individuals seek an understanding of the world in which they live and work (Creswell 2014). Creswell and Creswell (2018:8) add that the goal of the research is to rely as much as possible on the participants' views of the situation being studied. Du Plooy-Cilliers, Davis and Bezuidenhout (2014:28) note that the interpretivists assert that in the social sciences, in particular, researchers should study and describe meaningful social actions. Moreover, Leedy and Ormrod (2015:26) state that constructivists focus their enquiries on people's perceptions and interpretations of various phenomena, including individuals' behaviour, group processes and cultural practices.

According to Creswell and Creswell (2018:7), the major objective of this paradigm, is to rely as much as possible on the participant's perspective of the issue under study through analysing individual views. Rather than simply understanding what they have investigated, interpretive researchers attempt to understand and interpret research results, provide specifics of their significance to individuals and produce insights into the case under study. According to Punch (2016:64), this paradigm collects rich and thorough data since it is primarily concerned with people and their interrelationships. As a result, the researcher gains a thorough grasp of the topic being researched. Interpretivism, according to Bryman (2012:629), generates hypotheses throughout the research process.

As Hussain et al. point out, this paradigm's ontology is relativist (2013:2376). This implies that reality is influenced by one's ideology and cultural views, and that it is local and specific in nature. As a result, the researchers see themselves as instruments in the research. Makombe (2017:3371) indicates that the epistemology of interpretivism is subjectivism or transactional. This means that researchers believe people cannot be separated from their knowledge; therefore, researchers are involved with their participants. Creswell and Creswell (2018:8) go on to say that researchers have an impact on the phenomenon they are studying and can even make a difference. However, according to Opeyemi (2018:31), research is typically subjective because the researcher's opinions can impact the results.

The study methodology of interpretivism is built on delving into the facts and meanings of people's daily lives in order to better comprehend their social behaviours. Ethnography, case study, grounded theory, historical, narrative and phenomenology are all examples of research designs. Open-ended surveys, semi-structured or unstructured interviews, document analysis and observation are among the data collecting devices used in this paradigm. According to Creswell and Creswell (2018:7), purposive, convenience and theoretical sampling are the three techniques to select a sample in interpretivism, with the purposive sampling strategy being the most generally utilised, as highlighted by Mertens (2010). When it comes to reliability and validity, Hussain et al. (2013:2376) point out that some authors, such as Babbie and Mouton (2011), believe that qualitative research can be used in the same way as quantitative research, while others, such as Esiner (1991), believe that reliability and validity are irrelevant in qualitative research. Guba and Lincoln (1994), however, proposed the use of other terms such as credibility and trustworthiness instead.

3.2.3 Pragmatism

According to Bryman (2012:629), pragmatism is a mix of interpretive and positivist techniques in which problems are investigated using a variety of methods. According to the aforementioned considerations, pragmatism is the paradigm that allows for mixed approaches and, therefore, applies to both quantitative and qualitative methodologies (Creswell & Creswell 2018:10). As a result, pragmatism employs a

mixed methods approach to capitalise on the benefits of both quantitative and qualitative methodologies.

Creswell (2014) notes that there are many forms of the pragmatism research paradigm, but for many, pragmatism arises out of actions, situations and consequences rather than antecedent conditions (as in post-positivism). Pragmatism is associated with the mixed methods research approach. Creswell (2014) states that pragmatism is not committed to any one system of philosophy and reality. Creswell and Creswell (2018:11) add that this applies to mixed methods research, in that the enquirer draws liberally from both quantitative and qualitative assumptions when they engage in their research.

Rather than antecedent conditions, Creswell (2014:39) emphasises that pragmatism emerges from acts and situations. According to Makombe (2017:3371), pragmatism presents interesting new directions in understanding the nature of social research as a new paradigm. There are, however, authors such as Hussain et al. (2013:2380) who believe that pragmatism is not a paradigm, as it is not aligned with any philosophical system.

Others, such as Creswell and Creswell (2018:10) and Makombe (2017:3371), disagree, stating that while pragmatism is not related to a specific philosophical framework, researchers can use qualitative and quantitative assumptions freely in their research. As a result, this paradigm employs a mixed methods approach. According to Creswell (2014:40), pragmatists believe that research occurs in a variety of contexts, including social, historical and political ones. Pragmatists place emphasis on the research problem and make use of all research approaches to fully comprehend the problem. As a result, researchers are able to choose the best research methodology to meet their research needs and purposes.

3.2.4 Justification of positivism

In the scope of the current study, the positivism paradigm was applied because a quantitative data collection method, hypotheses testing and large samples were a major focus of the study (Creswell & Creswell 2018:6; Dudovskiy 2018). It is

sufficiently warranted, and many researchers agree that positivists believe there is just one best technique to resolve an issue, which is closely related with quantitative research methods and statistical analysis of data (Ali & Chowdhury 2015:226).

Furthermore, this study used a positivist paradigm since it intended to discover the causes of problems and compare them to the study's stated objectives, theory verification and rules regulating the study's population (Bryman 2012:29-30; Creswell & Creswell 2018:6; Taylor & Medina 2013:2). This may suggest those insights provided by positivist researchers may have a high-quality standard of validity and reliability (Pham 2018:2).

3.3 RESEARCH APPROACH

Creswell and Creswell (2018:3) state that research approaches are plans and procedures for research that cover the steps from broad assumptions through precise data collecting, analysis and interpretation methodologies. It involves the connection of philosophical assumptions, designs and specific methods. In social research, there are three primary methodological approaches to research: qualitative, quantitative and mixed techniques (Bryman 2012:30; Ngulube 2015:5; Creswell & Creswell 2018:4).

3.3.1 Quantitative approach

The quantitative approach is explained by Creswell (2014) as an approach for testing objective theories by exploring the relationship among variables. The researcher adds that these variables can be measured, typically on instruments so that numbered data can be analysed using statistical procedures.

Bless, Higson-Smith and Sithole (2013) define quantitative research as a study conducted using a range of methods that use measurement to record and investigate aspects of social reality, while Creswell and Clark (2011:12) indicate that the quantitative research approach has the advantage of allowing researchers to collect data from large sample populations, and this makes it easy to generalise findings to a larger group. Another advantage of quantitative research is that it can be tested in time to determine the significance of the research frame or structure. Leedy and Ormrod

(2015:99) state that quantitative researchers remain detached from phenomena and participants in order to minimise the chances of collecting biased data.

The method is objective in that it tries to avoid bias by analysing data using standardised measurement methods and it measures what happens, rather than how someone feels about what happened, according to Bryman (2012:630). It is deductive in the sense that it examines theories or hypotheses, and the results of testing on a sample can be extrapolated to the entire population. According to Leedy and Ormrod (2013:95), the quantitative approach's main purpose is to classify features, quantify them and create statistical models to explain what is observed. However, as Rahman (2016:103) points out, the quantitative technique falls short in understanding the context in which individuals speak, and the researcher is unable to share his or her personal view of the problem.

Leedy and Ormrod (2010:95) argue that the quantitative approach permits researchers to enter the scene with an open mind and gather data from their participants. Researchers investigate and attempt to acquire a relevant understanding of the meaning of responses to the event under investigation (Creswell, 2014:4; Creswell & Creswell, 2018:4).

3.3.2 Qualitative approach

The qualitative approach generally seeks to generate data that are detailed, information rich and extensive. According to Creswell and Creswell (2018:61), the qualitative method is characterised by its objectives, which primarily focus on giving an in-depth and interpretive understanding of specific areas of social life, such as experiences and viewpoints. Rahman (2016:103) indicates that the greatest attribute of qualitative research is the “culturally specific and contextually rich data it produces.” The qualitative approach is usually conducted in the field, allowing the researcher to directly interact with the research participants in their context. The approach is also an emergent and shifting one, allowing the researcher to change some phases of the research process in response to the data obtained in the field, as highlighted by Creswell (2014:235). The focus is also on learning the meaning that participants hold rather than the meaning brought in by the researcher. With this approach, a wide

variety of data are preferred over a single source. This requires the researcher to review all the data and organise it into themes that cut across all sources.

3.3.3 Mixed methods research approach

The purpose of this type of approach is based on the notion that when both qualitative and quantitative approaches are merged, there is a clearer and better understanding of a research problem than with either research approach alone. Creswell (2014:24) describes the mixed methods research approach as the collection or integration of both quantitative and qualitative data in a research. Mixed methods research is a method of gathering both quantitative and qualitative data, blending the two methods of data collection and employing various designs that may involve various assumptions and theoretical frameworks (Creswell & Creswell, 2018:4). According to Brierley (2017:4), mixed methods research allows for the use of numerous methods, as well as distinct types of data collection and processing (quantitative and qualitative data), and the interpretation of both quantitative and qualitative findings.

3.3.4 Justification of quantitative approach

For this current study, the quantitative research method was chosen because of its ability to quantify a problem by generating numerical data and its ability to convert data into meaningful statistics. Quantitative techniques are used to quantify distinct attitudes and behaviours, as well as different viewpoints and other characteristics, which can subsequently be transferred to a larger population level (Wagner, Kawulich & Garner 2012:54).

As a result, quantitative research is defined as a method of analysing objective hypotheses by examining the cause-and-effect relationship between variables (Creswell 2014). The quantitative approach also enables e-learning users and librarians at the COJLIS to offer their thoughts, opinions and observations on e-learning centre factors.

Another benefit of this method to the study was that it allowed the researcher to employ data collection techniques that were needed. Again, the researcher had to explain the

initial results gained through quantitative questions, and this approach permitted the researcher to do so. Additionally, it was possible for the research participants to respond in their own words and to choose from fixed responses, enabling the researcher to obtain relevant responses to the research questions of the study.

As mentioned above, this study used the quantitative research approach due to quantified issues through the cohort of statistical data, and to convert data into applied statistics. The quantitative approaches are employed to measure attitudes and etiquettes, as well as diverse ideas and different variables; the information is examined using statistical process and hypothesis testing (Creswell & Creswell, 2018:16).

3.4 RESEARCH DESIGN

A research design is defined as a plan of action that connects the research methodology, philosophical framework and underlying assumptions to the data gathering and analysis methodologies (Creswell 2014; Creswell & Creswell 2018:11). According to Leedy and Ormrod (2015:389), design is a general structure that directs the methodical process of gathering, analysing, and interpreting data with the goal of improving the understanding of a concerning phenomenon or solving a research problem. Research designs are styles of inquiry within the qualitative, quantitative and mixed methods research approaches that provide precise guidance for procedures in a research project, according to Creswell and Creswell (2018:250). The survey research design, target population, sampling and data collection instruments are all discussed in depth in this section.

The survey research design involves acquiring information about the characteristics, opinions, behaviour, feelings, perceptions, ideas, attitudes or previous experiences of the population by asking them questions and tabulating their answers (Leedy & Ormrod 2013:189-190). Similarly, Creswell and Creswell (2018:12) explain that survey research provides a quantitative or numeric description of trends and attitudes. A cross-sectional quantitative descriptive survey-based research design was applied in the investigation of the use of electronic learning centres by users of the COJ Libraries. The reason for choosing a survey is to gain insight and to understand the dynamics of specific situations.

A survey research design was adopted in this study, which is commonly used in quantitative research to learn how a large population behaves and reacts by extracting a small sample from the overall population from which to draw conclusions and findings. A survey is used to provide an overall indication of how a group of people feel about and behave when it comes to using electronic learning over a period of time (Abayomi, 2017: 71). A questionnaire is also used to collect data for the survey, which is either self-administered by respondents or facilitated by the researcher through interviews (Bryman 2012:672; Creswell & Creswell 2018:137).

The survey research method was chosen because it optimises the validity and reliability of study findings by minimising potential sources of bias that might affect the results, and it has excellent statistical significance and the capacity to analyse many variables (Creswell & Creswell 2018:153). A survey further gives a rapid turn-around time in data collection from a large number of participants located in different geographic regions (Creswell 2014:157). According to Debois (2019), the correlational research design is used to explain the link between two or more variables and to establish how strongly these variables are related to one another. In other words, it seeks to assess the strength of a link between two or more variables.

A survey design encompasses the administration of questionnaires to relatively large groups of people who are spread over a large geographic area (Shuttleworth, 2008; Leedy & Ormrod 2013). The surveys are better suited to studying a large number of geographically dispersed cases and provide valid findings (Pham 2018:3). Therefore, the use of the survey was suitable for this study on the use of e-learning centres by 60 e-learning users, 23 e-learning librarians and 1 e-learning manager in charge of e-learning centres in COJ libraries. Burkell (2003) emphasises that a survey was appropriate for this study because survey research is widely used by library and information science scholars to explore challenges and problems faced by information professionals.

In this study, the survey was administered using an emailing system as well as a self-administered questionnaire distribution and collection mechanism. The electronic version and paper formats created in Microsoft Word were used to send the survey to

users and librarians through mail (Bryman 2012:672). The Acting Deputy Director of the Employee Relations and Development in the COJMM granted approval or gave consent to the researcher on 11 August 2021 to collect data in the COJLIS Directorate. The Acting Director for LIS allowed the researcher to disseminate questionnaires to e-learning centre participants in this study.

Furthermore, there are libraries with network challenges to which the researcher delivered the questionnaires by hand and collected them subsequently, as mentioned above. To prevent selection bias and increase the validity of the study findings (Masenya 2019:83), mixed modes of survey administration (self-administered questionnaire and email) were used as some e-learning centres' librarians have been experiencing network problems (especially in accessing emails) before and during this research study. Therefore, no e-learning centre librarians were excluded from participating in this research study due to network challenges. The self-administered questionnaire can be combined with an online survey using mixed modes of survey administration, giving respondents the choice of responding by mail or online (Google form).

In contrast to a self-administered questionnaire or a postal survey, an online survey is limited to the online population and is associated with lower response rates (Bryman 2012:677). Librarians are often busier with projects or work commitments than e-learning users; therefore, in order to reduce travelling expenses, they can eliminate any postponement and reduce questionnaire administration costs towards printing by an online survey (Leedy & Ormrod 2013:191). Therefore, based on the previously mentioned discussion about the difficulties of a self-administered questionnaire, email was supplemented with hand-delivered surveys to reduce the negative impacts.

Ethical clearance and permission forms, both in paper and electronic formats, were accompanied by a covering letter that clearly stated the general objective, goals, benefits, sampling method and anonymity matters. Despite email messages containing the names of users and employees, in accordance with ethical clearance requirements, the researcher treated this information as confidential and anonymous, and did not reveal it to the institution.

3.5 TARGET POPULATION

It is important for a researcher to define the target population before collecting data (Ngulube, 2005b:46). Target population is a group of individuals under study which researchers are interested in generalising conclusions about, as stated by the research objectives (Puhan, 2013:1). Bless et al. (2013:162) define population as the people that the researcher decides to focus on for the research project, and the researcher determines their characteristics. Therefore, the target population for this study consists of librarians of e-learning, e-learning managers and e-learning users.

Furthermore, target population is defined as a homogenous group of an individual unit from which some information must be obtained (Gerring 2012:43). The target population for this study consisted of 60 e-learning library users, 23 e-learning librarians and 1 e-learning manager known as e-learning champions from 12 regional libraries and the e-learning manager of community development who oversees all the COJ libraries' e-learning services. The Johannesburg City Library accommodated the e-learning manager in this study.

3.6 SAMPLING

The sampling process is a plan for defining the relevant target population, identifying possible respondents, establishing procedures in selecting a sample and determining a sample size (McDaniel & Gates, 2013:381). The selected sample becomes the basis of dominance when the researcher collects data and the process is less expensive, as few respondents are involved.

Sampling is the process of choosing units such as a group of individuals from a precise population of interest, by studying the sample. Therefore, the results can simplify to the target population from which they were selected (Creswell 2013). This means that in the large size of the population, a researcher often cannot test every person, as it is costly and time consuming; hence, the need for sampling arises. According to Battaglia (2011:523) and Kazingizi (2017:54), sampling comprises the selection of a ration of the population being studied.

Therefore, two sampling commonly used methods are probability and non-probability (Creswell & Creswell 2018:150). Probability sampling is used for representivity in sampling and is mostly used in quantitative studies as it was used in this quantitative study. On the other hand, qualitative studies use non-probability sampling. The probability sampling mechanism is used to select a sample, and in this mechanism, there is not much human or subjective interference. There are four probability sampling techniques, which are simple random sampling, systematic sampling, stratified sampling and cluster sampling methods (Maree & Pietersen 2016:192; Creswell & Creswell 2018:150). The four probability sampling methods are explained below.

Simple random sampling technique: Leedy and Ormrod (2015:180) assert that simple random sampling is the easiest of all the sampling methods. In each case, individuals in the population have an equal chance of being selected from the sample. It provides the possibility of inclusion of each sample in the population. The researcher ensures that there is an equal chance of representativeness by the characteristics identified in the population.

Systematic sampling: De Vos, Strydom, Fouche and Delport (2011:228) view systematic sampling as the random selection of only the first case, before moving to other cases. This helps to determine the percentage of sample needed for the research.

Stratified sampling: Creswell and Creswell (2018:150) argue that stratified sampling is used to ensure that different groups of the population have sufficient representation in the sample. The purpose of using stratified sampling is to help determine prior knowledge of the population with relative homogenous strata.

Cluster sampling: Cluster sampling is seen from the angle of multistage sampling (Leedy & Ormrod 2015:180). It is a method whereby the total population is divided into smaller sub-divisions. The reason for cluster sampling is that it is used where the population is too big. It has full variability of the population captured.

The sampling method chosen for this study was stratified sampling, as it is applied when the population from which the sample to be drawn is not a homogeneous group (Etikan & Bala 2017). In this method of sampling, according to Mukherji and Albon (2015:239), the researcher decides beforehand what variables are likely to affect the study, finds out the proportions of these variables within the population and then chooses a sample that reflects these proportions. The study consisted of 60 e-learning library users, 1 e-learning manager and 23 e-learning champions from 12 regional libraries. The stratum from the 12 regional libraries was 5 users per e-learning centre, 2 e-learning champions per regional library while the Johannesburg City Library accommodated the e-learning manager.

For example, a same class list is used but the candidates are first sub-divided into males and females and then every third male and every third female are chosen so that the sample is a correct representation of the gender distribution of the class (Monyane 2019: 71). This method was used to obtain a representative sample due to users' strata of use of electronic centres from the entire selection of public library users and librarians. The e-learning library users informed the researcher about their experiences in using e-learning centres and services provided as the recipients of e-learning services. E-learning library users are also referred to as library patrons or users.

Librarians are chosen because they interact with patrons daily and they are responsible for e-learning centres used by e-learning users. Therefore, this research sample consisted of 84 respondents. The sample size took into account the following aspects: nature and size of the population of the study, budget, resources, time available, the significance of the results and the required accuracy of the study (Acharya, Prakash, Saxena & Nigam 2013; Chiyangwa 2017).

3.7 DATA COLLECTION INSTRUMENTS

Creswell (2014) points out that qualitative data collection uses open-ended questions, while quantitative data collection methods use closed-ended questions. The study used questionnaires to collect data from the sample. Kumar (2015: 178) defines a questionnaire as a list of questions on a specific topic, compiled by a researcher and

to which answers and information are required. With questionnaires, it is easy to reduce bias since there is uniform question presentation and no middleman bias. Questionnaires can be distributed to a large number of people at the same time, which has the advantage of saving time when collecting data (Leedy & Ormrod 2015:188). The questionnaires did not require that participants include their names. Thus, this may increase the likelihood of the respondents being more truthful than they would be in a personal interview, especially when answering sensitive or controversial issues.

3.7.1 Questionnaires

A questionnaire is a convenient and low-cost way of collecting evidence from people and it is used to cover a large topographical area (Abawi 2013:3; Bryman 2012:672). Moreover, a questionnaire is used when it is practically impossible to interview every respondent (Leedy & Ormrod 2013:189-190). There are two types of questionnaires – open (unstructured) and closed (structured) questions. Therefore, the researcher ensured that the questionnaires were designed in such a way that they met the research aims, and that complete facts and accurate information were obtained from the respondents. The questionnaires assisted the researcher in finding information from e-learning centres and e-learning services that were spread across COJ libraries in a short period of time and at a low cost.

Questionnaires were disseminated to COJ libraries (e-learning users and librarians) in order to acquire information relating to their experience in using the e-learning centres and e-learning services. There were two questionnaires the first focusing on e-learning users (see appendix B) and the second focusing on e-learning librarians and the e-learning manager (see appendix D). The questionnaire was divided into six sections. Section A: Biographical information; Section B: services offered by e-learning centres in COJ libraries; Section C: Awareness of e-learning centres by users of COJ libraries; Section D: Use of e-learning centres by users in COJ libraries; Section E: Users' competences of e-learning centres in the COJ libraries; Section F: Challenges faced by users in e-learning centres in COJ libraries. The e-learning librarians questionnaire slightly different from the e-learning users questionnaire.

The questionnaires contained both closed-ended and open-ended questions, allowing respondents to spontaneously express their views or opinions in response to the questions asked without influence from the researcher, thus reducing the factor of subjectivity. The use of questionnaires allowed the researcher to save time and financial resources, at the same time, did not compromise the quality of data collected.

3.7.2 Document analysis

A document analysis is a qualitative data collection method that helps increase the trustworthiness and credibility of the data collected (De Vos 2015:127). The researcher receives qualitative data of great depth and detail from documents. According to Hulley,

Cummings, Browner, Grady and Newman (2013:192) the advantage of using documents is that they can provide secondary data in situations where it may not be possible to collect primary data. Documents that the researcher used for this study included journals, magazine articles, textbooks and theses and dissertations.

They include agendas, attendance registers, minutes of meetings, manuals, background papers, books and brochures, diaries and journals as well as event programmes. De Vos (2015) further mentions that these types of documents are found in libraries, historical society offices and organisational files. Researchers typically review prior literature as part of their studies and incorporate that information in their reports.

3.8 DATA ANALYSIS

Data analysis is the course of processing the data and producing an analytical report, which is interpreted by means of an interpretive report (Bradley 2010:313). Statistical analysis of the data collected was carried out using computer software. Babbie (2014:412) observes that today, quantitative analysis is almost always handled by a computer program such as SPSS, SAS, MicroCase and others. Creswell and Creswell (2018:156) state that statistical analysis computer programs available include: JMP (www.jmp.com), Minitab Statistical Software 17 (minitab.com), SYSTAT 13

(systatsoftware.com), SAS/STAT (sas.com) and Stata, release 14 (stata.com) which is more frequently used.

According to Creswell (2014), the first step in data analysis is to present the results in tables or figures and interpret the results from the statistical test. Creswell (2014) continues to indicate that interpretation in quantitative research means that the researcher draws conclusions from the results for the research questions, hypotheses and the larger meaning of the results.

Therefore, descriptive statistics were used to analyse quantitative data. Descriptive statistics are concerned with the description and/or summary of data obtained from a group of individual units of analysis. In analysing quantitative data, code categories will be developed, a codebook will be constructed and then data will be entered into an Excel spreadsheet and PHstat for analysis (Creswell 2014).

The quantitative data for this study were collected by means of a questionnaire, after which it was entered into and analysed on Statistical Package for Social Sciences (SPSS) and then transferred to tables and graphs through the aid of Excel spreadsheets. Creswell and Creswell (2018:156) define SPSS as a suite of computer programs that has been developed over many years. SPSS for windows consists of a number of components. First, there are programs making up the package itself; these read the data, carry out analysis and produce a file of the results (Creswell & Creswell 2018:156). Subsequently, a numerical code was developed and assigned to the responses to each question in the questionnaire. Then calculations of frequencies and percentages per categories were presented in the form of tables.

3.9 PRE-TESTING THE DATA COLLECTION INSTRUMENT

The pilot study enables the researchers reduce morbidity and mortality such as those caused by imprecise and deceptive questions that could lead to ambiguous responses. Pre-testing is carried out to ensure that questions convey their intended meaning and that participants perceive them similarly (Hilton 2015).

The questionnaire should be pilot tested before the main survey research to identify any weak points by asking a limited number of participants (Leedy & Ormrod 2015:166). Using a pilot test, a researcher can determine the sufficiency of the instructions given to respondents, the internal consistency of the questions, and the content validity of scores on a measurement (Creswell & Creswell 2018:154).

The pilot study was conducted from 9 to -15 August 2021. An online survey that was distributed to 20 respondents from the sample population served as a pre-test for the questionnaire. The requirement for a pre-test stems from the potential for issues with the statements' meaning, the questionnaire's flow and continuity, the order of the questions, and the length of the statements and questionnaire (McDaniel & Gates, 2013:360).

3.10 RELIABILITY AND VALIDITY ASSESSMENT

Reliability and validity are essential components in the evaluation of measurement tools while obtaining data (Tavakol & Dennick 2011:53). Despite their apparent similarity, the terms validity and reliability have very distinct implications when it comes to the evaluation of measures of concepts (Bryman 2012:168).

3.10.1 Reliability

The consistency with which a measuring device consistently produces the same results is referred to as reliability (Leedy & Ormrod 2013:91; 85 Creswell 2014:149; Creswell & Creswell 2018:154; Dawson 2018:5). The extent to which a measurement tool produces reliable data on the characteristics being evaluated is known as reliability (Leedy & Ormrod 2015:389). According to Creswell & Creswell (2018:154), reliability is connected to consistency and repeatability in the findings when the same methodology is used on multiple occasions, across various but related test items, or by different respondents. According to Pietersen (2015:40), by doing this, the researcher is given a broad idea of the types of information that have been collected.

The accuracy, dependability, and consistency of a measure are all aspects of reliability. This indicates that the same instrument able to produce the same data later

under identical circumstances (Brynard, Hanekom & Brynard 2014). According to Fraser, Jane and Guillot (2018:233-266), a second administration of the instrument with a small subsample, matching the responses with those of the first administration, may be used to determine the reliability of questionnaires (Creswell, 2014). In order to eliminate ambiguity, it is crucial to make sure that the questionnaire is evaluated on a small sample and revised, if necessary, according to Brink, Van der Walt, and Van Rensburg (2012:157). The researcher made sure that all data collection tools underwent the aforementioned pre-testing. They were all returned answered, and there were no ambiguous or perplexing questions raised in the feedback.

3.10.2 Validity

Validity is dependent on the measurement tool's or assessment tool's quality, and the tool must be capable of measuring what it is intended to measure or what it is claimed to measure (Salkind 2012:113; Leedy & Ormrod 2013:89; Dawson 2018:5). In other words, the degree to which the chosen instrument accurately captures the actuality of the constructs being tested (Bezuidenhout, Cilliers & Davis 2014:256). According to Creswell (2014:250), when it comes to the validity of an instrument (questionnaire), this refers to whether or not results from the instrument may be used to make conclusions that are useful and relevant.

The reliability of an instrument is associated with and closely related to its validity (Tavakol & Dennick 2011:53). The validity of an instrument lies in its reliability, while the reliability of an instrument does not depend on its validity (Nunnally & Bernstein 1994). The latter was achieved by ensuring that the items in the questionnaires were relevant to the questions that the present study sought to answer.

Moreover, construct validity was achieved by ensuring that the objectives and research questions used to develop the research instruments were all cohesively related to the TAM model that served as the study's guiding theory.

3.11 ETHICAL CONSIDERATIONS

This study applied the codes of professional conduct for researchers aimed at ensuring assessment of the potential risks to participants in a study, such as social,

economic, physical and psychological risks (Creswell & Creswell 2018:90). According to Peter (2015:2625), ethical responsibilities are critical in creating a long-term, trusting relationship between the researcher and the participants, as well as the project's integrity.

The researcher applied for ethical clearance from the University of Zululand's research ethics committee (UZREC) and adhered to the ethical principles set out in this university's policy on research ethics. Ethics should include respect for the rights of individuals who are directly or indirectly affected by the study, according to the University of Zululand (2012:8). The researcher continued to protect entrusted information collected from participants in accordance with the policy. The information received is constantly safeguarded against unauthorised access and use. Participants have the right to withdraw from the study at any time, according to Leedy and Ormrod (2015:121), in accordance with ethical guidelines in the research domain. Participation was voluntary and the participants had the right to withdraw from the research at any time they wanted to. In addition, the participants had the liberty to contact the researcher at any time with questions and comments relating to the research. The researcher did not ask personal questions outside the research topic to participants. A copy of the ethical clearance form is attached as Appendix F.

Bryman (2012:137) offers data and confidentiality tips, such as not storing participants' names and addresses on hard drives, using identifier codes on data files, and keeping the list of participants and their identifier codes separate in a locked cabinet, as well as keeping copies of transcripts in a locked cabinet

The informed consent form was also made available to all participants, and participants under the age of 18 years were advised to obtain permission from guardians/parents to participate in the study. Though, no persons under 18 responded to the questionnaire or participated in the study. According to Lorell, Mikita and Anderson (2015:1), informed consent involves open and honest communication with the participant. The form covered, but was not limited to, the objectives of the study, duration of the study, importance of the study, confidentiality of information, contact information, processes and risks associated with the research. Lorell et al. (2015:1) stipulate that informed consent should be obtained after the participant has been presented with "pertinent information, has had adequate time to review the consent

document and has had all questions answered.” The researcher fully ensured that all this was done. A copy of the consent form is attached to this dissertation.

The researcher obtained approval from the Acting Deputy Director of the Employee Relations and Development, Acting Director for LIS in the COJMM to gain access to the target population of users and librarians.

Individual participants were not identified in reports and the data obtained were used anonymously for academic reasons. Finally, no findings were suppressed, falsified, or invented to serve the researcher's own interests.

3.12 SUMMARY

This chapter discussed the methodology and identified the approaches adopted by this study. It also explained the paradigm and the research method adopted, that is, the positivist paradigm and the quantitative approach, to explain how the sample was chosen. The questionnaires employed to collect data from the e-learning users and e-learning librarians, including the e-learning manager, were also discussed. Furthermore, the process followed in the instrument of data collection, the statistical procedures for data analysis and the quantitative analysis of data were explained. The study's data presentation and interpretation are presented in the next chapter.

CHAPTER FOUR: DATA ANALYSIS AND PRESENTATION

4.1 INTRODUCTION

The main aim of this section is to report on the findings of the study conducted by using the data collection instruments described in chapter three. The purpose of this study was to investigate the use of electronic learning centres by users of the COJ libraries in South Africa in the delivery of library and information services to library users. This chapter presents the results obtained from the respondents' responses and analyses the data obtained from the e-learning users, e-learning librarians and the manager of the COJ libraries about the use of electronic learning centres for library and information services. To address the problem under investigation, the study collected mainly quantitative data from the respondents through closed-ended questionnaires. COJ public libraries are structured according to regional library depots (Regions A-G), and the e-learning users, e-learning librarians and the manager were selected from all seven regional library depots in the COJLIS e-learning centres (Ivory Park Library, Diepsloot Library, Cosmo City Library, Emndeni North: Emndeni Library, Jabavu Library, Sandton Library, Alexandra 8th Ave Library, CBD: Johannesburg Central Library, Westbury Library, Eldorado Park Ext 5 Library, Orange Farm Library, Poortjie Library). The data collected are presented and analysed according to sample units or population groups as follows:

- a) Primary data from e-learning users
- b) Primary data from e-learning librarians and the manager of the regional library depots

4.2 DATA FROM THE USERS OF THE ELECTRONIC LEARNING CENTRES

A total of 60 questionnaires were distributed to 60 e-learning library users in 12 regional libraries. The 100 percent response rate was obtained as all 60 questionnaires were returned. According to Leedy and Ormrod (2015:171), a return rate of 50 percent is considered normal when using questionnaires. Therefore, data collected for this study met those criteria to be analysed.

4.2.1 Gender

The respondents were asked to provide their gender. This information was necessary to determine whether gender has any impact on the use of electronic learning centres. Their responses are provided in Figure 4.1.

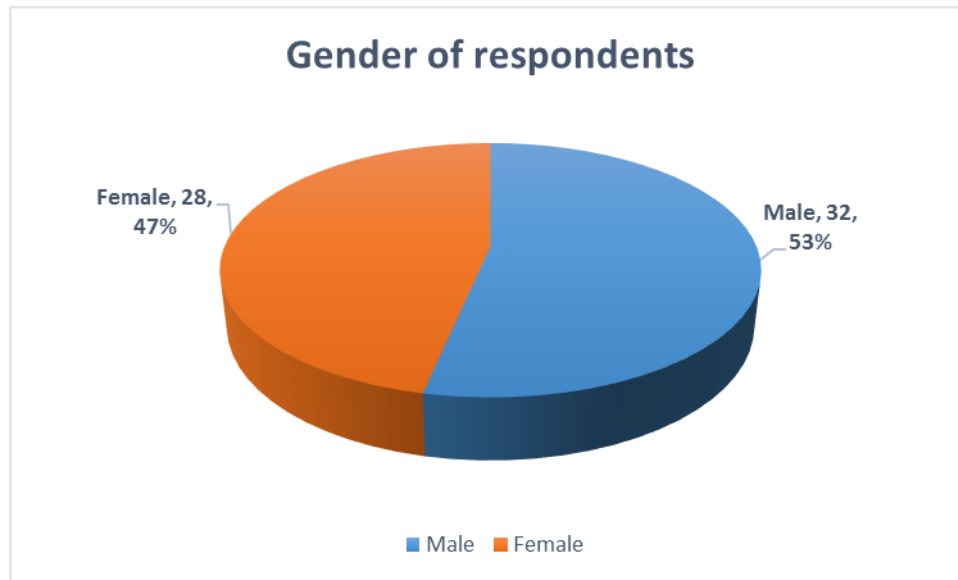


Figure 4.1: Gender of respondents (N=60)

Figure 4.1 shows that out of 60 respondents, 32 (53%) were male and 28 (47%) were female.

4.2.2 Age

The respondents were also requested to provide their age. This question was asked to establish which age group used the e-learning centres most. Their responses are provided in Table 4.1.

Table 4.1: Age groups (N=60)

Age	Frequency	Percent
Between 13 and 17 years	0	0%
Between 18 and 25 years	5	8.3%
Between 26 and 34 years	25	41.7%
Between 35 and 40 years	17	28%
Above 40 years	13	22%

Total	60	100%
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The results in Table 4.2 indicate that 5 (8.3%) respondents indicated that they were in the age group 18-25 years, 2 (41.7%) were in the age group of 26-34 years, 17 (28%) were in the age group 35-40 and 13 (22%) were 40 years and above.

4.2.3 Qualifications

The respondents were asked to indicate which qualifications they held. The results are presented in Figure 4.2.

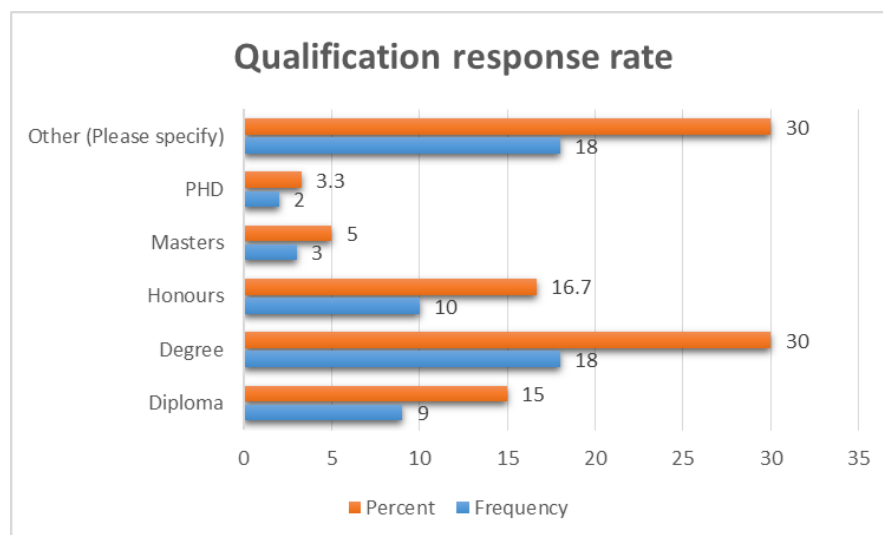


Figure 4.2: Qualification response rate (N=60)

The responses to the question were as follows: 9 (15%) indicated that they had a diploma, 18 (30%) indicated they had a degree, 10 (16.7%) indicated they had an honours degree, 3 (5%) indicated they had a master's degree, 2 (3.3%) had a doctorate and 18 (30%) responded with 'Other' for matriculation certificates and National Qualification Framework (NQF) certificates.

4.2.4 Employment response rate

It was necessary to determine the employment status of users using e-learning centres. The results are shown in Figure 4.3.

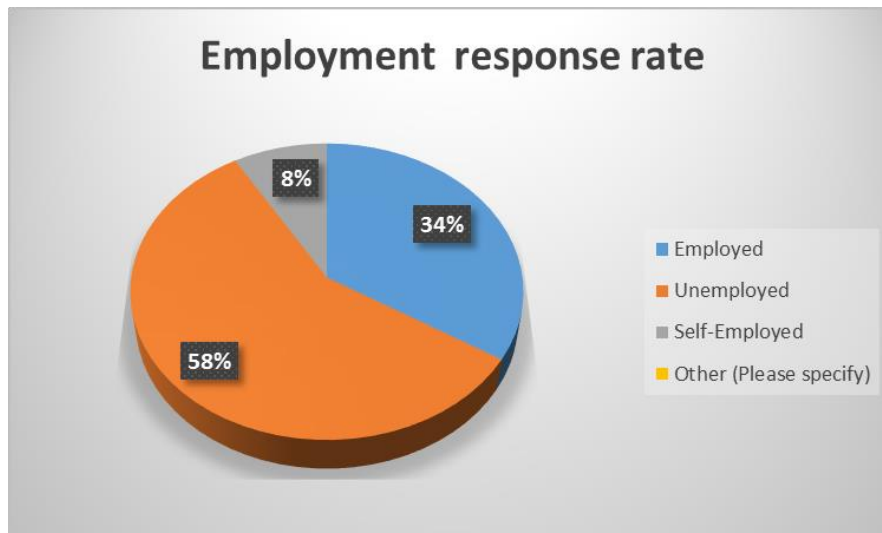


Figure 4.3: Employment response rate (N=60)

The employment response rate shows that the majority (35: 58%) of the respondents were unemployed, followed by 20 respondents (34%) who were employed and five (8%) who were self-employed.

4.2.5 Ethnicity response

Respondents were asked to indicate their ethnicity. The results are shown in Figure 4.4.

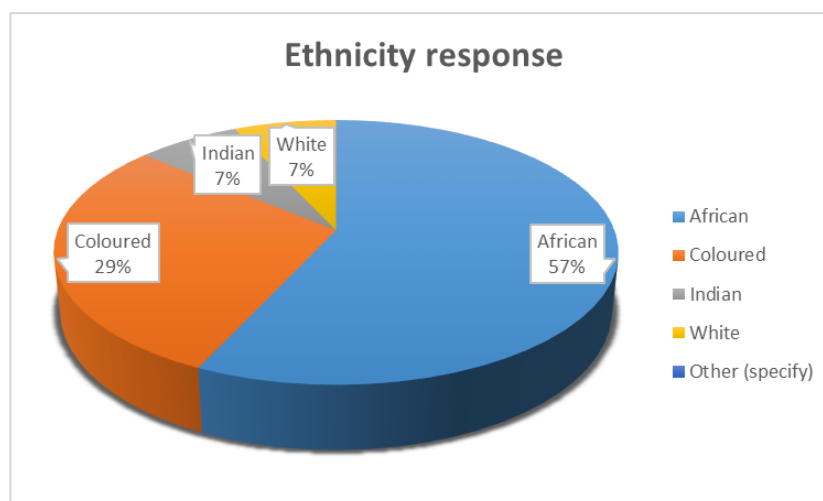


Figure 4.4: Ethnicity response (N=60)

The results indicate that the majority (45: 57%) of respondents were African, followed by 7 respondents (29%) in e-learning centres users who were coloured. Four (7%) e-learning centre users were Indians and four (7%) were white.

4.2.6 User registration response

It was important to determine the respondents' user registration to ascertain their use of e-learning centres with the necessary knowledge of and skills in using the e-learning centres.

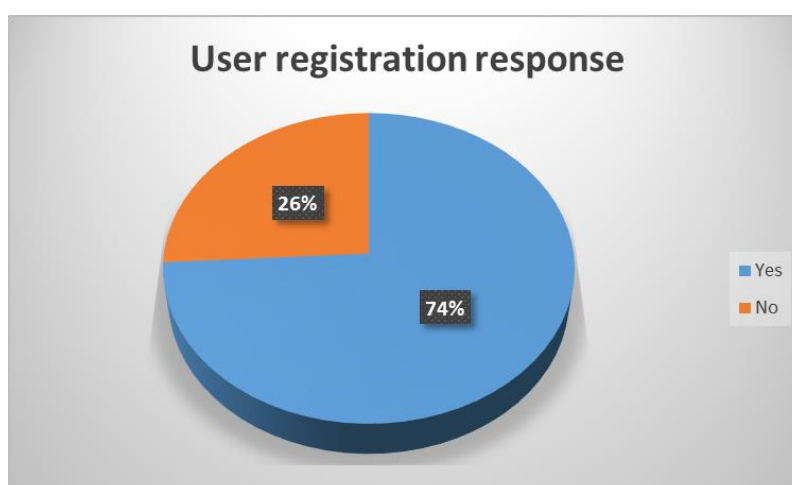


Figure 4.5: User registration response (N=60)

The results in Figure 4.5 show that (44: 74%) of e-learning user respondents were registered COJ library users, and 16 (26%) e-learning user respondents were not registered COJ library users.

4.2.7 Regions and libraries of users

The respondents were asked which library they were members of. The results are given in Table 4.2.

Table 4.2: Regions and libraries of users (N=60)

Regions	Libraries	Frequency	Percent
A	Ivory Park Library	6	10%
A	Diepsloot Library	4	7%
C	Cosmo City Library	6	10%

D	Emndeni North: Emndeni Library	4	7%
D	Jabavu Library	7	11%
E	Sandton Library	8	13%
E	Alexandra 8th Ave Library	5	8%
F	CBD: Johannesburg Central Library	9	15%
G	Westbury Library	4	7%
G	Eldorado Park Ext 5 Library	5	8%
G	Orange Farm Library	1	2%
G	Poortjie Library	1	2%
	Other (Please Specify)		

The results indicate that most e-learning centre users were members of the Johannesburg Central Library (JCL) (9: 15%), followed by Sandton Library with 8 respondents (13%), Jabavu Library (7: 11%), Cosmo City Library (6: 10%), Ivory Park Library (6: 10%), Eldorado Park Ext 5 Library (5: 8%), Alexandra 8th Ave Library (5: 8%), Westbury Library (4: 7%), Diepsloot Library (4: 7%), Emndeni North: Emndeni Library (4: 7%), Orange Farm Library (1: 2%), and Poortjie Library (1: 2%).

4.2.8 E-learning services offered to users

The users were asked to indicate which e-learning services offered in e-learning centres they preferred to use. Table 4.3 presents the e-learning services offered in e-learning centres.

Table 4.3: The e-learning services offered preferred by users (N=60)

Items	Rarely	Monthly	Once weekly	Twice weekly	Daily
Computers	36 60%	7 11.7%	2 3.3%	4 6.7%	11 18.3%
Laptops	11 18.3%	6 10%	0 0%	7 11.7%	36 60%
Internet access	0 0%	5 8.3%	2 3.3%	11 18.3%	42 70%
Free Wi-Fi	0 0%	6 10%	1 11.7%	6 10%	47 78.3%
Electronic resources	13 21.7%	17 28.3%	12 20%	13 21.7%	5 8.3%
Typing	6 10%	29 48.3%	4 6.7%	11 18.3%	10 16.7%
Headsets	16 26.7%	32 53.3%	2 3.3%	4 6.7%	6 10%
Photocopiers	19	25	2	10	4

	31.7%	41.7%	3.3%	16.7%	6.7%
USBs	14 23.3%	26 43.3%	5 8.3%	8 13.3%	7 11.7%
Printers	18 30%	24 40%	7 11.7%	5 8.3%	6 10%
Scanners	14 23.3%	30 50%	2 3.3%	9 15%	5 8.3%
CDs	36 60%	16 26.7%	0 0%	6 10%	2 3.3%

The results in Table 4.3 above show that free Wi-Fi (47: 78.3%) ranked the highest daily, followed by internet access (42: 70%), laptops (36: 60%), computers (11:18.3%), typing (10: 16.7%), USBs (7: 11.7%), headsets (6: 10%), printers (6: 10%), electronic resources (5: 8.3%) scanners (5: 8.3%), photocopiers (4: 6.7%), and CDs (2: 3.3%).

It was important for this study to determine the reasons for using e-learning centres by users of the COJ. The question was open ended and e-learning users highlighted that they used e-learning services to access the internet through free Wi-Fi because data bundles are expensive; to apply for employment opportunities; for work (on Blackboard, Zoom and Microsoft Teams), research and leisure (Facebook); for scanning, typing and printing; and USBs to transfer files/information from one device to another. Printers were used mostly for printing reports for meetings.

4.2.9 Users' awareness of the services in the e-learning centres

The study sought to find out how users found out about the services in the e-learning centres in COJ libraries. Table 4.4 presents how the users found out about the services of e-learning centres available in COJ libraries.

Table 4.4: How users learned about the available services in e-learning centres (N=60)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Personal Discovery	2 3.3%	6 10%	3 5%	9 15%	40 66.7%
A Friend	9 15%	29 48%	0 0%	5 8.3%	17 28.3%
From Library Staff	1	0	2	14	43

	1.6%	0%	3.3%	23.3%	71.7%
Other e-learning centres users	9 15%	26 43.3%	4 6.6%	17 28.3%	4 6.6%
User Orientation	10 16.6%	26 43.3%	9 15%	13 21.6%	2 3.3%
Direct Mailing to Users	16 26.6%	33 55%	8 13.3%	2 3.3%	1 1.6%
The Electronic Library Webpage	11 18.3%	2 3.3%	3 5%	17 28.3%	27 45%
Electronic Mail	14 23.3%	37 61.6%	4 6.6%	4 6.6%	1 1.6%
Library social media tools (e.g., Facebook, Twitter, etc.)	1 1.6%	7 11.6%	1 1.6%	13 21.6%	38 63.3%

The results in Table 4.4 above indicate that the users that participated in the study learnt about the available services in e-learning centres through the library staff (43: 71.7%), personal discovery (40: 66.7%), library social media tools (38: 63.3%), the electronic library webpage (27: 45%) and a friend (17: 28.3%).

The respondents were asked to rate the way they found about the services in the e-learning centres in COJ libraries. Table 4.5 presents the ratings of users of how they found out about the services of e-learning centres in COJ libraries.

Table 4.5: The ratings of users how they found out about the services in the e-learning centres in COJ libraries (N=60)

Items	Not effective	Some are effective	Effective	Very effective	Most effective
Personal Discovery	3 5%	4 6.6%	5 8.3%	13 21.6%	35 58.3%
From Friends	8 13.3%	11 18.3%	3 5%	6 10%	32 53.3%
From Library Staff	1 1.6%	0 0%	2 3.3%	10 16.6%	47 78.3%
Other e-learning centre users	9 15%	16 26.6%	14 23.3%	13 21.6%	8 13.3%
User Orientation	11 18.3%	22 36.6%	16 26.6%	0 0%	11 18.3%
Direct Mailing to Users	0 0%	23 38.3%	8 13.3%	6 10%	23 38.3%

Through The Electronic Library Webpage	15 25%	16 26.6%	10 16.6%	17 28.3%	2 3.3%
Through Electronic Mail	0 0%	19 31.6%	8 13.3%	5 8.3%	28 46.6%
Through social media tools	1 1.6%	3 5%	2 3.3%	9 15%	45 75%

The results in Table 4.5 above show the ratings that users gave to how they found out about the services of e-learning centres in COJ libraries, which include: library staff (47: 78.3%), social media tools (45: 75%), personal discovery (35: 58.3) from friends (32: 53.3%), electronic mail (28: 46.6%) and direct mailing to users (23: 38.3%).

The users were asked to indicate the types of tools used to create awareness of the availability of e-learning services in e-learning centres. Table 4.6 presents users regarding the tools used to create awareness of the availability of e-learning services in e-learning centres.

Table 4.6: Types of tools used to create awareness in the e-learning centres as indicated by users (N=60)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Flyers	7 11.6%	28 46.6%	2 3.3%	14 23.3%	9 15%
Notice Boards	2 3.3%	0 0%	2 3.3%	13 21.6%	43 71.6%
Electronic Mail	8 13.3%	37 61.6%	3 5%	5 8.3%	7 11.6%
Twitter	12 20%	28 46.6%	3 5%	10 16.6%	7 11.6%
Facebook	1 1.6%	2 3.3%	0 0%	12 20%	45 75%
Listserv	12 20%	13 21.6%	3 5%	2 3.3%	30 50%
Texting (SMS)	12 20%	3 5%	11 18.3%	0 0%	34 56.6%
Instant Messaging	11 18.3%	11 18.3%	0 0%	2 3.3%	36 60%

Library handout	0 0%	9 15%	1 1.6%	11 18.3%	39 65%
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The results in Table 4.6 above indicate that e-learning centres created awareness of the availability of e-learning services through Facebook (45: 75%), notice boards (43: 71.6), library handouts (39: 65%), instant messaging (36: 60%), texting (SMS) (34: 56.6%) and Listserv (30: 50%). Others specified by some users included Tik Tok, WhatsApp, Google Allo, Ads and LinkedIn.

The study sought to establish for how long the users had used the e-learning centres and e-learning services. The aim was to establish whether the duration of using the e-learning centres had any meaningful contribution towards users' needs.

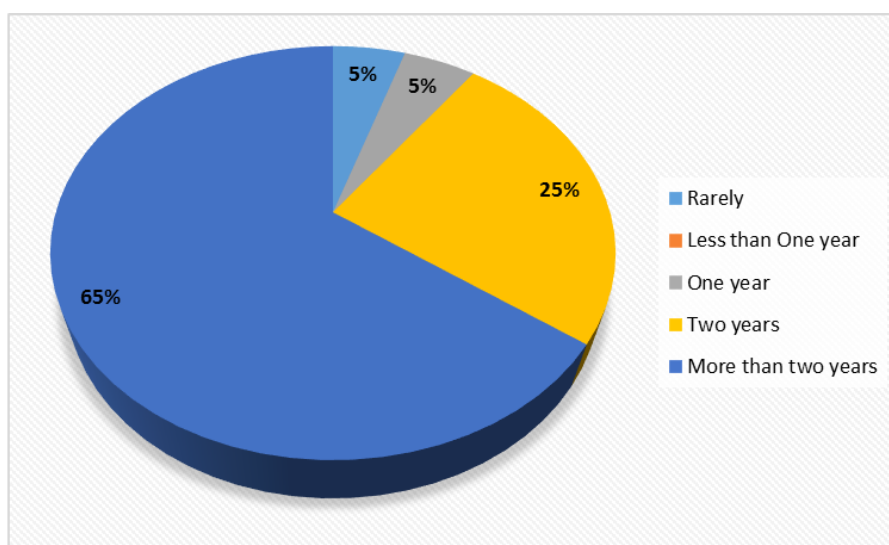


Figure 4.6: Period of using the e-learning centres/services (N=60)

The results in Figure 4.6 indicate that most of the respondents (39: 65%) have used the e-learning centres for more than two years, followed by 15 respondents (25%) who have used it for 2 years, then 3 respondents (5%) who have used for less than one year and 3 respondents (5%) who rarely used the e-learning centres and e-learning services.

The study sought to find out how frequently e-learning services were used by users of e-learning centres. Table 4.7 presents the frequency of use of learning services by users of e-learning centres.

Table 4.7: The frequency use of e-learning centres' services (N=60)

Items	Rarely	Monthly	Once weekly	Twice weekly	Daily
Computers	15 25%	5 8.3%	3 5%	5 8.3%	32 53.3%
Laptops	13 21.6%	10 16.6%	3 5%	5 8.3%	29 48.3%
Internet access	1 1.6%	5 8.3%	2 3.3%	8 13.3%	44 73.3%
Free Wi-Fi	0 0%	4 6.6%	2 3.3%	9 15%	45 75%
Electronic resources	13 21.6%	19 31.6%	5 8.3%	9 15%	14 23.3%
Typing	5 8.3%	32 53.3%	3 5%	10 16.6%	10 16.6%
Headsets	19 31.6%	32 53.3%	2 3.3%	2 3.3%	5 8.3%
Photocopiers	23 38.3%	25 41.6%	2 3.3%	6 10%	4 6.6%
USBs	13 21.6%	27 45%	3 5%	4 6.6%	13 21.6%
Printers	19 31.6%	26 43.3%	5 8.3%	4 6.6%	6 10%
Scanners	18 30%	25 41.6%	2 3.3%	7 11.6%	8 13.3%
CDs	37 61.6%	12 20%	2 3.3%	0 0%	9 15%

The results in Table 4.7 above indicate that users used the following e-learning centre services frequently: Free Wi-Fi (45: 75%), internet access (44: 73.3%), computers (32: 53.3%), laptops (29: 48.3%), and USBs (13: 21.6%).

The respondents were asked to indicate the extent to which they agreed with the motivating factors for the usage of e-learning centres' services. Table 4.8 presents the extent to which users agreed with the motivating factors for the use of e-learning centres.

Table 4.8: The extent of users' agreement regarding the motivating factors for the usage of e-learning centres (N=60)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
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To support course of study	2 3.3%	3 5%	0 0%	22 36.7%	33 55%
Leisure/general enjoyment	4 6.6%	16 26.7%	4 6.6%	12 20%	24 40%
To access online library material	4 6.6%	18 30%	2 3.3%	12 20%	24 40%
Independent learning/research	3 5%	4 6.6%	0 0%	24 40%	29 48.3%

The items that best describe the motivating factors for users' usage of e-learning centres' services as shown in Table 4.8 above are: to support course of study (33: 55%), independent learning/research (29: 48.3%), to access online library material (24: 40%) and leisure/general enjoyment (24: 40%).

The users were asked to indicate why they did not make use of e-learning centres. Table 4.9 presents the users' reasons for not using e-learning centres.

Table 4.9: The users' reasons for not using e-learning centres (N=60)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
I do not know where to find them	38 63.3%	17 28.3%	5 8.3%	0 0%	0 0%
I do not know how to use them	21 35%	35 58.3%	0 0%	4 6.7%	0 0%
I do not find them useful	35 58.3%	21 35%	0 0%	0 0%	4 6.7%
I do not have interest in them	28 46.6%	27 45%	0 0%	4 6.7%	1 1.7%
I do not know they exist	32 53.3%	24 40%	0 0%	0 0%	4 6.7%

The results in Table 4.9 above indicates that users did not make use of e-learning centres due to reasons such as: I do not find them useful (4: 6.7%), I do not know they exist (4: 6.7%), I do not have interest in them (1: 1.7%), I do not know where to find them (0: 0%), and I do not know how to use them (0: 0%).

The respondents were asked to indicate where they learnt how to use e-learning centres and services. Table 4.10 presents where users learnt how to use e-learning centres' services

Table 4.10: presents where users learnt how to use e-learning centres' services (N=60)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Self-study	0 0%	4 6.7%	0 0%	10 16.6%	46 76.6%
Library Handbook	5 8.3%	27 45%	1 1.7%	22 36.7%	5 8.3%
Seminars	15 25%	17 28.3%	11 18.3%	17 28.3%	0 0%
Orientation Programme	10 16.6%	9 15%	1 1.7%	10 16.6%	30 50%
Workshops	7 11.7%	17 28.3%	9 15%	6 10%	21 35%
Friends and Colleagues	6 10%	9 15%	0 0%	16 26.6%	29 48.3%
Online Library Tours	10 16.6%	8 13.3%	0 0%	4 6.6%	38 63.3%
Information Literacy Course	11 18.3%	26 43.3%	0 0%	13 21.7%	10 16.6%
Library Week	14 23.3%	34 56.7%	1 1.7%	3 5%	8 13.3%

The results in Table 4.10 above indicate that users learnt how to use e-learning centres' services through: self-study (46: 76.6%), online library tours (38: 63.3%), orientation programme (30: 50%), friends and colleagues (29: 48.3%) and workshops (21: 35%).

4.2.10 Competences of the users of e-learning centres in the COJ libraries

The respondents were asked to rate their skills in the use of e-learning services in the e-learning centres in COJ libraries. Table 4.11 presents the users' skills on the use of e-learning services in the e-learning centres in COJ libraries.

Table 4.11: The users' skills in using e-learning services in the e-learning centres in COJ libraries (N=60)

Items	Very poor	Poor	Average	Good	Very Good
Computers	0 0%	0 0%	9 15%	21 35%	30 50%
Internet search	0 0%	0 0%	3 5%	26 43.3%	31 51.6%
Free Wi-Fi	0 0%	0 0%	4 6.6%	23 38.3%	33 55%
Electronic resources	0 0%	0 0%	13 21.6%	31 51.6%	16 26.6%
Typing	0 0%	1 1.6%	18 30%	24 40%	17 28.3%
Photocopying	0 0%	1 1.6%	18 30%	24 40%	17 28.3%
Printing	0 0%	0 0%	23 38.3%	21 35%	16 26.6%

The results in Table 4.11 above reveal how users rated their skills in t using e-learning services in the e-learning centres in COJ libraries, which include free Wi-Fi (33: 55%), internet searches (31: 51.6%), computers (30: 50%), photocopying (17: 28.3%), typing (17: 28.3%), electronic resources (16: 26%) and printing (16: 26%).

Users were asked whether they had received any training at e-learning centres. The results in Figure 4.7 depict the responses of users on training they had received in e-learning centres' services.

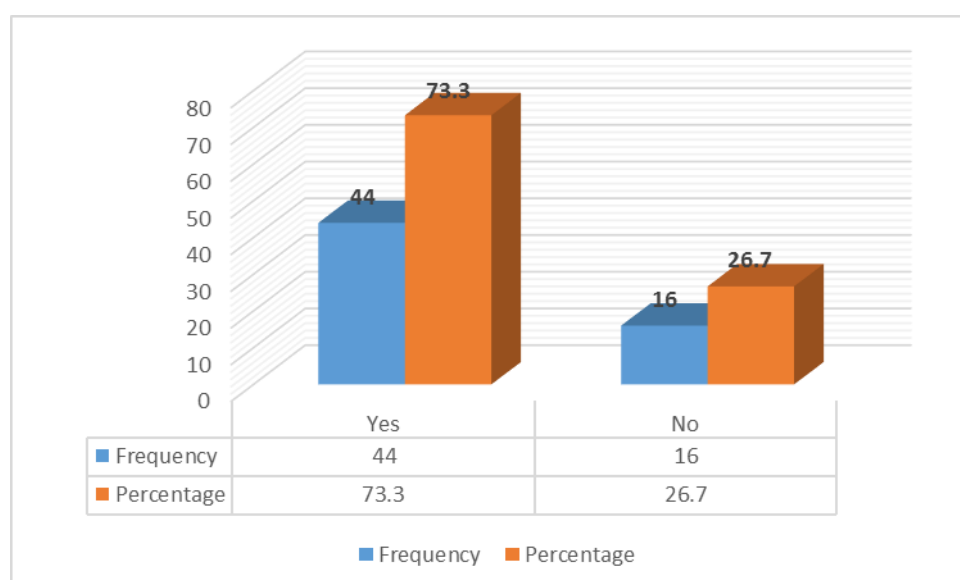


Figure 4.7: Users response on training received at e-learning centres (N=60)

In response to whether the users had received training, 73.3 percent of the 60 respondents to this question indicated that they had received training, whereas 26.7 percent (n=16) indicated that they had not received training in e-learning centres' services.

4.2.11 Challenges faced by users in e-learning centres in COJ libraries

The respondents were asked to indicate the challenges they faced while using e-learning centres. Table 4.12 presents the challenges encountered by users while using e-learning centres.

Table 4.12: The challenges encountered by users while using e-learning centres (N=60)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
E-learning centres are not remotely usable	0 0%	4 6.6%	2 3.3%	9 15%	45 75%
Electricity outage	6 10%	15 25%	4 6.6%	30 50%	5 8.3%
Low internet connectivity speed	4 6.6%	14 23.3%	0 0%	33 55%	9 15%
Lack of internet access in the library	0 %	6 10%	0 0%	7 11.6%	47 78.3%
Cost of access to the internet is high	12 20%	32 53.3%	7 11.6%	7 11.6%	2 3.3%
Slow download speed	0 0%	3 5%	2 3.3%	38 63.3%	17 28.3%
Lack of online search skills	15 25%	33 55%	4 6.6%	5 8.3%	3 5%
Lack of skills about advanced searching techniques	12 20%	33 55%	5 8.3%	7 11.6%	3 5%
Difficulty in finding relevant information	11 18.3%	37 61.6%	2 3.3%	6 10%	4 6.6%
Difficulty in reading from the monitor	16 26.6%	32 53.3%	8 13.3%	3 5%	1 1.6%
Lack of training or orientations on the use of library e-learning centres' services	9 15%	18 30%	0 0%	29 48.3%	4 6.6%
Limited access to library e-learning centres	15 25%	7 11.6%	0 0%	1 1.6%	37 61.6%

Inadequate awareness of the use of library e-learning centres' services	3 5%	13 21.6%	6 10%	33 55%	5 8.3%
Lack of understanding about email alert and e-learning services	5 8.3%	7 11.6%	7 11.6%	32 53.3%	9 15%
Too much information is retrieved when a search is initiated	4 6.6%	8 13.3%	1 1.6%	35 58.3%	12 20%
Shortage of librarians to assist in the use of e-learning centres of libraries	8 13.3%	33 55%	1 1.6%	11 18.3%	7 11.6%
Limited library hours to use e-learning centres	14 23.3%	37 61.6%	2 3.3%	3 5%	4 6.6%
Insufficient computers in the e-learning centres of libraries	7 11.6%	35 58.3%	2 3.3%	1 1.6%	15 25%
Insufficient time to use e-learning centres due to work overload	13 21.6%	37 61.6%	2 3.3%	5 8.3%	3 5%

The results in Table 4.12 above show the challenges encountered by users while using e-learning centres as being: lack of internet access in the library (47: 78.3%), e-learning centres not remotely usable (45: 75%), limited access to library e-learning centres (37: 61.6%), slow download speed (17: 28.3%) and insufficient computers in the library (15: 25%).

The respondents were asked to explain how they thought the use of e-learning centres in the COJ could be enhanced. The following were their replies:

- Upgrade internet connection and Wi-Fi for better connectivity
- More e-learning programmes must be done to help communities to be aware of the e-learning centres and services offered
- Regular training on e-learning services
- Resources in the e-learning centres are required
- More laptops and stable Wi-Fi

- Get more laptops and computers e-learning centres
- Open more e-learning centres
- Marketing and current awareness for e-learning centres
- Since covid-19, most centres have been closed and I believe they can come up with a better way for us to have access to use them, while following covid-19 regulations
- Unlimited access to library e-learning centres
- Sufficient library staff in e-learning centres
- Security update must be done for e-learning centres and more resources(tablets)
- More awareness must be done on social networks
- Advocacy on e-learning
- New technology tools and developments must be employed
- Get backup generators for when there is electricity outage.
- Training courses to cover literate and illiterate clients to bridge the digital divide, by providing adequate awareness of e- learning centres
- Regular updates on notice boards, flyers, orientation, notices directing to the site
- Upgrade infrastructure for network and get more electronic devices, computers, tablets, and laptops

4.3 DATA FROM E-LEARNING LIBRARIANS AND MANAGER OF THE ELECTRONIC LEARNING CENTRES

As explained in Chapter three (section 3.5), the second group of the participants were librarians and a manager for e-learning from the 12 regional libraries (Regions A-G) in the COJ. The data from this population were gathered by means of a questionnaire (see Appendix B). It is the duty of the e-learning manager to ensure that all 12 regional libraries' e-learning centres are provided with professional support across the COJ. The 23 e-learning librarians and 1 e-learning manager from 12 regional library depots (Ivory Park Library, Diepsloot Library, Cosmo City Library, Emndeni North: Emndeni Library, Jabavu Library, Sandton Library, Alexandra 8th Ave Library, CBD: Johannesburg Central Library, Westbury Library, Eldorado Park Ext 5 Library, Orange

Farm Library, Poortjie Library) in the COJ participated in the study. All 24 copies of questionnaire were distributed and returned, giving a 100 percent return rate and response. The collected data are presented according to the questionnaire questions and sub-headings derived from the research objectives and questions of the study.

In this section, services offered by e-learning centres in COJ libraries, awareness of e-learning centres by users of COJ libraries, use of e-learning centres by users in COJ libraries, users' competences of e-learning centres in the COJ libraries and challenges faced by users in e-learning centres in COJ libraries.

4.3.1 Gender

Respondents were asked to determine their gender. This information was necessary to determine whether the responses were consistent across the different groups.

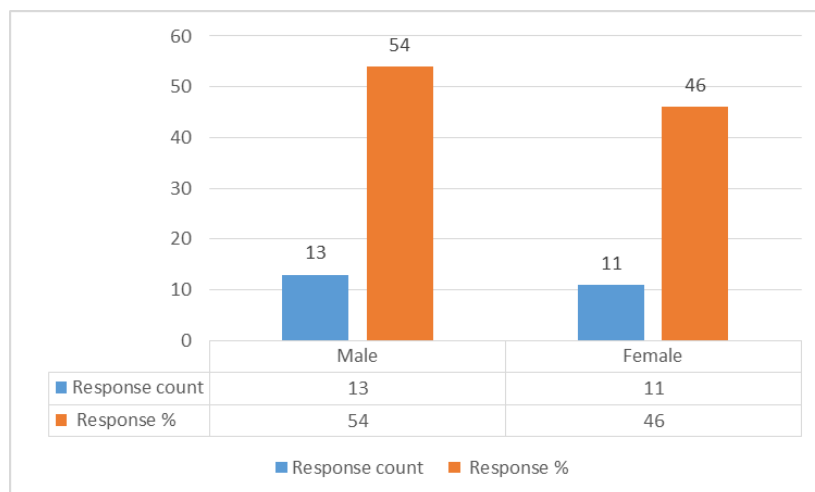


Figure 4.8: Gender of respondents (N=24)

The results in Figure 4.8 reveal that 13 (54%) respondents were male, while their female counterparts constituted 11 (46%).

4.3.2 Age

Respondents were asked to indicate their age. The age profile, as depicted in Figure 4.9, was calculated when the survey closed with the purpose of gathering demographic information to describe the sample of respondents of this study.

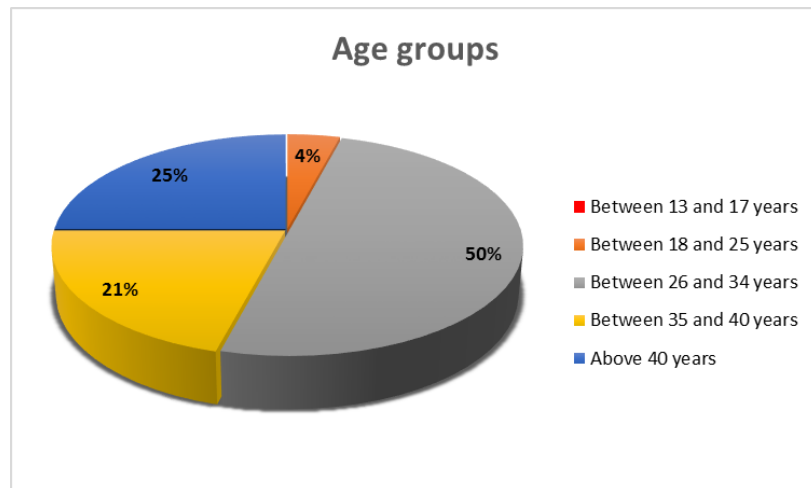


Figure 4.9: Age groups (N=24)

The results in Figure 4.9 indicate the following: 1 (4%) respondent indicated the age group 18-25 years, 12 (50%) indicated the age group of 26-34 years, 5 (21%) indicated the 35-40 and 6 (25%) indicated 40 years' and above.

4.3.3 Qualifications

Respondents were asked to determine their qualifications. The results are presented in Figure 4.10.

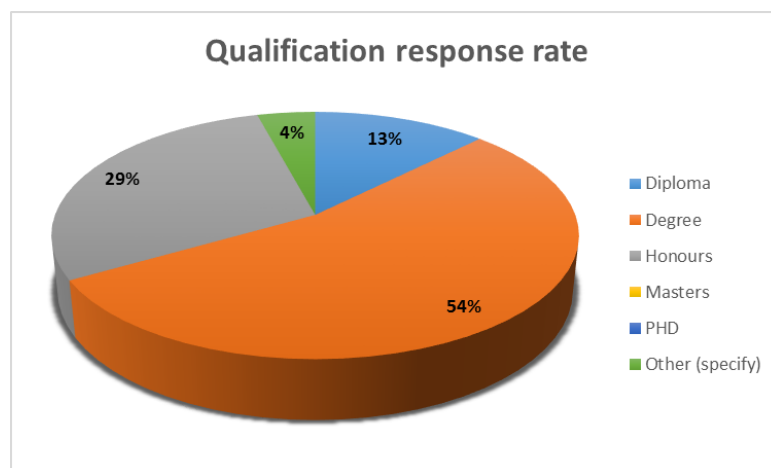


Figure 4.10: Qualification response rate (N=24)

Three (13%) of the respondents indicated that they had a diploma, 13 (54%) indicated they had a degree, 7 (29%) indicated they had an honours and One respondent (4%) responded with 'Other' for matriculation certificates and National Qualification Framework (NQF) certificates.

4.3.4 Ethnicity response

It was necessary to determine the ethnicity of respondents in charge of e-learning centres in COJ libraries. The results are shown in Figure 4.11.

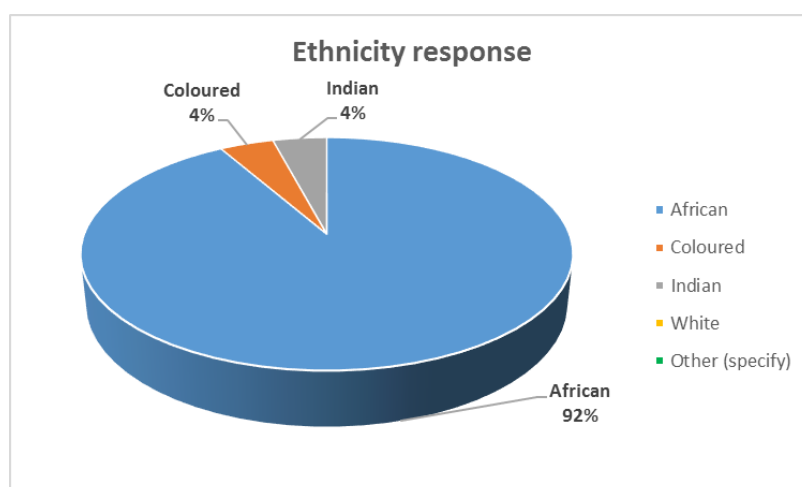


Figure 4.11: Ethnicity response (N=24)

The results reveal that the majority (22: 92%) of respondents were African, followed by 1 respondent (4%) who was coloured and 1 respondent (4%) was Indian.

4.3.5 E-learning services offered by e-learning librarians and e-learning manager

The e-learning librarians and e-learning manager were asked to indicate the e-learning services offered in e-learning centres. Table 4.13 presents the e-learning librarians and e-learning manager response of e-learning services preferred in e-learning centres.

Table 4.13: Response of e-learning librarians and e-learning manager of e-learning services preferred response (N=24)

Items	Rarely	Monthly	Once weekly	Twice weekly	Daily
Computers	2 8.3%	6 25%	0 0%	1 4.1%	15 62.5%
Laptops	1 4.2%	3 12.5%	1 4.2%	3 12.5%	16 66.6%
Internet access	0 0%	2 8.3%	0 0%	1 4.2%	21 87.5%
Free Wi-Fi	1 4.2%	2 8.3%	0 0%	1 4.2%	20 83.3%
Electronic resources	4 16.7%	5 20.8%	0 0%	3 12.5%	12 50%
Typing	5 20.8%	7 29.2%	0 0%	2 8.4%	10 41.6%
Headsets	9 37.5%	6 25%	1 4.2%	1 4.2%	7 29.1%
Photocopiers	3 12.5%	9 37.5%	4 16.6%	3 12.5%	5 20.8%
USBs	6 25%	7 29.2%	0 0%	5 20.8%	6 25%
Printers	4 16.6%	7 29.2%	3 12.5%	4 16.6%	6 25%
Scanners	1 4.2%	9 37.5%	4 16.6%	4 16.6%	6 25%

The results in Table 4.13 above indicate that respondents used internet access (21: 87.5%), followed by free Wi-Fi (20: 83.3%), laptops (16: 66.6%), computers (15:

62.5%), electronic resources (12: 50%), typing (10: 41.6%), headsets (7: 29.1%), scanners (6: 25%), printers (6: 25%), USBs (6: 25%) and photocopiers (5: 20.8%).

The study sought to find out what are the reasons for preferring to use the above e-learning services for the e-learning librarians and e-learning managers are on the e-learning services offered in the e-learning centres they preferred to use. The respondents articulated the following reasons:

- For internet and printing
- For Wi-Fi and electronic resources
- To assist users to meet their needs
- They are user friendly and accessible
- To access Google digital skills courses
- To research on developments in other libraries
- The e-learning centres are convenient for training
- It is convenient for the library and users, as it saves time
- I use the e-learning services for e-learning programmes
- Training users in coding, writing and cloud-based learning
- The e-learning services for work and personal purposes at the library
- There is time flexibility to engage learners in the learning process
- To help users with their tasks and for day-to-day library operations
- Accessing localised digital content and coding on Siyafunda Community Technology platform
- To create awareness of services available in COJ libraries
- They assist library staff in providing services and resources to library users and with the daily operations of the library
- When library users visit the library, the following services are offered: search for jobs and type their CVs or just to browse the internet

4.3.6 Awareness of the services in the e-learning centres in COJ libraries

The respondents were asked to rate how users found out about the services in the e-learning centres in COJ libraries. Table 4.14 presents the e-learning librarians and

e-learning manager on how users found out about the services of e-learning centres in COJ libraries.

Table 4.14: The respondents rated how users found out about the services in the e-learning (N=24)

Items	Not effective	Some effective	Effective	Very effective	Most effective
Personal Discovery	0 0%	3 12.5%	8 33.3%	2 8.3%	11 45.8%
From Friends	1 4.2%	2 8.3%	3 12.5%	6 25%	12 50%
From Library Staff	0 0%	0 0%	2 8.3%	5 20.8%	17 70.8%
Other e-learning centre users	2 8.3%	3 12.5%	6 25%	9 37.5%	4 16.7%
Through The Electronic Library Webpage	1 4.2%	3 12.5%	8 33.3%	4 16.7%	8 33.3%
Direct Mailing To Users	4 16.7%	6 25%	1 4.2%	3 12.5%	10 41.6%
User Orientation	5 20.8%	1 4.2%	5 20.8%	4 16.7%	9 37.5%
Through Electronic Mail	10 41.6%	6 25%	1 4.2%	4 16.7%	3 12.5%
Through Social Media Tools	2 8.3%	0 0%	2 8.3%	5 20.8%	15 62.5%

The results in Table 4.14 above reveal how e-learning librarians rated how users found out about the services of e-learning centres in COJ libraries, which include: library staff (17: 70.8%), social media tools (15: 62.5%), friends (12: 50%), personal discovery (11: 45.8%), direct mailing to users (10: 41.6%) and user orientation (9: 37.5%).

The respondents were asked to indicate the types of tools used to create awareness of the availability of e-learning services in e-learning centres. Table 4.15 presents the e-learning librarians' and e-learning manager's view on the tools used to create awareness of the availability of e-learning services in e-learning centres.

Table 4.15: Types of tools used to create awareness in the e-learning centres, as indicated by the e-learning librarians and e-learning manager (N=24)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Flyers	3 12.5%	1 4.1%	2 8.3%	7 29.2%	11 45.8%
Notice Boards	0 0%	0 0%	1 4.1%	6 25%	17 70.8%
Electronic Mail	2 8.3%	4 16.6%	5 20.8%	4 16.6%	9 37.5%
Twitter	7 29.2%	5 20.8%	6 25%	6 25%	0 0%
Facebook	0 0%	0 0%	1 4.1%	5 20.8%	18 75%
Listserv	7 29.2%	5 20.8%	4 16.6%	1 4.1%	7 29.1%
Texting (SMS)	7 29.2%	6 25%	7 29.2%	3 12.5%	1 4.1%
Instant Messaging	9 37.5%	6 25%	5 20.8%	4 16.6%	0 0%
Library handout	4 16.6%	0 0%	1 4.1%	6 25%	13 54.2%

The results in Table 4.15 above indicate that e-learning centres created awareness of the availability of e-learning services through Facebook (18: 75%), notice boards (17: 70.8%), library handout (13: 54.2%), flyers (11: 45.8%), electronic mail (9: 37.5%) and Listserv (7: 29.1%). Others specified some e-learning librarians included WhatsApp, Delicious: LinkedIn and Pinterest.

The respondents were asked to indicate what motivates users the most to use e-learning services in e-learning centres. Table 4.16 presents the e-learning librarians and e-learning manager motivates of users the most to use e-learning services in e-learning centres.

Table 4.16: The motivates of users to use e-learning services as indicated by e-learning librarians and e-learning manager (N=24)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Ease Of Use	0 0%	0 0%	3 12.5%	8 33.3%	13 54.1%
Computers	0	4	4	11	5

	0%	16.6%	16.6%	45.8%	20.8%
Laptops	0 0%	0 0%	0 0%	9 37.5%	15 62.5%
Internet access	0 0%	0 0%	0 0%	2 8.3%	22 91.6%
Free Wi-Fi	0 0%	0 0%	0 0%	2 8.3%	22 91.6%
Electronic resources	0 0%	0 0%	0 0%	8 33.3%	16 66.6%
Typing	1 4.1%	1 4.1%	2 8.3%	12 50%	8 33.3%
Photocopiers	0 0%	2 8.3%	1 4.1%	12 50%	9 37.5%
Printers	0 0%	3 12.5%	5 20.8%	9 37.5%	7 29.1%
Scanners	0 0%	4 16.6%	8 33.3%	6 25%	6 25%

The results in Table 4.16 above indicate that users mostly used e-learning services for free Wi-Fi (22: 91.6%), followed by internet access, (22: 91.6%), electronic resources (16: 66.6%), laptops (15: 62.5%), ease of use (13: 54.1%), (9: 37.5%), for typing (8: 33.3%), printers (7: 29.1%), scanners (6: 25%) and computers (5: 20.8%).

The e-learning librarians and the e-learning manager were asked to indicate the users' reasons for the use of e-learning centres' services. Table 4.17 presents the users' reasons for the use of e-learning centres.

Table 4.17: The users' reasons for the use of e-learning centres, as indicated by e-learning librarians and e-learning manager (N=24)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
To support course of study	0 0%	0 0%	1 4.1%	8 33.3%	15 62.5%
Leisure/general enjoyment	0 0%	2 8.3%	2 8.3%	8 33.3%	12 50%
To access online library material	0 0%	0 0%	6 25%	8 33.3%	10 41.6%
Independent learning/ research	0 0%	0 0%	4 16.6%	4 16.6%	16 66.6%

The items that best describe the motivating factors for users' use of e-learning centres' services, as shown in Table 4.17 above are: independent learning/research (16: 66.6%), to support course of study (15: 62.5%), leisure/general enjoyment (12: 50%) and to access online library material (10: 41.6%).

4.3.7 Competences in using e-learning centres' services

The e-learning librarians and e-learning manager were asked to indicate their competences in e-learning centres' services. Table 4.18 presents the e-learning librarians and manager's competences in e-learning centres.

Table 4.18: The e-learning librarians and manager's competences in e-learning centres (N=24)

Items	Very poor	Poor	Average	Good	Very good
Computers	0 0%	0 0%	0 0%	5 20.8%	19 79.1%
Internet search	0 0%	0 0%	0 0%	5 20.8%	19 79.1%
Free Wi-Fi	0 0%	0 0%	1 4.1%	6 25%	17 70.8%
Electronic resources	0 0%	0 0%	0 0%	10 41.6%	14 58.3%
Typing	0 0%	0 0%	0 0%	12 50%	12 50%
Photocopying	0 0%	0 0%	0 0%	8 33.3%	16 66.6%
Printing	0 0%	0 0%	0 0%	6 25%	18 75%

The results in Table 4.3.6 above indicate that the e-learning librarians and managers had competences in the use of computers (19: 79.1%), internet search (19: 79.1%), printing (18: 75%), free Wi-Fi (17: 70.8%), photocopying (16: 66.6%), electronic resources (14: 58.3%) and typing (12: 50%).

The e-learning librarians and e-learning manager were asked to indicate how trainings were organised for the users in e-learning centres. Table 4.19 presents how e-learning

centres organised training for users, as indicated by e-learning librarians and the e-learning manager.

Table 4.19: How e-learning centres organises training for users (N=24)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Workshops	0 0%	1 4.1%	0 0%	9 37.5%	14 58.3%
Seminars	1 4.1%	7 29.1%	6 25%	5 20.8%	5 20.8%
Orientation Programme	0 0%	0 0%	0 0%	11 45.8%	13 54.1%
Library Handbook	1 4.1%	3 12.5%	4 16.7%	5 20.8%	11 45.8%
Online Library Tours	0 0%	6 25%	7 29.1%	5 20.8%	6 25%
Information Literacy Course	0 0%	1 4.1%	1 4.1%	5 20.8%	17 70.8%
Library Week	0 0%	8 33.3%	3 12.5%	5 20.8%	8 33.3%

The items that best describe how the e-learning centres organised e-learning services training for users, as shown in Table 4.19 above, were: through information literacy course (17: 70.8%), workshops (14: 58.3%), orientation programme (13: 54.1%), library handbook (11: 45.8%) and library week (8: 33.3%).

E-learning librarians and the e-learning manager were asked if they had been trained at e-learning centres. Figure 4.12 presents the response rate of the e-learning librarians and e-learning manager regarding training at e-learning centres' services.

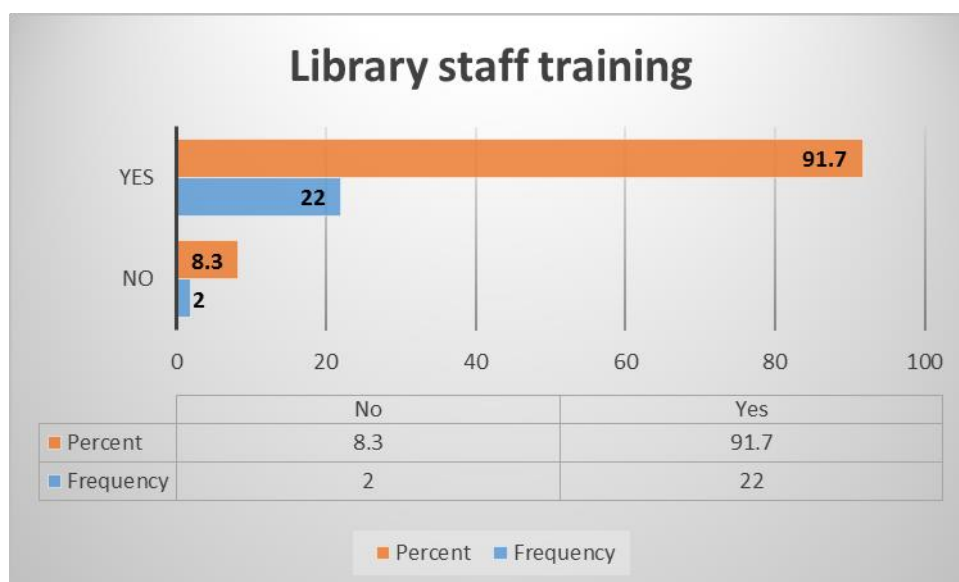


Figure 4.12: Library staff response rate on training at e-learning centres (N=24)

In response to the training that the library staff had received, (22: 91.7%) responded that they had received training, whereas (2: 8.3%) indicated that they had not received training in e-learning centre services.

The e-learning librarians and e-learning manager were asked to indicate the training they received at e-learning centres. Table 4.20 presents the responses of the e-learning librarians and e-learning manager regarding the training they had received from e-learning centre services.

Table 4.20: Presents the e-learning staff response on training received at e-learning centres (N=24)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
E-learning Programmes	0 0%	1 4.1%	1 4.1%	9 37.5%	13 54.1%
Electronic Resources	1 4.1%	2 8.3%	0 0%	9 37.5%	12 50%
Internet	0 0%	6 25%	4 16.6%	7 29.1%	7 29.1%
Microsoft Word	1 4.1%	6 25%	3 12.5%	4 16.6%	10 41.6%
Microsoft Excel	1 4.1%	4 16.6%	8 33.3%	3 12.5%	8 33.3%

Microsoft Access	0 0%	6 25%	4 16.6%	5 20.8%	9 37.5%
PowerPoint	0 0%	7 29.1%	2 8.3%	4 16.6%	11 45.8%

The results in Table 4.20 above show that e-learning librarians had received training in e-learning programmes (13: 54.1%), followed by electronic resources (12: 50%), PowerPoint (11: 45.8%), Microsoft Word (10: 41.6%), Microsoft Access (9: 37.5%), Microsoft Excel (8: 33.3%) and the internet (7: 29.1%)

4.3.8 Challenges faced by users in e-learning centres in COJ libraries

The respondents were asked to indicate the challenges faced by users when using e-learning centres. Table 4.21 presents the challenges the library encountered while users use e-learning centres, as indicated by the e-learning librarians and e-learning manager.

Table 4.21: The challenges the library encounters while users use e-learning centres, as indicated by e-learning librarians (N=24)

Items	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Low internet connectivity speed	1 4.1%	3 12.5%	3 12.5%	2 8.3%	15 62.5%
Electricity outage	6 25%	8 33.3%	2 8.3%	2 8.3%	6 25%
Limited access to library e-learning centres	0 0%	0 0%	1 4.1%	12 50%	11 45.8%
Lack of internet access in the library	0 0%	2 8.3%	2 8.3%	4 16.6%	16 66.6%
Cost of access to the internet is high	2 8.3%	3 12.5%	0 0%	1 4.1%	18 75%
Insufficient time to use e-learning centres due to work overload	5 20.8%	14 58.3%	3 12.5%	2 8.3%	0 0%
Inadequate awareness of the use of library e-learning centres' services	1 4.1%	5 20.8%	3 12.5%	6 25%	9 37.5%
Lack of skills about advanced searching techniques	3 12.5%	13 54.1%	3 12.5%	5 20.8%	0 0%
Difficulty in finding relevant information	5 20.8%	12 50%	2 8.3%	3 12.5%	2 8.3%
Insufficient computers in the e-learning centres of libraries	0 0%	2 8.3%	2 8.3%	13 54.1%	7 29.1%
Lack of training or orientations on the use of	2 8.3%	6 25%	3 12.5%	12 50%	1 4.1%

library e-learning centres' services					
Lack of understanding about email alert and e-learning services	6 25%	13 54.1%	1 4.1%	2 8.3%	2 8.3%
Lack of online search skills	1 4.1%	8 33.3%	3 12.5	12 50%	0 0%
Too much information is retrieved when a search is initiated	2 8.3%	6 25%	0 0%	12 50%	4 16.6%
Difficulty in reading from the monitor	2 8.3%	4 16.6%	1 4.1%	13 54.1%	4 16.6%
Shortage of librarians to assist in the use of e-learning centres of libraries	6 25%	9 37.5	5 20.8%	3 12.5%	1 4.1%
Limited library hours to use e-learning centres	3 12.5%	10 41.6%	4 16.6%	7 29.1%	0 0%
E-learning centres are not remotely usable	0 0%	1 4.1%	1 4.1%	2 8.3%	20 83.3%
Slow download speed	2 8.3%	2 8.3%	2 8.3%	1 4.1%	17 70.8%

The results in Table 4.21 above indicate the challenges the COJLIS encountered while users use e-learning centres, as indicated by e-learning librarians and the e-learning manager as: e-learning centres are not remotely usable (20: 83.3%), cost of access to the internet is high (18: 75%), slow download speed (17: 70.8%), a lack of internet access in the library (16: 66.6%), low internet connectivity speed (15: 62.5%), limited access to library e-learning centres (11: 45.8%), inadequate awareness of the use of library e-learning centres' services (9: 37.5%) and insufficient computers in the e-learning centres of libraries (7: 29.1%).

This section sought to find ways to alleviate challenges faced in the e-learning centres in COJ libraries. The respondents were asked to indicate in their own view of how challenges in the e-learning centres could be alleviated. The following were the respondents' suggestions:

- More support from management
- Facilitate more training programmes
- Skills development for library personnel
- Strengthen internet connectivity and Wi-Fi
- Do more marketing on e-learning centres
- More computers and laptops are needed in the e-learning centres

- More funding for e-learning centres for tablets and latest devices
- Host regular e-learning programmes and give the public the necessary skills needed to use the e-learning services
- Expand e-learning centres and have more librarians to assist in the e-learning centres
- More awareness, regular updates on notice boards, flyers, notices about e-learning centres
- It should cover both literate and illiterate clients to ensure that they bridge the digital divide, providing adequate programmes and awareness of library e-learning centres
- Security update must be done for libraries and more resources must be bought
- Training programmes and tech savvy librarians
- E-learning centres must re-open, since most are closed due to covid-19 regulations. Measures must be put in place as per covid-19 regulations. Wi-Fi and internet must be upgraded to strengthen connectivity

4.4 SUMMARY

This chapter presented the findings of the data collected from e-learning users, e-learning librarians and the e-learning manager on the services offered, the level of awareness, and competences and usage of e-learning centres by e-learning users of the COJ libraries. Data analysis and presentation were anchored on the research questions in line with the study objectives. The findings on the presentation reflect the true findings as per various groups of respondents' responses within the scope of questions provided in the questionnaires as presented in appendices B and D; and was compiled using Frequency, Percentage, Tables and Figures. The next chapter discusses the research findings.

CHAPTER FIVE: DISCUSSIONS OF FINDINGS

5.1 INTRODUCTION

This chapter discusses the statistical results of the study and integrates the empirical findings supported by the TAM with the literature review to answer the research questions and research objectives. The findings in chapter four were obtained from e-learning librarians and the manager and users of libraries of the COJ. The discussions of the findings are based on the following research questions of the study:

1. What are the services offered at e-learning centres to users of the COJ libraries in South Africa?
2. Are most users aware of the e-learning centres in COJ libraries in South Africa?
3. What competences should users have to use the e-learning centres in the COJ libraries in South Africa?
4. What are the challenges faced in the use of e-learning centres at COJ libraries?
5. What guidelines should be used in using e-learning centres by the COJ libraries in South Africa?

5.2 E-LEARNING SERVICES OFFERED BY E-LEARNING CENTRES

It is important that e-learning services available in the e-learning centres are aligned with the users' needs. Internet access, free Wi-Fi, computers and laptops are services found in the e-learning centres in the COJ and their availability was mentioned by a majority of respondents. Despite the fact that CDs were being phased out of the information industry, they were still valuable in most developing countries, such as South Africa, where infrastructure to support current inventions is not inexpensive. Opeyemi (2018:126) concurs that CDs are important in most underdeveloped nations, because infrastructure to support contemporary inventions is expensive and most libraries are out of reach of the communities.

A similar study by Dzandza (2019:62) found that the majority (46.5%) of the respondents in Karnataka, India, agreed that Wi-Fi services were offered in the libraries. Moyo (2017:115) states that the majority (80%) of the respondents agreed

internet access is available. In Table 4.3 majority (78.3%) agreed that Wi-Fi services were offered in the at COJ e-learning centres, and e-learning librarians and e-learning manager concurred with the response (83.3%) with e-learning users. However, electronic resources (50%) are increasingly becoming common in public libraries as e-learning librarians indicated in Table 4.13 at COJ e-learning centres. While the e-learning users indicated the electronic resources (8.3%) in Table 4.3 as the least offered services. Egberongbe (2011) observed that there is an increase in the volume of internet access in public libraries and e-learning centres due to its use and importance for leisure, personal and research works. E-learning librarians indicated (Table 4.13) that the USB services (25%) was the least services offered. The majority of the e-learning users indicated (Table 4.3) that USB services (11.7%) were the least offered services in the e-learning centres, compared to the response from e-learning librarians. This finding revealed that computers and laptops were readily offered for use in the e-learning centres, since the activities of the e-learning users (over 60% of the user population) were mainly internet access, free Wi-Fi, computers and laptops. According to Sethy and Jena (2021), users want to find the most efficient ways of obtaining relevant e-learning services, reducing time spent and obtaining required information from e-learning services.

5.3 AWARENESS OF SERVICES IN E-LEARNING CENTRES

It was important to rate the awareness of respondents on how they found out about e-learning centres services offered. The study showed that most (78.3% of 47 of 60 users in Table 4.5) of the e-learning users were aware of e-learning centres in COJ libraries through library staff, while e-learning librarians concurred with 70.8% (17 of 24 e-learning librarians and e-learning manager in Table 4.14). More users became aware of the services through social media (75%) as indicated in Table 4.5. While 62.5% (Table 4.14) of e-learning librarians concurred that the social media was how the users became aware of e-learning centres. Social media was the de facto means of information dissemination in the 2020s and COJ public libraries were able to reach both users and non-users more. It was arguable that majority of the users were likely to become aware of the e-learning services by interacting with the library staff or visiting the library. As it appeared that some users become aware through electronic mail (46.6%). However, the study revealed that users who interacted with the library

staff were more aware than those who did not interact with the library staff. This was also reported in a study conducted by Kaur and Verma (2009) who stated that 96% of library users were aware of e-learning services and centres in the library. The level of awareness among users (through electronic mail as indicated in Table 4.14) of e-learning centres' services was low and the COJ libraries need to vigorously market the e-learning centres to their users. Mbambo et al., (2022) argues with the findings that most often, the majority of remote users are not aware of the e-learning centres in their libraries. While Tripathi and Jeevan (2009) and corroborates the study by Damilola (2013) that showed that the majority of remote users in NOUN Lagos and Ibadan study centres were not aware of their libraries' e-learning services. This is a disturbing trend, as it implies that over the years, there has been no significant improvement in remote users' awareness of e-learning centres in COJ libraries. Previous studies by Kumar and Singh (2011), Okiki (2012) and Dadzie and Walt (2015) also revealed that the majority of research participants indicated non-awareness of e-learning centres in libraries. On the other hand, Egberongbe (2011) and Gupta and Sharma (2015) reported a high level of awareness among research participants.

The e-learning librarians and e-learning manager rated how users found out about the services of e-learning centres in COJ libraries are indicated in Table 4.14: from library staff (17: 70.8%) ranked highest the most effective. However, users rated how they found out about the services of e-learning centres as presented in Table 4.5 with from library staff (47: 78.3%) ranking the highest the most effective, followed by through social media tools (45: 75%). The findings revealed that the users became more aware of the services of e-learning centres through library staff. This implies that there is a gap on the awareness of these services, as a significant percentage of remote users did not use these e-learning centres. As the library Webpage is not used for awareness of e-learning centres due to low percentage of respondents (2: 3.3%).

It was important that the users become aware of the e-learning services in the e-learning centres in order for them to use the services. In the e-learning centres of the COJ, users were aware of e-learning services through Facebook, notice boards and library handouts used by the libraries' e-learning unit. Other respondents specified included Tik Tok, WhatsApp, Google Allo, Delicious: LinkedIn and Pinterest as tools used by the library to create awareness. Studies done by Gupta and Sharma (2015),

Moyo (2017), Nabushawo et al. (2018), Namirembe (2020) and Opeyemi (2018:128) revealed that the library's website could be used to create awareness of available e-learning services in the libraries. Zafar (2013) reported that library brochures were used to create awareness of libraries' e-learning services.

On the other hand, Leong (2009) and Mdhuli (2019:154), who found that tactics for building awareness among users include using contacts, establishing awareness programmes on a website, and delivering information on a consistent basis. The use of e-learning services such as social media, in conjunction with these tactics, will considerably increase use of e-learning services at e-learning centres in COJLIS. Integration of various e-learning services, such as email, Facebook, WhatsApp and Pinterest, into the library webpage and users' portal platforms would further increase their effectiveness as they make library e-learning services more accessible to remote users.

The findings indicated that the ease of use of e-learning services was (54.1%), as e-learning users were able to access and use electronic resources at home, and work. This shows that some users found it convenient to use the e-learning services outside libraries' e-learning centres. Users preferred to use electronic resources in the comfort of their homes. Studies done by Deng (2010), Okello-Obura and Ikoja-Odongo (2010), Okello-Obura (2011), Gupta and Sharma (2015), Dadzie and Walt (2015), Dulle (2015), De (2018), Chen et al. (2018) and Mdhuli (2019:11-26) reported that respondents also accessed e-learning services at places outside of the libraries' e-learning premises. The findings revealed that location and distance did not restrict users from accessing libraries' e-learning services. Although resources are available and accessible in the libraries' e-learning centres, the e-learning centres are embattled by low patronage of these electronic resources, as indicated in Table 4.3.

The study found that the majority of the users accessed the internet and free Wi-Fi daily. However, the users used electronic resources monthly, and rarely used computers. This finding is similar to those of the studies of Okiki (2012), Dadzie and Walt (2015) and Opeyemi (2018:129) that stated that fewer than 40 percent of the respondents frequently used e-learning services in the e-learning centres. The users were asked how often they made use of the e-learning centres and for what purpose.

The study revealed that most of the users often used the e-learning centres for support course of study (33: 55%) and independent learning/research (29: 48.3%). The majority of e-learning librarians concurred with the e-learning users' assertion in Table 4.17 that they often used e-learning centres to support course of study and for independent learning/research. This finding corroborates the findings of studies done by Zafar (2013), Bansal (2015), Gupta and Sharma (2015), Anis (2016), Heap (2017), Eagleton and Manolopoulou (2017), and De (2018) which revealed that respondents frequently use e-learning services for learning, education and research. The study showed that e-learning users occasionally used the e-learning centres and services for recreation. The study also agreed with the previous studies cited above that users tend to use e-learning services for knowledge acquisition and research for development and growth, rather than for recreational purposes.

The findings on the use of e-learning centres showed that the majority of the e-learning librarians strongly agreed that e-learning users were motivated to use e-learning services because it is easy to use, and it provides Wi-Fi, internet access, electronic resources and laptops, which are useful for personal growth and research work. The majority of e-learning users strongly agreed that Wi-Fi and internet access were the biggest motivating factors in the use of e-learning centres. They all strongly agreed that the usefulness of e-learning services in e-learning centres motivates their use. Among various motivating factors, the usefulness of e-learning services for Wi-Fi and internet access ranked highest. The above findings are similar to findings of studies done by Deng (2010), Okello-Obura and Ikoja-Odongo (2010), Kumar and Singh (2011), Okiki (2012), Kumar (2015), Gupta and Sharma (2015), Qasim and Khan (2015), and Abumandour (2019), which stated quick and easy access to a wide range of relevant information that is very useful in research studies as motivating factors to use e-learning services. This study revealed that e-learning users used the e-learning centres for various purposes due to some motivating factors as discussed above; however, there was low patronage usage of these electronic resources (14: 23.3%) by e-learning users, as fewer than 40 percent of e-learning users used the library e-learning centres for electronic resources (Table 4.7).

The study further sought to find out why some respondents did not make use of the e-learning centres and the findings revealed that the users' reasons for not using e-

learning centres (4: 6.7%) of the e-learning users (in Table 4.9) did not know that the e-learning centres exist in the libraries. Previous studies by Dulle (2015), Dadzie and Walt (2015), Proudfoot and Kebritchi (2017), and Opeyemi (2018:129) also showed that respondents did not know of e-learning centres exist in libraries.

The e-learning users were asked to indicate how they learnt to use e-learning centres' services. Most of the e-learning users indicated that they learnt to use e-learning centres and its services through self-study and online library tours (Table 4.10). However, the e-learning librarians indicated that e-learning users learnt to use e-learning centres' services through library staff and social media. This further buttress the fact that the libraries' e-learning centres were not doing enough to make users learn how to use the library e-learning centres' services. These findings agree with findings of the studies done by Kumar and Singh (2011), Zafar (2013), Okello-Obura (2013), Qasim and Khan (2015), Opeyemi (2018:130) and Mdhuli (2019:26) that the majority of the respondents learnt to use e-learning services through self-study, social media, online library tours, library staff, friends and colleagues. This study revealed that although some e-learning users used the e-learning centres' services, a large percentage of users did not use them. This may imply that the libraries' e-learning centres had less awareness programmes to promote the use of the libraries' e-learning centres' services.

5.4 COMPETENCES OF E-LEARNING CENTRES IN THE COJ LIBRARIES

The study sought to find out what skills users had in the use of e-learning services in the e-learning centres in COJ libraries. Competences of the user are critical for using the services of the e-learning centres. As indicated in Table 4.11, most of the users had skills in the use of free Wi-Fi (55%), as it was ranked the highest, followed by internet search (51.6%). The findings of the study have shown that the majority of e-learning users were skilled to use internet to perform searches. However, it is critical for e-learning users to be familiar with the capabilities, skills and risks of internet searches. These findings are in line with those of Okello-Obura (2013), Olasina and Mutula (2014), Qasim and Khan (2015), Mdhuli (2019) and Moyo (2017:124), who found that the majority of respondents used e-resources found through internet searches, and that users need to be trained in information search and evaluation skills

in order to effectively search internet search engines. Namirembe (2020:132) agrees that these users had fundamental skills in the use of e-learning technology and a positive percentage on the acceptance of computers skills.

The e-learning librarians and e-learning manager were also asked to indicate their competences in e-learning centres' services. The e-learning librarians' and manager's competences in e-learning centres (Table 4.19) indicated that respondents were highly competent in using computers, internet search, printing, using Wi-Fi, photocopying, using electronic resources and typing. The findings are similar to those of the study done by Maya (2019:20) which stated that the majority of the respondents had computer skills that enabled the use of e-learning services, although most of them have minimal awareness of electronic resources, which is not a positive aspect of the findings.

The respondents were asked if they had received any training at e-learning centres. Most (91.7%) of the e-learning librarians indicated that they had received training and 8.3 percent of the e-learning librarians indicated that they had not received training on e-learning centre services. Previous studies by Angello (2010), Bichsel (2013), Mamafha (2013) and Namirembe (2020:55) noted that training is a critical aspect when implementing change and that management can support their library staff by providing training or technical assistance. To enable efficient use of these e-learning services, management should be involved in championing e-learning. A total of 73.3 percent (Figure 4.7) of the e-learning users indicated that they had received training and 26.7 percent indicated that they had not received training in e-learning centres' services. Nabushawo et al. (2018), Moyo (2017:49) and Mdhluli (2019:29) imply that e-learning librarians' dedication can be demonstrated by collaboration and training of users of e-learning centres and services. As a result, the most common method of educating e-learning users in e-learning centres was group patron training.

Based on the analysis of the e-learning staff's responses on the training they had received, e-learning programmes (13: 54.1%) ranked the highest as indicated in Table 4.20; it became clear that e-learning librarians were satisfied with trainings provided to them. These findings are in line with the findings of research done by Bamgbose and Ladipo (2017), Mamafha (2013) and Masenya (2019:162) who discovered that

skills development and opportunities have a highly significant impact on library staff. E-learning librarians need to receive on-going trainings to enable them to provide e-learning services in the e-learning centres.

According to Onah and Anikwe (2016), training is an important component of staff growth and self-development. The findings of this study affirm that the under-utilisation of skills is positively related to a lack of training (Olasina & Mutula 2014). Furthermore, Abayomi (2017) observes that the sole aim of training is to develop staff's understanding, competency and attitude so that tasks are carried out in a more professional and meritorious manner. The findings indicated that COJLIS's e-learning centres need to continue to offer training programmes, as e-learning librarians have to improve their competencies to support and assist e-learning users in e-learning centres.

5.5 CHALLENGES FACED BY USERS IN E-LEARNING CENTRES IN THE COJ LIBRARIES

Users faced a number of challenges while using e-learning centres. The majority of the e-learning librarians responded and identified that e-learning centres not being remotely usable, the high cost of access to the internet and the slow download speed were challenges that the e-learning centres faced while providing e-learning services. Most of the e-learning users indicated that they encountered the following challenges while using e-learning centres and services: a lack of internet access, e-learning centres not being usable from remote locations, limited access to library e-learning centres, slow download speed and insufficient computers in the library as challenges. Abayomi (2017), Damilola (2013), Dzandza (2019), Hossain and Ahmed (2016), Kumar and Singh (2011), Kwafoa et al., (2014), Namirembe (2020), Mamafha (2013), Maya (2019), Okello-Obura (2011), Opeyemi (2018:138), and Zafar (2013), reported slow internet connection and high costs of internet access as some of the challenges faced by respondents while using electronic learning services. It is evident that public libraries, especially in developing countries, have been plagued with non-functioning and dilapidated infrastructures that are essential for promoting awareness and use of e-learning services. These challenges also hinder the use of e-learning centres in the COJ libraries.

5.6 SUMMARY

Chapter five discussed the research findings presented in chapter four. The respondents were asked to answer questions on the use of e-learning services in e-learning centres, level of awareness, tools used to create awareness, types of e-learning services used by respondents, frequency of use, reasons for using e-learning centres, the users' competences of e-learning centres in the COJ libraries and challenges encountered by respondents while using the e-learning centres.

The study revealed that e-learning centres and e-learning services were available and accessible, but the level of respondents' awareness was low, and those who were able to access and use the e-learning centres were faced with innumerable challenges which resulted in poor use of e-learning services in e-learning centres. The respondents suggested that more support from management is needed, more training programmes, skills development for library personnel, strengthening internet connectivity and Wi-Fi, more awareness, regular updates on e-learning centres, and more computers and laptops are needed in the e-learning centres. The next chapter provides the summary, conclusions, and recommendations of this study.

CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter provides the summary, conclusions and recommendations of the study based on the data presented and interpreted in chapter four and chapter five, and the literature review in chapter two. The study's conclusions and recommendations have been made in relation to the following objectives that have been achieved. The objectives of the study were as follows:

1. To identify services offered by e-learning centres to users of the COJ libraries in South Africa.
2. To determine the level of awareness of e-learning centres by the users of the COJ libraries in South Africa.
3. To ascertain the competences of the users of e-learning centres in the COJ libraries in South Africa.
4. To establish the challenges faced in using e-learning centres in the COJ libraries in South Africa.
5. To offer guidelines of use of e-learning centres in the COJ libraries in South Africa.

6.2 SUMMARY ON THE USE OF E-LEARNING CENTRES IN LIBRARIES IN THE CITY OF JOHANNESBURG

This section summarises the findings based on the study's research objectives. The study investigated the use of electronic learning centres by users of the City of Johannesburg Libraries in South Africa,

6.2.1 Summary on the services offered by the e-learning centres

The summary of the findings on the e-learning services offered in e-learning centres, as indicated in chapter four, section 4.2, showed that users rarely use CDs in e-learning centres. E-learning centres provide electronic resources used by e-learning

users. However, electronic resources are not often used, as the percentage depicted in table 4.3, are low.

This finding revealed that the activities of the e-learning users are mainly using the internet, free Wi-Fi, computers and laptops; therefore, they require efficient ways to acquire relevant e-learning services and e-learning programmes (Sethy & Jena 2021).

6.2.2 Summary on the level of awareness of e-learning centres by users

With respect to users' awareness of e-learning centres, the study revealed that over 78.3 percent of e-learning users became aware of e-learning centres in COJ libraries through library staff, while 46.6 percent became aware through electronic mail. However, this means there was a slow improvement on remote users' awareness of e-learning centres in COJ libraries.

On the issue of the effectiveness of methods of awareness, as depicted in Table 4.14, most of the e-learning users agreed that awareness through library staff was most effective. It was also indicated in section 5.3 that there was a gap in the awareness of the services, as a significant percentage of remote users did not use these e-learning centres (Table 4.5). It is evident that users' awareness was inadequate as the method through which respondents were aware of e-learning centres. This negatively affected the use of e-learning services in e-learning centres.

It is evident from the analyses of the percentages in section 5.3 that users became aware of e-learning centres through Facebook, notice boards and library handouts. The library webpage and users' portal would further increase the effective use of e-learning services in the creation of awareness for remote users.

Regarding motivation to use e-learning services, the respondents stated because its ease of use, and it provides Wi-Fi, internet access, electronic resources, and laptops, which are useful for personal growth and research work. Table 4.16 and Table 4.17 indicated that users used e-learning centres for support course of study and Leisure/general enjoyment.

The study sought to find out what the reasons were for not using libraries e-learning centres, and it was revealed that some users were not sure if the e-learning centres did exist. The users did not find them useful, and they were not interested e-learning centres. The results indicated low patronage of these e-learning services by e-learning users using the library e-learning centres, which implies that the libraries' e-learning centres had promotional programmes for the libraries' e-learning centres' services.

6.2.3 Summary on the competences of the users of e-learning centres

The study established that users have competence to use e-learning centres in the COJ libraries, as evidenced by the number of respondents who indicated that access to e-learning centres was very important to them. The majority of users had received training (93.3%), whereas (26.7%) indicated that they had not received training in electronic learning centres. The majority of library staff (91.7%) had received training and (8.3%) had not received training.

As indicated in Table 4.19, e-learning librarians are highly competent in the use of computers, internet searching, printing, using Wi-Fi, photocopying, electronic resources and typing. The respondents are satisfied with trainings, although management needs to be involved to support both users and library staff in terms of technical assistance.

6.2.4 Summary on the challenges faced in using e-learning centres

As mentioned in chapters two, four and five of this study, the data revealed various issues faced by users of e-learning centres, as well as existing challenges identified in earlier studies (Barton 2010; Bansal 2015; Dadzie and Walt 2015; Abayomi 2017; Chen et al., 2018; Angello 2021). The challenges noted were similar to those encountered while using e-learning centres and included a lack of internet access, e-learning centres not being remotely usable, limited access to library e-learning centres, slow download speed and insufficient computers. Other challenges were cited in chapter four (section 4.2.11 and 4.3.8). Common challenges included a slow internet connectivity.

6.2.5 Summary on the guidelines of use of e-learning centres

The guidelines presented are based on the findings depicted in chapter four, sections 4.2.11 and 4.3.8. The guidelines adopted from Buchan (2010) state that only broad references to institutional support restrictions emerge in the e-learning literature, which they interpret as a probable outcome of the historical separation of management and support from decision-making and use of e-learning services. The following are the four broad guidelines for sustaining e-learning initiatives: (a) Sustainable funding and e-learning services models (b) A centralised project-based approach to e-learning services implementation (c) A multi-stakeholder approach to managing the implementation of e-learning services (d) Mainstreaming support after the project phase.

Buchan (2010) believes that this approach also supports the judgement that some technologies must remain on the "virtual horizon" until they can be properly resourced and developed, and users can learn to effectively use them. However, there is no mention of the decision-making process or who would be required to participate.

6.3 CONCLUSIONS ON THE USE OF E-LEARNING CENTRES IN LIBRARIES IN THE CITY OF JOHANNESBURG

A summary of the study's findings was presented in the previous section and the discussion was structured and based on the study's objectives. The conclusions obtained from the literature review and the empirical findings of this study are discussed in the sections that follow.

6.3.1 Conclusion on the services offered by the e-learning centres

The study noted some common and new services offered by the e-learning centres as well as a demand for computers and laptops, internet access, free Wi-Fi and electronic resources (open and closed access), as depicted in chapter two (section 2.2.1), which are common e-learning services adopted by the Moodle platform because of its unique characteristics (Abumandour 2019). However, services offered seem to differ. The

study established a strong need for electronic resources and USB services offered by the e-learning centres.

6.3.2 Conclusion on the awareness of e-learning centres

The awareness of e-learning services by remote users was very poor, as the majority were aware of e-learning centres through self-effort and one-on-one interaction with the library staff. This inadequate awareness has hampered the use of e-learning services, which was below average.

However, users considered the public libraries' feature of e-learning services to be the most important for their support course of study and Leisure/general enjoyment. The general level of awareness of e-learning centres was below average, as depicted in section 5.3. As a result, there are fewer awareness programmes that promote the use of the libraries' e-learning centres' services.

6.3.3 Conclusion on the competences of the users of e-learning centres

The study's results also revealed that users in e-learning centres required fundamental knowledge and skills such as technological knowledge and skills. However, the study's findings revealed that there was a competence gap in the marketing and promotion of e-learning centres. Evidently, e-learning training was required to assist e-learning librarians in acquiring new abilities. Ultimately, the COJLIS management should support the e-learning unit, training, mentorship, succession plans and support programmes.

6.3.4 Conclusion on the challenges faced in using e-learning centres

The findings revealed that the challenges faced in using e-learning centres included high cost of access to the internet, slow resources download speed, e-learning centres were not remotely usable and insufficient computers in the e-learning centres of libraries. These challenges hindered the use of e-learning centres in the COJ libraries

6.3.5 Conclusion on the guidelines of use of e-learning centres

E-learning guidelines are geared towards combating insufficient funds in order to promote the use of e-learning services. It is evident that the following guidelines should be implemented: increase libraries' e-learning budget, solicit donations from sponsors, engage in joint acquisition with other stakeholders, assist e-learning users and organise a high-quality library staff development programme with mainstream support after the programmes phase to meet users' needs. The study established a need for guidelines in the use of e-learning centres in the COJ libraries in South Africa.

6.4 Recommendations on the use of e-learning centres in libraries in the City of Johannesburg

In view of the findings of the research, e-learning users, e-learning librarians and the e-learning manager were asked to make recommendations.

6.4.1 Recommendation on the services offered by the e-learning centres

The study established that regarding the services offered by the e-learning centres, it was found that electronic resources were not used often and there were not enough USBs to enable e-learning users to use them when using the e-learning centres. It is recommended that electronic resources and USBs are available and accessible to meet the users' needs. This will increase the use of services offered by the e-learning centres to users of the COJ libraries.

6.4.2 Recommendation on the awareness of e-learning centres

Although the study revealed a wide range of initiatives available at the COJLIS to ensure that users were aware of e-learning centres and use e-learning services, the findings show that there were still a large number of remote users who were unaware of e-learning centres and did not use e-resources. It is recommended that other e-learning services be used to reach remote users. These e-learning services are Tik Tok, WhatsApp, Google Allo; Delicious: LinkedIn and Pinterest. The COJ libraries may also integrate various e-learning services, including the library web page and the users' portal platforms to increase the use of e-learning services. Using these

platforms would greatly assist in the creation of awareness to enhance the use of e-learning centres in COJ libraries.

A marketing strategy can be employed to promote e-learning services, as this would help to identify the best resources to use, and to encourage better awareness and use of e-learning centres by the users. In addition, the libraries' e-learning centres should make provision for time to ensure that effective awareness programmes are developed and implemented.

6.4.3 Recommendation on the competences of the users of e-learning centres

The study further recommends the development and promotion of continuing e-learning training, short courses, and workshops to equip e-learning librarians with relevant skills in order to meet the user needs. The present study also recommends collaboration between the Department of Arts and Culture, and the COJLIS e-learning unit can play a crucial role in providing funding for some training programmes that could help meet the acquired or skills that would assist in training e-learning librarians and users.

6.4.4 Recommendation on the challenges faced in using e-learning centres

The study noted several challenges facing the use e-learning centres. Considering the noted challenges, the present study recommends that the e-learning unit should upgrade its ICT infrastructure (increase bandwidth) to facilitate easy access to internet connectivity and Wi-Fi. The researcher further recommends funding to purchase more computers and laptops, as these are required in the e-learning centres. This is informed by the study in chapter four (section 4.2.11 and 4.8.8). The study also recommends that more support from COJLIS management is needed for oversight on e-learning services.

In order for users to be able to use e-learning services effectively, it is important that the COJLIS e-learning unit should collaborate with other stakeholders (Google SA, Livity Africa, Siyafunda, Goethe M-Literacy, Microsoft, IBM, Vodacom, FunDza

Literacy Trust). The recommended collaborations allow the COJLIS e-learning to engage with stakeholders, partners, and sponsors to increase the scope and reach of programmes in the e-learning centres. Furthermore, the recommendation of partnerships is sought to enhance network infrastructure and internet connectivity. Free, ubiquitous, and reliable internet connectivity is a key component of e-learning.

6.5 EMERGING GUIDELINES ON THE USE OF E-LEARNING CENTRES

The final objective was to offer guidelines on the use of e-learning centres in the COJ libraries based on empirical evidence with the conclusions for the quantitative findings. The following are emerging guidelines on the use of e-learning centres for e-learning users and e-learning librarians. The emerging guidelines are diagrammatically presented in Figure 6.1 below.

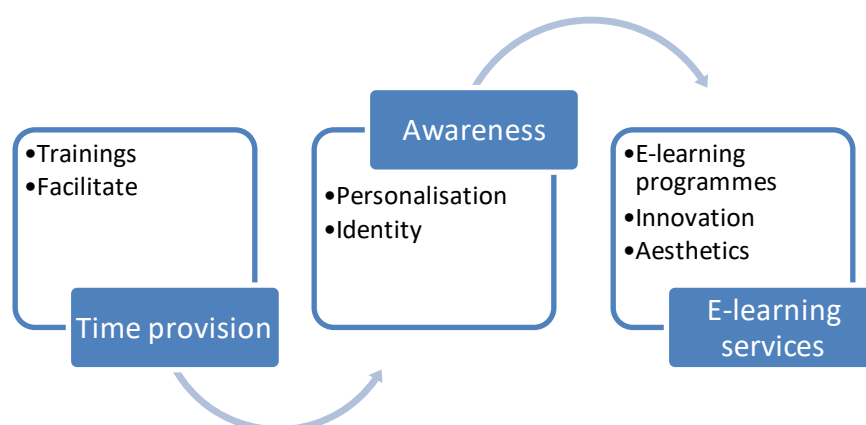


Figure 6.1: E-learning centres guidelines

Time limitations must be set for e-learning users using e-learning computers or laptops to allow other e-learning users time to use the e-learning centres and e-learning services; and to ensure broad guidance for reflection and training in terms of competence, e-learning librarians need to be allowed to improve their pedagogical use of e-learning centres. The guidelines Figure 6.1 show the analysis of needs to facilitate the development of e-learning centres and provide training in the use of e-learning centres to e-learning users in the COJ libraries. The personalisation of e-learning centres needs to make e-learning users feel welcome in the library by using

communication strategies that are more familiar and common, and they need to provide options for the e-learning users to participate in the e-learning services.

The identity use of e-learning services helps the e-learning users identify themselves with the e-learning services' values and meet their community needs in a quicker and more efficient way. This ensures awareness in the e-learning centres and the e-learning values are reflected throughout the e-learning services to reinforce the relationship between the e-learning users and the COJLIS e-learning librarians. E-learning services offer options to users, to relate and participate in using e-learning services, as they are visible and easily accessible. It is necessary to introduce positive e-learning programmes or special events to make the e-learning users feel they are part of creative and dynamic e-learning centres and to integrate those innovative elements in the e-learning centres that the users may begin hearing or reading about in the e-learning COJLIS webpage page and other trends on social media. At the same time, this would ensure a consistent aesthetic environment throughout to help guide the e-learning users through their tasks and objectives.

6.6 RECOMMENDATIONS FOR FURTHER RESEARCH

The analysis in chapter four, are valuable negative and positive comments, and suggestions that were proposed by participants. The analysed and summarised changes of the initial guidelines on the use of e-learning centres are described below as planned changes for future work on the guidelines on the use of e-learning centres in the COJ libraries. The following are recommendations for future research:

- Rerun the evaluation and conduct interviews to strengthen this research study and present the findings in a research paper presenting emerging guidelines.
- Conduct the evaluation among a larger sample group of participants and widen the scope of the participant's roles to focus on diverse roles, specifically management.
- Analyse and institute recommended changes and enhancements to the emerging e-learning services guidelines from this study.

- Further simplify and detail all parameters and stakeholders' roles in the emerging e-learning guidelines.
- The e-learning services and assessments need to be managed separately to that of developing and procuring an e-learning centre.

This study identified that several opportunities existed for future research, which would enhance the development of e-learning centres. The recommendations for future research in e-learning included the following:

- To consider the role and structure of e-learning centres to develop skills, and to promote and provide quality e-learning services.
- To strive for greater insight into the way e-learning services can be used to support and enhance e-learning centres from a perspective and investigate the practical feasibility of the emerging e-learning guidelines to assess the focus on the factors of e-learning services.
- To study the e-learning users' level of awareness that would also establish the competences of the users of e-learning centres and may necessitate further changes to the guidelines from an end-user perspective.
- To study implications of the emerging e-learning guidelines to support the integration of e-learning services into e-learning centres.

A study should be undertaken on the e-learning users to determine the level of awareness of e-learning centres. This study may necessitate further changes to the guidelines from an end-user perspective. Further research will provide greater insight into the way e-learning services will support e-learning centres.

- To enhance the emerging of an e-learning framework to include the relevant institutions and e-learning stakeholders so the industry can benefit from the emerging guidelines.

6.7 CONCLUSIONS

The current study is organised into six chapters. The study's introduction and background were presented in the first chapter. The second chapter included an in-depth literature study and theoretical framework of the research topic, as well as a literature review on some relevant theoretical opinions regarding the research topic. The methodology for the study was provided in chapter three. The data were obtained via a questionnaire and sent through email, and then analysed using the SPSS method as explained in chapter four. In chapter five, the data interpretation and discussion of the study's research findings were presented, while in chapter six, the conclusions of all the objectives mentioned in chapter one was presented.

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APPENDIX A: QUESTIONNAIRE COVER LETTER FOR E-LEARNING USERS

The use of Electronic Learning Centres by users of the City of Johannesburg Libraries in South Africa

Dear Respondent,

My name is Sifiso Michael Mbambo, I am a master's student in the Department of Information Studies at the University of Zululand. I am conducting a study on *The use of Electronic Learning Centres by the users of the City of Johannesburg Libraries in South Africa*. The information on this questionnaire will be treated with confidentiality and it will be used only for study purposes. The study has been ethically cleared by the University of Zululand Research Ethics Committee.

I am kindly asking you to please respond to all the questions on this questionnaire to the best of your knowledge.

Your cooperation will be greatly appreciated.

Yours faithfully

Sifiso Michael Mbambo

(Researcher)

Should you need any further information regarding the study, do not hesitate to contact me on 073 827 2576

APPENDIX B: QUESTIONNAIRE FOR ELECTRONIC LEARNING CENTRE USERS

SECTION A: BIOGRAPHICAL INFORMATION

Instruction: Mark with an X next to an appropriate answer

1. Gender

Please select the appropriate options below by ticking (√) in the spaces provided

Male	Female

2. Age

Between 13 and 17 years	
Between 18 and 25 years	
Between 26 and 34 years	
Between 35 and 40 years	
Above 40 years	

3. Qualifications

Please select the appropriate options below by ticking (√) in the spaces provided

Diploma	
Degree	
Honours	
Master's	
PhD	
Other (Please specify)	

4. Employment status

Please select the appropriate options below by ticking (√) in the spaces provided

Employed	
Unemployed	
Self-employed	
Other (Please specify)	

5. Ethnicity

Please select the appropriate options below by ticking (√) in the spaces provided

African	
Coloured	
Indian	
White	
Other (specify)	

6. Are you a registered user of City of Johannesburg (COJ) libraries?

Please select the appropriate options below by ticking (√) in the spaces provided

Yes	No

7. If yes, in which of the following libraries are you a member?

Please select the appropriate options below by ticking (√) in the spaces provided

Ivory Park Library	
Sandton Library	
Diepsloot Library	
Alexandra 8th Ave Library	
Westbury Library	
CBD: Johannesburg Central Library	
Cosmo City Library	
Eldorado Park Ext 5 Library	
Emndeni North: Emndeni Library	
Orange Farm Library	
Jabavu Library	
Poortjie Library	
Other (Please Specify)	

SECTION B: SERVICES OFFERED BY E-LEARNING CENTRES IN COJ LIBRARIES

8. Which of the following e-learning services offered do you prefer to use? Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Rarely	Monthly	Once Weekly	Twice Weekly	Daily
		(1)	(2)	(3)	(4)	(5)
1	Computers					
2	Laptops					
3	Internet access					
4	Free Wi-Fi					
5	Electronic resources					
6	Typing					
7	Headsets					
8	Photocopiers					
9	USBs					
10	Printers					
11	Scanners					
12	CDs					
13	Other (specify)					

Any other, please specify

9. What are your reasons for preferring to use the above e-learning services?

.....

SECTION C: AWARENESS OF E-LEARNING CENTRES BY USERS OF COJ LIBRARIES

10. How were you made aware of the services in the e-learning centres in COJ Libraries through?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Personal Discovery					
2	A Friend					
3	From Library Staff					
4	Other e-learning Centres users					
5	User Orientation					
6	Direct Mailing To Users					
7	The Electronic Library Webpage					
8	Electronic Mail					
9	Library Social Media Tools (e.g. Facebook, Twitter, etc.)					
10	Others Specify					

Any other, please specify

11. In your view, how will you rate the way you got to know about e-learning centres?

Please select the appropriate options below by ticking (✓) in the spaces provided

S/N		Not Effective	Some are Effective	Effective	Very Effective	Most Effective
		(1)	(2)	(3)	(4)	(5)
1	Personal Discovery					
2	From Friends					
3	From Library Staff					
4	Other e-learning centre users					
5	User Orientation					
6	Direct Mailing To Users					
7	Through The Electronic Library Webpage					
8	Through Electronic Mail					
9	Through Social Media Tools					
10	Others Specify					

Any other, please specify

12. What tools among the listed, does the library use to create awareness of e-learning centres?

Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Flyers					
2	Notice Boards					

3	Electronic Mail					
4	Twitter					
5	Facebook					
6	Listserv					
7	Texting (SMS)					
8	Instant Messaging					
9	Library handout					
10	Others Specify					

Any other, please specify

SECTION D: USE OF E-LEARNING CENTRES BY USERS IN COJ LIBRARIES

13. How long have you been using these e-learning centres?

Please select the appropriate options below by ticking (√) in the spaces provided

Rarely	Less than One year	One year	Two years	More than two years
(1)	(2)	(3)	(4)	(5)

14. How frequently do you use these e-learning centres' services?

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Rarely	Monthly	Once Weekly	Twice Weekly	Daily
		(1)	(2)	(3)	(4)	(5)
1	Computers					
2	Laptops					
3	Internet access					
4	Free Wi-Fi					
5	Electronic resources					
6	Typing					
7	Headsets					

8	Photocopiers					
9	USBs					
10	Printers					
11	Scanners					
12	CDs					
13	Other (specify)					

Any other, please specify

15. If you do use the e-learning centres mentioned above, what are your reasons for using them? Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	To support course of study					
2	Leisure/general enjoyment					
3	To access online library material					
4	Independent learning/research					
5	Other (Please specify)					

Any other, please specify

16. Reasons for currently not using e-learning centres are:

Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)

1	I do not know where to find them					
2	I do not know how to use them					
3	I do not find them useful					
4	I do not have interest in them					
5	I do not know they exist					
6	Other (Specify)					

Any other, please specify

17. How did you learn to use e-learning centres?

Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Self-Study					
2	Friends and Colleagues					
3	Orientation Programme					
4	Seminars					
5	Workshops					
6	Library Handbook					
7	Online Library Tours					
8	Information Literacy Course					
9	Library Week					
10	Other (Specify)					

Any other, please specify

SECTION E: USERS' COMPETENCES OF E-LEARNING CENTRES IN THE COJ LIBRARIES

18. Which of the following e-learning skills do you have and how do you rate your proficiency in each.

Please select as many options as they apply to you.

S/N		Very Poor	Poor	Average	Good	Very good
		(1)	(2)	(3)	(4)	(5)
1	Computers					
2	Internet search					
3	Free Wi-Fi					
4	Electronic resources					
5	Typing					
6	Photocopying					
7	Printing					
8	Other (Specify)					

Any other, please specify

19. Have you received training in the library on how to use COJ libraries' e-learning centres' services?

Yes	No

19.1 If yes, which of the following training have you received? (Mark as many as applicable)

S/N		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Internet					

2	Microsoft Word					
3	Microsoft Excel					
4	Microsoft Access					
5	PowerPoint					
6	Other (Specify)					

SECTION F: CHALLENGES FACED BY USERS IN E-LEARNING CENTRES IN COJ LIBRARIES

20. What are the main challenges you face when using e-learning centres' services?
Please select as many options as they apply to you

S/N		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	E-learning Centres are not remotely usable					
2	Electricity outage					
3	Low internet connectivity speed					
4	Lack of internet access in the library					
5	Cost of access to the internet is high					
6	Slow download speed					
7	Lack of online search skills					
8	Lack of skills about advanced searching techniques					

9	Difficulty in finding relevant information					
10	Difficulty in reading from the monitor					
11	Lack of training or orientations on the use of library e-learning centres' services					
12	Lack of understanding about email alert and e-learning services					
13	Inadequate awareness of the use of library e-learning centres' services					
14	Limited access to library e-learning centres					
15	Insufficient computers in the e-learning centres of libraries					
16	Shortage of librarians to assist in the use of e-learning centres of libraries					
17	Limited library hours to use e-learning centres					

18	Too much information is retrieved when a search is initiated					
19	Insufficient time to use e-learning centres due to work overload					
20	Others Specify					

Any other, please specify

.....

21. In your view how can the use of e-learning centres in the COJ be enhanced?

.....
.....
.....
.....
.....

Thank you for taking your time to participate in this study

**APPENDIX C: QUESTIONNAIRE COVER LETTER FOR E-LEARNING
LIBRARIANS AND E-LEARNING MANAGER**

**The use of electronic learning centres by users of the City of Johannesburg
Libraries in South Africa**

My name is Sifiso Michael Mbambo, I am a master's student in the Department of Information Studies at the University of Zululand. I am conducting a study on *The use of Electronic Learning Centres by the users of the City of Johannesburg Libraries in South Africa*. The information on this questionnaire will be treated with confidentiality and it will be used only for study purposes. The study has been ethically cleared by the University of Zululand Research Ethics Committee.

I am kindly asking you to please respond to all the questions on this questionnaire to the best of your knowledge.

Your cooperation will be greatly appreciated.

Yours faithfully

Sifiso Michael Mbambo

(Researcher)

Should you need any further information regarding the study, do not hesitate to contact me on 073 827 2576

APPENDIX D: QUESTIONNAIRE FOR E-LEARNING LIBRARIANS AND E-LEARNING MANAGER

SECTION A: BIOGRAPHICAL INFORMATION

1. Gender

Please select the appropriate options below by ticking (✓) in the spaces provided

Male	Female

2. Age

Between 13 and 17 years	
Between 18 and 25 years	
Between 26 and 34 years	
Between 35 and 40 years	
Above 40 years	

3. Qualifications

Please select the appropriate options below by ticking (✓) in the spaces provided

Diploma	
Degree	
Honours	
Master's	
PhD	
Other (specify)	

4. Ethnicity

Please select the appropriate options below by ticking (✓) in the spaces provided

African	
Coloured	
Indian	
White	
Other (specify)	

SECTION B: SERVICES OFFERED BY E-LEARNING CENTRES IN COJ LIBRARIES

5. Which of the following e-learning services offered do you prefer to use? Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Rarely	Monthly	Once Weekly	Twice Weekly	Daily
		(1)	(2)	(3)	(4)	(5)
1	Computers					
2	Laptops					
3	Internet access					
4	Free Wi-Fi					
5	Electronic resources					
6	Typing					
7	Headsets					
8	Photocopiers					
9	USBs					
10	Printers					
11	Scanners					
12	Other (specify)					

Any other, please specify

6. What are your reasons for preferring to use the above e-learning services?

.....

SECTION C: AWARENESS OF E-LEARNING CENTRES BY USERS OF COJ LIBRARIES

7. In your view, how will you rate the way your users came to know about e-learning centres? Please select the appropriate options below by ticking (✓) in the spaces provided

S/N		Not Effective	Some Effective	Effective	Very Effective	Most Effective
		(1)	(2)	(3)	(4)	(5)
1	Personal Discovery					
2	From Friends					
3	From Library Staff					
4	Other e-learning centre users					
5	User Orientation					
6	Direct Mailing To Users					
7	Through The Electronic Library Webpage					
8	Through Electronic Mail					
9	Through Social Media Tools					
10	Others Specify					

Any other, please specify

8. What tools among the listed, does the library use to create awareness of e-learning centres?

Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Flyers					
2	Notice Boards					
3	Electronic Mail					
4	Twitter					
5	Facebook					
6	Listserv					
7	Texting (SMS)					
8	Instant Messaging					
9	Library handout					
10	Others Specify					

Any other, please specify

SECTION D: USE OF E-LEARNING CENTRES BY USERS IN COJ LIBRARIES

9. Which of the following best describes the use of e-learning centres' services that motivates e-learning users' to use e-learning centres?

Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Ease Of Use					
2	Computers					
3	Laptops					
4	Internet access					
5	Free Wi-Fi					
6	Electronic resources					

7	Typing					
8	Photocopiers					
9	Printers					
10	Scanners					
11	Others Specify					

Any other, please specify

10. E-learning users use the e-learning centres mentioned above, what are their reasons for using them?

Please select the appropriate options below by ticking (✓) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	To support course of study					
2	Leisure/general enjoyment					
3	To access online library material					
4	Independent learning/research					
5	Other (Specify)					

SECTION E: USERS' COMPETENCES OF E-LEARNING CENTRES IN THE COJ LIBRARIES

11. Which of the following e-learning skills do you have and how do you rate your proficiency in each.

Please select as many options as they apply to you.

S/N		Very Poor	Poor	Average	Good	Very good
		(1)	(2)	(3)	(4)	(5)
1	Computers					

2	Internet search					
3	Free Wi-Fi					
4	Electronic resources					
5	Typing					
6	Photocopying					
7	Printing					
8	Other (Specify)					

Any other, please specify

12. Library organises e-learning centres' services training for users through:

Please select the appropriate options below by ticking (√) in the spaces provided

S/N	ITEMS	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	Workshops					
2	Seminars					
3	Orientation Programme					
4	Library Handbook					
5	Online Library Tours					
6	Information Literacy Course					
7	Library Week					
8	Other (Specify)					

Any other, please specify

13. Have you received training in the library on how to use COJ libraries' e-learning centres' services?

Yes	No

13.1 If yes, which of the following training have you received? (Mark as many as applicable)

S/N		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	E-learning Programmes					
2	Electronic resources					
3	Internet					
4	Microsoft Word					
5	Microsoft Excel					
6	Microsoft Access					
7	PowerPoint					
8	Other (Specify)					

Any other, please specify

SECTION F: CHALLENGES FACED BY USERS IN E-LEARNING CENTRES IN COJ LIBRARIES

14. What are the main challenges in using e-learning centres' services?

Please select as many options as they apply to you

S/N		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
		(1)	(2)	(3)	(4)	(5)
1	E-learning Centres are not remotely usable					
2	Electricity outage					
3	Low internet connectivity speed					
4	Lack of internet access in the library					

5	Cost of access to the internet is high					
6	Slow download speed					
7	Lack of online search skills					
8	Lack of skills about advanced searching techniques					
9	Difficulty in finding relevant information					
10	Difficulty in reading from the monitor					
11	Lack of training or orientations on the use of library e-learning centres' services					
12	Lack of understanding about email alert and e-learning services					
13	Inadequate awareness of the use of library e-learning centres' services					
14	Limited access to library e-learning Centres					
15	Insufficient computers in the e-					

	learning Centres of libraries					
16	Shortage of librarians to assist in the use of e-learning Centres of libraries					
17	Limited library hours to use e-learning Centres					
18	Too much information is retrieved when a search is initiated					
19	Insufficient time to use e-learning Centres due to work overload					
20	Others Specify					

Any other, please specify

15. In your view, how can such challenges be alleviated?

.....

.....

.....

.....

Thank you for taking your time to participate in this study

APPENDIX E: PARTICIPATION CONSENT DECLARATION

INFORMED CONSENT DECLARATION

(Participation)

Project Title: **The use of Electronic Learning Centres by users of the City of Johannesburg Libraries in South Africa**

I from the of.....at the....., hereby acknowledge that the **University of Zululand** has requested my permission to participate in the above-mentioned research project.

The nature and the purpose of the research project, and of this informed consent declaration have been explained to me in a language that I understand.

I am aware that:

1. The purpose of the research project is only for academic purposes
2. The University of Zululand has given ethical clearance to this research project, and I have seen/may request to see the clearance certificate.
3. By participating in this research project I will be contributing towards making LIS education more valuable and relevant.
4. I will participate in the project by responding to the questionnaire and granting further access to necessary information sources.
5. My participation is entirely voluntary and should I at any stage wish to withdraw from participating further, I may do so without any negative consequences
6. I will not be compensated for participating in the research
7. There is a low chance of the risk materialising
8. The researcher intends publishing the research results in the form of articles in journals however, confidentiality and anonymity of records will be maintained and that my name and identity will not be revealed to anyone who has not been involved in the conduct of the research.
9. I will receive a copy of work that will be produced after the research.
10. Any further questions that I might have concerning the research or my participation will be answered by the researcher.

11. By signing this informed consent declaration I am not waiving any legal claims, rights, or remedies.

12. A copy of this informed consent declaration will be given to me, and the original will be kept on record.

I have read the above information / confirm that the above informed has been explained to me in a language that I understand, and I am aware of this document's contents. I have asked all questions that I wished to ask and these have been answered to my satisfaction. I fully understand what is expected of me during the research.

I have not been pressurised in any way and I voluntarily agree to participate in the above-mentioned project.

.....
Participant's signature

.....
Date

APPENDIX F: ETHICAL CLEARANCE

**UNIVERSITY OF ZULULAND
RESEARCH ETHICS COMMITTEE**
(Reg No: UZREC 171110-030)



RESEARCH & INNOVATION

Website: <http://www.unizulu.ac.za>
Private Bag X1001
KwaDlangezwa 3886
Tel: 035 902 6731
Fax: 035 902 6222
Email: LundallN@unizulu.ac.za

ETHICAL CLEARANCE CERTIFICATE

Certificate Number	UZREC 171110-030 PGM 2020/59										
Project Title	The use of Electric Learning Centres by users of the City of Johannesburg Libraries in South Africa										
Principal Researcher/ Investigator	M Mbambo										
Supervisor and Co-supervisor	Prof G.V Jiyane					Mr N.M Zungu					
Department	Information Studies										
Faculty	Arts										
Type of Risk	Medium Risk – Data collection from people										
Nature of Project	Honours/4 th Year		Master's		x	Doctoral				Departmental	

The University of Zululand's Research Ethics Committee (UZREC) hereby gives ethical renewal approval in respect of the undertakings contained in the above-mentioned project. This approval is extended for another 1 year. The Researcher may therefore continue with data collection as from the date of this Certificate, using the certificate number indicated above.

Special conditions:

- (1) This certificate is valid for 1 year from the date of issue.
- (2) Principal researcher must provide an annual report to the UZREC in the prescribed format [due date- 15 November 2022]
- (3) The UZREC must be informed immediately of any material change in the conditions or undertakings mentioned in the documents that were presented to the meeting.

The UZREC wishes the researcher well in conducting research.

Prof. Nokuthula Kunene
Chairperson: University Research Ethics Committee
Deputy Vice-Chancellor: Research & Innovation
15 November 2021

CHAIRPERSON
UNIVERSITY OF ZULULAND RESEARCH
ETHICS COMMITTEE (UZREC)
REG NO: UZREC 171110-J0

STAMP

RESEARCH & INNOVATION OFFICE

APPENDIX G: COJ LETTER OF PERMISSION



City of Johannesburg
Department of Corporate & Shared Services
Office of the Group Head: Group Human Capital Management

6th Floor, B Block
Metropolitan Centre
158 Civic Boulevard
Braamfontein

PO Box 1049
Johannesburg
South Africa
2000

Tel +27(0) 11 407 6926
Fax +27(0) 11 339 1878
www.joburg.org.za

11 August 2021

Dear Mr. Sifiso Mbambo
Master of Information Science
Student Number: 201974599
University of Zululand

Ref: Permission to conduct research study

This letter serves to acknowledge receiving the letter requesting permission to conduct research in the City of Johannesburg under the title "**The use of Electronic Learning Centre's by the Users of Public Libraries in City of Johannesburg**". I am aware that the study entails the collection of information from the City and participants through semi-structured interviews, by city officials and observation participation in section 79 committees, IDP sessions and other critical fora of the city.

The research study is promoted by the City of Johannesburg because it helps both students and practitioners to gain an understanding of the sociology of the City as it evolves and contributes towards the building of developmental local government.

I, Tersia Groenewald, as delegated authority of the City of Johannesburg Municipality (the City), hereby give permission to the primary researcher, Mr Sifiso Mbambo to the following:

- To collect and publish information about the City is publically not available, for the research project titled: "**The use of Electronic Learning Centre's by the users of Public Libraries in City of Johannesburg**"
- This authorization is based on mutual understanding that the City's name can be revealed in her/his project; and
- The information provided by the employees or any other means (such as company's archived documents or reports) of the City is purely for academic purposes and cannot be used for any other purpose.

Please note that on completion of the study, a copy of the research report should be submitted to the City of Johannesburg in honour of your commitment.

I urge you to present this letter of permission whenever you come across officials and participants in the research study. I thank you for choosing the City of Johannesburg to conduct the study.

Kind Regards

A handwritten signature in black ink, appearing to read "Tersia Groenewald".

Tersia Groenewald
Acting Deputy Director: Employee Relations and Development
Tel: (011) 407- 7124
Cell: 079 491 1014
Email: TersiaG@joburg.org.za

APPENDIX H: LIS LETTER OF PERMISSION



a world class African city

City of Johannesburg
Community Development: Library and Information Services

Office of the Deputy Director: Regional Services 22 Solomon Street Braamfontein	Private Bag X 106 Braamfontein Johannesburg 2017	Tel +27 (0) 11 226 0952 Fax+27 (0) 11 226 0972 benr@joburg.org.za www.joburg.org.za
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12 August 2021

Dear Mr. Sifiso Mbambo
Master of Information Science
Student Number: 201974599
University of Zululand

Ref: Permission to conduct research study in the City of Johannesburg Library and Information Services Directorate

Dear Mr Mbambo

Your request to conduct a research at the City of Johannesburg Library and Information Services libraries titled **"The use of Electronic Learning Centres by the Users of Public Libraries in City of Johannesburg"** as per your letter dated 9 August 2021 is granted.

The permission is granted solely for the purpose of your request and may not be used for any other purpose other than indicated on your letter. The following applies:

- To collect and publish information about the City, which is publicly not available, for the research project titled: "The use of Electronic Learning Centre's by the users of Public Libraries in City of Johannesburg"
- This authorization is based on mutual understanding that the City's name can be revealed in her/his project; and
- The information provided by the employees or any other means (such as company's archived documents or reports) of the City is purely for academic purposes and cannot be used for any other purpose.

Please note that on completion of the study, a copy of the research report should be submitted to the City of Johannesburg Library and Information Services for our records.

Research studies are promoted by the City of Johannesburg Library and Information Services because it helps both students and practitioners to gain an understanding of the sociology of the City's libraries as it evolves and contributes towards the building of developmental local government and promotion of lifelong learning.

I thank you for choosing the City of Johannesburg Library and Information Services to conduct the study.

Regards

Monyatsi Ben Ramela
Acting Director: Library and Information Services

APPENDIX I: REQUEST LETTER

68 ST Patrick Road
Houghton
Johannesburg
2198

9 August 2021

Dear Sir/ Madam

PERMISSION TO COLLECT DATA

I am Sifiso Michael Mbambo a registered student for a Master of Information Science in the Department of Information Studies at the University of Zululand and a Senior Librarian in the City of Johannesburg. I am conducting a study on “The use of Electronic Learning Centres by the Users of the Public Libraries in City of Johannesburg, South Africa”. The study is aimed at find ways to improve the use of electronic learning centres in these public libraries in order to continuously offer services needed by the users of the COJ; and to increase trust on and the use of public libraries generally. Moreover, the study will significantly provide an in-depth understanding of the gaps in literature, as well as areas of development that will enhance usage of Electronic Learning Centres in Public Libraries in the province. Given that such Centres have been provided with needed infrastructure in spite of tight budgets for the usage and benefit of the users.

As part of the requirements for the fulfilment of the afore mentioned qualification, I would kindly like to receive permission to conduct research in the City of Johannesburg Public Libraries. Data will be collected using questionnaires which will be sent to the users and interviews with the librarians. Interviews will be conducted through Zoom, Teams or telephonically as far as COVID-19 pandemic and its regulations are still in place as well as for the safety of the study participants.

The attached documents are my research proposal, permission request letter, the University of Zululand ethical clearance certificate, and research instruments (questionnaires).

I would be grateful if my request would be granted. For any queries with regards to this research study, please do not hesitate to contact me or my supervisor on the following contact details:

Researcher: Sifiso Michael Mbambo
Email: sifisom@joburg.org.za
Cell: 073 827 2576

Supervisor: Prof. Glenrose V Jiyane
Email: JiyaneG@unizulu.ac.za
Cell: 066 448 6899

Kind regards,



Sifiso Mbambo